

## Introduction

Homeownership varies greatly based on household characteristics, particularly age, family type, race, and income. Over the past few decades in Virginia (as well as the nation) there have been distinct changes in a number of demographic characteristics that influence homeownership. During the 1980s, incomes in Virginia far outpaced inflation and the national rate of income growth. Correspondingly, homeownership rates rose in Virginia while rates dropped for the nation as a whole. At the same time, the demographic composition of households was changing. By the end of the decade there were proportionately fewer husband-wife households, more childless unmarried couples, and more people living alone. Families headed by a female without a spouse present increased as a proportion of families, but were nearly constant as a percentage of all households.

Some demographic shifts, primarily the aging of the baby boom cohort, acted to boost homeownership. Others, such as the increase in persons living alone and in unmarried couples without children, favored renter demand. For the most part, these contrasting demographic forces tended to counterbalance each other and homeownership remained relatively stable, increasing in Virginia from 65.6 percent in 1980 to 66.3 percent in 1990.

This report analyzes homeownership patterns in Virginia in 1990 by looking at homeownership rates for households categorized by key demographic and economic variables<sup>1</sup>. The report addresses three interrelated questions:

- 1) What differences exist in ownership rates between groups?
- 2) Which household characteristics influence homeownership the most, controlling for the impacts of other characteristics?
- 3) What characteristics of counties and cities are most closely related to changes in their homeownership rates between 1980 and 1990?

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<sup>1</sup>This report is based on data from the *Census of Population and Housing, 1990: Public Use Microdata Sample (PUMS)* and the *Census of Population and Housing, 1980: Summary Tape File 3 (Virginia)* and *Census of Population and Housing, 1990: Summary Tape File 3 (Virginia)*. The PUMS data represent a five percent sample of households who participated in the 1990 Census, weighted to reflect all households in the state. The STF tapes contain the so-called "long form" items completed for the 1990 Census and are also weighted to reflect all households in the state.

## **Summary of Findings**

The impacts on homeownership from household income, age of the householder, household type, and race of the householder are individually significant and collectively help explain most of the variation in homeownership between households. For instance, between extremely low income households and upper income households the ownership rate increases from 45.8 percent to 90.5 percent (see Figure 1). Between householders under 25 years old and those 45 to 64 years old, ownership ranges from 17.1 percent to 80.5 percent.

Eighty-two percent of married couples with children are homeowners. In contrast, families headed by female single parents have an ownership rate of 48.0 percent. Male and female householders who live with nonrelatives (roommates and unmarried couples without children) are even less likely to be owners (approximately 33 percent). White householders have a substantially higher ownership rate than black householders or householders of other races: 70.8 percent compared with 49.1 percent and 50.4 percent.

The combined effects of these variables are even more impressive. At income levels that make ownership readily attainable (\$75,000 and above), nine of ten householders over age 35 are owners, as are three of four householders between the ages of 25 and 34. The presence of children in married-couple households stimulates

even higher rates of ownership. Nearly three-fourths of extremely low income (below \$10,000) married couples with children achieve ownership. This level of ownership is not approached among other families except at much higher incomes: \$35,000 to \$49,999 for married couples without children and \$50,000 to \$74,999 for single-parent households. Because of the wide disparity (20 to 50 percentage points) in ownership rates within the same income category between single parents and married couples with children, single parents should be a prime target of homeownership programs in the state.

At progressively higher income levels, the ownership gap between blacks and whites narrows, starting at approximately 20 points for incomes below \$20,000 and ending at 7.5 points for incomes of \$75,000 or more. Three-fourths of black married couples with children are homeowners, which is by far the highest ownership rate among blacks.

Homeownership in Virginia was further analyzed through two statistical models. One relates the individual household's probability of ownership with household income, householder's age, household type, and householder's race. The other relates the 1980 to 1990 change in homeownership rates for cities and counties within the state to the social and economic characteristics of those communities.

For individual households, it was possible to accurately classify 80.4 percent of the households as either owners or renters based on the household's income, type, age, and race. For each \$10,000 increase in incomes, ownership probabilities increase 25 percent. Independent of the effects of income, age and race:

- "roommate" household types were 87 percent less likely to be owners than married-couple families with children;
- single-person households were 70 to 75 percent less likely to be owners than married-couple families with children; and,
- single parents were 69 percent (for females) and 58 percent (for males) less likely to be owners than married couples with children.

The independent contribution of age to ownership was largest for 35-44 year-olds, increasing that age group's ownership prospects by 42 percent compared with householders under the age of 25. Whites are more than twice as likely to be homeowners than blacks when income, household type, and age are controlled.

Public policies promoting ownership need to recognize the complex contributions of each of these variables. Policies should be fashioned to decrease major ownership gaps which are independent of income for particular household types (e.g. single-parent families) and racial minorities.

At the community level, changes in ownership rates reflect a complex pattern that includes changes in urbanization, incomes, demographics, and housing costs. The largest impact is due to an increase in median family incomes. The second largest impact was from the shift in the percentage of husband-wife households. During the 1980s the shift away from husband-wife households had a serious negative impact on overall ownership rates, which might have been 3.5 points higher if the proportion of husband-wife households had remained constant during the decade.

The third largest impact was from the aging of the population. In most communities, the age distribution of householders shifted in favor of older householders and away from younger householders, thereby favoring ownership. The continuation of this trend toward older householders, which is expected, should help increase homeownership rates in the future if other trends are not negative.

Despite lower ownership rates for blacks, a shift in racial composition had no discernible impact on community-level ownership rates. Shifts in racial composition apparently occurred without any negative impact on community-level homeownership rates.

A positive shift in the percent of manufactured housing also increases homeownership rates. Most communities had a declining share of manufactured housing, but there was a large shift toward manufactured housing in a few communities. In these communities, the contribution of manufactured housing to increased homeownership was substantial.

The impacts of other variables on overall ownership rates were minor and in some instances in the opposite direction than anticipated. A decrease in housing affordability, for instance, was associated with increased homeownership. Households in areas where housing costs escalated faster than incomes (many of which are in Northern Virginia) continued to become homeowners despite affordability problems, possibly as a result of anticipated future increases in prices and the attraction of significantly lower interest rates. Indeed, some of the counties with the largest decreases in affordability also had the largest increases in homeownership rates. Focusing on improved affordability is likely to be a seriously flawed strategy unless consumer expectations about future price increases and other aspects of the ownership decision are considered.

An increase in density was associated with a decrease in homeownership, as expected. Higher density generally results in greater reliance on apartments and a lower ownership rate.

Although the impact of the availability of low-interest rate loans on overall ownership rates was in the anticipated direction (positive), it was too small to be distinguished from sampling error. This does not suggest that these loans were unimportant to the families who received them, but only that they had no discernible impact on the change in aggregate ownership rates during the decade.

The most important factors contributing to increased homeownership are favorable trends in incomes and household demographics. The impact of housing prices is more difficult to determine. Rising prices relative to incomes do not necessarily lead to decreased ownership rates and under certain conditions might even be associated with increased ownership. Similarly, periods of deflation in housing prices are more likely to discourage rather than encourage ownership.

Current trends in household demographics have opposite effects on homeownership. The aging of the population will have a favorable impact on ownership, but potentially negative shifts in ownership rates for specific age cohorts warrant closer study and monitoring. Continued shifts away from husband-wife families will negatively affect ownership. If divorce rates stabilize, as they have been doing recently, the proportion of husband-wife families might also stabilize, benefiting homeownership. The effectiveness of public efforts to increase ownership will likely be enhanced by focusing on those groups whose ownership rates fall well below the average, particularly single-parent families and racial minorities.

## Homeownership and Household Characteristics

### Income

Household income is the total money income of all members of the household. The following six categories are used in this report:

- less than \$10,000, referred to as the "extremely low" income group; approximately equal to the poverty threshold for a family of three (\$10,419) or 25 percent of the state's median family income (\$38,213);
- \$10,000 to \$19,999, or "very low income"; approximately 26 to 50 percent of median family income;
- \$20,000 to \$34,999, or "low income" (the median household income was \$33,328); approximately 51 to 90 percent of median family income;
- \$35,000 to \$49,999, "middle income"; approximately 91 to 130 percent of median family income;
- \$50,000 to \$74,000, "upper-middle income"; approximately 131 to 195 percent of median family income;
- and \$75,000 or more, "upper income"; in excess of 195 percent of the median family income.

Respectively, these categories account for 12.7 percent of all households (extremely low income); 15.7 percent (very low income); 24.2 percent (low income); 19.9 percent (middle income); 17.1 percent (upper-middle income); and 11.4 percent (upper income).<sup>2</sup>

Homeownership rates generally increase as household incomes increase as shown in Figure 2. Income is one of the most important household characteristics affecting homeownership. The lowest homeownership rates occur for extremely low income households (45.8%) and for very low income households (51.7%). The largest increase in ownership rates occurs between the low income category (\$20,000-\$34,999) and the middle income category (\$35,000 to \$49,999), with homeownership increasing from 59.5 to 72.3 percent. Ownership rates continue to increase over the next income categories to 81.8 percent and 90.5 percent for the upper-middle income and the upper income categories.

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<sup>2</sup> When comparisons of homeownership rates are made between various categories of households, it is important to remember that these comparisons do not reflect the total number of households in a category nor the influence of that category on overall ownership rates. For example, among householders aged 65 and older, those with incomes over \$75,000 had an ownership rate of 93.1 percent. However, since these households represent only 5.1 percent of all householders aged 65 and older, they have little impact on the overall ownership rate for this age group.

## Age

Homeownership also increases with the age of the householder, for which five categories are used in this report:

- less than 25 years old, representing a proportionately small percentage of householders (5.7%) who often have little interest in homeownership for a variety of reasons;
- 25-34 years old, with 22.8 percent of all householders, and the age at which marriage and child bearing is more likely;
- 35-44 years old, with 23.7 percent of all householders, and the age at which householders become firmly established in their jobs and rooted in their communities;
- 45-64 years old, with 29.3 percent of all householders, and the peak earning years and later child rearing years;
- and 65 years old and over, with 18.6 percent of all households, covering the retirement and post child-rearing years.

For householders under 25 years old, only 17.1 percent of householders own homes, as shown in Figure 3. The low ownership rate for this age group is influenced by low incomes (which for many increase with additional work experience), high levels of

residential mobility, relatively few husband-wife households, and preferences for independence and leisure time which are best achieved through renting.

Ownership increases dramatically for the next three age groups. Nearly half of 25-34 year-old householders are homeowners; over two-thirds of 35-44 year-old householders own homes (69.2%), as do four-fifths of 45-64 year-old householders (80.5%). A slight decrease in ownership occurs at age 65 and older, probably attributable to changes in family status and family size, reduced income after retirement, and increased frailty particularly after age 75.

Data for one point in time (e.g. data for the 35-44 year-old householder group for 1990) cannot reveal the homeownership trajectory of that same cohort over time (e.g. homeownership rates in 1970, 1980, and 1990 for householders born between 1945 and 1955, who would be in the 35-44 year-old category in 1990). Comparing ownership rates for the same cohort over time might produce different magnitudes of increase in homeownership than the cross-sectional comparisons of different age groups at the same time as presented here. However, the general pattern of increasing

homeownership as the age of the householder increases would undoubtedly be very similar.

### Age and Income

The age of the householder and household income are obviously interrelated. Incomes increase with experience (age) and peak earning power often comes between the ages of 45 and 64, after which incomes decline with shortened work hours and retirement. Ownership increases with both age and income and the combined effects of older age and higher income are significant. For each age group, higher incomes are associated with progressively higher ownership rates as shown in Figure 4. Additionally, each older age group starts at a progressively higher ownership rate for each income category, with the exception of 65 and older householders with incomes above \$75,000.

At income levels that make ownership readily attainable (\$75,000 and above), nine of ten householders over age 35 are owners, as are three of four householders between the ages of 25 and 34. (See Table 1.) Only householders under the age of 25 do not participate heavily in homeownership at this income level.

**Table 1: Ownership Rates by Household Income and Age of Householder, Virginia 1990**

<u>Age</u>	<u>Household Income</u>						<u>Ownership by Age</u>
	<u>"Extremely Low"</u>	<u>"Very Low"</u>	<u>"Low"</u>	<u>"Middle"</u>	<u>"Upper-Middle"</u>	<u>"Upper"</u>	
	<u>Less than \$10,000</u>	<u>\$10,000 to \$19,999</u>	<u>\$20,000 to \$34,999</u>	<u>\$35,000 to \$49,999</u>	<u>\$50,000 to \$74,999</u>	<u>\$75,000 or more</u>	
<b>Less than 25 years old</b>	7.9%	12.0%	20.7%	27.3%	29.4%	37.3%	17.1%
<b>25 to 34 years old</b>	16.7%	25.9%	41.7%	58.7%	67.6%	78.4%	47.6%
<b>35 to 44 years old</b>	30.2%	41.8%	59.2%	74.3%	83.0%	90.6%	69.2%
<b>45 to 64 years old</b>	54.2%	67.0%	76.0%	84.0%	89.4%	93.8%	80.5%
<b>65 years or older</b>	63.9%	78.0%	84.5%	87.7%	91.7%	93.1%	78.1%
<b>Ownership by Income</b>	45.8%	51.7%	59.5%	72.3%	81.8%	90.5%	66.3%

With incomes under \$10,000, householders in the three older age categories (35-44, 45-64, 65+) have progressively higher ownership rates, going from 30.2 percent to 63.9 percent. This age related increase in ownership for householders with incomes under \$10,000 is largely due to the stability of homeownership once established. Persons who become homeowners tend to stay homeowners through most of their lives. Once the owner's equity position has increased, it is very unlikely that the householder will return to renting until much later in life. In addition to having accumulated wealth in the form of equity in the house, homeowners probably accumulate other savings over time that can protect them in periods of reduced income. The federal tax code also promotes the continuation of homeownership by postponing and eventually excluding capital gains taxes.

The ownership gap at lower incomes between householders aged 35-44 years, 45-64 years and 65+ years is narrowed as income increases, and disappears with incomes above \$75,000. Once ownership rates approach 90 percent, neither additional age nor additional income can have much effect. The remaining householders probably prefer

renting for reasons unrelated to age or income. In contrast, 25-34 year-old householders are less likely than their older counterparts to own their homes even at the highest income level. This may indicate that younger householders desire geographic mobility and freedom from property responsibilities. It could also indicate a lack of savings required for a down payment and the impact of consumer debt on the ability to qualify for a mortgage.

For very low and low income householders above the age of 25, and particularly above the age of 35, there is substantial margin for improving homeownership. For example, 42 percent of householders with incomes between \$10,000 and \$19,999 achieved ownership at the ages of 35-44, as did an equal percent with incomes of \$20,000 to \$34,999 between the ages of 25-34. As important, 30 percent of householders with incomes below \$10,000 are owners at the ages of 35-44 years. Clearly ownership is exceedingly difficult to achieve at this income level, yet nearly one-in-three householders in this age group was a homeowner in 1990.

Homeownership for a majority of extremely and very low income householders (incomes under \$20,000) is not achieved until after age 45. Householders at this income level might have found it easier to become owners in previous decades and benefited from a greater supply of affordable housing. Also, the ownership rates at this income level for householders aged 45 and over might reflect extended periods of savings or the accumulated benefits of ownership assistance through various state and federal programs.

The relationship between age, income, and ownership has important public policy implications. Although the ownership rates of older cohorts cannot be used to precisely predict the future ownership rates of younger cohorts, the life style, household type, and mobility patterns of very young householders (under 25 years) suggests that maturation will do much to promote ownership, assuming these householders experience economic opportunities similar to those of older cohorts.

### Household Type

Households can be categorized into several different types based on the familial relationships within the household. The broadest distinction is between family and nonfamily households. Family households have two or more people related by blood or marriage (however, nonrelatives can also live in the household). Nonfamily households are all those with only one person and those with two or more people who are unrelated to each other. For instance, unmarried couples with no children or other relatives in the household are classified as nonfamily households.

Family households can be further distinguished by the presence or absence of a spouse in the household (married-couple households; male head of family, spouse not present; or female head of family, spouse not present)<sup>3</sup> and by the presence of children. For this report, only married-couple households are further distinguished by the presence of children, since most other family households (i.e. those without a spouse present) include children. Married-couple households are a majority of all households (57.3%) and are evenly split between those with children (29.0%) and those without children (28.3%). Family households without a spouse present are 14.1 percent of total households, with most of these headed by females (11.1% of total households).

Nonfamily households can be classified as either single persons or two or more unrelated individuals. The latter category includes unmarried couples without children (or other relatives) in the household. Single-person households are 22.6 percent of total households, with females more prevalent than males (13.6% and 9.0% of total households).

Cultural changes have radically transformed the mix of household types over the past two decades, with nonfamily households increasing and married-couple families decreasing. Between 1970 and 1990, nonfamily households increased from 16.7 to 28.9 percent and married-couple families decreased from 71.7 to 56.8 percent of households in Virginia. Despite popular perceptions that the proportion of single-parent families has increased dramatically, this household type has been relatively constant as a percent of total households in Virginia, going from 11.6 percent to 14.3 percent. The counterpart of the relative decline in married-couple families has been the increase in the percentage of nonfamily households rather than an increase in the percentage of single-parent families. Consequently, the percentage of families (as distinct from total households) that are headed by single parents has increased despite their stability as a percentage of total households.

As with age of the householder, household type heavily influences homeownership rates. (See Figure 5.) Married couples with children have the highest ownership rates among all household types (82.7%). Married couples without children had a slightly lower rate of ownership (74.3%). Many of these households are “empty-nesters” and became homeowners during child-rearing years and others probably become homeowners in anticipation of child-rearing. The strong association between marriage and homeownership reflects the higher incomes of married-couple

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<sup>3</sup> Precise terms for family households without spouses present are usually awkward. Many, but not all, of these households are single parents with children. In this report, the term “single-parent” is used periodically to describe these households with greater ease of expression. The reader should keep in mind that households without children but with other relatives are included.

households, the need for additional bedrooms associated with child rearing, lower rates of geographic mobility among married-couple families, and the preference among many families for single-family housing. Several of these conditions are present with single-parent families, but their lower incomes make homeownership more difficult to attain.

Single-parent householders have substantially lower homeownership rates than do married couples. Most of these householders are headed by females and had a lower homeownership rate than their male counterparts (48.0% and 56.7%). Although a small group, male single-parent families generally are financially better equipped to be homeowners.

The effects of current patterns of child rearing without the father's presence and too often without his financial support have contributed to the so-called "feminization" of poverty. The loss or reduction of the father's financial support is compounded by the difficulties impeding labor force participation by single mothers (whether unwed, separated, or divorced). The cost of day care, the lack of after-school care, and the myriad other complications of family life that can restrict or interfere with work hours for single parents make it difficult and expensive to maintain full-time employment. Fewer overall hours available for employment and the higher transaction cost of

employment reduce the incomes of female-headed families and consequently their homeownership rates.

A fairly high ownership rate (57.5%), although significantly lower than for married-couple families, exists for females who live alone. Many of these are older women who continue as homeowners after being widowed. As shown later in Table 3, the ownership rate for females living alone rises 15 percentage points for females aged 45 and over compared with younger females living alone. Except for a lower ownership rate at ages 45-64, the ownership rates for males living alone are comparable to (or higher than) those for females of the same age who are living alone.

The lowest ownership rates, approximately 33 percent, occur for male and female householders who live with nonrelatives. This includes roommates and unmarried couples without children. Several factors other than income contribute to low ownership rates for householders living with nonrelatives: the potential instability of the living arrangement, small household size (typically only two people), absence of children, and potential legal or mortgage underwriting complications facing joint ownership by nonrelatives.

Even though the homeownership rates for these nonfamily groups are much lower than for married-couple families and other families, the homeownership rate for nonfamilies has increased significantly since 1980 while the homeownership rate for married couples has remained relatively stable and the homeownership rate for other families has dropped. The increase in nonfamily homeownership is likely due to the increase in elderly householders (the majority of whom are homeowners); an increase in professional, unmarried householders who choose to own, perhaps to take advantage of tax breaks; and increased availability of townhouses and condominiums making ownership more attractive for nonfamilies.

### Household Type and Income

The relationship between homeownership, household type, and income is complex. Married-couple families and some other households with two or more adults have greater potential for labor force participation than households with only one potential worker. The availability of two incomes allows married-couple families more choice in the housing market and is particularly important to families buying for the first time. These dual-earner families can save money for down payments and afford to pay the higher transaction costs associated with purchasing rather than renting. If only one person works, their labor force participation is enhanced by the “non-working” spouse who presumably has more responsibility for household work.

The presence of children in married-couple households stimulates even higher rates of ownership. Married couples with children stretch even extremely low incomes to purchase homes, while married couples with no children defer ownership until incomes more comfortably permit ownership. Nearly three-fourths of married couples with children achieve ownership even with incomes below \$10,000, a level of ownership that is not approached among other families except at much higher incomes: \$35,000 to \$49,999 for married couples without children and \$50,000 to \$74,999 for family householders (male or female) with no spouse present. (See Table 2.)

**Table 2: Ownership Rates by Household Income and Household Type, Virginia 1990**

<u>Household Type</u>	<u>Household Income</u>						<u>Ownership by Household Type</u>
	<u>"Extremely Low"</u> Less than <u>\$10,000</u>	<u>"Very Low"</u> \$10,000 to <u>\$19,999</u>	<u>"Low"</u> \$20,000 to <u>\$34,999</u>	<u>"Middle"</u> \$35,000 to <u>\$49,999</u>	<u>"Upper- Middle"</u> \$50,000 to <u>\$74,999</u>	<u>"Upper"</u> \$75,000 or <u>more</u>	
<b>Married with no children</b>	41.2%	44.4%	61.3%	77.3%	86.9%	93.8%	74.3%
<b>Married with children</b>	72.2%	75.8%	76.3%	81.1%	87.9%	94.0%	82.7%
<b>Male head of family (nsp*)</b>	47.0%	48.0%	49.8%	59.7%	69.1%	80.3%	56.7%
<b>Female head of family (nsp)</b>	23.6%	43.5%	54.6%	66.8%	72.0%	82.0%	48.0%
<b>Male living alone</b>	41.9%	39.3%	46.2%	61.2%	65.4%	72.1%	48.9%
<b>Female living alone</b>	54.7%	54.5%	55.0%	69.5%	81.1%	90.2%	57.5%
<b>Male not with family, but not living alone</b>	16.9%	18.0%	26.3%	32.9%	43.8%	59.3%	33.7%
<b>Female not with family, but not living alone</b>	17.3%	26.8%	26.1%	29.5%	43.8%	63.3%	33.5%

\*nsp = no spouse present

The wide disparity (20 to 50 percentage points) in ownership rates within the same income category between single-parent families and married couples with children suggests the need for targeting homeownership programs to single parents.

Householders who live with nonrelatives have the lowest ownership rates across all income groups. Only for the top income category of \$75,000 or more, do a majority of householders living with nonrelatives own their homes. Although it is not surprising

that homeownership is lower for this group than for other household types, overall homeownership rates will be negatively affected if cultural and economic forces continue to inflate the number of householders living with nonrelatives.

### Household Type and Age

Despite the strong preference for homeownership among families, few very young families (less than 25 years of age), even those with children, are homeowners. However, the homeownership rate for married couples, with or without children, progresses rapidly with age, jumping to approximately 60 percent at 25-34 years old, then to 80 percent at 35-44 years, and about 90 percent at 45-64 years. (See Table 3).

**Table 3: Ownership Rates by Age of Householder and Household Type, Virginia 1990**

<u>Household Type</u>	<u>Age of Householder</u>				
	<u>Less than 25 years old</u>	<u>25 to 34 years old</u>	<u>35 to 44 years old</u>	<u>45 to 64 years old</u>	<u>65 years or older</u>
<b>Married with no children</b>	27.3%	61.6%	81.3%	86.6%	86.2%
<b>Married with children</b>	30.8%	59.3%	78.2%	90.6%	90.5%
<b>Male head of family (nsp*)</b>	21.2%	38.6%	58.9%	71.4%	79.0%
<b>Female head of family (nsp)</b>	8.4%	22.1%	43.7%	65.2%	78.4%
<b>Male living alone</b>	15.3%	37.1%	50.0%	57.2%	64.8%
<b>Male not with family, but not living alone</b>	8.0%	31.0%	49.7%	59.3%	65.6%
<b>Female living alone</b>	9.1%	31.5%	51.4%	65.7%	66.3%
<b>Female not with family, but not living alone</b>	7.0%	26.2%	53.2%	69.9%	71.3%

\*nsp = no spouse present

In contrast, single-parent families, particularly females, have extremely depressed ownership rates until the 45-64 year-old age group. Ownership rates for female-headed families without a spouse present are comparable to (or below) those for females of the same age group living alone. Less than 10 percent of very young female-headed families are homeowners, not surprising given that many of these young females have limited labor force participation opportunities. Even females aged 25-34 years old and 35-44 years old heading single-parent families have ownership rates approximately 40 percentage points below married couples of the same age group. Only older females (45-64) heading families without a spouse present have ownership

rates that approach the state average of 66.3 percent. The profoundly depressed rates of homeownership for female-headed families below age 45 represents one of the greatest challenges to contemporary housing policy.

Homeownership rates for nonfamily household types increase with age, but never reach the levels of married couples. Younger nonfamily householders (with rates as low as seven percent for females under 25 years of age living with nonrelatives) have significantly lower homeownership rates than married householders and male family householders without a spouse present. Nonfamily ownership rates compare closely to female family householders without a spouse present across all age groups. As with family householders, the rates for nonfamily householders peak in the 45-64 year-old category (ranging from 57.2% to 69.9% depending on the type of nonfamily household).

### Race

Significant differences in homeownership rates exist between whites and minority racial groups, partly because of differences in incomes and household types. As shown in Table 4, white householders have a substantially higher ownership rate than black householders and householders of other races (70.8% vs. 49.1% and 50.4% respectively). The race category "other" includes Asians who have a homeownership rate much higher than blacks (about 60%). The majority of householders of other races have homeownership rates lower than blacks. (As discussed later, the ownership probability of blacks is actually higher than for the "other race" category when income, household type and age are considered.)

**Table 4: Ownership Rates by Household Income and Race, Virginia 1990**

<u>Race</u>	<u>Household Income</u>						<u>Ownership by Race</u>
	"Extremely low"	"Very Low"	"Low"	"Middle"	"Upper-middle"	"Upper"	
	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$34,999	\$35,000 to \$49,999	\$50,000 to \$74,999	\$75,000 or more	
<b>White</b>	53.1%	57.1%	62.9%	74.5%	83.1%	91.2%	70.8%
<b>Black</b>	33.0%	39.3%	49.4%	63.7%	75.5%	83.7%	49.1%
<b>Other</b>	19.3%	24.1%	37.8%	55.6%	70.2%	82.9%	50.4%

### Race and Income

The lower incomes of blacks provides a *partial* explanation for low homeownership rates compared to whites. At succeeding higher income levels, the

ownership gap between blacks and whites narrows, starting at approximately 20 points for incomes below \$20,000 and ending at 7.5 points for incomes of \$75,000 or more. (See Figure 6.) Although this decline is important, in order to fully understand the relationship between race, income, and ownership, other variables such as household type have to be controlled. This level of multivariate analysis is reported in a later section.

### Race and Age

Significant gaps exist between black and white homeownership rates at all age groups. These gaps are partially attributable to differences in incomes and household types. Nonetheless, a substantial black-white gap of more than 25 percentage points exists for the age groups (25-34 and 35-44) when whites move strongly into homeownership. Even at ages 45-64 there is nearly a 20 percentage point gap. The lagging homeownership experience of black householders aged 25-34 and 35-44 is of particular concern, as it might point to complete generations of black householders with a majority never achieving homeownership. (The progression toward homeownership over time of the same age cohorts of minority households deserves further study.)

A majority of whites in the 25-34 years old age group (53.4%) have already become homeowners. (See Table 5.) Better access to employment opportunities and higher educational attainment allows whites to become homeowners earlier than other racial groups. As noted earlier, once established, homeownership tends to perpetuate until very late in a person's life.

**Table 5: Ownership Rates by Age of Householder and Race, Virginia 1990**

<u>Race</u>	<u>Age of Householder</u>				
	Less than 25 years old	25 to 34 years old	35 to 44 years old	45 to 64 years old	65 years or older
<b>White</b>	19.9%	53.4%	74.5%	84.0%	80.2%
<b>Black</b>	7.2%	26.6%	48.8%	64.8%	69.0%
<b>Other</b>	11.4%	34.5%	58.0%	73.1%	58.0%

### Race and Household Type

Gaps between white and black ownership rates also exist for each of the various household types, including married-couple families. (See Table 6.) Among married couples with children, ownership rates for white householders are 9 points higher than for black householders. It should be noted, however, that three-fourths of black married couples with children are homeowners, which is by far the highest ownership rate among blacks. The largest disparity between whites and blacks for given household types is for families with children headed by females without a spouse present, where a 26.5 percentage point gap exists.

**Table 6: Ownership Rates by Race and Household Type, Virginia 1990**

<b>Household Type</b>	<b>Race</b>		
	<b>White</b>	<b>Black</b>	<b>Other</b>
<b>Married with no children</b>	77.8%	61.2%	58.4%
<b>Married with children</b>	84.1%	75.4%	64.7%
<b>Male head of family (nsp*)</b>	63.0%	50.5%	26.8%
<b>Female head of family (nsp)</b>	59.3%	32.8%	45.4%
<b>Male living alone</b>	52.3%	36.3%	31.8%
<b>Male not with family, but not living alone</b>	36.9%	25.1%	14.8%
<b>Female living alone</b>	60.6%	43.9%	47.1%
<b>Female not with family, but not living alone</b>	34.9%	27.4%	25.4%

\*nsp = no spouse present

## **Multivariate Analyses of Homeownership**

The analysis of homeownership rates so far has looked at the differences in ownership across one variable (e.g. age of the householder) while taking into consideration at most one other variable. A descriptive analysis of ownership rates can only take a few variables into consideration at one time, otherwise the number of comparisons becomes too numerous to handle. However, homeownership is obviously affected by several conditions, not just one or two. In order to take the effects of multiple variables into consideration, a more powerful (and complicated) statistical analysis is required.

The results of two separate multivariate analyses of homeownership rates are presented in this section. The first examines the likelihood that households within Virginia in 1990 were homeowners given their economic and demographic characteristics. The accepted statistical procedure for analyzing the likelihood of homeownership for households is logit regression. The second analysis looks at the change in homeownership rates between 1980 and 1990 at the jurisdiction level (counties and cities) given the economic and demographic characteristics of those areas. This analysis employs multivariate linear regression since the change in ownership rates for communities is an interval scale variable. Only the summary results of both analyses are presented here.

### **The Impact of Economic and Demographic Characteristics on Homeownership**

The purpose of this analysis is to better understand the independent contributions of income, household type, age, and race to homeownership. For example, we know from the previous analysis that homeownership increases with age and with income. Income also increases with age. Separating the independent effects of each of these variables is difficult and can only be done artificially through statistical procedures. The logit procedure used in this analysis permits us to examine the independent effects of these four variables on homeownership.

#### *Description of Logit Model*

The analysis is of a special sample of the 1990 Census records completed by individual households. The analysis only examines homeownership at one point in time; a study of longitudinal changes in ownership for individual households might produce somewhat different results. The analysis is also of all households in Virginia and is not restricted to those who have recently moved. Only recent movers would have made a conscious choice to become (or remain) homeowners shortly before the

1990 Census. For households who had been homeowners for a longer period, their current characteristics are not likely to be exactly the same as when they became owners. For example, for homeowners over the age of 65, the decision to own was likely based on their income level and household composition from an earlier period.

Household income is a continuous variable and was so used in the statistical model. The other household characteristics used in this analysis were categorized as separate variables either because, as with household type, they are not continuous measures or, as with age, because the primary interest is in the differences between certain groupings of the characteristic rather than the impact across small, even increments. As in the previous descriptive analysis, household type was classified into eight categories: married couples with children in the household; married couples without children in the household; families with a male householder but no spouse; families with a female householder, but no spouse; male householders with roommates but no relatives; female householders with roommates but no relatives; males living alone; and, females living alone. Each of these is a separate variable in the statistical model and each household was assigned a value of one if it fit the classification, a value of zero if it did not. Individual households have a value of one for only one of the eight household type variables, so the other seven are coded zero. One of these household variables has to be excluded from the model in order to compare the impact of the other variables on ownership with the impact of the excluded (or suppressed) variable. In this model, married couples with children in the household--which typically have the highest ownership rates--is the suppressed or comparison variable.

Other household characteristics classified into categories were age and race. Race was classified as White, Black, and Other, the latter being the suppressed variable. Age was classified as under 25, 25-34, 35-44, 45-64, and 65+ since these groupings represent major life-cycle periods. The youngest age group, typically with the lowest ownership rates, was used as the comparison variable.

Based on the fourteen variables included in the analysis, it was possible to accurately classify 80.4 percent of the households as either owners or renters. Given that there are numerous other characteristics (e.g. the household's credit rating and amount of savings) that were not included in the analysis but are likely to influence homeownership, the classification accuracy possible with only a few characteristics is very high. The level of classification suggests that most of the household characteristics with large impacts on homeownership were included. Despite the myriad conditions which can influence ownership, it is largely influenced by only the four characteristics considered here (income, household type, age, and race).

The statistical model allows us to determine the contribution each variable makes to the probability of homeownership, as well as how accurately these variables classify households as owners (as noted, the model is very accurate). Table 7 provides the coefficients (or weights) calculated to relate each variable to homeownership, controlling for the impacts of the other variables. To estimate the likelihood that a particular household is a homeowner, the specific income, household type, age, and race variables for that household are multiplied by the respective coefficients for each of the variables and the results are summed (along with the constant presented in Table 7). Households with estimates above a certain value (e.g. 0.5) are classified as homeowners, those below are classified as renters. (The model estimates a logarithmic odds ratio rather than a simple probability between 0 and 1.)

**Table 7: Household Characteristics Associated with Homeownership Rate, Virginia 1990**

<u>Variables</u>	<u>Statistics</u>			
	<b>Weighted Means</b>	<b>Parameter Estimate</b>	<b>% Change in Probability of Ownership at Mean</b>	<b>% Change in Probability of Ownership For Value=Yes</b>
<b>Constant</b>	NA	-2.3292	NA	NA
<b>Household Income</b>	1.3153760	.000024	98.7%	NA
<b>Families</b>				
<b>Married no children</b>	0.2854692	0.0600	1.8%	6.1%
<b>Male householder (nsp*)</b>	0.0295817	-0.6918	-2.1%	-58.0%
<b>Female householder (nsp)</b>	0.1123763	-0.8913	-10.2%	-68.5%
<b>Nonfamilies</b>				
<b>Male living alone</b>	0.0841942	-1.0436	-9.0%	-74.8%
<b>Male not living alone</b>	0.0324352	-1.5075	-5.0%	-87.2%
<b>Female living alone</b>	0.1341743	-0.9252	-12.7%	-70.0%
<b>Female not living alone</b>	0.0218341	-1.5040	-3.4%	-87.1%
<b>Age of householder</b>				
<b>25-34</b>	0.2179892	1.0719	23.9%	29.0%
<b>35-44</b>	0.2335386	1.8278	43.7%	41.6%
<b>45-64</b>	0.2993300	2.5357	77.6%	25.1%
<b>65+</b>	0.1973922	2.9914	60.4%	17.7%
<b>Race</b>				
<b>White</b>	0.8014520	0.8628	70.7%	57.2%
<b>Black</b>	0.1628892	0.2332	3.9%	22.6%

\*nsp = no spouse present

The coefficients for the model show the probability that each variable's impact on homeownership could be due to random (sampling) error and the direction and magnitude of the variable's impact on ownership. Significance levels below .01 (less than 1 in 100 chances of being random) are considered strong indications of actual impacts on homeownership. Probability levels of .05 (5 in 100 chances of being random) are moderate indications that the impact is real rather than random. Probability levels above .05 and particularly those above .1 are considered with caution and the estimated impact might not be reliable. All of the variables in this model are significant at the .0001 level (i.e. one chance in ten-thousand of being due to sampling error).

The direction of the association is given by the positive or negative sign for the coefficient. The relative impact of the variable on homeownership is reflected by the degree to which that variable affects the predicted probability of ownership. For each individual household this depends, of course, on the data for that household (i.e. level of income, household type, age, and race) and the coefficients in the model. The average impact for all households can be estimated by multiplying the coefficients by the average values for each variable. The impact on predicted homeownership is shown in Table 7 as the percent change in the probability of ownership for the mean (average) value for the variable. For household type, age, and race, the mean value indicates the percentage of households in a particular category. Thus, families headed by females with no spouse present were 11.2 percent of the households in the sample. The percentage change in ownership using the mean value of the variable, of course, reflects the average impact of each variable on the overall ownership rate, not the impact for a household with that particular characteristic. The impact on the average probability of homeownership for households of a particular household type, age, or race is given in the last column in Table 7, which is labeled "For Value = Yes".

It should be noted that the estimated coefficients for this model are overestimated whenever variables not included in the model are associated both with ownership and with a variable included in the model. For example, savings (wealth) needed for a downpayment and to support periodic costs of ownership not covered in a mortgage payment clearly affect homeownership. A household's wealth is also likely to be partially related to current income. Since wealth is not in the model, part of its contribution to ownership is included in the estimated coefficient for income.

### *Model Results*

The largest impacts on the overall homeownership rate are for income, race, and the three older age groups (35-44, 45-64, 65+). Each \$10,000 increase in income increases the probability of ownership by 25 percent. A separate analysis of the effects of income on ownership for each age group revealed that homeownership probabilities for householders aged 35-44 years are the most sensitive to income and the effect of income on ownership decreases substantially for householders 65+ years old (reflecting high homeownership rates for this age group almost regardless of current income).

When the effects of income, age, and race were controlled, the probability of being an owner was greatest for married couples without children, who were 6 percent more likely to be owners than married couples with children. All the other household types were less likely to be owners than married couples.

The two household types with the largest negative impact on average ownership rates are families headed by females (no spouse present) and females living alone, decreasing overall ownership probabilities by 10 and 13 percent respectively. Families headed by males without spouses decrease the overall probability of ownership by only two percent, whereas males living alone decrease overall ownership probabilities by nine percent.

Independent of the effects of income, age, and race, the two household types which have the largest negative impacts on individual ownership probabilities (compared with married couples with children) are male or female householders without relatives in the household but with at least one non-related individual, followed by male or female householders living alone. These “roommate” household types were 87 percent less likely to be owners than married-couple families, while single-person households were 70 to 75 percent less likely to be owners than married-couple families. The impediments to ownership for households made up of unrelated individuals (mainly unmarried couples without children) were noted earlier. Single-person households have been less likely to be interested in ownership perhaps because of the burdens of maintenance for owners and the greater social interaction provided by apartment buildings. Nonetheless, the increase in these households during the 1970s and 1980s significantly depressed ownership below what it would otherwise have been.

The impact on individual ownership probabilities from being a single-parent household (compared with married couples with children) was only slightly less severe than for unrelated individuals and single-person households. Being a female single parent reduced ownership probabilities 69 percent compared with married couples with children, while being a male single parent resulted in a 58 percent reduction.

As expected, the age of the householder has a direct, positive impact on ownership, particularly at age 35 years and older, even when income, household type, and race are controlled. The 25-34 year-old age group increases overall probabilities of ownership by 24 percent compared with the youngest households, who are the least likely to be owners. This impact is nearly doubled for householders aged 35-44 and then nearly doubled again for householders aged 45-64. Despite high rates of ownership for householders aged 65 years and older, these householders have a reduced impact on overall ownership probabilities compared with householders aged 45-64 years old. The aging of the population will progressively increase ownership probabilities, particularly as the population shifts into the 45-64 and 65 and older age groups. However, an age structure extremely skewed to the 65 and older age group at the expense of the 45-64 year-old group would reduce overall ownership probabilities.

A fuller understanding of the impact of age on ownership is its contribution to individual ownership probabilities for householders in a given age group. (Differences between individual ownership probabilities and overall probabilities are largely due to the relative size of an age group.) The largest impact of age (independent of income, household type, and race) on individual ownership probabilities is for the 35-44 year-old age group. The contribution of age to ownership for 35-44 year-olds increases their ownership prospects by 42 percent compared with householders under the age of 25. This life cycle effect is independent of income, household type, and race. Age contributes smaller increases in ownership probabilities for older householders (45-64 and 65+ years). This possibly reflects the greater sensitivity to income for the 35-44 year-old age group.

Race also has strong, independent effects on ownership. Both whites and blacks were more likely to be homeowners than other racial minorities in the state when income, household type, and age were controlled. The percentage of white householders in 1990 increased average ownership probabilities in the state by 71 percent. At the same time, the percentage of blacks had a small positive impact on overall ownership probabilities (4%) compared with other racial minorities. Individually, whites and blacks were 57 percent and 23 percent (respectively) more likely to be owners than other racial minorities, controlling for income, household type, and age. Consequently, whites are more than twice as likely to be homeowners than blacks when income, household type, and age are controlled. Further gains in overall ownership rates could clearly come from narrowing the race gap in homeownership.

This statistical analysis of ownership probabilities confirms the importance of the primary variables examined earlier. Income, household type, age, and race have

important impacts on ownership. Income is by far the single most important household characteristic affecting homeownership. Nonetheless, age of the householder and race, along with female-headed families and nonfamily households, have important independent impacts on ownership. Public policies promoting ownership need to recognize the complex contributions of each of these variables. Policies should be fashioned to decrease major ownership gaps for particular household types and for racial minorities which are independent of income and which would significantly increase overall ownership rates.

#### Change in Local Homeownership Rates from 1980 to 1990

The myriad decisions to become and remain homeowners across all the households in a community combine to form the homeownership rate for that community. Although homeownership is always an individual household's decision, the overall ownership rate tells us how well the community as a whole is doing. Largely reflecting land costs, density of development, and acceptance of manufactured housing, homeownership is highest in rural areas of Virginia and lowest in urban regions. As shown in Table 8, ownership rates in rural areas such as the Cumberland Plateau, Northern Neck, and the Middle Peninsula Planning Development Districts (PDCs) were around 80 percent in 1990. In contrast, ownership rates in the Northern Virginia, Thomas Jefferson, Richmond Regional, and Hampton Roads PDCs were approximately 65 percent. Several cities and Arlington County have ownership rates below 50 percent.

**Table 8: Homeownership Rate by Planning District Commission (PDC), Virginia 1990**

<u>State and PDC</u>	<u>Homeownership Rate</u>
Virginia	66.3%
Lenowisco	75.8%
Cumberland Plateau	79.3%
Mount Rogers	76.3%
New River Valley	64.2%
Fifth	68.6%
Central Shenandoah	69.8%
Lord Fairfax	70.7%
Northern Virginia	64.0%
Rappahannock-Rapidan	72.8%
Thomas Jefferson	63.5%
Central Virginia	72.9%
West Piedmont	73.5%
Southside	73.4%
Piedmont	76.2%
Richmond Regional	65.3%
RADCO	74.9%
Northern Neck	82.2%
Middle Peninsula	81.2%
Crater	64.6%
Accomack-Northampton	72.2%
Hampton Roads	58.9%

Between 1980 and 1990 the ownership rate for Virginia increased slightly to 66.3 percent from 65.6 percent. Not all areas of the state participated in this increase. At the community level, changes in ownership rates reflect a complex pattern that includes changes in urbanization, incomes, demographics, and housing costs, with the latter reflecting prices and interest rates. In order to analyze changes in homeownership rates at the community level, the unit of analysis shifts from the household (as in the previous analysis) to the jurisdiction (the 136 counties and independent cities). Characteristics of the community are associated with the change in the ownership rate from 1980 to 1990 in a general linear regression model.

The change in the ownership rate (the dependent variable in the analysis) was expressed as the difference between the 1980 and 1990 rates. Although the state rate increased by 0.7 points, the average change for local jurisdictions within the state was a decline of 0.5 points. Changes in ownership rates ranged from a high of +7.3 points (Fauquier County) to a low of -15.5 points (Radford City).

The variables used to “explain” the change in ownership rates were the 1980-1990 changes in:

- median family income (percent change);
- housing affordability as measured by the ratio of the percent change in median income to the percent change in median house value;
- age of the population, as measured by the percentage point change in the proportion of householders under 35 years of age;
- racial composition, as measured by the percentage point change in the proportion of nonwhites;
- household composition, as measured by the percentage point change in the proportion of husband/wife households;
- density of the community, as measured by the percent change in persons per square mile;
- availability of manufactured housing, as measured by the percentage point change in the proportion of housing units classified as mobile homes; and,
- the supply of low-interest rate loans, as measured by the ratio of Virginia Housing Development Authority loan volume during the decade to the aggregate dollar value of homes in 1990.

Experience, common sense, or previous research suggest that increases in the following variables would have a positive impact on homeownership rates: family incomes, affordability, the percent of husband-wife households, manufactured housing, and low-interest loans. At the same time, it is reasonable to expect that an increase in the proportion of younger households and an increase in urbanization (density) would result in lower homeownership rates. Younger households favor the higher mobility and freedom associated with renting. Urbanization, as mentioned earlier, increases land costs and densities, making it more difficult to build single-family houses, which is the product preferred by homeowners.

The relationship between racial composition and homeownership rates is more complex. Blacks have faced several historical impediments to homeownership, ranging from discrimination and prejudice in housing markets to lower incomes. Because of these impediments, an increasing proportion of Blacks in a community would likely be associated with a decrease in the community’s homeownership rate.

The statistical results of the analysis are presented in Table 9. The effects of the eight independent variables taken together were associated with almost 60 percent ( $R^2 = 59.4\%$ ) of the changes in community-level homeownership rates in the state. A variety of other measures of community well-being and local housing market characteristics

were tested (e.g. changes in unemployment, changes in house values relative to changes in rents, location of major universities) but did not improve the overall model.

**Table 9: Community Characteristics Associated with Changes in Homeownership Rates, Virginia 1980-1990**

<u>Variables</u>	Weighted Means	<u>Statistics</u>	
		Parameter Estimate	Average % Contribution to Change in Ownership Rates
Constant	NA	-8.2531 **	-1207.8%
Income increase	80.59	.1057 *	1246.7%
Change in housing affordability	14.17	-.0231 **	-47.9%
Shift toward young households	-3.67	-.5504 *	295.6%
Shift in racial composition	-0.17	.0803	-2.0%
Shift toward husband/wife households	-5.81	.5979 *	-508.4%
Increase in density	4.80	-.0263 ***	-18.3%
Shift toward manufactured housing	3.69	.2638 *	127.2%
Availability of low-interest loans	0.02	.1094	0.3%

\* Significant at the  $p < .001$ .

\*\* Significant at the  $p < .01$ .

\*\*\* Significant at the  $p < .05$ .

The separate impacts of each of the eight variables on the change in ownership are also shown in Table 9. As with the earlier analysis of individual ownership probabilities, the model's coefficients indicate whether a relationship between the variable and ownership is statistically significant, as well as the direction and magnitude of the variable's impact on ownership. Three variables had significance levels below .001: a shift toward young households; a shift toward husband/wife households; and a shift toward manufactured housing. The associations of two other variables with ownership had significance levels less than .01 (one in one hundred chances of being random): the increase in median family income and the change in

housing affordability. The association of a sixth variable (the increase in density) with ownership had a probability of being random of .015.

Two variables did not have statistically significant relationships with homeownership: the shift in racial composition and the availability of low-interest loans. Not only was the relationship between ownership and the shift in racial composition statistically insignificant, it was in the opposite direction than expected (an increase in the proportion of Blacks and other minority races was associated with an increase in ownership). This might reflect the movement of middle class minorities to the suburbs. Whatever the explanation, it is encouraging that shifts in racial composition apparently occurred without any impact on community-level homeownership rates.

Although the impact of the availability of low-interest rate loans on ownership rates was in the anticipated direction (positive), it was too small to be distinguishable. This does not suggest that these loans were unimportant to the families who received them, but only that they had no discernible impact on the change in aggregate ownership rates during the decade.

The magnitude of the impact of these variables on the change in ownership rates is a reflection of their estimated weights and the values of the variables. The estimated weights for each variable are the regression coefficients shown in Table 9. The average values for the independent variables are also shown. The product of the coefficient for the variable and its average value provides the magnitude of its impact on the change in homeownership rates.

The largest impact is due to an increase in median family incomes. This is entirely consistent with housing theory and with common sense. This was a decade in which incomes rose rapidly in Virginia. Indeed, the independent effect of the increase in median family incomes (controlling for the effects of other changes) would have produced even larger increases in overall ownership rates if it had not been offset by other changes.

The second largest impact was from the shift in the percentage of husband-wife households. In many ways, husband-wife households are the backbone of the homeownership market, which was clearly demonstrated earlier through their consistently high ownership rates for all income groups and age groups. As expected, an increase in the proportion of husband-wife households results in a significant increase in homeownership rates. However, the trend during the 1980s was for a decrease in the proportion of husband-wife households (with the distribution shifting to nonfamily households which have the lowest ownership rates). The shift away from

husband-wife households had a serious negative impact on ownership rates, which might have been 3.5 points higher if the proportion of husband-wife households, on average, had remained constant during the decade.

The third largest impact was a shift toward young householders. As expected, the direction of this impact was negative: an increased proportion of young householders reduced homeownership rates. Fortunately, on average the proportion of young householders declined. In most communities, the age distribution of householders shifted in favor of older householders rather than younger householders, thereby favoring ownership. The continuation of this trend toward older rather than younger householders, which is expected, should help increase homeownership rates in the future if other trends are also positive.

A positive shift in the percent of manufactured housing also increases homeownership rates. Most communities had a declining share of manufactured housing and fell below the overall mean. But in a few communities, there was a large shift toward manufactured housing. In these communities, the contribution of manufactured housing to increased homeownership was substantial.

The impacts of the other variables examined were minor. Although the trend in housing affordability was favorable with incomes increasing 14 percent faster than house values, the impact of this increased affordability was in the opposite direction than expected (negative rather than positive). Interest rates were lower during most of the decade than in 1980, which might have prompted households in high-cost communities to become homeowners despite relative increases in costs. This could also be the case if home seekers in high cost communities became homeowners in anticipation of future increases in housing prices, despite negative trends in affordability during the 1980s. In addition, ownership opportunities for alternative housing types such as town houses and condominiums increased over the decade, especially in Northern Virginia.

A closer examination of the data supports the interpretation that households in areas where housing costs escalated faster than incomes (many of which are in Northern Virginia) continued to become homeowners despite affordability problems, possibly as a result of anticipated future increases in prices and the attraction of significantly lower interest rates. Indeed, some of the counties with the largest decreases in affordability also had the largest increases in homeownership rates. For example, in Arlington County the rate of change in incomes was 43 percent lower than that for house values, but the homeownership rate increased 6.0 points. A similar pattern occurred in Clarke, Fairfax, Fauquier, Fluvania, Goochland, Surry counties and

Alexandria, Fairfax, Falls Church and Williamsburg cities. In other areas, particularly older cities, homeownership rates declined despite increases in incomes relative to house values. Such patterns suggest that focusing on improved affordability is a seriously flawed strategy unless consumer expectations about future price increases and other aspects of the ownership decision are considered.

An increase in density reduced ownership rates, as expected. Increasing density is associated with higher land prices and with greater availability of apartments. For the average community, the impact of a change in density was minor. Since the range in the percent change in density was extremely large, from a 63.0 percent decline to a 68.1 percent increase, its impact for selected communities was much more important.

## Conclusions

There is increased public attention to homeownership opportunities in Virginia and across the nation. Homeownership frequently brings financial and personal benefits to the owners and can promote community stability. Once homeownership is established by a household, it generally continues, as do the accompanying positive effects on society.

The most important factors contributing to increased homeownership are favorable trends in incomes and household demographics. The impact of housing prices is more difficult to discern. Rising prices relative to incomes do not necessarily lead to decreased ownership rates and under certain conditions might even be associated with increased ownership. Similarly, periods of deflation in housing prices are more likely to discourage rather than encourage ownership.

Current trends in household demographics have opposite effects on homeownership. The aging of the population will have a favorable impact on ownership, but potentially negative shifts in ownership rates for specific age cohorts warrant closer study and monitoring. Continued shifts away from husband-wife families will negatively affect ownership. If divorce rates stabilize, as they have been doing recently, the proportion of husband-wife families might also stabilize.

Most of the conditions affecting ownership rates are beyond the direct influence or control of public policy, particularly at the state level. State and local efforts can be swamped by the effects of national economic and cultural trends. The path to increased homeownership in Virginia is neither clear nor easy to follow. There are no guarantees that well-intentioned policies will have their desired effects. Programs may be too small to have a significant overall impact or might have their impact dissipated by helping those who would have become homeowners regardless of public assistance. The effectiveness of public efforts to increase ownership will likely be enhanced by focusing on those groups whose ownership rates fall well below the average, particularly single-parent families and racial minorities.