# Life Cycle Stage and Housing Cost Burden

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*Housing cost burden (the ratio of housing cost to household income) is examined using data from the 2001 Survey of Consumer Finance. Results of ordered logistic regression show that singles and single parent families were less likely to have an affordable housing cost burden than couples with no children. Households with an affordable housing cost burden were more likely to be headed by a person with more education and one who saved regularly. If the head was Hispanic, Asian, or Native American, the household was less likely to have an affordable housing cost burden compared to those with a White household head.*

Keywords: *Housing cost burden, Life cycle stage, Ordered logistic regression, Survey of Consumer Finances*

## Introduction and Purpose

The cost of housing is usually the largest expense in the household budget. The proportion of annual income that is spent on housing ranges from 25% to 45% of total income (Garman & Forgue, 2003). Homeowners are usually at a financial advantage when compared to renters. Although renters generally pay less for rent than homeowners pay for the total of the mortgage payments, property taxes, and mortgage insurance, homeowners usually benefit from an increase in the value of the home and they receive an income tax advantage (Garman & Forgue).

Mortgage lenders use well-known guidelines for loans secured by the personal residence. Although there is some variation, typical guidelines are as follows. To issue a mortgage loan at prevailing market interest rates, the percentage of monthly housing costs to monthly gross income should be less than or equal to 28%. A second widely used ratio is to compare the proportion of the sum of housing costs and other consumer debt payments to income. The guideline for evaluating this percentage is that monthly debt payments for housing and consumer debt should not exceed 36% of gross monthly income (Dalton & Dalton, 2001). This means that if 28% of income is allocated for housing, only 8% is available to pay for other consumer debts such as installment loans and credit card balances. These guidelines show that the cost of housing relative to income is an important aspect of the financial well-being of the household.

According to a report from the Center for Housing Policy, a nonprofit research affiliate for the National Housing Conference, 14% of American families, including millions who are fully employed, are in a critical status because of their housing costs (Warson, 2001). The report states that minorities might not get their share of affordable housing opportunities, and in some communities, working families spend more than half of their income on housing.

The housing cost burden is linked to changes over the life cycle. Events such as marriage, birth of first child, dissolution of a marriage, death of a spouse, and other changes alter relationships and consumer needs and wants (Wilkes, 1999). Although consumer studies have focused on a variety of products and changes in spending on the products over time, there is a lack of research that links housing cost burden and life cycle stages.

In this study, housing cost burden (housing cost divided by income) is examined by applying measures of "affordability, high cost, and excessive cost" to the percentage of income that is being spent for housing costs (Chi & Laquatra, 1998). In addition to life cycle stage, other factors could affect housing cost burden. These factors include demographics, human capital, and financial management.

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## Review of Literature
*Changes in the Family Life Cycle*

The relationship between life cycle stages and housing cost burden provides a conceptual framework for the study. Wells and Gubar (1966) stated that most households move through an expected and orderly progression of life cycle stages: single, newly married, recently married with dependent children, older couples with dependent children, older couples with no dependent children at home, and solitary survivors. However, critics of life cycle theory point out that many variations occur. For example, some individuals and couples choose alternative household arrangements, some delay marriage, divorce rates have increased, and so forth.

Hence, there is a lack of agreement on a standard model for life cycle stages. A simple model might include marital status and the presence of children (Paulin, 1995) while a more complex model might include various ages of the household head and children at various ages or no children (Wilkes, 1999). After reviewing the literature on life cycle stages, a four stage model was selected for this study. The stages in the model are: single persons, single parent families, couples without children, and couples with children.

A life cycle stage model with only a few stages is similar to the one suggested by Garman and Forgue (2003) who recommend thinking of the life cycle in three periods: early single-hood, later single-hood/ young couple-hood, and mature single-hood/middle couple-hood. A simple model such as the three stages described by Garman and Forgue or the four stages suggested by Paulin (1995) is often applied to consumer behavior studies. In contrast, a model with seven to 13 stages such as the one shown by Wilkes (1999, p. 306) may be overly complex for a study of the affordability of housing cost burden.

These four stages (singles, single parent families, couples with no children, and couples with children) can be readily applied to changes in housing needs over the life cycle (Dalton & Dalton, 2001). It is common for newly married couples to purchase a home. When children arrive, more housing is needed. A divorced individual might experience an increase in housing cost burden following the divorce. A widowed individual might experience an increase in housing cost burden due to the loss of the decedent's Social Security and other pension benefits. Therefore, it is hypothesized that a couple with no children will have a more affordable housing cost burden compared to couples with children, single parent households, and singles. Other factors such as age, education, and race are also likely to influence housing cost burden.

*Demographic Factors*

Age is an important factor in regard to housing. Younger individuals will probably rent housing while they are obtaining their education and beginning full-time work. As individuals experience an increase in their income and as families are established, they might have homeownership as a primary goal (Editors, 2000; Warson, 2001). As time passes, they may experience job changes which could lead to changes in housing tenure, e.g. moving from a rented home to an owned home. However, housing cost burden might not decline with age because a person's income is usually reduced in retirement although some retirees will have a paid-off mortgage by the time they retire. It is hypothesized that the housing cost burden increases as the head of household ages.

Ethnicity is likely to affect the affordability of housing cost burden (Chi & Laquatra, 1998; Fan & Lewis, 1999; Warson, 2001). Using Consumer Expenditure Survey data, Fan and Lewis found that African Americans spent a significantly lower proportion of their budget on shelter, compared to Asian American households and Hispanic households. The difference for Asian Americans was 19% more and for Hispanic households, it was 14% more. They suggested that African Americans may be more likely than other ethnic households, due to past patterns and lingering effects of housing segregation, to live in neighborhoods where housing is less expensive. In contrast, because Asian and Hispanic cultures put more emphasis on traditional family values than some other cultures, they may spend more on housing. It is anticipated that African American households will be less likely to have an affordable housing cost burden compared to households of other races and ethnic origins.

*Human Capital*

Human capital refers to any actions an individual does to "yield higher income and other useful outputs over long periods of time," according to Becker (1993, p. 15). Education, specific job skills, and practicing healthful behaviors such as eating a nutritious diet and exercising regularly all contribute to human capital. Furthermore, additional education and skills are expected to lead to higher income. The relationship between human capital as measured by education and the affordability of housing cost burden is expected to be positive. The relationship between good health and affordability of housing cost burden is also expected to be positive.

*Financial Management*
Financial management practices are likely to affect the affordability of housing cost burden. Attitudes and skills that could affect housing cost burden include shopping for credit, saving regularly, use of credit, length of the planning horizon, and risk tolerance. It is hypothesized that individuals who maintain good financial management skills are more likely to have an affordable housing cost burden.

Dalton and Dalton (2001) suggest that the best indicator of future saving behavior is past behavior. This was supported in a study of retirement savings behavior in which DeVaney and Chien (2001) found that past saving behavior was positively related to the amount in retirement savings accounts. The study showed that several measures of past saving (e.g. being a homeowner, the amount of real assets, and spending less than one's income) were positively related to the amount in both defined contribution accounts and Individual Retirement Accounts. Thus, it is hypothesized that individuals who are regular savers are more likely to have an affordable housing cost burden.

Those who use credit cards as a means of paying off monthly debt instead of paying interest on outstanding credit card balances are known as convenience users of credit cards. Kim and DeVaney (2001) found that convenience users of credit cards had more education, more income, and a preference for longer planning periods. It is hypothesized that convenience users of credit cards are more likely to have an affordable housing cost burden.

According to the economics of information theory (Stigler, 1961), consumers will search for lower prices as long as the marginal benefit of searching equals or exceeds the cost of searching. Research has shown that many consumers do not search for information about credit terms or they search only a little (Chang & Hanna, 1992; Lee, 1998). Chang and Hanna found that only 20% of consumers searched for information about credit prior to obtaining credit. They found that level of education and size of the loan were positively related to the probability of searching for credit. Middle-income households were more likely to search for credit information than either low-income or high-income households. Lee (1998) found that those who searched more for credit information were younger, married, with larger families, in good health, and they always or almost always paid their credit card balances in full. The larger the credit card debt, the more the respondent searched for credit information. If both spouses worked, they were less likely to search for credit information.

Lee and Hogarth (2000) investigated consumer information search for mortgages with data from the 1997 University of Michigan's Survey of Consumers. Their sample included consumers who had applied for a home mortgage loan or refinanced their mortgage within the last five years. They found that about one-third did a moderate amount of search and one-fifth did almost no searching or only a little searching. The average number of sources that were consulted was two. Based on these studies (Chang & Hanna, 1992; Lee, 1998; Lee & Hogarth, 2000), it is hypothesized that individuals who search for credit information are more likely to have an affordable housing cost burden.

Being turned down for credit may be related to the affordability of housing cost burden. Lee and DeVaney (2000) investigated the characteristics of consumers who thought they would be turned down for credit. She found that younger respondents, with less education, lower income, minority households, and renters were more likely to expect to be turned down. Single female parents were more likely to expect to be turned down than other households. It is hypothesized that those who have not been turned down for credit are more likely to have an affordable housing cost burden.

Preference for a longer planning period might reveal which households will be more effective financial managers because advisors recommend that individuals plan as far in advance as possible (Dalton & Dalton, 2001; Droms & Strauss, 2003; Garman & Forgue, 2003). For example, young households are encouraged to save for long-term goals such as purchase of a home, their children's education, and retirement. Moreover, previous research has shown that paying debts on time is indicative of having a long planning horizon (Zhang & DeVaney, 1999). It is hypothesized that individuals who prefer a longer planning period are more likely to have an affordable housing cost burden.

Risk tolerance is another factor that might affect affordability of housing cost burden. Subjective risk tolerance is defined as the individual's perception of their tolerance for risk and objective risk tolerance is defined as the behavior that an individual exhibits in regard to their investments. Research on both subjective and objective risk tolerance showed that although risk tolerance increased with age, it began to decline when the individual was about 50 years old (Chang & DeVaney, 2001). The study showed that education was positively related to subjective and objective risk tolerance, and that White respondents were more risk tolerant, objectively and subjectively, than non-White households. Net worth was positively related to risk tolerance. It is hypothesized that individuals with more tolerance for risk are more likely to have an affordable housing cost burden.

## Methodology

*Data and Sample*

The sample used in the study was drawn from the 2001 Survey of Consumer Finances (SCF). The SCF is collected every three years by the National Organization for Research at the University of Chicago (Kennickell, 2003). Sponsored by the Board of Governors of the Federal Reserve System, the survey provides detailed information on demographic characteristics and assets and liabilities of U.S. households. The 2001 SCF consisted of 4,442 households. When a weight variable is used, the descriptive statistics represent the population of the U.S.

To analyze the cost of housing relative to income, three limitations were placed on the sample: only households with positive income were included in the study; those whose residence was a mobile home, farm, or ranch were excluded; households who had paid off their mortgages were excluded. The sample for the study consisted of 2,889 households; of these, 1,734 were homeowners who were making mortgage payments and 1,155 were renters who were making rent payments.

*Dependent Variable and Analysis*

The dependent variable, housing cost burden, was developed by calculating housing cost and then dividing it by household income. Housing cost was calculated by multiplying the amount of the mortgage or rent payment by the period of payment provided by the respondent. Other costs specifically related to housing were not included because they were not available.

The value of the housing cost burden ratio was recoded as an ordinal categorical variable (Chi & Laquatra, 1998; Dalton & Dalton, 2001). The measure of "affordable" housing cost burden was defined as less than or equal to 28%; "high" housing cost burden was between 29% and 35%; "excessive" housing cost burden was equal to or greater than 36%. The categories for affordable, high, and excessive housing cost burden reflect the guidelines given by Dalton and Dalton (2001) and the study by Chi and Laquatra (1998). For the categorical dependent variable, affordable was designated as 3, high as 2, and excessive as 1. The ordinal scale variable reflects different degrees of housing cost burden, but it does not imply an interval scale between categories. Therefore, ordered logistic regression was an appropriate technique for analysis (SAS Institute Inc., 1995).

*Independent Variables*

The coding of variables is shown in Table 1A and 1B. The independent variables consisted of four sets of factors: life cycle stages, demographic factors, human capital, and financial management. Demographic factors included age and race of the household head. Human capital measures were education and health. Education was the number of years of education attained by the head of household. Health was the self-reported health of the head of household: poor, 1; fair, 2; good, 3; excellent, 4.

Financial management practices included saving on a regular basis, credit use, shopping for credit, being turned down for credit, planning period, and risk tolerance. Saving regularly was measured by the response to the question, "Which statement comes closest to describing your and your (spouse/partner's) saving habits?" The response used in this study was "Saving regularly by putting money aside each month." A positive answer was coded as 1, otherwise 0.

Convenience use of credit was measured by the question, "Thinking only about Visa, Mastercard, Discover, Optima, and store cards, do you almost always, sometimes, or hardly ever pay off the total balance owed on the account each month?" If the response was "Always or almost always," it was coded as 1, otherwise 0.

Shopping for credit was measured by the question, "When making major decisions about credit or borrowing, some people shop around for the very best terms while others don't. What number would you (your family) be on the scale: 1, almost no shopping; 3, moderate shopping; 5, a great deal of shopping?" Being turned down for credit was measured by the question, "In the past five years, has a particular lender or creditor turned down any request you or your (spouse/partner) made for credit, or not given you as much credit as you applied for?" Length of planning period was measured using the question, "In planning your family's saving and spending, which of the time periods listed on this page is most important to you?" Risk tolerance was measured by the question, "Which of the statements on this page comes closest to the amount of financial risk that you and your spouse/partner are willing to take when you save or make investments?" The responses are coded from 1 representing "not willing to take any financial risk," to 4 for "take substantial financial risks expecting to earn substantial returns."

## Results

*Comparison of Survey of Consumer Finances and Current Housing Reports*

The sample consisted of homeowners who were making mortgage payments and renters who were making rent payments. The median value of the housing cost burden ratio in the 2001 SCF was compared to data from the Current Housing Reports (CHR) for 1999 and 2001 to assess the comparability of the data in the SCF. The collection of data for the 2001 SCF took place in 2000. As shown in the Appendix, the median value for housing cost burden in the 2001 SCF was 19%. The median values for the 1999 and 2001 CHR were 20% and 21%, respectively (U.S. Census Bureau, 2001, p. 608; U.S. Census Bureau, 2002, p. 601). According to the Statistical Abstract, housing costs for the CHR (in addition to the payment for rent or mortgage) include real estate state taxes, property insurance, utilities, fuel, water, and garbage collection. Hence, housing costs for the CHR would be higher than the SCF.

*Descriptive Statistics*

The descriptive statistics for the total sample are presented in Table 1-A and 1-B. One-third (34%) were singles, 14% were single parent families, 24% were couples with no children at home, and 29% were couples with children at home. The average age of the head of household was 44. On average, the household head had 13 years of education, and was in good health. Seventy-one percent of the heads of household were white, 16% were black, and 13% were Hispanic, Asian, Native American, or other races.

Forty-two percent were regular savers, and 36% always or almost always paid off their credit cards. Thirty-nine percent did a moderate amount of shopping for credit. Twenty percent had been turned down for credit at least once in the last five years. Eighteen percent preferred a planning period longer than 10 years. On average, respondents indicated that their risk tolerance was 2, "take average financial risks expecting to earn average returns."

*Affordability of Housing Cost Burden*

To develop the dependent variable, the coding for the categories of affordable, high, and excessive were applied to the percentages obtained for housing cost burden. As previously described, the percentage for affordable was less than or equal to 28%; for high, it was between 29% and 35%; and for excessive, it was 36% and above. For the total sample, the percentage in each category was: 73%, 10%, and 17%, respectively. When the housing cost burden of homeowners was categorized, the percentages were: 85.42%, 7.11%, and 7.47% for affordable, high, and excessive, respectively. When the median values for housing cost burden were

categorized for renters, the percentages were: 57%, 13%, and 30% for affordable, high, and excessive, respectively. Table 2 presents median annual housing cost and median annual income to give a frame of reference for values relating to the housing cost burden.

**Table 1-A**
Coding and descriptive statistics for continuous variables (N = 2,889)

| Variable | Coding | Mean | SD |
|---|---|---|---|
| Education | Continuous | 13.42 | 2.81 |
| Health | 1 to 4=poor to excellent | 3.04 | 0.82 |
| Age | Continuous | 44.08 | 14.89 |
| Risk tolerance | 1 to 4, none to above average | 1.95 | 0.88 |

**Table 1-B**
Coding and distribution for categorical variables (N = 2,889)

| Variable | Coding | % |
|---|---|---|
| *Life cycle stage* | | |
| Singles | 1 = yes, 0=otherwise | 33.97 |
| Couples, no children | reference | 23.69 |
| Couples, with children | 1 = yes, 0=otherwise | 28.81 |
| Single parent family | 1 = yes, 0=otherwise | 13.53 |
| *Demographic factors* | | |
| White | reference | 71.39 |
| African American | 1 = yes, 0=otherwise | 15.70 |
| Other races | 1 = yes, 0=otherwise | 12.91 |
| *Financial management* | | |
| Regular saver | 1 = yes, 0=otherwise | 42.10 |
| Convenience user of credit cards | 1 = yes, 0=otherwise | 36.28 |
| No shopping for credit | reference | 15.79 |
| Moderate shopping | 1 = yes, 0=otherwise | 38.87 |
| A lot of shopping | 1 = yes, 0=otherwise | 23.17 |
| Turned down for credit | 1 = yes, 0=otherwise | 20.45 |
| *Time horizon* | | |
| Next few months | reference | 18.45 |
| Next year | 1 = yes, 0=otherwise | 11.85 |
| Next few years | 1 = yes, 0=otherwise | 26.89 |
| Next 5-10 years | 1 = yes, 0=otherwise | 25.03 |
| Longer than 10 years | 1 = yes, 0=otherwise | 17.78 |

**Table 2**
Housing cost burden for the total sample, homeowners and renters

| Housing Cost Burden | Total (n=2889) | Home-owners (n =1734) | Renters (n=1155) |
|---|---|---|---|
| Median annual housing cost | $7,800 | $9,720 | $6,000 |
| Median annual income | $44,000 | $65,000 | $24,000 |
| Affordable (<= 28%) | 73.22% | 85.42% | 57.15% |
| High (29% to 35%) | 9.70% | 7.11% | 13.11% |
| Excessive (=>36%) | 17.08% | 7.47% | 29.74% |

**Table 3-A**
T-tests of differences in characteristics of households between homeowners and renters

| Variables | Home-owners (n=1734) | Renters (n=1155) | Sig. |
|---|---|---|---|
| Education in years | 14.01 | 12.64 | **** |
| Health (1=poor, 4=excellent) | 3.16 | 2.89 | **** |
| Age in years | 46.02 | 41.53 | **** |
| Risk tolerance (1=none, 4=substantial) | 2.12 | 1.74 | **** |

**** $p < 0.0001$

*Comparison of homeowners and renters*
Characteristics of homeowners and renters were compared; results are shown in Table 3A and 3B. Homeowners were older, in better health, with more education, and they had a higher risk tolerance. Renters were more likely to be a single person or a single parent household. Homeowners were more likely to be couples either with or without children. Renters were more likely to be non-white. Homeowners were more likely to save regularly, to be convenience users of credit cards, to shop more for credit, to prefer longer planning periods, and they were less likely to be turned down for credit.

*Results of ordered logistic regression*
*Total sample* The results of ordered logistic regression with the total sample, shown in Table 4, show that renters were 57.5% less likely than homeowners to have an affordable housing cost burden. There were significant relationships between the affordability of housing cost burden for two life cycle stages, education, age, ethnic groups other than White or Black, being a regular saver, and risk tolerance. Compared to couples without children, singles and single parent households were less likely to have an affordable housing cost burden.

**Table 3-B**
Chi-square tests for differences in characteristics of households between homeowners and renters

| Variables | Home-owners (n=1734) % | Renters (n=1155) % | Sig. |
|---|---|---|---|
| Life cycle stages | | | |
| Singles | 16.90 | 50.91 | |
| Couples with no children | 33.45 | 14.55 | **** |
| Single parent families | 6.17 | 20.09 | |
| Couples with children | 43.48 | 14.46 | |
| Race | | | |
| White | 85.01 | 60.35 | **** |
| Black | 7.09 | 23.46 | |
| Other races | 7.90 | 16.19 | |
| Regular savers | 51.44 | 30.74 | **** |
| Otherwise | 48.56 | 69.26 | |
| Convenience users of credit cards | 60.96 | 21.65 | **** |
| Otherwise | 39.04 | 78.35 | |
| No shopping for credit | 10.55 | 23.81 | |
| Moderate amount of shopping for credit | 38.58 | 38.44 | **** |
| A lot of shopping for credit | 25.43 | 18.61 | |
| Unknown | 25.43 | 19.13 | |
| Turned down for credit | 12.69 | 26.23 | **** |
| Not turned down for credit | 87.31 | 73.77 | |
| Time preference | | | |
| Next few months | 9.92 | 25.37 | |
| Next year | 7.44 | 15.41 | **** |
| Next few years | 24.11 | 28.57 | |
| Next 5–10 years | 33.10 | 19.48 | |
| More than 10 yrs. | 25.43 | 11.17 | |

**** $p < 0.0001$

These results support previous research that showed singles and single parent families are disadvantaged in the housing market (Chi & Laquatra, 1998; Warson, 2001). A negative relationship between age and housing cost burden was found; younger households were less likely to have an affordable housing cost burden. For each one-year increase in age, the odds for affordable housing decrease by 0.995.

A positive relationship was found between education and housing cost burden; with more education, the head of household was more likely to have an affordable housing cost burden. The odds for affordable housing increase by .061 for each additional year of education. This demonstrates the value of increasing one's human capital through obtaining more education (Becker, 1993). Households headed by an individual who was Hispanic, Asian, or Native American were 56% less likely to have an affordable housing cost burden compared to households headed by an individual who was white. This was consistent with Warson (2001).

**Table 4**
Ordered logistic regressions on housing cost burden [a]

| Variable | Total sample (N=2889) | | Homeowners (n=1734) | | Renters (n=1155) | |
|---|---|---|---|---|---|---|
| | Parameter estimate | Odds Ratio | Parameter estimate | Odds Ratio | Parameter estimate | Odds Ratio |
| Renters | -0.8557*** | 0.425 | -------- | | ------- | |
| Life cycle: Couples, no children (ref) | -------- | | -------- | | -------- | |
| Singles | -0.6618*** | 0.516 | -1.0737*** | 0.342 | -0.3739* | 0.688 |
| Couples with children | 0.0672 | | -0.1466 | | 0.1019 | |
| Single parent family | -0.7575*** | 0.469 | -1.3593*** | 0.257 | -0.4628* | 0.629 |
| Education | 0.0592** | 1.061 | 0.0655* | 1.068 | 0.0525* | 1.054 |
| Health | 0.1013 | | 0.0081 | | 0.1369 | |
| Age | -0.0091* | 0.995 | -0.0157* | 0.984 | -0.0029 | |
| Race: White (reference) | -------- | | -------- | | -------- | |
| Black | -0.0323 | | -0.1735 | | 0.0058 | |
| Other races | -0.8154*** | 0.442 | -0.6844** | 0.504 | -0.8373** | 0.433 |
| Regular saver | 0.6074*** | 1.836 | 0.5957*** | 1.814 | 0.6199*** | 1.859 |
| Convenience user of credit cards | 0.2232 | | 0.3520* | 1.422 | 0.0742 | |
| No shopping for credit (ref) | --------- | | ------- | | -------- | |
| Moderate shopping for credit | 0.1172 | | -0.1130 | | 0.2133 | |
| A lot of shopping for credit | -0.0735 | | -0.2774 | | 0.0358 | |
| Turned down for credit | 0.1702 | | -0.1946 | | 0.3903* | 1.477 |
| Time preference Next few months (ref) | -------- | | -------- | | -------- | |
| Next year | 0.0891 | | -0.1613 | | 0.1541 | |
| Next few years | 0.0741 | | -0.2729 | | 0.2661 | |
| Next 5-10 years | 0.1562 | | 0.0722 | | 0.1341 | |
| More than 10 years | 0.2210 | | 0.3552 | | 0.0153 | |
| Risk tolerance | 0.2089*** | 1.232 | 0.2500* | 1.284 | 0.1565* | 1.169 |
| Intercept 2 | -0.9769* | | 2.1606 | | -0.4936 | |
| Intercept 3 | -0.3241 | | 1.4504 | | -0.8997 | |
| Likelihood ratio | 154.0040*** | | 150.4602*** | | 144.4755*** | |
| Percent concordant | 77.7% | | 73.1% | | 67.0% | |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
[a] Odds ratios are provided for parameter estimates that were statistically significant.

Households who saved regularly were 84% more likely to have an affordable housing cost burden. This supports DeVaney and Chien's (2001) findings on past savings behavior. When risk tolerance in making decisions about saving and investing increased by one unit (for example, from an "average" amount of risk to "above average" risk), the household was 23% more likely to have an affordable housing cost burden.

*Homeowners*
Because the regression with the total sample showed that renters were less likely to have an affordable housing cost burden than homeowners, a next step in the analysis was to conduct separate regressions for homeowners and renters. The results of the regression for homeowners show that singles and single parent households, education, age, other ethnic groups, regular saving, convenience use of credit cards, and risk tolerance affect the affordability of housing cost burden in a manner similar to the total sample.

Singles and single parent households were 66% and 74%, respectively, less likely to have an affordable housing cost burden. Households headed by someone who was Hispanic, Asian, or Native American were 49% less likely to have an affordable housing cost burden than households headed by an individual who was White. The values for the odds ratios for age, regular savings, education, and risk tolerance were similar to those of the total sample.

One additional variable was significant for this sample and that was convenience use of credit cards, (e.g. paying off the monthly balance when it was due.) Convenience users of credit cards were 42% more likely to have an affordable housing cost burden than other households. See Table 4.

*Renters*
When the affordability of housing cost burden was examined for renters, the effects for singles and single parent households, education, other ethnic groups,

regular saving, and risk tolerance were similar to homeowners. Results that differed for renters compared to homeowners included a lack of significance for two variables: age and convenience use of credit cards.

However, being turned down for credit was significant showing that renters who had been turned down were 48% more likely to have an affordable housing cost burden compared to those who were not turned down for credit. A possible interpretation is that being turned down for credit meant that these households were turned down for a mortgage.

### Conclusions and Implications

As hypothesized, the housing cost burden was greater for singles and single parent families when compared to couples with no children. This was true for both homeowners and renters. A single person household has only one income. Although single parent families probably have only one income, they might be receiving child support. Single parent families need more housing space than singles, and probably most single parent families will need access to schools and child care. Singles might have more choices in the housing market because they do not have the same needs as single parent families or couples with children. The findings indicate that the needs of singles and single parent families should be considered by community planners and policy makers.

Age had no effect on housing cost burden for renters. Perhaps the housing market is adequate for renters of all ages. Households headed by an individual who was Hispanic, Asian, or Native American appeared to be disadvantaged in the housing market. This could be a result of low incomes but there may be other factors involved. Their housing needs should be considered by community planners and policy makers.

As expected, being a regular saver was influential for both homeowners and renters. Convenience use of credit cards was influential for homeowners in predicting an affordable housing cost burden. Each of these findings will be useful for financial advisors who work individually with clients. Advisors can encourage clients to become regular savers and to adopt good practices regarding the use of credit. The results reinforce the training provided by educators. Some consumers might need to have a greater awareness of inconsistencies in their behavior. They might say that they want to be a homeowner, but they are not saving for a down payment, or they are not developing a good credit rating to enable them to purchase a home. Others might say that saving is a goal, but they do not regularly allocate any income to savings such as retirement plan or they contribute less than their maximum allowable amount if they are a participant in

a retirement plan such as employer-sponsored plan or an Individual Retirement Account.

Understanding one's risk tolerance when investing or saving is important (Chang & DeVaney, 2001). Some individuals seem to have difficulty identifying their risk tolerance and adapting their behavior to their risk tolerance. For example, they might say that they prefer to take only an average amount of risk, but they engage in gambling, or they invest their retirement savings in accounts that take minimal risk without considering the effect of inflation over time.

Searching for credit was not significant. This could mean that housing choices were limited and that a search for lower rates did not improve a household's housing cost burden, or there may be some other interpretation. Knowing how to search for credit is useful to households who undoubtedly have other credit needs such as vehicle loans, credit cards with lower interest rates, or other loans. Thus, we suggest that credit search should be included in any discussions or programs relating to financial management.

Other factors need to be considered in future research on housing cost burden. Additional insight into housing needs could be obtained from focus groups. Understanding housing needs as they relate to changes in the life cycle will assist community planners and policy makers prepare for changes in housing demands as immigrants continue to move to the United States and as the population ages.

### Appendix

|  | Median value for housing cost burden | | |
|---|---|---|---|
| Data Set | Total | Home-owners | Renters |
| Current Housing Reports, 1999[a] | 20% | 17% | 28% |
| Current Housing Reports, 2001[a] | 21% | 18% | 29% |
| 2001 Survey of Consumer Finances  (2000) | 19% | 15% | 25% |

[a] Statistical Abstract of the United States, 121st edition. See U.S. Census Bureau. (2001).

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