American Housing Survey

Housing Units that Serve Both the Renter and Owner Markets

November 2011

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PREPARED FOR:
U.S. Department of Housing & Urban Development
Office of Policy Development & Research

PREPARED BY:
Frederick J. Eggers
Fouad Moumen
Econometrica, Inc.
Bethesda, Maryland

Contract No. C-CHI-01030
Order No. CHI-T0001
Project No. 1031-000

November 2011

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Executive Summary

This report studies housing units that at different times serve the owner and renter segments of the housing markets. At HUD's request, the authors had previously examined the phenomenon of units that change tenure, but that study was limited to the 2001–2003 period. The current study takes advantage of the MacArthur File, a longitudinal linking of 13 AHS surveys from 1985 to 2009.

The current AHS sample provides a history from 1985 to 2009 of all the units that were in the 2009 housing stock. Over this period, many housing units played more than one role. The most common history consists of being always part of the owner stock; 54.2 million units played a single role, that of owner units. Another 18.3 million units also played a single role, that of renter units. However, the "always renter" total is 5.5 million fewer than the number of units that were in the owner stock at some time and in the renter stock at some other time during this 24-year period. This paper focuses on the 23.8 million units whose histories from 1985 to 2009 consist solely of being sometimes in the owner stock and sometimes in the renter stock. We call these units *own/rent units*.

The 23.8 million own/rent units are represented by 9,487 AHS sample units. Appendix A traces out the 1,728 different career paths that these units took from 1985 (or from the time they entered the housing stock if later than 1985) to 2009. Despite the multiplicity of different career paths, certain patterns emerged. Most of the own/rent units were in the stock when the AHS sample was drawn in 2009. Also, most own/rent units have a history of being predominately owner or predominately renter. Finally, rather than frequent moves back and forth between owner and rent statuses, most own/rent units remain in the owner status and in the renter status for long consecutive periods.

The first study, while limited to the 2001–2003 period, offered some insights into how and why units can serve different roles. The following premises incorporate and expand on those insights.

- While the interaction of supply and demand ultimately determines how households are housed, each household brings certain preferences to the market. These preferences include tenure, unit size, and unit location.

- Units are built to respond to what is demanded or expected to be demanded at the time the unit is built and incorporate those demands into such features as structure type, unit size, and unit location.

- The characteristics of a unit determine whether the unit appeals predominately to the owner market, predominately to the renter market, or to both markets. The actual tenure of a unit depends upon the interaction of supply and demand, and that interaction can lead to unusual tenure outcomes in one of two ways:
    - First, some atypical households want to rent units that have characteristics that appeal to the owner market and vice versa. For this reason, at any given time, the owner-occupied housing stock includes units with almost every possible set of

characteristics, and the renter-occupied stock also includes units with almost every possible set of characteristics.

- Second, what is demanded can change over time. Although preferences for tenure, unit size, and unit location change gradually, housing capital has such a long life that units originally built with one tenure in mind may have to accommodate a different tenure.

This study analyzes how the characteristics of units relate to the career paths that they follow and what those career paths look like.

The report uses both cross-tabular and regression analysis to: (a) examine why certain units are always owners, others are always renter, and still others are own/rent units and (b) explain the proportion of time that own/rent units spend in the owner market and the proportion of time they spend in the renter market.

With respect to the factors that affect whether units are always owner, always renter, or own/rent units, the report finds:

- Structure type is very important in determining a unit's history. Single-family, detached units are mostly always owner, and units in multiunit structures are mainly always renter. The probability of being an own/rent unit is higher for single-family, attached units.

- Unit size affects a unit's history. Smaller units are more likely to be own/rent units or always renter units, and larger units are more likely to be always owner units.

- Older units are more likely to be own/rent units, while newer units are more likely to be always owner.

- Units outside of central cities are less likely to be own/rent units and more likely to be always owner.

- Units in the West are more likely to be own/rent units and less likely to be always owner units.

- There is considerable variation in unit histories across metropolitan areas.

With respect to the factors that affect the proportion of time that own/rent units spend in the owner market, the report finds:

- While many factors were statistically significant, the only factors that had a substantial effect on this proportion were the structure type and unit size sets of variables. Own/rent units in multiunit structures serve the owner market for a significantly lower proportion of their time in the housing inventory. Zero- and one-bedroom units tend to spend higher proportions of their time in the renter market.

- The proportion of time that own/rent units spend in the owner market can vary substantially across metropolitan areas.

The report posits that the best *single, long-term* indicator of the economic health of a metropolitan area in the United States is the extent to which the area gains population. Regions with strong economies grow; regions with economic problems stagnate. The report creates a variable that measures the growth in population, using consistent boundaries, between 1980 and 2009 for 130 metropolitan areas. The percentage change in population varied substantially among the metropolitan areas, ranging from a low of −16 percent for Beaver, PA, and Youngstown-Warren, OH, to 310 percent for Las Vegas. Of the 130 metropolitan areas, 11 had negative percentage changes, and 13 had percentage changes of 100 percent or more. The weighted average percentage change was 43 percent.

The cross-tabular analysis failed to find a strong relationship between this measure and either the percentage of own/rent units or the proportion of time that these units spent in the owner market.

However, the regression analysis found that the percentage change in population plays an important role in determining the career history of units and probably account for some of the observed variation across metropolitan areas in how units serve the owner and renter markets. High percentage increases lead to more always renter units and more own/rent units. High percentage increases also raise the proportion of time that own/rent units spend in the renter market. These results are consistent with the notion that high population growth puts pressure on the renter market because in-movers frequently rent before buying and because in-movers are frequently younger and therefore more likely to rent than own. This pressure leads to more owner-type units serving the renter market and fewer renter-type units being available for use as own/rent units. Population changes are more frequently a long-term rather than a short-term phenomenon, and this probably also accounts for the predominance of career paths with consecutive periods of being in the owner or renter status.

Housing Units that Serve Both the Renter and Owner Markets

Introduction

In October 2009, Econometrica entered into a contract with the U.S. Department of Housing and Urban Development (HUD) to support the American Housing Survey (AHS). Task E of that contract required the Econometrica team to recommend a research topic that would highlight the strengths of the American Housing Survey (AHS) and would advance knowledge about the housing stock and housing markets. Econometrica suggested, and HUD approved, a study of housing units that over time serve both the renter and owner segments of the housing markets.

At HUD's request, the authors had previously examined the phenomenon of units that change tenure, but this study was limited to the 2001–2003 period.[1] The current study takes advantage of the MacArthur File, a longitudinal linking of 13 AHS surveys from 1985 to 2009.[2]

The remainder of this report is divided into six sections:

1. A discussion of the phenomenon of units that are sometimes in the owner stock and sometimes in the renter stock and their importance to the housing market.

2. An examination of the career paths that these units have followed over the 24-year period being studied.

3. An overview of the units that are sometimes in the renter stock and sometimes in the owner stock, with particular attention to the location of these units.

4. A series of cross-tabular analyses to see how these units differ in characteristics from units that are always owner or always renter.

5. A multivariate analysis to see how these units differ in characteristics from units that are always renter or always owner and what determines the time they spend in the owner market and the time they spend in the renter market.

6. Some reflections that relate the findings of this study to the previous study and identify what this study adds.

Appendices provide more details on the analysis reported in the paper.

- Appendix A traces all the various paths taken by units that serve both the owner and the renter markets.

[1] *Characteristics of Units and Their Occupants Associated with Changes in Tenure Status*, a report to the U.S. Department of Housing and Urban Development by Econometrica, Inc., and ICF Consulting, May 2006. This study can be found at http://www.huduser.org/portal/datasets/ahs/tenurestatus.pdf.

[2] The John D. and Catherine T. MacArthur Foundation has funded a multiyear study of the dynamics of affordable renter housing. The authors participate in this study under the auspices of The Hudson Institute.

- Appendix B presents the regression coefficients representing the metropolitan areas identified in the AHS from the equations discussed in the report.

- Appendix C presents alternative regression equations that replace the metropolitan variables with population percentage change and homeownership rate variables. Because of the difficulties in developing consistent percentage changes in population for metropolitan areas, these equations are restricted to much smaller samples.

The Executive Summary contains the main conclusions of the report.

In addition to a careful longitudinal linking of cases, the MacArthur file has two other features that facilitate this study. First, the AHS does not report tenure when the Census Bureau is unable to complete an interview of an occupied or vacant unit. In addition, there are a few cases from the original 1985 AHS sample that were not included in one of the subsequent surveys. The MacArthur file assigns units with missing tenure information to the owner or renter market based on information from adjoining AHS surveys. Second, the MacArthur file contains weights that sum up to the 2009 housing stock and that can be used throughout the period.[3]

Roles Played by Housing Units

For most people, the term *renter housing* creates visions of large garden apartment complexes or city highrises. Those who understand the housing market know that renter housing comes in all forms. In 2009, just 43 percent of renter-occupied housing units were in structures containing five or more units; 28 percent were in single-family, detached structures. One normally associates single-family detached structures with owner-occupied housing; in 2009, 87 percent of single-family detached structures were owner-occupied. Nevertheless, this segment of the housing stock is an important contributor to the renter housing market, as are the single-family attached and two-to-four unit structure segments.

Table 1 shows the history from 1985 to 2009 of all the units that were in the 2009 housing stock. Over this period, many housing units played more than one role. The most common history consists of being always part of the owner stock; 54.2 million units played a single role, that of owner units (row 1). Another 18.3 million units also played a single role, that of renter units (row 2), but the always renter total is 5.5 million fewer than the number of units that were in the owner stock at some time and in the renter stock at some other time during this 24-year period (row 4). Moreover, it is one million units fewer than the number of units that have a complex history that includes being renter at some time (row 4).[4] Of the 80.3 million units that were either owned or vacant for "sale only" in 2009, approximately one-third (32.5 percent) had been something other than owner stock at least once in the period between 1985 and 2009; of the 38.9 million units that were renter or vacant for rent in 2009, more than half (52.9 percent) had been

[3] The MacArthur weights produce binennial estimates of the housing stock that are very close to the estimates in the AHS publications. The MacArthur procedures and weights tend to underestimate the renter stock and overestimate the owner stock to a small extent over time.

[4] This group includes units that were always renter or seasonal; always renter except when temporarily out of the stock; always renter, owner, or seasonal; always renter, seasonal, or out of the stock; always renter, owner, or out of the stock; or sometimes renter, owner, seasonal, and out of the stock.

something other than renter stock during this period.[5] More than 40 percent of the 2009 housing stock has a dual or more complicated history. We refer to the different ways that units have been used over time as the career paths they have followed.[6]

Table 1: 24-year History of Units in the 2009 Housing Stock
(History from later than 1985 or year of entry into housing stock)

		2009 units	Percent
1	Always owner	54,179,000	41.8%
2	Always renter	18,338,000	14.1%
3	Always seasonal	2,009,000	1.5%
4	Always renter or owner	23,849,000	18.4%
5	Renter or other	19,422,000	15.0%
6	Other mixed history[7]	11,941,000	9.2%
7	2009 Housing Stock	129,739,000	

Source: Data from *A Short History of the 2009 Housing Stock*, unpublished MacArthur Study working paper.

This paper focuses on the 23.8 million units whose histories from 1985 to 2009 consist solely of being sometimes in the owner stock and sometimes in the renter stock. This includes units that were added to the stock after 1985 but omits (a) units that left the stock permanently before 2009, (b) units that were temporarily out of the stock in 2009, and (c) units that were sometimes used for seasonal housing or were sometimes temporarily out of the stock during this period. These three categories made contributions to renter housing over this period.[8] We omit the first two categories because they were not part of the 2009 housing stock, and we omit the third category to focus on those units that had a simpler tenure history. For ease of discussion, we will call these units *own/rent units*.

The first study, while limited to the 2001–2003 period, offered some insights into how and why units can serve different roles. The following premises incorporate and expand on those insights:

- While the interaction of supply and demand ultimately determines how households are housed, each household brings certain preferences to the market. These preferences include tenure, unit size, and unit location.

[5] The 80.3 million number is an unpublished count from the MacArthur study; it includes owner-occupied units, units vacant for sale only, and units sold but not occupied. The 38.9 million number is also an unpublished number from the MacArthur study; it includes renter occupied units, units for rent only, units for rent or sale, and units rented but not yet occupied.

[6] This terminology was used in the report from the MacArthur study and, as noted in that report, was suggested by Michael A. Stegman.

[7] Units in row 6 were never rental but were in two or more of the following categories sometime in their history: owner, seasonal, or temporarily out of the stock.

[8] See Chapter 4 of *The Long-Term Dynamics of Affordable Renter Housing, A Report to the John D. and Catherine T. MacArthur Foundation*, by John C. Weicher, Frederick J. Eggers, and Fouad Moumen, The Hudson Institute, March 2010.

- Units are built to respond to what is demanded or expected to be demanded at the time the unit is built and incorporate those demands into such features as structure type, unit size, and unit location.

- The characteristics of a unit determine whether the unit appeals predominately to the owner market, predominately to the renter market, or to both markets. The actual tenure of a unit depends upon the interaction of supply and demand, and that interaction can lead to unusual tenure outcomes in one of two ways:
    - First, some atypical households want to rent units that have characteristics that appeal to the owner market and vice versa. For this reason, at any given time, the owner-occupied housing stock includes units with almost every possible set of characteristics, and the renter-occupied stock also includes units with almost every possible set of characteristics.
    - Second, what is demanded can change over time. Although preferences for tenure, unit size, and unit location change gradually, housing capital has such a long life that units originally built with one tenure in mind may have to accommodate a different tenure.

This study analyzes how the characteristics of units relate to the career paths that they follow and what those career paths look like.

The Career Paths of Own/Rent Units

This report studies the characteristics and history of the 23.8 million units that were sometimes in the owner stock and sometimes in the renter stock in the 1985 to 2009 period. With respect to history, we are particularly interested in whether these units switched back and forth between tenures over the period or were predominately one tenure for a long period and then switched to another tenure.

In the MacArthur file that links all 13 AHS surveys, the 23.8 million own/rent units are represented by 9,487 AHS sample units. We could track the career paths of these units using weighted or unweighted data. We chose to use unweighted data because we find it clearer to think in terms of survey-to-survey changes in the status of the units actually being tracked.

Table 2 presents a crosstabulation of the 9,478 units by the year they entered the sample and number of surveys in which they served as owner units.[9] The numbers in each row are sample units that were in the owner stock for that many surveys. For example, there were 916 own/rent units in the original AHS sample that were in the owner stock only one survey and 381 that were in the owner stock only two surveys. Since units in the original sample were in 13 surveys, then the 916 units were also renter stock in 12 (13 minus 1) surveys, and the 381 units were renter stock in 11 (13 minus 2) surveys.

[9] Table 2 stops at 2007 because we have only one AHS survey to report on units that entered after 2007; therefore, none of those units can have a record of more than one tenure. The own/rent units that entered in 2004 or 2005 can have one record in each tenure status.

Two facts stand out in the table. Most of the own/rent units were in the stock when the AHS sample was drawn in 2009. We know the history of these units only from 1985 to 2009; however, for the remaining 1,928 units that entered the stock after 1985, we know their entire history up to 2009. Table 2 also shows that most own/rent units have a history of being predominately owner or predominately renter. In each row, the distribution is thinnest toward the middle of the row where the number of years owner and number of years renter are equal or nearly equal. For example, for own/rent units in the original sample, 338 were owner units in 6 surveys and renter units in 7 surveys.

Table 2: Surveys as Owner Units by Year of Entry for Own/Rent Units (unweighted)

	AHS surveys	Surveys in the owner stock												
		1	2	3	4	5	6	7	8	9	10	11	12	Total
Original sample	13	916	381	324	293	319	338	438	464	509	735	1,045	1,797	7,559
Entered stock														
1986–87	12	45	15	15	8	13	13	21	28	30	41	61	0	290
1988–89	11	31	9	6	5	14	11	19	31	25	46	0	0	197
1990–91	10	29	6	11	10	21	23	19	25	51	0	0	0	195
1992–93	9	17	10	10	11	13	15	28	64	0	0	0	0	168
1994–95	8	30	10	8	11	36	32	68	0	0	0	0	0	195
1996–97	7	24	13	15	16	36	54	0	0	0	0	0	0	158
1998–99	6	29	15	18	35	48	0	0	0	0	0	0	0	145
2000–01	5	34	31	39	51	0	0	0	0	0	0	0	0	155
2002–03	4	33	33	72	0	0	0	0	0	0	0	0	0	138
2004–05	3	70	88	0	0	0	0	0	0	0	0	0	0	158
2006–07	2	129	0	0	0	0	0	0	0	0	0	0	0	129
Total		1,387	611	518	440	500	486	593	612	615	822	1,106	1,797	9,487

Table 3 looks at the 7,559 units that were in the original 1985 sample sorted by the number of times they were owner units. It reports:

(a) the number of possible paths for that combination of surveys in the owner stock and surveys in the renter stock,
(b) the number of units for which all the surveys in the owner stock appear at the beginning of the period (which is also the number of units for which all the surveys in the renter stock appear at the end),
(c) the number of units for which all the surveys in the owner stock appear at the end of the period (which is also the number of units for which all the surveys in renter stock appear at the beginning),
(d) the number of units for which all the surveys in the owner stock appear together (except those appearing all at beginning or end),
(e) the number of units for which all the surveys in the renter stock appear together (except those appearing all at the beginning or end),
(f) the number of units accounted for by (b) through (e), and
(g) the percentage of units accounted for by the paths in (b) through (e).

If there were only 5 surveys instead of 13, and if we limited ourselves to units that were in the owner stock in 3 surveys and in the renter stock in 2 surveys, then the paths included in (b) through (e) would be these:

category (b)	owner, owner, owner, renter, renter
category (c)	renter, renter, owner, owner, owner
category (d)	renter, owner, owner, owner, renter
category (e)	owner, owner, renter, renter, owner
	owner, renter, renter, owner, owner

There are 10 possible paths for 5 surveys with 3 owner and 2 renter.[10] In addition to the five paths described above, the other paths would be:

owner, owner, renter, owner, renter
owner, renter, owner, owner, renter
owner, renter, owner, renter, owner
renter, owner, renter, owner, owner
renter, owner, owner, renter, owner

Here is how Table 3 reads, using the fourth row as an example. This row looks at own/rent units that were in the owner stock for nine surveys and in the renter stock for four surveys.

[10] The number of possible paths is given by the following formula where *s* is the number of surveys, *o* is the number of surveys in the owner stock, and *r* is the number of surveys in the renter stock: *paths* = *s*!/(*o*!**r*!), where ! is the symbol for the mathematical function call *factorial*. 5! = 5*4*3*2*1; 3! = 3*2*1; and 2! = 2*1 5!/(3!*2!) = 10.

Table 3: Identification of Most Common Paths Followed by 1985 Sample Units by Number of Surveys in Owner Stock

Surveys in Owner Stock	Surveys in Renter Stock	Sample Units	(a) Possible paths	(b) All owner at beginning (all renter at end)	(c) All owner at end (all renter at beginning)	(d) All owner together but not beginning or end	(e) All renter together but not beginning or end	(f) Either all owner or all renter together (b)+(c)+(d)+(e)	(g) Percent of units
12	1	1,797	13	329	277	0	1,191	1,797	100.0%
11	2	1,045	78	224	182	11	371	788	75.4%
10	3	735	286	140	110	4	216	470	63.9%
9	4	509	715	81	72	11	123	287	56.4%
8	5	464	1,287	71	94	12	75	252	54.3%
7	6	438	1,716	66	99	15	64	244	55.7%
6	7	338	1,716	50	76	30	28	184	54.4%
5	8	319	1,287	38	62	29	18	147	46.1%
4	9	293	715	30	49	37	18	134	45.7%
3	10	324	286	50	74	50	10	184	56.8%
2	11	381	78	54	49	91	9	203	53.3%
1	12	916	13	155	108	653	0	916	100.0%

- There are 509 units that have this history, and (theoretically) any one of these units could have taken one of 715 different career paths (column (a)).

- As it turns out, 81 units were in the owner stock from the 1985 through the 2001 survey and in the renter stock from the 2003 through the 2009 survey (column (b)).

- Another 72 units were in the renter stock from the 1985 through the 1991 survey and in the owner stock from the 1993 through the 2009 survey (column (c)).

- There were 11 units that were in the owner stock for nine consecutive surveys (column (d)), not including the 81 that were owner all at the beginning and the 72 that were owner all at the end. Actually, there are three different paths that yield this result; one of the three paths is renter stock in 1985 and 1987, owner stock in the 1989 through 2005 surveys, and renter stock in 2007 and 2009. Notice that the column (d) paths split the renter surveys into two pieces, not always equal, one at the beginning of the period and one at the end.

- There were 123 units that were in the renter stock for four consecutive surveys (column (e)), not including the 72 that were renter all at the beginning and the 81 that were renter all at the end. Actually, there are eight different paths that yield this result; 1 of the 10 paths is owner stock in 1985 through 1993, renter stock in the 1995 through 2001 surveys, and renter stock in the 2003 through 2009 surveys. Notice that the column (e) paths split the owner surveys into two pieces, not always equal, one at the beginning of the period and one at the end.

- The paths that keep either all the owner or all the renter statuses together account for 287 units (column (f)), the sum of (b) through (e).

- These paths account for 56.4 percent (column (g)) of the own/rent units that entered the sample in 1985 and were in the owner stock nine times and in the renter stock four times.

This complicated table was the easiest way that we could document the key finding from our examination of the career paths actually followed by own/rent units. ***Rather than frequent moves back and forth between owner and rent statuses, most own/rent units remain in the owner status and in the renter status for long consecutive periods.*** In the row 4 example, a total of 13 paths out of a possible 715 paths accounted for over half of the own/rent units with a history of nine surveys owner and four surveys renter.

Table 3 also refutes the possibility that filtering accounts for own/rent units. A filtering explanation would argue that, as owner units or their neighborhoods age, they "filter" down to a lower usage, that of renter units. Table 3 shows that the "all owner at end" occurs almost as frequently as "all owner at the beginning." Columns (c) and (e) both show considerable movement from renter status to owner status at a later time.

The four career path types that we follow in columns (b) through (e) account for the majority of own/rent units in most of the rows. Still, in rows 4 through 11, other paths account for 40 percent

or more of the own/rent units in each row; therefore, there would appear to be room for more erratic movements between owner and renter statuses. Nevertheless, our examination of all the actual career paths indicates that erratic or random type movements are relatively rare.

Appendix A presents two frequency distributions of the career paths: one followed by the 7,559 units in the original sample and one followed by the 1,928 units that entered the stock after 1985. Both distributions have been sorted from the most frequent to the least frequent. We believe that careful examination of these distributions will lead the reader to accept our characterization of the career paths followed by own/rent units.

Temporal and Spatial Characteristics of Own/Rent Units

This section examines the temporal and spatial patterns displayed by own/rent units. We want to learn whether their dual history is related to when they entered the stock or where they were located. Time and location relate to the economic environment in which units come into the stock to serve housing needs, so we will also attempt to look at these economic conditions more directly. In the next section, we will look at whether the physical characteristics of the units themselves have an influence on their dual history.

First, however, we want to examine how often own/rent units serve the owner market and how often they serve the renter market. Table 4 shows that slightly more than half of the own/rent units spent more than two-thirds of their time serving the owner market; the remaining units were divided almost equally between those serving the owner market less than two-thirds but at least one-third of the time and those serving the owner market less than one-third of the time. This distribution suggests that these units or the markets they operate in are somewhat different from the typical case. Over the period from 1985 through 2009, roughly two-thirds of occupied units were owner-occupied. Therefore, if all units had the same propensity to be owner or renter units and their status was purely random, then the time spent as owner units would cluster around two-thirds.

Table 4: Time Serving Owner and Renter Markets

Share of time serving owner market	Own/rent units	Percent
2/3 or more owner	12,414,000	52.1%
Less than 2/3 but at least 1/3 owner	5,924,000	24.8%
Less than 1/3 owner	5,512,000	23.1%
All own/rent units	23,849,000	100.0%

Table 5 shows when own/rent units entered the stock. Almost 80 percent were in the stock when the AHS sample was drawn in 1985.

Table 5: All Units and Own/Rent Units by Year of Entry into Housing Stock

Entered stock	Own/rent units	Percent of own/rent units	All 2009 units	Percent of 2009 units entering in that period with an own/rent history
In 1985 stock	18,967,000	79.5%	86,199,000	22.0%
1986–1987	696,000	2.9%	4,300,000	16.2%
1989–1989	479,000	2.0%	3,125,000	15.3%
1990–1991	559,000	2.3%	3,499,000	16.0%
1992–1993	505,000	2.1%	3,796,000	13.3%
1994–1995	391,000	1.6%	2,670,000	14.6%
1996–1997	394,000	1.7%	3,169,000	12.4%
1998–1999	318,000	1.3%	3,020,000	10.5%
2000–2001	403,000	1.7%	3,459,000	11.7%
2002–2003	415,000	1.7%	3,675,000	11.3%
2004–2005	375,000	1.6%	3,942,000	9.5%
2006–2007	347,000	1.5%	5,294,000	6.6%
2008–2009	0	0.0%	3,592,000	0.0%
Total	23,849,000	100.0%	129,739,000	18.4%

Source: Data from *A Short History of the 2009 Housing Stock*, unpublished MacArthur Study working paper.

Table 5 indicates that own/rent units fall into three categories with respect to their entry into the housing stock:

- *Units in the 1985 stock*. The group consists of an amalgam of units that entered the stock between the settlement of Jamestown and 1985; 22.0 percent of the units that were part of the stock when the AHS sample was drawn are own/rent units.

- *Units that entered the stock after 1985 but before 2004*. Own/rent units comprise between 10 and 16 percent of the units that entered during this period; the percentage declines gradually and almost smoothly over the period, from 16.2 percent for 1986–87 to 11.3 percent for 2002–03.

- *Units that entered the stock after 2003*. The percentage of these units that are own/rent units declines rapidly. The zero percent for units that entered in 2008 or 2009 is simply the result of the definition. To be an own/rent unit, a sample unit has to have been recorded by the AHS as being both in the renter stock and in the owner stock; this determination requires at least two separate AHS surveys and units that entered in the 2008–2009 period show up for the first and only time in the 2009 AHS survey.

The tendency for the percentage of units with dual histories to increase with time in the housing inventory suggests that there are a set of units that have the potential to be both renter stock and owner stock and that the longer such a unit is in the inventory, the more likely it is to have a dual history. However, the large differences in the percentages associated with units added after 1985 and the percentage of units already in the stock in 1985 also suggest that the age of a unit may be

associated with the tendency to serve both markets. We will look at this possibility in the next section.

Table 6 examines the relative distribution of own/rent units by region. The top panel counts the number of 2009 units in each region that have been always renter, always owner, or own/rent, and the bottom panel looks at how the own/rent share of the total varies across regions. Nationally, the three groups account for approximately 96 million housing units, of which 24.7 percent are own/rent units. There is some regional variation. Own/rent units account for 29.9 percent of the total in the West, while they account for only 21.5 percent in the Midwest.

Table 6: Always Renter, Always Owner, and Own/Rent Units, by Region

Units	Always renter	Always owner	Own/rent	Total
Northeast	4,068,000	9,864,000	4,332,000	18,263,000
Midwest	3,802,000	14,458,000	4,991,000	23,251,000
South	5,745,000	19,851,000	8,253,000	33,849,000
West	4,723,000	10,007,000	6,273,000	21,003,000
Total	18,338,000	54,179,000	23,849,000	96,367,000
Row percentages	**Always renter**	**Always owner**	**Own/rent**	**Total**
Northeast	22.3%	54.0%	23.7%	100.0%
Midwest	16.4%	62.2%	21.5%	100.0%
South	17.0%	58.6%	24.4%	100.0%
West	22.5%	47.6%	29.9%	100.0%
Total	19.0%	56.2%	24.7%	100.0%

Table 7 also looks at spatial patterns, this time examining urban/rural differences as opposed to regional differences. Once again the prevalence of own/rent units varies spatially. This time, the highest percentage occurs in central cities, and the lowest percentage occurs in rural suburbs. Since the percentages in each row have to add up to 100 percent, a high percentage of own/rent units must be accompanied by low percentages of always renter or always owner units and vice versa. Therefore, one must be careful in looking at patterns within rows. Nevertheless, in both Tables 6 and 7, the highest percentage of own/rent units occurs when the always renter share is at its peak and the always owner share is at its nadir. Similarly, the lowest percentage of own/rent units occurs when the always renter share is at its nadir and the always owner is at its peak.

Table 7: Always Renter, Always Owner, and Own/Rent Units, by Type of Area

Units	Always renter	Always owner	Own/rent	Total
Central city	8,509,000	11,110,000	8,032,000	27,652,000
Urban suburb	6,225,000	20,178,000	8,289,000	34,691,000
Rural suburb	1,014,000	10,062,000	2,635,000	13,712,000
Urban non-metro	1,534,000	3,437,000	1,845,000	6,816,000
Rural non-metro	1,055,000	9,392,000	3,049,000	13,496,000
Total	18,338,000	54,179,000	23,849,000	96,367,000

Table 7 (continued): Always Renter, Always Owner, and Own/Rent Units, by Type of Area

Row percentages	Always renter	Always owner	Own/rent	Total
Central city	30.8%	40.2%	29.0%	100.0%
Urban suburb	17.9%	58.2%	23.9%	100.0%
Rural suburb	7.4%	73.4%	19.2%	100.0%
Urban non-metro	22.5%	50.4%	27.1%	100.0%
Rural non-metro	7.8%	69.6%	22.6%	100.0%
Total	19.0%	56.2%	24.7%	100.0%

Sometimes, behaviors vary across time and space simply because things can behave differently at different times or in different geographies. However, often analysts use time and geography to proxy for factors that are difficult to measure in simple terms. The next two tables look for patterns in own/rent units using variables that directly measure conditions across metropolitan areas.

We believe that the best *single, long-term* indicator of the economic health of a metropolitan area in the United States is the extent to which the area gains population. Regions with strong economies grow; regions with economic problems stagnate. Unfortunately, the published data on the populations of metropolitan areas cannot be used for this purpose because the geography used to define these areas changes over time. For example, in 1983, the Austin metropolitan area, as defined by the Office of Management and Budget (OMB), consisted of Hays County, Travis County, and Williamson County; in 2009, the Austin metropolitan area contained two additional counties, Bastrop County and Caldwell County.

To get accurate measures of population change, we calculated the population in 1980 and 2009 in the counties used in the OMB 1983 definition of metropolitan counties. Using Austin as an example, Hays, Travis, and Williamson counties had a combined 1980 population of 536,688 and a combined 2009 population of 1,592,389; the percentage change [(1,592,389 − 536,688)/536,688] was 196.7 percent. Using the same counties in both years eliminates the effect of changes in metropolitan definition.

We could have constructed our estimate using either the 1983 definitions or the 2009 definitions. We chose the 1983 definitions because the AHS has used the 1983 OMB definitions consistently. Any AHS sample units identified as located in the Austin metropolitan area in any AHS survey from 1985 through 2009 will be located in one of the three counties that comprised the 1983 definition. The AHS adds new units to the sample to keep up with additions to the housing stock. Therefore, the AHS may contain sample units from the additional counties of Bastrop and Caldwell, but these sample units, if they exist, will not be identified as being in the Austin metropolitan area.

We were able to construct growth estimates for 130 of the 141 metropolitan areas identified in the AHS. The 1983 OMB definitions used townships rather than counties to define metropolitan areas in New England. It was simply too much work to collect population change data at the township level.

The percentage change in population varied substantially among the 130 metropolitan areas, ranging from a low of −16 percent for Beaver, PA, and Youngstown-Warren, OH, to 310 percent for Las Vegas. Of the 130 metropolitan areas, 11 had negative percentage changes, and 13 had percentage changes of 100 percent or more. The weighted average percentage change was 43 percent.

Table 8 shows that the share of own/rent units generally varies within narrow margins by percentage change in population. The own/rent share varies from the overall average of 28.3 percent by a substantial amount only in the areas with negative population growth or almost no population growth. The weighted average own/rent share was 22.4 percent for these 19 areas. The own/rent share was highest (32.2 percent) for the 19 metropolitan areas that grew somewhat faster than average (that is, had percentage changes between 50 and 65 percent). The weighted average own/rent shares in the other five categories were all within 3 percentage points on the overall average.

Table 8: Always Renter, Always Owner, and Own/Rent Units, by Metropolitan Percentage Change in Population

Unit counts				
Percentage change in population	**Number of metropolitan areas**	**Always owner**	**Always renter**	**Owner/renter**
5.0% or less	19	2,694,000	872,000	1,032,000
6.0% to 19.9 %	23	3,952,000	2,650,000	2,665,000
20.0% to 35.0%	15	2,849,000	1,685,000	1,764,000
36.0 % to 49.0%	23	2,754,000	1,390,000	1,464,000
50.0% to 65.0 %	19	2,521,000	1,434,000	1,882,000
70.0% to 98.0%	18	1,847,000	1,045,000	1,310,000
100.0% or more	13	2,009,000	1,263,000	1,332,000
All 130 metro areas	130	18,626,000	10,339,000	11,449,000
Row percentages				
Percentage change in population	**Number of metropolitan areas**	**Always owner**	**Always renter**	**Owner/renter**
5.0% or less	19	58.6%	19.0%	22.4%
6.0% to 19.9 %	23	42.6%	28.6%	28.8%
20.0% to 35.0%	15	45.2%	26.8%	28.0%
36.0 % to 49.0%	23	49.1%	24.8%	26.1%
50.0% to 65.0 %	19	43.2%	24.6%	32.2%
70.0% to 98.0%	18	44.0%	24.9%	31.2%
100.0% or more	13	43.6%	27.4%	28.9%
All 130 metro areas	130	46.1%	25.6%	28.3%

Table 9 focuses on another dimension in which metropolitan areas can differ: their homeownership rates. Creating a consistent measure of differences in homeownership rates presents even more conceptual and operational issues than our percentage change in population measure. Percentage changes are single numbers that describe a period; homeownership rates are

numbers that describe a particular point in a period. From the perspective of what creates a high share of own/rent units, it is not obvious whether we should use the beginning homeownership rate, the ending homeownership rate, a period average homeownership rate, or the change in homeownership rates over the period. Changes in metropolitan area definitions and the need to collect both the total number of households and the number of owner households for each county further complicate the task. For these reasons, we used a simple, if imperfect, approach. Using the 2009 1-year American Community Survey (ACS), we recorded homeownership rates for our 130 metropolitan areas using their 2009 definitions.[11]

Despite an imperfectly measured homeownership rate variable, Table 9 shows a clear pattern in the three shares. As the ownership rate rises, the share of units that were always owner increases, and the shares of units that were always renter or sometimes owner and sometimes renter decrease.

Table 9: Always Renter, Always Owner, and Own/Rent Units, by Metropolitan Homeownership Rate

Unit counts				
Homeownership rate	**Number of metropolitan areas**	**Always owner**	**Always renter**	**Owner/renter**
40.0% to 48.0%	2	1,417,000	2,218,000	1,723,000
50.0% to 60.0%	14	1,718,000	1,200,000	1,439,000
60.1% to 68.0%	63	8,588,000	4,778,000	5,362,000
68.1% to 73.0%	41	5,698,000	1,922,000	2,493,000
73.1% to 82.0%	10	1,203,000	221,000	431,000
All 130 metro areas	130	18,624,000	10,339,000	11,448,000
Row percentages				
Homeownership rate	**Number of metropolitan areas**	**Always owner**	**Always renter**	**Owner/renter**
40.0% to 48.0%	2	26.5%	41.4%	32.2%
50.0% to 60.0%	14	39.4%	27.5%	33.0%
60.1% to 68.0%	63	45.9%	25.5%	28.6%
68.1% to 73.0%	41	56.3%	19.0%	24.7%
73.1% to 82.0%	10	64.8%	11.9%	23.3%
All 130 metro areas	130	46.1%	25.6%	28.3%

While the relationship is clear, the causality is not. There may be factors, such as unit type, that lend themselves more to owner status, to renter status, or to own/rent status. These factors may affect both the homeownership rate and the own/rent share.

Table 10 examines how percentage changes in population and homeownership rates affect the time that own/rent units spend as owner units and the time they spend as renter units. The results are very similar to those for the effect on the shares of always owner, always renter, or own/rent. Percentage changes appear to have little relationship, while homeownership rates appear to be

[11] Where appropriate, we use the homeownership rate for the metropolitan *division*.

closely associated with time spent in the two states. In areas with high homeownership rates, a high percentage of own/rent units spend at least two-thirds of their time as owner units.

Table 10: Effect of Percentage Changes in Population and Homeownership Rates on Time Serving Owner and Renter Markets

Percentage change in population	2/3 or more owner	Less than 2/3 but at least 1/3 owner	Less than 1/3 owner
5.0% or less	66.0%	6.3%	27.8%
6.0% to 19.9 %	50.8%	7.9%	41.2%
20.0% to 35.0%	54.8%	7.9%	37.3%
36.0 % to 49.0%	58.0%	8.2%	33.8%
50.0% to 65.0 %	57.1%	8.3%	34.6%
70.0% to 98.0%	56.9%	9.3%	33.8%
100.0% or more	55.8%	9.2%	35.0%
All 130 metro areas	56.2%	8.1%	35.6%
Homeownership rate	**2/3 or more owner**	**Less than 2/3 but at least 1/3 owner**	**Less than 1/3 owner**
40.0% to 48.0%	36.8%	8.7%	54.5%
50.0% to 60.0%	51.1%	9.9%	39.1%
60.1% to 68.0%	56.6%	8.2%	35.2%
68.1% to 73.0%	64.8%	7.3%	27.9%
73.1% to 82.0%	74.0%	6.9%	19.1%
All 130 metro areas	56.2%	8.1%	35.6%

Unit Characteristics of Own/Rent Units

Certain physical characteristics of a unit can affect its tenure status. Certain structure types lend themselves to ownership, while other structure types are more conducive to renter status. Peter Linneman has argued that the tenure of a unit is closely related to issues of control.[12] Landlords prefer to rent in situations in which they can easily monitor tenure behavior and therefore prefer owning multiunit structures that are easy to inspect. Large multiunit structures, such as an urban highrise, or a group of multiunit structures, such as a set of garden apartments, make it affordable to have onsite management. On the other hand, households prefer to own in situations in which they are less dependent on others for the enjoyment of the services provided by their units. A highrise condominium or cooperate puts owners in close contact with numerous other owners, whereas a single-family detached unit provides boundary space between owners.

Transaction costs also enter into tenure preference. Selling individuals units in multiunit structures requires carefully drafted legal documents that delineate the rights and responsibilities of the various parties. In large buildings or complexes, the fixed costs of preparing these documents can be spread over many units. Transaction costs can interact with unit size. Young,

[12] Peter Linneman, "An Economic Analysis of the Homeownership Decision," *Journal of Urban Economics*, Vol. 17, No. 2, pp. 230-246 (March 1985).

mobile households find renting preferable to owning because of the high transaction costs of moving. Mobile households are generally smaller and therefore desire smaller units.

The classic filtering process may also influence which units become own/rent units. As neighborhoods age, units in those neighborhoods may be less desirable as ownership properties because of perceived lower appreciation rates. The owners of these units may find renting them to be more profitable than selling them.

Table 11 examines the extent to which the own/rent phenomenon is affected by structure type, unit size as measured by the number of bedrooms, and the year the structure was built. Table 11 looks at two outcomes:

1. *The relative proportions of units that are either always owner, always renter, or sometimes owner and sometimes renter*. We argue that a physical characteristic favors own/rent status if the proportion of own/rent units for that characteristic is greater than the overall proportion.

2. *The proportion of time spent in the owner status*. We believe that this proportion indicates the extent to which a particular characteristic is more conductive to ownership than to being a renter unit.

Table 11 only looks at the year built for units built prior to 1985. Time in inventory affects the likelihood that a unit will be sometimes owned and sometimes rented. Confining the analysis to units built before 1985 gives every unit in the comparison 13 tenure observations, 1 for each AHS from 1985 through 2009. This limitation is more important for the relative shares of the three types of units, but, because fractions based on only a few surveys are very discontinuous, the proportion of time spent as an owner unit is also affected.

The percentages in Table 11 are row percentages; they add to 100.0 percent for each row in each segment. Each of the six segments has been sorted. The three segments on the right-hand side have been sorted by the proportion that were owner units for two-thirds or more of their time in inventory. As explained above, we believe the proportion of time spent in owner status indicates the extent to which a particular characteristic is more conductive to ownership than to being a renter unit. The three segments of the left-hand side have been sorted by the proportion of units that were always owner, from higher to lowest. We chose to sort on the proportion always owner to see if the patterns in the right-hand segments are paralleled by the patterns in the left-hand panels. In the structure type segments, the "5+" (five or more bedrooms) category was not included in the sorting. In each of the six segments, the italicized line contains the percentages for all the units in that segment.

The top two segments of Table 11 look at the influence of structure type. Single-family detached units are mostly always owner units (73.5 percent) and are rarely always renter (2.4 percent). Among the 24.1 percent of single-family, detached units that are own/rent units, 62.8 percent are owned two-thirds or more of the time. Mobile homes display a similar pattern, mostly owned, rarely rented, and, when own/rent, mostly owned. These two structure types appear to be more naturally owner units. In contrast, single-family, attached units appear to be more flexible; fewer

than half (47.7 percent) are always owner, 16.7 percent are always renter, and more than a third (35.6 percent) are sometimes owner and sometimes renter. Among own/rent units, the time spent in the owner status is the more evenly distributed (44.0, 30.8, and 25.2 percents) for single-family, attached units than for any of the other structure types.

Table 11: Impact of Unit Characteristics on the Share of Own/Rent Units and the Proportion of Time Spent as Owner Units

Structure type	Always owner	Always rental	Own/ rent	Structure type	2/3 or more owner	Less than 2/3 but at least 1/3 owner	Less than 1/3 owner
Single-family, detached	73.5%	2.4%	24.1%	Single-family, detached	62.8%	24.6%	12.5%
Mobile Homes	66.1%	7.0%	26.8%	Mobile Homes	59.1%	33.2%	7.7%
All own/rent units	*56.2%*	*19.0%*	*24.7%*	*All own/rent units*	*52.1%*	*24.8%*	*23.1%*
Single-family, attached	47.7%	16.7%	35.6%	Single-family, attached	44.0%	30.8%	25.2%
50+ units	7.4%	70.5%	22.2%	50+ units	27.5%	21.6%	51.0%
2-to-4 units	5.9%	60.5%	33.6%	2-to-4 units	20.5%	23.4%	56.1%
20-to-49 units	4.6%	77.2%	18.2%	10-to-19 units	20.5%	15.3%	64.2%
5-to-9 units	4.5%	76.5%	19.0%	20-to-49 units	19.0%	20.8%	60.1%
10-to-19 units	3.7%	79.8%	16.5%	5-to-9 units	17.2%	19.1%	63.7%
5+ units	4.9%	76.3%	18.8%	5+ units	20.9%	19.2%	59.9%
Bedrooms in 2009	**Always owner**	**Always rental**	**Own/ rent**	**Bedrooms in 2009**	**2/3 or more owner**	**Less than 2/3 but at least 1/3 owner**	**Less than 1/3 owner**
5+ bedrooms	79.9%	1.8%	18.3%	5+ bedrooms	70.6%	21.8%	7.5%
4 bedrooms	77.9%	2.6%	19.4%	4 bedrooms	67.2%	23.8%	9.0%
3 bedrooms	67.6%	6.6%	25.8%	3 bedrooms	59.4%	26.4%	14.2%
All own/rent units	*54.9%*	*20.2%*	*24.9%*	*All own/rent units*	*51.9%*	*24.8%*	*23.3%*
2 bedrooms	31.6%	37.5%	30.9%	2 bedrooms	40.5%	25.4%	34.1%
1 bedroom	6.3%	73.8%	19.8%	1 bedroom	20.2%	17.2%	62.6%
Zero bedrooms	2.9%	79.0%	18.1%	Zero bedrooms	10.0%	4.4%	85.6%
Year built	**Always owner**	**Always rental**	**Own/ rent**	**Year built**	**2/3 or more owner**	**Less than 2/3 but at least 1/3 owner**	**Less than 1/3 owner**
1950–1959	57.6%	13.4%	29.0%	1960–1969	59.9%	18.2%	21.9%
1960–1969	54.0%	21.2%	24.8%	1950–1959	59.1%	20.6%	20.3%
1984 or earlier	*49.5%*	*20.7%*	*29.7%*	1980–1984	55.4%	23.8%	20.8%
1940–1949	48.1%	16.5%	35.4%	1970–1979	54.3%	19.6%	26.2%
1980–1984	47.5%	23.5%	29.0%	1940–1949	54.0%	21.3%	24.8%
1970–1979	47.5%	26.0%	26.4%	*1984 or earlier*	*53.8%*	*21.5%*	*24.8%*
1919 or earlier	45.0%	19.0%	35.9%	1930–1939	47.6%	21.4%	31.0%
1930–1939	42.8%	17.7%	39.5%	1920–1929	45.7%	26.2%	28.2%
1920–1929	42.8%	21.3%	36.0%	1919 or earlier	45.1%	27.2%	27.7%

The results for units in structures with two-to-four units are particularly interesting. This class includes the two- and three-family wooden structures found in areas with older housing stocks. These units were built for owners who occupied the bottom floors and rented out the remaining floors. Since the AHS selects sample units randomly, one would expect roughly one-third of these to be always owner and two-thirds always renter. Instead, one finds only 5.9 percent always owner and 33.6 percent among the own/rent units. For the own/rent units in this group, 20.5 percent were owned for two-thirds or more of the time. These numbers suggest that, over this period, these classic structures passed from having onsite owners to being all renter.

Multifamily (five or more bedroom) units were predominately always renter, and, when they were own/rent units, most of their time in inventory was spent as renter units. When multifamily units are broken down by number of units in the structure, those with fewer than 50 units behave very much alike. However, units in structures with 50 or more units have the highest percentage of always owner units and the highest percentage of own/rent units that are owner for two-thirds or more of the time. These results are consistent with the hypothesis that the legal complexities of ownership in multiunit buildings are a barrier unless the costs can be spread over multiple units.

The size of a unit appears to have a strong and consistent effect on the tenure history of units. The always owner proportions increase monotonically from 2.9 percent for zero-bedroom units to 79.9 percent for units with five or more bedrooms. The proportion of own/rent units that spend at least two-thirds of their time as owner units also increase monotonically from 10.0 percent for zero-bedroom units to 70.6 percent for units with five or more bedrooms.

The patterns based on year built are neither as dramatic nor as consistent as the patterns based on structure type and unit size. Units built between 1950 and 1969 have the highest proportions of always owner units and high proportions of own/rent units that are owner units at least two-thirds of the time. Units built before 1940 have low proportions of always owner units and low proportions of own/rent units that are owner units at least two-thirds of the time. In both segments, the proportions based on all units sharply divides the distributions based on specific cohorts. Almost 6 percentage points separate the proportion of always owner units in the 1960–1969 cohort from the proportion in the 1940–1949 cohort, and more than 6 percentage points separate the proportion of own/rent units that were owner units for two-thirds of their time in inventory for the 1940–1949 cohort from the proportion for the 1930–1939 cohort.

These unit characteristics—structure type, number of bedrooms, and year built—have clear effects on both the relative shares of always owner, always renter, and own/rent units and on the distribution of own/rent units by time spent as owner units. The effects based on structure type and unit size are consistent with our discussion of the effects on tenure choice of control issues, the relative mobility of different household sizes, and transaction costs. It is not clear whether and how these factors interact to produce the year built patterns.

Joint Effect of Spatial, Time, and Unit Characteristics

The preceding two sections looked at how various unit and environment characteristics affect the likelihood that units will serve both the owner and renter markets and, for those that do serve

both markets, how much time will be spent in each market. The analysis was carried out on a variable-by-variable basis.

Variable-by-variable analysis identifies patterns well but can lead to mistaken conclusions about causality. For example, Table 6 indicates that location in the West increases the likelihood that a unit would be an own/rent unit, but why this is true may be complicated. The West has a high percentage of its housing stock in central cities, and Table 7 indicates that being in a central city increases the likelihood that a unit will be an own/rent unit. However, central cities have a high percentage of their stock in single-family, attached units and units in structures with two to four units. Table 11 indicates that these units are more likely to be own/rent units.

Regression analysis allows us to look at a group of variables and isolate the independent effect of each variable. The first regression examines what determines whether a unit has a history of being always in the owner stock, being always in the renter stock, or being an own/rent unit. Multinomial logit is the appropriate regression model for this analysis.[13] The second regression includes only own/rent units and examines what factors determine the fraction of surveys that was spent in the owner stock. Fractional logit (also called proportional logit) is the appropriate regression model for this analysis. Both regressions are done with weighted cases, but the weights have been adjusted to approximately the number of sample units.[14]

Always Owner Stock and Always Renter Stock vs. Own/Rent

Table 12 contains the results of the first regression. With three alternatives, multinomial logit computes two sets of parameters. The left-hand side panel explains how the various factors increase the likelihood that a unit will have had an always-in-the-renter-stock history *compared to an own/rent history*, while the right-hand side panel explains how the various factors increase the likelihood that a unit will have had an always-in-the-owner-stock history *compared to an own/rent history*.[15] Table 12 reports the coefficients for the spatial and unit characteristics discussed in the preceding two sections. Table B-1 reports the coefficients of the variables that specify whether a unit is in one of the 144 metropolitan areas identified in the AHS data.[16]

[13] We believe that a variety of supply and demand conditions determine the career paths of units in both the short-run and the long-run and that these conditions interact in complicated ways. Implicitly, we assume that there is *not* an index such that units with scores below a certain value are always renter, units with scores above a second value are always owner, and units with scores between the two vaues are own/rent units. For example, a teacher has, explicitly or implicitly, such an index when he or she assigns letter grades, A, B,…. If the determination of career histories were this simple, we would use ordered (or multilevel) multinomial logit. We chose not to.

[14] Using weights allows certain cases to have a greater role in the regression analysis; standarding the weights to approximately equal the number of sample units prevents the significance tests from presuming a much larger sample size.

[15] The left-hand regression computes the natural logarithm of the ratio of the probability of being always rental to the probability of being an own/rent unit, and the right-hand regression computes the natural logarithm of the ratio of the probability of being always rental to the probability of being an own/rent unit.

[16] We ran regressions with and without the metropolitan area variables. The results were very similar. We report the regressions that include the metropolitan area variables because 82 of the 144 metropolitan areas had significant coefficients (0.10 level) in one or both regressions.

Table 12: Multinomial Logit: Always Owner Stock, Always Renter Stock, or Own/Rent Unit

Always Renter Stock vs. Own/Rent Unit*					Always Owner Stock vs. Own/Rent Unit*			
Coefficient	**Std Error**	**t-statistic**	**Probability**	**Variable**	**Coefficient**	**Std Error**	**t-statistic**	**Probability**
-1.812	0.114	-15.86	0.000	Intercept	0.221	0.072	3.07	0.002
0.564	0.153	3.69	0.000	Mobile home	-0.528	0.084	-6.29	0.000
1.318	0.091	14.55	0.000	Single family, attached	-0.930	0.059	-15.72	0.000
2.634	0.072	36.72	0.000	2-4 unit	-2.427	0.085	-28.48	0.000
3.173	0.089	35.76	0.000	5-9 unit	-2.158	0.124	-17.47	0.000
3.361	0.095	35.37	0.000	10-19 unit	-2.259	0.142	-15.95	0.000
3.322	0.107	31.17	0.000	20-49 unit	-1.876	0.149	-12.58	0.000
2.751	0.109	25.27	0.000	50+ unit	-1.734	0.129	-13.47	0.000
1.170	0.159	7.34	0.000	Zero bedrooms	0.112	0.153	0.73	0.463
0.563	0.058	9.63	0.000	1 bedroom	-0.731	0.082	-8.90	0.000
-0.685	0.058	-11.72	0.000	3 bedrooms	0.456	0.037	12.24	0.000
-0.632	0.109	-5.80	0.000	4 bedrooms	0.875	0.051	17.13	0.000
-1.429	0.307	-4.65	0.000	5+ bedrooms	0.960	0.088	10.94	0.000
-0.857	0.069	-12.40	0.000	Add bedroom	-0.061	0.040	-1.51	0.131
-0.227	0.083	-2.75	0.006	Drop bedroom	-0.157	0.047	-3.32	0.001
0.013	0.099	0.13	0.894	1919 or earlier	-0.571	0.068	-8.42	0.000
0.094	0.114	0.82	0.410	1920–1929	-0.457	0.081	-5.65	0.000
-0.109	0.112	-0.97	0.331	1930–1939	-0.518	0.074	-7.02	0.000
-0.024	0.109	-0.22	0.829	1940–1949	-0.213	0.067	-3.18	0.001
0.176	0.093	1.89	0.058	1950–1959	-0.004	0.057	-0.07	0.942
0.264	0.085	3.11	0.002	1960–1969	0.134	0.056	2.38	0.017
0.076	0.090	0.84	0.399	1970–1974	0.202	0.064	3.16	0.002
-0.364	0.103	-3.53	0.000	1980–1984	0.139	0.072	1.94	0.053
0.025	0.095	0.27	0.791	1985–1989	0.422	0.069	6.11	0.000
0.196	0.147	1.33	0.183	1990–1994	0.958	0.092	10.44	0.000
0.245	0.106	2.30	0.021	1995–1999	0.961	0.071	13.55	0.000
0.791	0.114	6.95	0.000	2000–2004	1.376	0.074	18.65	0.000
1.805	0.144	12.54	0.000	2005–2009	1.851	0.105	17.61	0.000
-0.303	0.110	-2.760	0.006	Northeast, not ID metro	0.722	0.063	11.420	0.000
0.004	0.085	0.050	0.962	Midwest, not ID metro	0.419	0.049	8.640	0.000
-0.061	0.086	-0.710	0.478	West, not ID	-0.357	0.053	-6.720	0.000
-0.061	0.056	-1.08	0.278	Urban suburb	0.161	0.041	3.93	0.000
-0.101	0.101	-1.01	0.314	Rural suburb	0.300	0.057	5.28	0.000
0.163	0.095	1.71	0.087	Urban non-metro	-0.049	0.064	-0.77	0.444
0.183	0.102	1.79	0.074	Rural non-metro	0.263	0.058	4.51	0.000
Number of observations			38,565		Log psuedolikelihood		-24465.14	
Wald Chi^2			30,496.18					
Probability Chi^2			0.0000		Psuedo R^2		0.3452	
* Coefficient not statistically significant at 0.10 level					*Coefficient significant at 0.10 level but not at 0.05 level			

The information from the left-hand and right-hand regressions can be used to compute (a) the probability that a unit with specific locational and unit characteristics would have been an always owner unit, (b) the probability that a unit with the same characteristics would have been an always renter unit, and (c) the probability that a unit with the same characteristics would have been an own/rent unit.

Besides being divided into left-hand and right-hand panels, the regression coefficients fall into six horizontal panels (including the intercept panel) containing related variables. Each horizontal panel contains a set of dummy variables. Within each set, one variable is omitted, and all the coefficients in that panel are measured relative to the omitted variable. The omitted variables are single-family, detached units; two-bedroom units; units built during the 1975–1979 period; units in the South that are not in metropolitan areas identified by the AHS; and units in central cities.

The coefficients in Table 12 should be interpreted in the following way:

- Within each horizontal panel in the left-hand panel, a positive coefficient means that a characteristic increases the likelihood, compared to the omitted variable in that panel, that that unit will have an always-in-the-renter-stock history instead of an own/rent history. The more positive the coefficient, the stronger the impact on the likelihood.

- Within each horizontal panel in the left-hand panel, a negative coefficient means that a characteristic increases the likelihood, compared to the omitted variable in that panel, that that unit will have an own/rent history instead of an always-in-the-renter-stock history. The more negative the coefficient, the stronger the impact on the likelihood.

- Within each horizontal panel in the right-hand panel, a positive coefficient means that a characteristic increases the likelihood, compared to the omitted variable in that panel, that that unit will have an always-in-the-owner-stock history instead of an own/rent history. The more positive the coefficient, the stronger the impact on the likelihood.

- Within each horizontal panel in the right-hand panel, a negative coefficient means that a characteristic increases the likelihood, compared to the omitted variable in that panel, that that unit will have an own/rent history instead of an always-in-the-owner-stock history. The more negative the coefficient, the stronger the impact on likelihood.

Unit and structure characteristics exert strong consistent influences on the career history of units. The second panel (counting the intercept as the first panel) contains the dummy variables related to structure type. The results are very clear; compared to being a single-family, detached structure, every structure type increases the probability that a unit will have an always-in-the-renter-stock history rather than an own/rent history but also increases the probability that a unit will have an own/rent history compared to an always-in-the-owner-stock history. This implies that single-family, detached units are unlikely ever to be always renter but that other structure types are more unlikely to be always owner.

Within the structure type panel, multiunit (two or more) structures have more positive coefficients in the left-hand panel and more negative coefficients in the right-hand panel than mobile homes and single-family, attached structures.

Unit size, as measured by the number of bedrooms, is also important. Units smaller than two-bedroom units are more likely to be always renter, and units larger than two-bedroom units are less likely to be always renter (both compared to an own/rent history). Compared to two-bedroom units, one-bedroom units are more likely to be own/rent units, while units larger than two-bedroom units are more likely to be always in the owner stock.

The structure type and unit size results display the same internal parallelism. Characteristics that make a unit more likely to be always renter compared to own/rent also make a unit more likely to be own/rent compared to always owner. Smaller units and single-family detached units are the least likely to be always renter but the most likely to be own/rent units.

The last two variables in the unit size panel are a special feature of the MacArthur file. The AHS releases new data on the number of bedrooms in a unit with each public use file (PUF). The MacArthur file contains a variable that records the number of bedrooms from the first survey that contains this information and a variable that records the number of bedrooms from the last survey that contains this information. In the regression, we use the information on the number of bedrooms from the first survey. "Add bedrooms" indentifies cases where the number of bedrooms in the last survey is more than the number in the first survey, presumably because owners added one or more bedrooms. "Drop bedrooms" indentifies cases where the number of bedrooms in the last survey is less than the number in the first survey, presumably because owners combined bedrooms or changed bedrooms to other uses.[17] A unit that added one or more bedrooms is less likely to be always renter, probably because landlords are less likely to add bedrooms than owners. A unit that eliminated bedrooms is both less likely to be always renter and less likely to be always owner compared to being an own/rent unit. Landlords being less interested in remodeling probably explains such a unit is less likely to be always renter. We suspect that errors in reporting explains the significant negative coefficient in the right-hand panel. As larger units are more likely to be always owner, a negative coefficient for "drop bedroom" would offset the impact of overcounting bedrooms in the first survey.

The age of a unit appears to have a more consistent effect on the always owner vs. own/rent outcome than on the always renter vs. own/rent outcome. Only one of the coefficients for year built is insignificant at the 0.10 level in the right-hand panel, whereas 7 out of 13 are insignificant in the left-hand panel. Units that entered the stock recently (after 1995 in the left-hand panel and after 1960 in the right-hand panel) are less likely to be own/rent units than the alternative in that panel. The magnitude of the positive coefficients increases uniformly in the left-hand panel and almost uniformly in the right-hand panel. The large positive coefficients for the 2005 to 2009 period probably indicate the limited time for market demand to generate a shift in tenure. In the right-hand panel, the oldest units are less likely to be always owner stock compared to being own/rent units.

[17] Counting bedrooms is not always as easy as it sounds, and the number of bedrooms can differ from survey to survey because different respondents count them differently.

The "region variables" have unique definitions. The AHS identifies the metropolitan area in which a sample unit is located for somewhat less than 50 percent of all the units in the AHS sample. The remaining units are either in non-metropolitan areas or in metropolitan areas that the AHS does not identify to protect the privacy of respondents. Each of these variables identifies units by region that are located in the non-metropolitan parts of that region or in metropolitan areas in that region that are not identified by the AHS. The South region is the omitted area.[18]

Units located in these areas of the Northeast are less likely to be always renter and more likely to be always owner. The other two regional variables have significant coefficients only in the right-hand panel. Units in the Midwest are more likely to be always owner, while units in the West are more likely to be own/rent units.

The last four variables in Table 12 deal with the metropolitan/non-metropolitan location of units; being in a central city is the omitted variable. In the left-hand panel, the two non-metropolitan variables are marginally significant, while the two metropolitan variables are insignificant. Being in a non-metropolitan area results in a unit's being more likely to be always renter as opposed to being an own/rent unit. The coefficients of these two variables are approximately equal. In the right-hand panel, all the coefficients except being in an urbanized part of a non-metropolitan area are statistically significant. Compared to being in a central city, units in the urban and rural parts of suburbs and in a rural, non-metropolitan area are more likely to be always owner stock as opposed to being an own/rent unit.

This multinomial logit analysis included an additional 144 variables identifying specific metropolitan areas.[19] The coefficients, standard errors, and t-statistics for these coefficients are reported in Table B-1. Of the 290 coefficients in the two panels, 81 were significant at the 0.05 level, and an additional 24 were significant at the 0.10 level; 82 metropolitan areas had one or more statistically significant coefficient.[20] We did not find any consistent pattern in the signs of the statistically significant coefficients across the metropolitan areas. However, the frequency of statistically significant coefficients, even when sample sizes in most metropolitan areas were small, suggests that the own/rent phenomenon varies geographically.

To provide a better understanding of how various characteristics interact to influence the history of a unit, we calculated the three relevant probabilities—that of being always owner, always renter, or own/rent—for 12 prototype cases. Table 13 presents these results. Row A contains the base case defined by the omitted variables from each of the horizontal panels in Table 12. In each subsequent row, we change one feature of the base case and recompute the probabilities.

The base case consists of single-family, detached units with two bedrooms, constructed in the 1975–1979 period, and located in a central city in the South but not in a metropolitan area identified by the AHS. This set of units has a 51.7 percent probability of being always owner, a

[18] This strategy ensures that the metropolitan area variables do not duplicate information in the "regional variables." In addition, by omitting the areas in the South region that meet this definition, we are able to include variables for all the metropolitan areas without needing to omit one.

[19] The AHS identifies 141 separate metropolitan areas. In addition, it places some units in the New York area, the northern New Jersey area, or the Chicago area without specifying which metropolitan parts of those areas.

[20] By the logic of the way that significant levels are calculated, 29 of the 290 coefficients would have been judged significant by random chance.

6.8 percent probability of being always renter, and a 41.5 percent probability of being own/rent. These probabilities refer to the relevant period, 1985 to 2009, for units in the original AHS sample and from date of entry into the housing stock until 2009 for the remaining AHS sample units. It is important to keep this fact in mind because some "always owner" or "always renter" units might have been own/rent units if we had pre-1985 data.

Table 13: Probabilities of Being Always Owner, Always Renter, and an Own/Rent Unit for Prototype Cases

Prototype cases		Probabilities		
		Always owner	Always renter	Own/rent unit
A	**Base case:** Single family, detached unit; 2 bedrooms; built 1975–1979; in central city; in South but not in identified metro area	51.7%	6.8%	41.5%
B	Base case except single family, attached unit	23.4%	29.0%	47.6%
C	Base case except unit in 5-9 unit structure	2.9%	77.3%	19.8%
D	Base case except 1 bedroom	31.8%	15.2%	53.0%
E	Base case except 4 bedrooms	73.3%	2.1%	24.5%
F	Base case except built 1920–1929	40.1%	9.1%	50.8%
G	Base case except built 1995–1999	72.9%	4.7%	22.4%
H	Base case except in urban suburb	55.9%	5.9%	38.2%
I	Base case except in rural, non-metro	57.5%	7.0%	35.5%
J	Base case except in West but not in identified metropolitan area	43.1%	7.6%	49.4%
K	Base case except in Los Angeles	46.6%	7.0%	46.5%
L	Base case except in Philadelphia	72.6%	2.4%	25.0%

Table 13 illustrates the conclusions that we have drawn from the earlier cross-tabular analysis and from the multinomial logit analysis in Table 12.

- Structure type is very important in determining a unit's history. Single-family, detached units are mostly always owner, and units in multiunit structures are mainly always renter. The probability of being an own/rent unit is higher for single-family, attached units (rows A-C).

- Unit size affects a unit's history. Smaller units are more likely to be own/rent units or always renter units, and larger units are more likely to be always owner units (rows D-E).

- Older units are more likely to be own/rent units while newer units are more likely to be always owner (rows F-G).

- Units outside of central cities are less likely to be own/rent units and more likely to be always owner (rows H-I).

- Units in the West are more likely to be own/rent units and less likely to be always owner units (row J).

- There is considerable variation in unit histories across metropolitan areas (rows K-L).

Fraction of Surveys in the Owner Stock

In this section, we focus on the 9,487 sample units that were own/rent units and examine factors that might be related to the time these units spent in the owner stock. The dependent variable is the number of surveys in the owner stock divided by the number of surveys in the housing stock. We use fractional logit because this variable is not strictly a continuous variable; it has a limited number of discrete values, all between zero and one.[21]

Table 14 reports the coefficients for the spatial and units characteristics discussed in the preceding two sections. Table B-2 reports the coefficients of the variables that specify whether a unit is in 1 of 144 metropolitan areas identified in the AHS data.[22] The fractional logit regression used weighted data where the weights were standardized to approximate the unweighted sample size.

The fractional regression was estimated over a sample of units, all of which served both the owner and the renter markets at different times in their history; therefore, the coefficients should *not* be interpreted as identifying factors that influence whether a unit will become an own/rent unit. Instead, the coefficients tell how various factors influence the proportion of their time in the housing stock spent as owner stock units.

- A positive coefficient for a specific characteristic in a group of related characteristics signifies that that characteristic increases the time spent as an owner stock unit (and decreases the time spent as a renter stock unit) *relative* to the characteristic omitted in that group.

- A negative coefficient for a specific characteristic in a group of related characteristics signifies that that characteristic decreases the time spent as an owner stock unit (and increases the time spent as a renter stock unit) *relative* to the characteristic omitted in that group.

[21] For a unit that entered the stock in 2007, the only value the dependent variable can take is 0.5 because such a unit has only two AHS records, and, to be an own/rent unit, one must be as an owner unit and one must be as a renter unit. For units that entered the stock in 2005, the dependent variable can only be 0.33 or 0.67. For units that were in the original sample, the dependent variable can take 12 values, n/13 where *n* is 1,…,12.

[22] We ran regressions with and without the metropolitan area variables. The results were very similar. We report the regressions that include the metropolitan area variables because 71 of the 144 metropolitan areas had significant coefficients (0.10 level).

Table 14: Fractional Logit Analysis of Fraction of Time in Owner Stock

Variable	Coefficient	Std error	Wald Chi-Square	Pr > ChiSq
Intercept	0.400	0.031	163.9529	<.0001
Mobile home	0.120	0.034	12.5224	0.0004
Single family, attached	-0.498	0.026	369.9131	<.0001
2-4 unit structure	-1.253	0.024	2752.2800	<.0001
5-9 unit structure	-1.362	0.037	1349.6129	<.0001
10-19 unit structure	-1.297	0.042	954.3364	<.0001
20-49 unit structure	-1.308	0.047	760.5610	<.0001
50+ unit structure	-0.955	0.042	507.3944	<.0001
Zero bedrooms	-0.894	0.077	135.7036	<.0001
1 bedroom	-0.469	0.025	357.3836	<.0001
3 bedrooms	0.343	0.016	464.6763	<.0001
4 bedrooms	0.515	0.026	400.5147	<.0001
5+ bedrooms	0.750	0.051	214.5940	<.0001
Add bedroom	0.275	0.018	239.5566	<.0001
Drop bedroom	-0.037	0.022	2.8442	0.0917
1919 or earlier	-0.227	0.028	63.9001	<.0001
1920–1929	-0.135	0.033	16.7973	<.0001
1930–1939	-0.248	0.030	68.5451	<.0001
1940–1949	-0.039	0.028	1.8699	0.1715
1950–1959	-0.027	0.025	1.0874	0.2970
1960–1969	0.091	0.025	13.0791	0.0003
1970–1974	0.146	0.028	27.4180	<.0001
1980–1984	0.236	0.031	59.4427	<.0001
1985–1989	0.127	0.032	15.4513	<.0001
1990–1994	0.182	0.044	17.1639	<.0001
1995–1999	-0.004	0.043	0.0066	0.9350
2000–2004	-0.102	0.057	3.1881	0.0742
2005–2009	-0.329	0.088	13.9210	0.0002
Northeast, not ID metro	0.243	0.031	61.3730	<.0001
Midwest, not ID metro	0.129	0.024	28.6471	<.0001
West, not ID metro	0.037	0.025	2.1679	0.1409
Urban suburb	0.010	0.018	0.3280	0.5668
Rural suburb	0.080	0.027	8.5500	0.0035
Urban non-metro	0.012	0.029	0.1735	0.6771
Rural non-metro	0.085	0.027	10.1519	0.0014
*Coefficient significant at 0.10 level but not at 0.05 level			* Coefficient not statistically significant at 0.10 level	
Test	Chi-Square	DF	Pr > ChiSq	
Likelihood Ratio	13291.645	178	<.0001	

The SAS© program used for the fractional logit regression uses Wald's chi^2 to test the significance of particular coefficients. The probability that the chi^2 would be as large as or larger than the calculated value is shown in the far right column. Only 6 of the 35 estimated values

failed to be significant at the 0.10 level, and 27 were significant at the 0.05 level. Almost half of the 144 variables identifying metropolitan areas were significant at the 0.10 level (see Table B-2).

Among own/rent units, mobile homes were likely to spend more time in the owner stock than single-family, detached units, while units in other structure types were likely to spend less time. Own/rent units in multiunit structures are likely to spend substantially less time in the owner stock, although this effect is less strong for own/rent units in buildings with 50 or more units.

Time spent in the owner stock increases with the number of bedrooms an own/rent unit had when it entered the stock. Adding a bedroom after entering the stock further increases the likely time spent in the owner stock, while eliminating a bedroom reduces the likely time spent in the owner stock; the latter effect is only marginally significant.

Older and newer own/rent units are likely to spend less time in the owner stock than units built in the 1960–1995 period. As explained in footnote 19, the fraction of time spent in the owner stock by own/rent units that entered the stock in 2004 or later can only take three values, 0.33, 0.5, and 0.67, because of the limited number of observations.

Own/rent units in the Northeast and Midwest are likely to spend more time in the owner stock as are units in rural areas, both suburban rural and non-metropolitan rural.

Differences among metropolitan areas definitely affect the time spent in the owner stock by own/rent units; 71 of the 144 coefficients in Table B-2 are statistically significant, 58 at the 0.05 level.

To provide a better understanding of how various characteristics interact to influence the history of an own/rent unit, we calculated the estimated proportion of time spent in the owner market and the estimated proportion of time spent in the renter market for 12 prototype cases. We chose different prototypes from the ones used in Table 13 to illustrate better the factors that affect time in the owner market and time in the renter market.

Table 15 presents these results. Row A contains the base case defined by the omitted variables from each of the horizontal panels in Table 14. The base case consists of single-family, detached units with two bedrooms, constructed in the 1975–1979 period, and located in a central city in the South but not in a metropolitan area identified by the AHS. As in Table 13, we change one feature of the base case in each subsequent row and recompute the probabilities.

One interesting feature of Table 15 is that most of the prototypes spend between 60 and 70 percent of their time in the owner market and the remaining 40 to 30 percent of their time in the renter market. The coefficients in Table 14 are generally small, in the −0.250 to +0.250 range, and, therefore, have only a small effect. The only coefficients large enough in absolute magnitude to affect the proportions significantly are in the structure type and unit size sets of variables. Rows C and D illustrate how large the effects of these structure type and unit size variables can be. The metropolitan areas that we selected highlight how much variation is possible across these areas.

Table 15: Proportion of Time Spent by an Own/Rent Unit in the Owner Market and in the Renter Market for Prototype Cases

	Prototype cases	Proportion owner	Proportion renter
A	**Base case:** Single family, detached unit; 2 bedrooms; built 1975–1979; in central city; in South but not in identified metro area	59.9%	40.1%
B	Base case except mobile home unit	62.7%	37.3%
C	Base case except unit in 5-9 unit structure	27.6%	72.4%
D	Base case except 1 bedroom	48.3%	51.7%
E	Base case except 4 bedrooms	71.4%	28.6%
F	Base case except built 1920–1929	56.6%	43.4%
G	Base case except built 1990–1994	64.1%	35.9%
H	Base case except in urban suburb	60.1%	39.9%
I	Base case except in rural, non-metro	61.9%	38.1%
J	Base case except in Northeast but not in identified metropolitan area	65.5%	34.5%
K	Base case except in Flint MI	36.2%	63.8%
L	Base case except in Fort Myers-Cape Coral FL	91.0%	9.0%

Effects of Differences in Percentage Changes in Population and Homeownership Rates

Many of the metropolitan area dummy variables were significant both in the multinomial logit analysis of the factors associated with being an own/rent unit and in the fractional logit analysis of time spent in the owner stock by own/rent units. In this section, we use the data on metropolitan percentage changes in population and metropolitan level homeownership rates in an attempt to explain difference among metropolitan areas.

How we constructed these variables is explained in the section on spatial characteristics. They are available for only 130 metropolitan areas, and we did not calculate them for parts of the four Census regions that consist of non-metropolitan areas or metropolitan areas not identified in the AHS. The 130 metropolitan areas are all located outside of New England.

Table 16 reports the results of replacing the metropolitan dummy variables with these two variables in the multinomial logit regression. This change reduced the number of sample units from 38,565 to 16,390 units. (The regressions used weights standardized to sum approximately to the sample size.) Restricting the sample also led to dropping the regional variables and the variables for urban and rural non-metropolitan areas. Table C-1 reports the full regression.

Percentage changes in population and homeownership rates have opposite effects on whether a unit will be always owner or an own/rent unit. Higher homeownership rates increase the likelihood that a unit will be always owner as opposed to own/rent, while higher percentage changes decrease the likelihood that a unit will be always owner as opposed to own/rent. When the alternatives are always renter (as opposed to own/rent), then higher percentage changes in population and higher homeownership rates both increase the likelihood of being always renter.

The effects of homeownership rates on the always renter vs. own/rent alternatives are marginally significant.

Table 16: Effect of Percentage Changes in Population and Homeownership Rates on Always Owner, Always Renter, and Own/Rent Status

Always renter stock vs. own/rent unit*					Always owner stock vs. own/rent unit*			
Coefficient	Std error	t-statistic	Probability	Variable	Coefficient	Std error	t-statistic	Probability
0.154	0.056	2.75	0.0060	Population percentage change	−0.519	0.049	−10.68	0.0000
0.575	0.300	1.92	0.0550	2009 home-ownership rate	1.802	0.264	6.82	0.0000

Table 17 reports the results from replacing the metropolitan dummy variables with these two variables in the fractional logit regression. This change reduced the number of sample units used from 9,487 to 4,664 units. (The regressions used weights standardized to sum approximately to the sample size.) Restricting the sample also led to dropping the regional variables and the variables for urban and rural non-metropolitan areas. Table C-2 reports the full regression.

Table 17: Effect of Percentage Changes in Population and Homeownership Rates on Fraction of Time Own/Rent Units Spend in the Owner Stock

	Coefficient	Std error	Wald Chi-Square	Pr > ChiSq
Population percentage change	−0.170	0.021	67.9124	<.0001
2009 homeownership rate	−0.037	0.103	0.1274	0.7212

The 2009 homeownership rate has an insignificant effect on the time that an own/rent unit spends in the owner stock. The percent change in population has a strongly significant negative effect on the time that an own/rent unit spends in the owner stock.

As mentioned earlier in the report, there are conceptual and operational questions about the homeownership rate variable. It is an end-of-period rate, so whether it had any effect on activity over the period is uncertain, and it is measured using the 2009 rather than the 1983 definition of metropolitan areas. Its positive coefficient in the right-hand panel of Table 16 is easy to interpret. High homeownership demand translates into fewer own/rent units compared to always owner units. The same logic would have argued for a negative sign for the coefficient in the left-hand panel. Of course, this positive coefficient is only marginally significant.

These two tables suggest that population growth plays an important role in determining the career history of units and probably account for some of the observed variation across metropolitan areas in how units serve the owner and renter markets. The coefficients in Table 16 show that high percentage increases lead to more always renter units and more own/rent units. The coefficient in Table 17 indicates that high percentage increases in population raise the proportion of time that own/rent units spend in the renter market. These results are consistent with the notion that high population growth puts pressure on the renter market because in-movers

frequent rent before buying and because in-movers are frequently younger and therefore more likely to rent rather than own. This pressure leads to more owner-type units serving the renter market and fewer renter-type units being available for use as own/rent units.

What this New Study Adds

The first study looked at changes in the tenure of a unit over a 2-year period and focused on the characteristics of the unit. The first study's findings were summarized as follows:

> …if a unit has characteristics that are more frequently associated with a tenure status different from its current tenure status, then there is a high probability that the unit will change tenure status in the short run. Put more simply, if an owner-occupied unit looks like a rental unit, then it will probably become a renter-occupied unit and, if a renter-occupied units looks like an owner unit, then it will probably become an owner-occupied unit.[23]

This study also concludes that unit characteristics determine in large part the tenure history of a unit. The longer scope of the analysis allows more units to display a mixed tenure history, and the study examined which units were more likely to have mixed tenure history and what determined the split between time in owner status and time in renter status.

Two new findings stand out:

- Most own/rent units have a history of being predominately owner or predominately renter and, rather than frequent moves back and forth between owner and renter statuses, most own/rent units remain in the owner status or in the renter status for long consecutive periods.

- High percentage increases in population lead to more always renter units and more own/rent units. High percentage increases in population also increase the proportion of time that own/rent units spend in the renter market.

The previous emphasis on unit characteristics and these new observations tie together nicely. They are consistent with the notion that units have characteristics that conform to the market they were constructed to serve, but high population growth puts pressure on the renter market because in-movers frequently rent before buying and because in-movers are frequently younger and therefore more likely to rent than own. This pressure leads to more owner-type units serving the renter market and fewer renter-type units being available for use as own/rent units. Population changes are more frequently a long-term rather than a short-term phenomenon, and this probably accounts for the predominance of career paths with consecutive periods of being in the owner or renter status.

[23] *Characteristics of Units and Their Occupants Associated with Changes in Tenure Status*, page 2.

Appendix A: Career Paths for Own/Rent Units

Table A-1 is a frequency distribution of the career paths followed by the 7,559 own/rent units in the original sample. The distribution has been sorted from the most frequent to the least frequent. These sample units took 1,143 different career paths, 622 of which were unique to a single sample own/rent unit. Table A-2 presents the frequency distribution of the career paths followed by the 1,928 units that entered the stock after 1985; it has also been sorted. These sample units took 585 different career paths, 293 of which were unique to a single sample own/rent unit. In both distributions, "O" stands for owner status, and "R" stands for renter status. In the second distribution, "." stands for not in the stock. The characters are ordered chronologically from left to right, with the far left character representing 1985 and the far right character representing 2009.

The 17th row in Table A-1 shows that there were 99 units that were renter from 1985 through 1995 and owner from 1997 to 2009.

Table A-1: Frequency Distribution of Career Paths for Own/Rent Units that Were in the Original Sample

CAREER PATH	Frequency
O O O O O O O O O O O O O R	329
R O O O O O O O O O O O O O	277
O O O O O O O O O O O O O R R	224
R R O O O O O O O O O O O O	182
O R R R R R R R R R R R R	155
O O O O O O O O O O O R R R	140
O O O O O O O O R O O O O	134
O O O O O O O O O O O O R O	133
O O O O O O O R O O O O O	113
O O O O O O R O O O O O O	111
O R O O O O O O O O O O O	110
R R R O O O O O O O O O O	110
R R R R R R R R R R R R O	108
O O O O O O O O O R O O O	107
O O R O O O O O O O O O O	107
O O O O O O O O O O R O O	99
R R R R R O O O O O O O	99
O O O O R O O O O O O O O	95
O O O O O R O O O O O O O	94
R R R R R O O O O O O O O	94
O O O R O O O O O O O O O	88

CAREER PATH	Frequency
R R R R R R O R R R R R	83
O O O O O O O O O R R R R	81
R R R R R R R R R R O R	78
R R R R R R R O O O O O O	76
R R R R R R R R R R O R R	76
R R R R R R R R R R O O O	74
R R R R O O O O O O O O O	72
R R R R R R R R R O R R R	72
O O O O O O O O O R R R R	71
O O O O O O O O R R R R R	66
R R R R R O R R R R R R R	64
R R R R R R R R O O O O O	62
R R R R R R R R O R R R R	62
O R R O O O O O O O O O O	56
O O R R R R R R R R R R R	54
O O O O O O O R R R R R R	50
O O O O R R O O O O O O O	50
O O O R R R R R R R R R R	50
R R R R R O R R R R R R R	50
R R R R R R R R R O O O O	49
R R R R R R R R R R R O O	49
R O R R R R R R R R R R R	48
R R O R R R R R R R R R R	47
O O R R O O O O O O O O O	43
R R R O R R R R R R R R R	42
O O O R R R O O O O O O O	40
O O O O O O O O O O R R O	38
O O O O O R R R R R R R R	38
O O O R R O O O O O O O O	37
O O O O O O O R R O O O O	36
O R R R O O O O O O O O O	32
R R R R O R R R R R R R R	31
O O O O O R R O O O O O O	30
O O O O R R R R R R R R R	30
O O O O O O O O O R R O O	28
O O O O O O O O O R R R O	28
O O O O O O O O O R R O O O	27
O O O O O O R R O O O O O	26

CAREER PATH	Frequency
O O R R R O O O O O O O O	26
O O O O O O O O O O O R O R	25
O O R R R R O O O O O O O	25
O R R R R O O O O O O O O	25
O R R R R R O O O O O O O	25
O O O O O O O O O R O R R	24
O O O O R R R O O O O O O	20
O O O O O O O O R R R O O	19
O O O O O O O R R R O O O	19
O O O O O R R R O O O O O	17
O O O R R R R O O O O O O	17
R O R O O O O O O O O O O	17
R R R R R R R R R R O R O	17
R R R R R R R R R O O R R	16
R R R R R R R R R R O O R	16
O O O O O O O R R R R O O	15
O O O O O O R R R O O O O	15
O O R R R R R O O O O O O	15
O R R R R R R O O O O O O	15
O O O O O O O O O R O O R	13
O O O O O O O O R O R O O	13
O O O O O O R O O O O O R	12
O O O O R R R R O O O O O	12
O O O O R R R R R R O O O	12
R R R R R R O O O O O O R	12
R R R R R R R O R O O O O	12
O O O O O O R R R R O O O	11
O O O O O R O O O O O R R	11
O O O O O R R R R O O O O	11
O O O R R R R R R O O O O	11
R O O O O O O O O O O O R	11
R R R R R R R O O O R R R	11
R R R R R R R R O O R R R	11
R R R R R R R R O R O O O	11
O O O O O O O R R R R R O	10
O O O O R R R R R O O O O	10
R O O R R R R R R R R R R	10
O O O O O O O O R O O R R	9

CAREER PATH	Frequency
O O O O O O O O R R O R R	9
O O O O O O O O R O O R O O	9
O O O O O O O O R O R R R R	9
O O O O O O O R R O R R R R	9
O O O R R R R R O O O O O	9
O R R R R R R R O O O O O	9
O R R R R R R R R R R R O	9
R R R R R R R O O R R R R	9
R R R R R R R R O O O O R	9
R R R R R R R R R O O O R	9
O O O O O O O O O R O R O	8
O O O O O O O O O R R O R	8
O O O O O O O O O R R R O R	8
O O O O O O O R O R O O O O	8
O O O O O R R R R R R O O	8
O O R R R R R R O O O O O	8
O R O R R R R R R R R R R	8
O R R R R R R R R R O O O	8
R O O O O O O O O O O R R	8
R R O O R R R R R R R R R	8
R R R R R O O R R R R R R	8
R R R R R O R O O O O O O	8
R R R R R R O O R R R R R	8
R R R R R R R O O O O O R	8
R R R R R R R O R R O R R	8
R R R R R R R R O R R R O	8
R R R R R R R R R O R O O	8
R R R R R R R R R O R O R	8
O O O O O O O O O R O O O R	7
O O O O O O O O O R O R R R	7
O O O O O O O O O R R R R O	7
O O O O O O O O R O O O R R	7
O O O O O O O O R O O R R R	7
O O O O O O O O R O R O O O	7
O O O R R R R R R R O O O	7
O O R O R O O O O O O O O	7
O O R O R R R R R R R R R	7
O R O R O O O O O O O O O	7

CAREER PATH	Frequency
O R R R R R O R R R R R	7
O R R R R R R R O R R R R	7
O R R R R R R R R O O O O	7
R O O O R R R R R R R R R	7
R R R R O R O O O O O O O	7
R R R R R R O O O O O R R	7
R R R R R R R O O O O O R	7
O O O O O O O O R R O R O	6
O O O O O O O O R R R O R R	6
O O O O O O O O R R R R R O	6
O O O O O O O R R R R R O R	6
O O O O O R R O O O O O O R	6
O O O O O R R R R R O O O O	6
O O O O R R O O O O O O O R	6
O O O R R R R R R R R R O	6
O R R R R R R R R R R O O	6
O R R R R R R R R R R O R	6
R O R R R R O O O O O O O	6
R R O O O R R R R R R R R	6
R R O R R O O O O O O O O	6
R R R O O O O O O O O O R	6
R R R O R O O O O O O O O	6
R R R R R O O O O O O O R R	6
R R R R R O O O R R R R R	6
R R R R R R O R O O O O O	6
R R R R R R R O O R O O O	6
R R R R R R R O R R R O O	6
R R R R R R R O R O R R	6
O O O O O O O O R O O R O	5
O O O O O O O O R O R R O	5
O O O O O O O O R O R R R	5
O O O O O O O R R O O R R	5
O O O O O O O R R R O O R	5
O O O O O R O O O O R R R	5
O O O O O R O R R O O O O	5
O O O O O R O R R R R R R	5
O O O O O R R O R O O O O	5
O O O O O R R R R R R R O	5

CAREER PATH	Frequency
O O O O R R R R R R R O	5
O O O R O O O R O O O O O	5
O O O R O R O O O O O O O	5
O O O R R R R R R R R O R	5
O O R O O O O O O O O O R	5
O O R R O O O O O O O O R	5
O O R R R R R R O R R R R	5
O O R R R R R R R O O O O	5
O R R O R R R R R R R R R	5
O R R R R R R R R R O R R	5
R O O O O O O O O R R R R	5
R O O O O O O O O R O O O O	5
R O O O O O O O R O O O O O	5
R O O O O R R R R R R R R	5
R O R R O O O O O O O O O	5
R O R R R R R O O O O O	5
R R O R R R O O O O O O O	5
R R R O O R R R R R R R R	5
R R R O R R O O O O O O O	5
R R R O R R R O O O O O O	5
R R R R R R R O O R R R R	5
R R R R R R R O R R R O O	5
R R R R R R R O R R R R O	5
R R R R R R R O O R O O R	5
R R R R R R R O R R O O O	5
R R R R R R R O R R O R O	5
O O O O O O O O R R O O R	4
O O O O O O O R O O O O R	4
O O O O O O R O O O R O O	4
O O O O O O R O R R O O O	4
O O O O O O R O R R R R R	4
O O O O O O R R O O O O R	4
O O O O O O R R R O O R R	4
O O O O O O R R R O R R R	4
O O O O O O R R R R R O O	4
O O O O O R O O O O O O R	4
O O O O O R O R O O O O O	4

CAREER PATH	Frequency
O O O O O R R O O R O O O	4
O O O O O R R R O O R R R	4
O O O O O R R R R R O R R	4
O O O O O R R R R R R O R	4
O O O O R O O R O O O O O	4
O O O O R O R O O O O O O	4
O O O O R R R R R O R R R	4
O O O R R O R O O O O O O	4
O O O R R R R R O R O O O	4
O O O R R R R R R R O R R	4
O O R R O O R R R R R R R	4
O O R R R R O O O O O O R	4
O O R R R R R O O R R R R	4
O O R R R R R O R R R R R	4
O O R R R R R R R O R R R	4
O O R R R R R R R R O O O	4
O O R R R R R R R R O R R	4
O O R R R R R R R R R O O	4
O O R R R R R R R R R R O	4
O R O O O O O O O O O R R	4
O R O O R R R R R R R R R	4
O R O R R O O O O O O O O	4
O R R R R R R O O R O O O	4
O R R R R R R O R O O O O	4
O R R R R R R R R O R R R	4
R O O O O O O O O O R O O	4
R O O O O O O O O O R O O O	4
R O O O R O O O O O O O O	4
R O O R R O O O O O O O O	4
R O R R R R R O O O O O O	4
R O R R R R R R R R O O O	4
R R O O O O O O O O O O R	4
R R O O O O O O O O R O O O	4
R R O O O O O O O O R R R R	4
R R O O O O O R R R R R R R	4
R R O O O R O O O O O O O O	4
R R O R O O O O O O O O O O	4
R R O R R R R R R O O O O	4

CAREER PATH	Frequency
R R R O O O O O R R R R R	4
R R R O O O R R R O O O O	4
R R R R O O R R O O O O O	4
R R R R O O R R R R R R R	4
R R R R R O O O O O R O O	4
R R R R R O O O O O R R R	4
R R R R R O R R O R R R R	4
R R R R R R O O O O R R R	4
R R R R R R O O R R O O O	4
R R R R R R O O R R O R R	4
R R R R R R O R R O O O O	4
R R R R R R R O O O R O O	4
R R R R R R R O R R O O O	4
O O O O O O O R R O O O R	3
O O O O O O O R O O R O O O	3
O O O O O O O R O O R R R R	3
O O O O O O O R O R R O R R	3
O O O O O O O R R O O O R R	3
O O O O O O O R R O O R R R	3
O O O O O O O R R R R O R R	3
O O O O O R R O R R R O O	3
O O O O O R R O R R R O R R	3
O O O O O R R R R O R O O	3
O O O O R O O O O O R O O	3
O O O O R R R R R R R R R	3
O O O O R R R O O O O O R	3
O O O O R R R R O O O R R	3
O O O O R R R R O R O O O	3
O O O O R R R R R R O R R	3
O O O R O R R O O O O O O	3
O O O R R O O R O O O O O	3
O O O R R R R O O R R R R	3
O O O R R R R R R O R R R	3
O O O R R R R R R O R R R	3
O O R R R O O O O O O O R	3
O O R R R R O O O R O O O	3
O O R R R R R R R R R O R	3
O R O O O O O R O O O O O	3

CAREER PATH	Frequency
O R O O O R O O O O O O O	3
O R O R R R O O O O O O O	3
O R R O O O O O O O O O R	3
O R R O O O O O O O O R R R	3
O R R O O O O R R R R R R	3
O R R R O R R R R R R R R	3
O R R R R O O R R R R R R	3
O R R R R O R O O O O O O	3
O R R R R R O O O O O R R	3
O R R R R R O R R R R R R	3
O R R R R R R R O R O O O	3
O R R R R R R R R R O O R	3
R O O O O O O O O O O R O	3
R O O O O O O O O O O R R O	3
R O O O O O O O O R R R R R	3
R O O O O O O O R R O O O O	3
R O O O O O O R O O O O O O	3
R O O O O O R R R R R R R	3
R O R R R O O O O O O O O	3
R O R R R R R R O R R R R	3
R O R R R R R R R O O O O	3
R R O O O O O O O O O R R	3
R R O O O O O O O O O R R R	3
R R O O O O O O O R O O O O	3
R R O O O O O R O O O O O O	3
R R O O O O O R R R R R R	3
R R O R R R R O O O O O O	3
R R O R R R R R R R R O R	3
R R R O O O O O O O O O R R	3
R R R O O O O O R R R R R	3
R R R O O O O R R R R R R	3
R R R O O O R O O O O O O	3
R R R R O O O R O O O O O	3
R R R R O O O O O O O O R	3

CAREER PATH	Frequency
R R R R R O O O O R R O	3
R R R R R R O O O R O O O	3
R R R R R R O O R O O O O	3
R R R R R R O R O R O O O	3
R R R R R R R O R O O O R	3
R R R R R R R O R O R O O	3
R R R R R R R R O O O R R	3
R R R R R R R R O R O O R	3
R R R R R R R R O R R O R	3
R R R R R R R R R O O R O	3
O O O O O O O R O O R O R	2
O O O O O O O R O O R R O	2
O O O O O O O R O R R O O	2
O O O O O O O R R O R O O	2
O O O O O O O R R O R R O	2
O O O O O O O R R R R O R	2
O O O O O O R O O O O R O	2
O O O O O O R O O O R R R	2
O O O O O O R O O R R O R	2
O O O O O O R O R R R O R	2
O O O O O O R O R R R R O	2
O O O O O O R R R O O O R	2
O O O O O O R R R R O O R	2
O O O O O R O O O O O R O	2
O O O O O R O O O O R O O	2
O O O O O R O R O R R R R	2
O O O O O R O R R O R O O	2
O O O O O R O R R R O O O	2
O O O O O R R O O O R O O	2
O O O O O R R O O R R R O	2
O O O O O R R O R R O O O	2
O O O O O R R R O O R R O	2
O O O O O R R R O R O O O	2
O O O O O R R R R O O R R	2
O O O O R O O O O O O O R	2
O O O O R O O O O O O R O	2
O O O O R O O O R O O O O	2

CAREER PATH	Frequency
O O O O R O O R R R O R O	2
O O O O R O O R R R R R R	2
O O O O R O R R R R R R R	2
O O O O R R O O O O O R R	2
O O O O R R O R R R O O O	2
O O O O R R R O R O O O O	2
O O O O R R R O R R O O O	2
O O O O R R R R O R R R R	2
O O O O R R R R R O O O R	2
O O O O R R R R R R R O O	2
O O O O R R R R R R R O R	2
O O O R O O O O O O O O R	2
O O O R O O O O O O O O R R	2
O O O R O O O O R R R R R R	2
O O O R O O R O O O O O O	2
O O O R O O R R R R O R R	2
O O O R O O R R R R R R R	2
O O O R O R R O R O R O O	2
O O O R O R R R O O O O O	2
O O O R O R R R R O O O O	2
O O O R O R R R R R R R R	2
O O O R R R O O O O O R R	2
O O O R R R O O O R R R R	2
O O O R R R O O R R R R R	2
O O O R R R O R O O O O O	2
O O O R R R O R O O O O R	2
O O O R R R O R R R O O O	2
O O O R R R R O O O O O R	2
O O O R R R R O R R R O R	2
O O O R R R R O O R O O	2
O O O R R R R O O R R R	2
O O O R R R R O R O R	2
O O O R R R R R O R O	2
O O O R R R R R R R O O	2
O O R O O O O O O O R R	2
O O R O O O O O O O R R R	2
O O R O O O O O O R O O O	2
O O R O O O O O R R O O O	2

CAREER PATH	Frequency
O O R O O O O O R R R O O	2
O O R O O O O O R O O O O O	2
O O R O O O O O R R R R R R	2
O O R O O O R O O O O O O O	2
O O R O O O R O O O R R O O O	2
O O R O O O R R O O O O O O	2
O O R O O O R R R R R R R R	2
O O R O R R O O O O O O O	2
O O R O R R R O O O O O O	2
O O R O R R R R R R O R R	2
O O R O R R R R R R R O R	2
O O R O R R R R R R R R O	2
O O R R O R O O O O O O O	2
O O R R O R R R R R R O R	2
O O R R R O O O O O R R R	2
O O R R R R O O O O O R R	2
O O R R R R O R R R R R R	2
O O R R R R R O R O O O O	2
O O R R R R R O R R R O R	2
O O R R R R R R O O O O R	2
O O R R R R R R O O R R R	2
O O R R R R R R O R R O O	2
O O R R R R R R R O O O R	2
O R O O O O O O O O R R O	2
O R O O O O O O O O R R R	2
O R O O O O O O O O R R R	2
O R O O O O R O O O O O R	2
O R O O O R R R R R R R R	2
O R O O R O O O O O O O O	2
O R O O R R O O O O O O O	2
O R O R O R R O O O O O O	2
O R O R R R R O R R R R R	2
O R R O O O O O O R O O O	2
O R R O O O O O O R R O O	2
O R R O R O O O O O O O O	2
O R R O R R O O O O O O O	2
O R R O R R R O O O O O O	2
O R R R O O O R R R R R R	2

CAREER PATH	Frequency
O R R R O R O O O O O O O	2
O R R R R O O O O R R R R	2
O R R R R O R R R R R R	2
O R R R R R O O O O R R R	2
O R R R R R R O O O O R R	2
O R R R R R R O O O R O O	2
O R R R R R R O R O R R R	2
O R R R R R R R O O O R R	2
O R R R R R R R O O R R R	2
O R R R R R R R R O O R R	2
O R R R R R R R R O R O O	2
R O O O O O O O O O R R R	2
R O O O O O O O O O R R O	2
R O O O O O O O O R O O O R	2
R O O O O O O O R O R R R R	2
R O O O O O O R R O O O O O	2
R O O O O O R R R R O O O	2
R O O O O O R R R R R R O	2
R O O O O R O O R R O O O	2
R O O O O R R R R O O O R	2
R O O O R R R O O O O O O	2
R O O O R R R O R R R R R	2
R O O O R R R R R O O O O	2
R O O R O O O O O O O O O	2
R O O R O R O O O O O O O	2
R O O R R R O O O O O O O	2
R O O R R R R O O O O O O	2
R O R O O O O O O O R R O	2
R O R R O O O O O R R R R	2
R O R R R O R R R R R R R	2
R O R R R O R R R R R R R	2
R O R R R R R O O O R R R	2
R O R R R R R R O R R R R	2
R O R R R R R R R R R O R	2
R R O O O O O O R R O R R	2
R R O O O O O O R R R R R	2
R R O O O O O R R O R R R	2
R R O O O O R R O O O O O	2

CAREER PATH	Frequency
R R O O O O R R R O R R R	2
R R O O O R R O O O O O O	2
R R O O R R O O O O O O O	2
R R O O R R R R O O O O O	2
R R O O R R R R R R O R R	2
R R O R R R O R R R R R R	2
R R O R R R R R R R R O O	2
R R R O O O O O O O O R R	2
R R R O O O R R R R R R R	2
R R R O O R O O O O O O O	2
R R R O O R R R R O R R R	2
R R R O R R R O R R R R R	2
R R R O R R R R O R R R R	2
R R R O R R R R R O O O O	2
R R R O R R R R R R O O O	2
R R R O R R R R R R O O R	2
R R R O R R R R R R R O R	2
R R R R O O O O O O O O R	2
R R R R O O O O O O O R R	2
R R R R O O O O O O R O R	2
R R R R O O O O R R O R R	2
R R R R O R O R R R R R R	2
R R R R O R R O R R R R R	2
R R R R O R R R O O O O O	2
R R R R R O O O O O R R O	2
R R R R R O O O O R R R R	2
R R R R R O O O R O O O O	2
R R R R R O O R R R R O R	2
R R R R R O R R R O O O O	2
R R R R R O R R R O R R R	2
R R R R R O R R R R R R O	2
R R R R R R O O O O R O O	2
R R R R R R O O O R O R R	2
R R R R R R O R R O R R R	2
R R R R R R O R R R O R R	2
R R R R R R O R R R R O R	2
R R R R R R O R R R R R O	2
R R R R R R R O O O O R O	2

CAREER PATH	Frequency
R R R R R R O O R O R R	2
R R R R R R R O R R O O R	2
R R R R R R R O R R R O R	2
R R R R R R R R O O R O R	2
R R R R R R R R O O R R O	2
O O O O O O O O R O R O R	1
O O O O O O O O R O O O R O	1
O O O O O O O O R O R O O R	1
O O O O O O O O R O R O R O	1
O O O O O O O O R R R O R O	1
O O O O O O O R O O O R O R	1
O O O O O O O R O O O R R O	1
O O O O O O O R O O R O O R	1
O O O O O O O R O O R O R O	1
O O O O O O O R O O R O R R	1
O O O O O O O R O R O O R O	1
O O O O O O O R O R O R R R	1
O O O O O O O R O R R R O O	1
O O O O O O O R R O R O O O	1
O O O O O O O R R O R O O R	1
O O O O O O O R R O R R O R	1
O O O O O O O R R R O R R O	1
O O O O O R O O O R O O O O	1
O O O O O R O O O R R R O O	1
O O O O O R O O O R R R R R	1
O O O O O R O O R O O O O O	1
O O O O O R O O R R O R O R	1
O O O O O R O O R R R O R O	1
O O O O O R O O R R R R R O	1
O O O O O R O O R R R R R R	1
O O O O O R O R O O O R O O	1
O O O O O R O R O R O R R R	1
O O O O O R O R R R O R O O	1
O O O O O R O R R R O R O R	1
O O O O O R O R R R R R R O	1
O O O O O R R O O O R O R	1

CAREER PATH	Frequency
O O O O O R R O O O R R R	1
O O O O O R R O O R O R O	1
O O O O O R R O R O O O R	1
O O O O O R R O R O O R O	1
O O O O O R R O R O O R R	1
O O O O O R R O R R O R O	1
O O O O O R R O R R O R R	1
O O O O O R R O R R R R R	1
O O O O O R R R O O R O O	1
O O O O O R R R O O R O R	1
O O O O O R R R O R R O O	1
O O O O O R R R O R R O R	1
O O O O O R R R O R R R O	1
O O O O O R R R R O O O R	1
O O O O O R R R R O R O O	1
O O O O R O O O O O O R R	1
O O O O R O O O O O R R R	1
O O O O R O O O O R O O O	1
O O O O R O O O O R O R R	1
O O O O R O O O O R R O R	1
O O O O R O O O R O O R R	1
O O O O R O O O R O R R R	1
O O O O R O O O R R O O O	1
O O O O R O O O R R R O R	1
O O O O R O O O R R R R O	1
O O O O R O O R O O R O O	1
O O O O R O O R O R O O O	1
O O O O R O O R R O O O O	1
O O O O R O R O R R R R R	1
O O O O R O R R O O O O R	1
O O O O R O R R R O O O O	1
O O O O R O R R R O O O R	1
O O O O R O R R R R O O R	1
O O O O R O R R R R O R R	1
O O O O R R O O O O O R O	1

CAREER PATH	Frequency
O O O O R R O O O R R O O	1
O O O O R R O O O R R R R	1
O O O O R R O O R R O O O	1
O O O O R R O R O O O O O	1
O O O O R R O R O O O O R	1
O O O O R R O R O R R R R	1
O O O O R R O R R O O O O	1
O O O O R R O R R O O O R	1
O O O O R R O R R R R O O	1
O O O O R R O R R R R O R	1
O O O O R R R R O O O O R R	1
O O O O R R R O O R O R R	1
O O O O R R R O O R R O R	1
O O O O R R R O R R O R O	1
O O O O R R R O R R R O O	1
O O O O R R R O R R R R O	1
O O O O R R R O R R R R R	1
O O O O R R R R O O O O R	1
O O O O R R R R O O O R O	1
O O O O R R R R R O O R O	1
O O O R O O O O O O O R O	1
O O O R O O O O O O O R O O	1
O O O R O O O O O O O R R R	1
O O O R O O O O O R O O O O	1
O O O R O O O O O R O O O R	1
O O O R O O O O O R R O O R	1
O O O R O O O R R R R R R R	1
O O O R O O O R R R O O O O	1
O O O R O O O R R R O R R O	1
O O O R O O O R R R R R R O	1
O O O R O O R O O O O O R R	1
O O O R O R O O O R O O O O	1

CAREER PATH	Frequency
O O O R O R O R O O O O O	1
O O O R O R R O O O O O R	1
O O O R O R R O O O O R O	1
O O O R O R R O R R O R R	1
O O O R O R R O R R R R O	1
O O O R O R R R O R O O O	1
O O O R O R R R R O R O O	1
O O O R O R R R R O R R R	1
O O O R O R R R R R R R O	1
O O O R R O O O O O O R O	1
O O O R R O O O O O O R R	1
O O O R R O O O O O R R O	1
O O O R R O O O R R O O O	1
O O O R R O O R O O R R R	1
O O O R R O O R R O R R R	1
O O O R R O O R R R R O R	1
O O O R R O O R R R R R R	1
O O O R R O R O R R R O O	1
O O O R R O R R O O O O O	1
O O O R R O R R R O O O R	1
O O O R R O R R R O R O O	1
O O O R R O R R R R O O O	1
O O O R R O R R R R R R R	1
O O O R R R O O O O R R O	1
O O O R R R O O R R R O O	1
O O O R R R O R O R R R R	1
O O O R R R O R R O R R R	1
O O O R R R O R R R R R R	1

CAREER PATH	Frequency
O O O R R R R O O O O R	1
O O O R R R R O O O R O	1
O O O R R R R O R R O R	1
O O O R R R R O R R R O	1
O O O R R R R R O O R R	1
O O O R R R R R O R O O	1
O O O R R R R R R O O R	1
O O R O O O O O O O O R O	1
O O R O O O O O O O O R O O	1
O O R O O O O O O O R R R R	1
O O R O O O O O O R O O O O	1
O O R O O O O O O R O R O O	1
O O R O O O O O O R R O R O	1
O O R O O O O O O R R R R R	1
O O R O O O R O O O O O O O	1
O O R O O R O O O O O R R O	1
O O R O O R O O O O R O O O	1
O O R O O R R O O R R R R R	1
O O R O R O R R O O O R O O	1
O O R O R O R R R O O O O O	1
O O R O R O R R R O O O O R	1
O O R O R O R R R O R O R R	1
O O R O R O R R R R R R R R	1
O O R O R R O O R R R R R R	1
O O R O R R R O O O O O O R	1
O O R O R R R O O O O R R R	1
O O R O R R R R R R O O O O	1
O O R R O O O O O O O O R R	1
O O R R O O O O O O O R O R	1
O O R R O O O O O O R O O O	1
O O R R O O O O R R O R R R	1
O O R R O O O O R R R R R R	1
O O R R O O O R O O O O O O	1
O O R R O O O R R O O R R R	1
O O R R O O O R R R R R R R	1
O O R R O O R O O O O O O O	1
O O R R O O R R R O O O O O	1
O O R R O R O O O O O R R O	1

CAREER PATH	Frequency
O O R R O R O R O O O O O	1
O O R R O R R O O O O O R	1
O O R R O R R R O R O R O	1
O O R R O R R R R R R R R	1
O O R R R O O O O O O R O	1
O O R R R O O O O O R R R	1
O O R R R O O O O R R R O	1
O O R R R O O O R O O O R	1
O O R R R O O O R R R O R	1
O O R R R O O R O O R O O	1
O O R R R O O R O R R R R	1
O O R R R O O R R R O R R	1
O O R R R O O R R R R R R	1
O O R R R O R O O O O O O	1
O O R R R O R O O O O O R	1
O O R R R O R R O O O O O	1
O O R R R O R R O O O R R	1
O O R R R R O O O R R R O	1
O O R R R R O O R R R R R	1
O O R R R R O R O O R R O	1
O O R R R R R O O O O O R	1
O O R R R R R O O R O O R	1
O O R R R R R O O R O R R	1
O O R R R R R O O R R R O	1
O O R R R R R O R R O O O	1
O O R R R R R O R R O R R	1
O O R R R R R O O O R R R	1
O O R R R R R O R R R R O	1
O O R R R R R R O O R R R	1
O O R R R R R R O R R R O	1
O O R R R R R R O R R O R	1
O R O O O O O O O O R O O	1
O R O O O O O O O R O O R O	1
O R O O O O O O O R O R O R	1
O R O O O O O O O R R O R O	1
O R O O O O O O O R R R R O	1

CAREER PATH	Frequency
O R O O O O O O R R R R R	1
O R O O O O O O R R O O O O	1
O R O O O O O O R R O R R O	1
O R O O O O O O R R R O R R	1
O R O O O O O O R R R R R R	1
O R O O O O R O O O O O O O	1
O R O O O O R O O O R R R R	1
O R O O O O R R O R O O O O	1
O R O O O O R R O R R R R R	1
O R O O O O R R R R R R O	1
O R O O O O R R R R R R R R	1
O R O O O R R O O O O O O O	1
O R O O O R R O R R O R O O	1
O R O O O R R R R O O O O O	1
O R O O O R R R R R O R O O	1
O R O O O R R R R R R O O O	1
O R O O R O O O O O O O O R	1
O R O O R O O O O O O R R R	1
O R O O R R O R R R R R O	1
O R O O R R O R R R R R R R	1
O R O O R R R R O O O O O R	1
O R O O R R R R R R O O O O	1
O R O O R R R R R R R O R O	1
O R O R O O R R R O O O O O	1
O R O R O R O O O R R R R R	1
O R O R O R R R O O O O O R	1
O R O R O R R R O O O R R R	1
O R O R R R O O O R O R R R	1
O R O R R R O R R R R R R R	1
O R O R R R R O O O O O O O	1
O R O R R R R O O O R O O O	1
O R O R R R R O O O R R O O	1
O R O R R R R O O O R O R O	1
O R O R R R R O O O R O O O	1
O R O R R R R O O O O O O O	1
O R O R R R R O O O R R R R	1
O R O R R R R R O O O O O O	1
O R R O O O O O O O R O O O	1
O R R O O O O O O O R R O O	1
O R R O O O O O O O R O O R	1

CAREER PATH	Frequency
O R R O O O O O O R R R R	1
O R R O O O O O R O O O O	1
O R R O O O O O R R R O R	1
O R R O O O O O R R R R R	1
O R R O O O R O O O O O O	1
O R R O O O R R O O O O R	1
O R R O O O R R R R R R R	1
O R R O O R O O O O O O O	1
O R R O O R R R R R O R R	1
O R R O R O O O O O O O R	1
O R R O R O R O O R O O O	1
O R R O R O R R R O O O O	1
O R R O R O R R R R O O O	1
O R R O R R O O O O R R R	1
O R R O R R O R R R R R O	1
O R R O R R R O R R O O R	1
O R R R O O O O O O O R O	1
O R R R O O O O O O O O R	1
O R R R O O O O O O O R R	1
O R R R O O O O O O R R R	1
O R R R O O O O O R R R R	1
O R R R O O O O R O R O O	1
O R R R O O O R O O R R R	1
O R R R O O O R R R O O O	1
O R R R O O R O O O O O O	1
O R R R O O R O O O R R R	1
O R R R O O R O R O R O O	1
O R R R O O R R O O O R R	1
O R R R O R O O O O R R O	1
O R R R O R O R R R R R R	1
O R R R O R R O R O O O R	1
O R R R O R R O O O R R R	1
O R R R O R R R R O R R O	1
O R R R O R R R R O R R R	1
O R R R R O O O O O O O R	1
O R R R R O O O O O R O R	1
O R R R R O O O R O O O O	1
O R R R R O O R O O O O O	1
O R R R R O O R R R R R O	1

CAREER PATH	Frequency
O R R R R O R O O O O R R	1
O R R R R O R O O O R R R	1
O R R R R O R R O O O O O	1
O R R R R R O O O O R O O	1
O R R R R R O O O O R R O	1
O R R R R R O O O R O O O	1
O R R R R R O O R O R R O	1
O R R R R R O R O O O O O	1
O R R R R R O R O O R O O	1
O R R R R R O R R R O O O	1
O R R R R R O R R R R O R	1
O R R R R R R O O R R O O	1
O R R R R R R O O R R R O	1
O R R R R R R O O R R R R	1
O R R R R R R O R O O O R	1
O R R R R R R O R O R R O	1
O R R R R R R O R R R O O	1
O R R R R R R R O O O R O	1
O R R R R R R R O R O R O	1
O R R R R R R R O R R O O	1
R O O O O O O O O O R O R	1
R O O O O O O O O O R R O R	1
R O O O O O O O O O R R R O	1
R O O O O O O O O R O O R R	1
R O O O O O O O O R O R O O	1
R O O O O O O O O R R O O O	1
R O O O O O O O O R R O R O	1
R O O O O O O O R O O O R O	1
R O O O O O O O R O O R R R	1
R O O O O O O O R O R R O O	1
R O O O O O O O R R O R R R	1
R O O O O O O O R R R O O O	1
R O O O O O O O R R R O R R	1
R O O O O O O O R R R R R O	1
R O O O O O O O R R R R R R	1
R O O O O O O R O R R O O O	1
R O O O O O O R R O O O R R	1
R O O O O O O R R O O R R O	1

CAREER PATH	Frequency
R O O O O O R R O R O O O	1
R O O O O O R R O R R R R	1
R O O O O O R R R R O R R	1
R O O O O R O O O O O O O	1
R O O O O R O O O O O O R	1
R O O O O R O R R R O O O	1
R O O O O R O R R R R R R	1
R O O O O R R O O O O O O	1
R O O O O R R O O O R O O	1
R O O O O R R O O R R O R	1
R O O O O R R O R R O O O	1
R O O O O R R O R R R R R	1
R O O O O R R R O O O O O	1
R O O O O R R R R O O O O	1
R O O O O R R R R R R R O	1
R O O O R O O O O O R O R	1
R O O O R O O O O O R R R	1
R O O O R O O O O R R R R	1
R O O O R R O O O R R R O	1
R O O O R R O R O O R R O	1
R O O O R R R O R R R O O	1
R O O O R R R R O O O O O	1
R O O O R R R R R R O O R	1
R O O O R R R R R R R O O	1
R O O R O O O O O O O O R	1
R O O R O O O O O R O O O	1
R O O R O O O O R O O R R	1
R O O R O O R O O R R R O	1
R O O R R O R O O R R R O	1
R O O R R R R O R R R R R	1
R O O R R R R R O O O O O	1
R O O R R R R R O O O O R	1
R O O R R R R R O R O O R	1
R O O R R R R R O R R R O	1
R O O R R R R R O R R R R	1
R O O R R R R R R R O O O	1
R O O R R R R R R R O R R	1

CAREER PATH	Frequency
R O R O O O O O O O O R R	1
R O R O O O O O O O O R O O	1
R O R O O O O O O O R O O O	1
R O R O O O O O O O R O O R	1
R O R O O O O O R O R R O O	1
R O R O O O O R R O O O O	1
R O R O O O O R R O R R R	1
R O R O O O O R R R O O O	1
R O R O O O R O R R O O O	1
R O R O O O R R O O O O R	1
R O R O O R R R O R R R R	1
R O R O R R O O O O O O O	1
R O R O R R O O O R O O O	1
R O R O R R O R R O O O R	1
R O R O R R R R R R O O O	1
R O R O R R R R R R R R R	1
R O R R O O O O O O O R R	1
R O R R O O O O R O R R R	1
R O R R O O O R R R R O O	1
R O R R O O O R R R R R R	1
R O R R O R O O O O O O O	1
R O R R O R O R R R O O O	1
R O R R O R R R R O R O O	1
R O R R R O O R R R R R R	1
R O R R R O R O R R O R O	1
R O R R R R O O R R R R R	1
R O R R R R O R O O O O O	1
R O R R R R R R R R R O O	1
R O R R R R R R R R R R O	1
R R O O O O O O O O R O O	1
R R O O O O O O O R O R O	1

CAREER PATH	Frequency
R R O O O O O O O R R O O	1
R R O O O O O O O O R R R O	1
R R O O O O O O O R O O O R	1
R R O O O O O O O R O R O O	1
R R O O O O O O O R R O O O	1
R R O O O O O O R O O R R R	1
R R O O O O O R O R O O R	1
R R O O O O O R R O R R O	1
R R O O O O O R R R O R R	1
R R O O O O R O O O O O O	1
R R O O O O R O O O R O O	1
R R O O O O R O O O R R R	1
R R O O O O R O O R O R R	1
R R O O O O R R R O R O O	1
R R O O O O R R R O R O O	1
R R O O O O R R R R R O O	1
R R O O O O R R R R R R O	1
R R O O O R O O O O O O R R	1
R R O O O R O O R O O O O	1
R R O O O R O R O O R R R	1
R R O O O R O R O R O O R	1
R R O O O R R O O O R R R	1
R R O O O R R O O R O O O	1
R R O O O R R R O O O O O	1
R R O O O R R R O R R R R	1
R R O O O R R R O O R R R	1
R R O O O R R R R O R R R	1
R R O O R O O O O O O O R	1
R R O O R O O O O O O O R O	1
R R O O R O O O O O R O O O	1
R R O O R O O R O O O O O	1
R R O O R O R O O O O O O	1
R R O O R O R O R R O R R	1
R R O O R R O O O R R R O	1
R R O O R R R O O O O O R	1

CAREER PATH	Frequency
R R O O R R R O R R O O O	1
R R O O R R R R O O O R R	1
R R O O R R R R O R R R R	1
R R O O R R R R R O O R O	1
R R O O R R R R R O R O O	1
R R O O R R R R R R O O O	1
R R O O R R R R R R R O R	1
R R O O R R R R R R R R O	1
R R O R O O O O O O O O R	1
R R O R O O O O O O O R R	1
R R O R O O O O O R R R R	1
R R O R O O O R R R O R R	1
R R O R O O R R R R R R R	1
R R O R O R O O O R R O O	1
R R O R O R R R R R R R R	1
R R O R R O O O R R R O R	1
R R O R R O O R R O R O R	1
R R O R R O O R R R R R R	1
R R O R R O R O O O O O O	1
R R O R R R O R R R O O O	1
R R O R R R O R O O O O O	1
R R O R R R R O O O R R R	1
R R O R R R R O O R O O R	1
R R O R R R R O O R O R R	1
R R O R R R R O O R R O O	1
R R O R R R R O R R O R R	1
R R O R R R R R O O O O O	1
R R O R R R R R O O R O O	1
R R O R R R R R O R O O O	1
R R O R R R R R R R R R O	1
R R R O O O O O O O O R O	1
R R R O O O O O O O O R O R	1
R R R O O O O O O O O R R O	1
R R R O O O O O O O R O O O	1

CAREER PATH	Frequency
R R R O O O O O O R R O O	1
R R R O O O O O O O R R R R	1
R R R O O O O O R O O O O	1
R R R O O O O O R R O O O	1
R R R O O O O O R O O O O R	1
R R R O O O O O R O R O O O	1
R R R O O O O O R R O O O O	1
R R R O O O O O R R R O O O	1
R R R O O O O O R R R O O R	1
R R R O O O O O R R R O R O	1
R R R O O O O O R R R R O R	1
R R R O O O R O O R O O O	1
R R R O O O R O O R R R R R	1
R R R O O O R O R R R O O	1
R R R O O O R O R R R R R	1
R R R O O O R R O O O O O	1
R R R O O O R R O O R R R	1
R R R O O O R R R O R R O O	1
R R R O O O R R R R O R O	1
R R R O O O R R R R R O O	1
R R R O O R O O R R O O O	1
R R R O O R O O R R R R R	1
R R R O O R O R O R R R O	1
R R R O O R O R R R O O R	1
R R R O O R O R R R R R R	1
R R R O O R R O O O O O O	1
R R R O O R R O O O O R O	1
R R R O O R R R O R R O O	1
R R R O O R R R O O R O O	1
R R R O O R R R R R O R R	1
R R R O R O O O O O O R O	1
R R R O R O O O R O R R R	1
R R R O R O O O R R R R R	1
R R R O R O R O R O R O R	1
R R R O R O R O R R R R R	1
R R R O R O R R R O R R R	1
R R R O R O R R R R R R R	1

CAREER PATH	Frequency
R R R O R R O O O O R O R	1
R R R O R R O O R O O O R	1
R R R O R R O R O O O O O	1
R R R O R R O R O O R O O	1
R R R O R R O R R R R R R	1
R R R O R R R O R R R R O	1
R R R O R R R R O O O O O	1
R R R O R R R R O R O O R	1
R R R O R R R R O R O R O	1
R R R O R R R R O R R O O	1
R R R O R R R R O R R O R	1
R R R O R R R R R O O R R	1
R R R O R R R R R R R O R	1
R R R O R R R R R R R R O	1
R R R R O O O O O O O R O	1
R R R R O O O O O O O R R O	1
R R R R O O O O O R O O O	1
R R R R O O O O O R O O R	1
R R R R O O O O O R R O O	1
R R R R O O O O O R R O R	1
R R R R O O O O O R O O O O	1
R R R R O O O O R O R O R	1
R R R R O O O O R O R O O	1
R R R R O O O O R R O O O	1
R R R R O O O R O R R O R	1
R R R R O O O R R O O O O	1
R R R R O O O R R O R R R	1
R R R R O O O R R R R R R	1
R R R R O O R O O O O R R R	1
R R R R O O R O R O R R R	1
R R R R O O R O R R O O O	1
R R R R O O R O R R O R O	1
R R R R O O R R R R O O R	1
R R R R O O R R R R R R O	1
R R R R O R O O O O O O R	1
R R R R O R O O O R R R O	1
R R R R O R R O O R O O O	1

CAREER PATH	Frequency
R R R R O R R O R R R O O	1
R R R R O R R R O O R R R	1
R R R R O R R R R O O O O	1
R R R R O R R R R O R O O	1
R R R R O R R R R R O R O	1
R R R R O R R R R R O R R	1
R R R R O R R R R R R O O	1
R R R R O R R R R R R R O	1
R R R R R O O O O O O R O	1
R R R R R O O O O O R O O O	1
R R R R R O O O O R O R O	1
R R R R R O O O O R O O R	1
R R R R R O O O O R R O O	1
R R R R R O O O O R R O R	1
R R R R R O O O R O O O R	1
R R R R R O O O R O O R O	1
R R R R R O O O R O O R R	1
R R R R R O O O R O R R R	1
R R R R R O O O R R R O O	1
R R R R R O O R O O O O O	1
R R R R R O O R O O O O R	1
R R R R R O O R O R O O O	1
R R R R R O O R R O R O O	1
R R R R R O O R R O R O R	1
R R R R R O R O O O R R R	1
R R R R R O R O R R R O R	1
R R R R R O R R R O O O R	1
R R R R R O R R R R R O O	1
R R R R R O R R R R R O R	1
R R R R R R O O O O R O R	1
R R R R R R O O O R R O R	1
R R R R R R O O R O R R R	1
R R R R R R O O R R O R O	1
R R R R R R O O R R R R O	1
R R R R R R O R O O O O R	1
R R R R R R O R O O O R R	1

CAREER PATH	Frequency
R R R R R O R O O R R R	1
R R R R R R O R O R O O R	1
R R R R R R O R O R O R O	1
R R R R R R O R O R R O R	1
R R R R R R O R O R R R O	1
R R R R R R O R R O O O R	1
R R R R R R O R R O O R R	1
R R R R R R O R R O R R O	1
R R R R R R R O O O R O R	1
R R R R R R R O O O R R O	1
R R R R R R R O O R O O R	1
R R R R R R R O O R O R O	1
R R R R R R R O O R R O O	1
R R R R R R R O O R R O R	1
R R R R R R R O R O O R O	1
R R R R R R R O R O O R R	1
R R R R R R R O R O R O R	1
R R R R R R R R O O O R O	1
R R R R R R R O R O R O	1

The first row in Table A-2 shows that 96 units entered the stock in 2007; they were in the renter stock in 2007 and in the owner stock in 2009. The first few rows are not particularly interesting because the career paths are short and, therefore, offer little opportunity for diversity in experience. In fact, the first and fourth rows contain the only two paths available to own/rent units that entered the stock in 2007. The fifth row is more interesting; of the 155 sample units that entered the stock in 2000 or 2001 (see Table 2), 30 were in the owner stock in the 2001 to 2007 surveys and in the renter stock in the 2009 survey.

Table A-2: Frequency Distribution of Career Paths for Own/Rent Units that Entered the Stock After 1985

CAREER PATH	Frequency
. . . . . O R	96
. . . . . O O R	51
. . . . . O R R	41
. . . . . R O	33
. . . . . O O O R	30
. . . . . O O O O R	21
. . . . . O R O	20
. . . . . O R R R	19
. . . . . O O O O O R	19
. . . . . R R O	18
. . . . . R O O	17
. . . . . R O O O	17
. . . . . O O O R R	17
. . . . . O O O O O O O R	17
. . . . . O R O O	15
. . . . . O O O O R R	15
. . . . . O O O O O O R	15
. . . . . O O R R	14
. . . . . O O R R R	14
. . . . . O O O O O R R R	14
. . . . . R O O O O O O O	14
. . . . . O O R O O O O O	13
. . . . R O O O O O O O O	13
. . . . O O O O O O O O R	12
. . O O O O O O O O O O R	12
. . . . . R O R	11
. . . . . O R R R R	11
. . . . . O O O O O R R	11
. . . O O O O O O O O O R	11

CAREER PATH	Frequency
. . O R O O O O O O O O O	11
. O O O O O O O O O O O R	11
. R O O O O O O O O O O O	11
. . . . O O R O	10
. . . . . R R O O O O O O	10
. . . . O O O O O R O O O	10
. . . R R O O O O O O O O	10
. . . . R R R O R	9
. . . . . . R O O O O O O	9
. . . O R R R R R R R R R	9
. . O O O O O O O O R R R	9
. . . . R R O O	8
. . . . O O R O O	8
. . . . O R O O O	8
. . . . R O O O O O	8
. . . . R R R R R O	8
. . . . . . O O O O R R R	8
. . . . . R O R R R R R R	8
. . . . O O O R O O O O O	8
. . . O O O O O R O O O O	8
. O O O O O O O O O R R R	8
. O O O O O O O O R O O O	8
. O O O O O R O O O O O O	8
. R R R R R R R O R R R R	8
. . . . O O O R O	7
. . . . R O O O O	7
. . . . O O O R O O	7
. . . . O O O R R O	7
. . . . O O O R R R	7
. . . . . . O O O O O R O	7
. . . . . . O O R O O O O	7
. . . . . . O R O O O O O	7
. . . . . . O R R R R R R	7
. . . . . . R R O O O O O	7
. . . . . O O O O O O R O	7
. . . . . O O O O R R R R	7
. . . . O O O O O O O R R	7
. . . . O R R O O O O O O	7

CAREER PATH	Frequency
. . . O O O O O O R O O O	7
. . R O O O O O O O O O O	7
. O R R R R R R R R R R R	7
. R R R R R R R R R R O R	7
. . . . R R O R	6
. . . . O O R R O	6
. . . . R R R R O	6
. . . . . . O O O O R O O	6
. . . . . O R O O O O O O	6
. . . . . O R R R R R R R	6
. . R R R R O O O O O O O	6
. R R O O O O O O O O O O	6
. . . . O R R O	5
. . . . R O R R	5
. . . . O O O O R O	5
. . . . O O R O O O	5
. . . . O R R R R R	5
. . . . R O R R R R	5
. . . . R R O R R R	5
. . . . . . O O O R R R R	5
. . . . . . R R R R R O R	5
. . . . . O O O O O O O R R	5
. . . . . O O O O O R O O O	5
. . . . . R R R O O O O O	5
. . . . O O O O O O O R O O	5
. . . . O R R R R R R R R R	5
. . . . R R O O O O O O O O	5
. . . O O O O O O O O R O	5
. . . O O O O O R R R R R	5
. . . O O O R R R R R R R	5
. . O O O O O O O O O R R	5
. . O R R R R R R R R R R	5
. . R R O O O O O O O O O	5
. O O O O O O O O O O R R	5
. O O O O O R R O O O O O	5
. R R R R O O O O O O O O	5
. R R R R O R R R R R R R	5
. . . . O R R O O	4

CAREER PATH	Frequency
. . . . . O R R O R	4
. . . . . R O R R R	4
. . . . . R R O O O	4
. . . . . R R O R R	4
. . . . . R R R O O	4
. . . . . O R O O O O	4
. . . . . R R O O O O	4
. . . . . R R R O O O	4
. . . . . O O O R O O O O	4
. . . . . R R R R R O R R	4
. . . . . R R R R R R O R	4
. . . . O O O O O O O R O	4
. . . . O O O O R O O O O	4
. . . . O O R O O O O O O	4
. . . . O R O O O O O O O	4
. . . . R R R R O O O O O	4
. . . . R R R R R O O O O	4
. . . O O O O O O O O R R	4
. . . O O O O O O O O R O O	4
. . . O O O O R O O O O O	4
. . . O O O O R R R R R R	4
. . . O O O R O O O O O O	4
. . . O R O O O O O O O O	4
. . . R R R O O O O O O O	4
. . . R R R R O O O O O O	4
. . . R R R R R R R O O O	4
. . . R R R R R R R O R R	4
. . . R R R R R R R R R O	4
. . O O O O O O O O R O R	4
. . O O O O R O O O O O O	4
. . O O R R O O O O O O O	4
. . R R R R O R R R R R R	4
. . R R R R R O R R R R R	4
. . R R R R R R R R R R O	4
. O O O O O O O O O O R O	4
. O O O O O O O O O R O O O	4
. O O O O O O O O O R R O O	4
. O O O O O O O O R R O O O	4

CAREER PATH	Frequency
. O O O O O O R O O O O O	4
. O O O O R O O O O O O O	4
. O R R R O O O O O O O O	4
. R O R R R R R R R R R R	4
. R R R R R R O R R R R R	4
. . . . . R R R O	3
. . . . . O O R O R	3
. . . . . O R O R O	3
. . . . . R R O R O	3
. . . . . O O R R R R	3
. . . . . O R R O O O	3
. . . . . R R R O R R	3
. . . . . R R R R O R	3
. . . . . O O O R O O O	3
. . . . . O O R R O O O	3
. . . . . O O R R R O O	3
. . . . . O R R O O O O	3
. . . . . R R R R O R R	3
. . . . . R R R R R R O	3
. . . . . O O O R R R R R	3
. . . . . O O R R R O O O	3
. . . . . O R O R O O O O	3
. . . . . O R R R O O O O	3
. . . . . R R R O R R R R	3
. . . . . R R R R R O O O	3
. . . . O O O O O R R R R	3
. . . . R R R R O R R R R	3
. . . . R R R R R R O O O	3
. . . O O O O O O R R R R	3
. . . O O O O O R O R R R	3
. . . O O R R R R R O O O	3
. . . R R R R O R R R R R	3
. . . R R R R R R O O O O	3
. . O O O O O O R R R R R	3
. . O O O O O R O O O O O	3
. . O O O R O O O O O O O	3
. . O O R O O O O O O O O	3
. . R O O O O O O O O R R	3

CAREER PATH	Frequency
. . R R R R R O O O O O	3
. . R R R R R O R R R R	3
. . R R R R R R R O R R	3
. . R R R R R R R R O O	3
. . R R R R R R R R O R	3
. O O O O O O O O R R R R	3
. O O O O O O O R R R R R	3
. O O O O O R O O R R R R	3
. O O O R R R R R R R R R	3
. O O R R R O O O O O O O	3
. O R O O O O O O O O O O	3
. O R R R R O O O O O O O	3
. R R R R R O O O O O O O	3
. R R R R R R R R O R R R	3
. R R R R R R R R R O O R	3
. . . . . O R O R	2
. . . . . R O O R	2
. . . . . R O R O	2
. . . . . R O O R R	2
. . . . . R R O O R	2
. . . . . O O R R O O	2
. . . . . O R R R R O	2
. . . . . R O O R R R	2
. . . . . R R O O O R	2
. . . . . R R O O R R	2
. . . . . R R O R O R	2
. . . . . O O O O R O R	2
. . . . . O O O O R R O	2
. . . . . O O O R O R O	2
. . . . . O O R O R O O	2
. . . . . O O R R O R R	2
. . . . . O O R R R R O	2
. . . . . O R R R O R R	2
. . . . . R O R R R R R	2
. . . . . R R O R R R R	2
. . . . . R R R O R R O	2
. . . . . R R R O R R R	2
. . . . . R R R R O O O	2

CAREER PATH	Frequency
. . . . . R R R R R O O	2
. . . . . O O O O O O R O O	2
. . . . . O O O O O O R R O	2
. . . . . O O R R R R R R	2
. . . . . O R O O O O O R O	2
. . . . . O R R O O O O O	2
. . . . . R O O R O O O O	2
. . . . . R R O R R R R R	2
. . . . . R R R R O O O O	2
. . . . . R R R R O R R R	2
. . . . . R R R R R R O O	2
. . . . O O O O O O O R R O	2
. . . . O O O O O O O R R R	2
. . . . O O O O O O R R O R	2
. . . . O O O O O R R R O O	2
. . . . O O O R O R R R R R	2
. . . . O O O R R O O O O O	2
. . . . O O R O O R R O O O	2
. . . . O O R R R R R R R R	2
. . . . O R R R O O O O O R	2
. . . . O R R R R R O O O O	2
. . . . R R O R R R R R R R	2
. . . . R R R R R O R R R R	2
. . . . R R R R R R R O O R	2
. . . . R R R R R R R R O R	2
. . . O O O O O O O O R R R	2
. . . O O O R R O O O O O O	2
. . . O O O R R R O O O O O	2
. . . O O O R R R R O O O O	2
. . . O O R O O O O O O O O	2
. . . O O R R O O O O O O O	2
. . . O O R R R O O O O O O	2
. . . O O R R R R R R R R R	2
. . . O R R R R R O O O O O	2
. . . R O O O O O O O O O O	2
. . . R R R O R R R R R R R	2
. . . R R R R R O O O O O O	2
. . . R R R R R O R R R R R	2

CAREER PATH	Frequency
. . . R R R R R R R O R	2
. . O O O O O O O O R O O	2
. . O O O O O O O O R R O	2
. . O O O O O O O R R R O	2
. . O O O O R R R O O O O	2
. . O O R R R O O O O O O	2
. . O R R R R O O O O O O	2
. . O R R R R R R O O O O	2
. . R R R O O O O O O O O	2
. . R R R O R O O O O O O	2
. . R R R R R O O O O O O	2
. . R R R R R O O R O O	2
. . R R R R R R O R R R	2
. . R R R R R R R O R O	2
. O O O O O O O O O R O O	2
. O O O O O O O O R R O O R	2
. O O O O O O R R O O O O	2
. O O O O O O R R R R R R	2
. O O O O O R O O O O O R	2
. O O O O O R R R R O O O	2
. O O O O R R O O O O O O	2
. O O O R R R R R R R O O	2
. O O R O O O O O O O O O	2
. O O R O O O O O O O O R R	2
. O O R R O O O O O O O O	2
. O O R R R R R R R R R R	2
. O R R O O O O O O O O O	2
. O R R R R R R R O R R R	2
. O R R R R R R R R O O R	2
. R R O R R R R R R R R R	2
. R R R R R O O R R R R R	2
. R R R R R R R O O O O O	2
. R R R R R R R R R O O O	2
. R R R R R R R R R R O R R	2
. R R R R R R R R R R R R O	2
. . . . . O R O O R	1
. . . . . O R R R O	1
. . . . . R O R O O	1

CAREER PATH	Frequency
. . . . . R O R O R	1
. . . . . O O R O O R	1
. . . . . O O R R R O	1
. . . . . O R O R O O	1
. . . . . O R O R R R	1
. . . . . O R R O R O	1
. . . . . R O O O O R	1
. . . . . R O O O R R	1
. . . . . R O O R R O	1
. . . . . R O R O O O	1
. . . . . R O R R O R	1
. . . . . R R O R O O	1
. . . . . R R R O O R	1
. . . . . R R R R O O	1
. . . . . O O O R R O O	1
. . . . . O O O R R O R	1
. . . . . O O O R R R O	1
. . . . . O O R O R R R	1
. . . . . O O R R O O R	1
. . . . . O O R R R O R	1
. . . . . O O R R R R R	1
. . . . . O R O R O O O	1
. . . . . O R R O R O R	1
. . . . . O R R R R O R	1
. . . . . R O O R O O O	1
. . . . . R O R O O O O	1
. . . . . R O R O O R O	1
. . . . . R O R O R R R	1
. . . . . R O R R O O O	1
. . . . . R O R R O R R	1
. . . . . R R R O O O R	1
. . . . . R R R O R O R	1
. . . . . R R R R O O R	1
. . . . . R R R R O R O	1
. . . . . O O O O R R O O	1
. . . . . O O O O R R O R	1
. . . . . O O O R R O O O	1
. . . . . O O O R R O R O	1

CAREER PATH	Frequency
. . . . . O O O R R R O O	1
. . . . . O O R O O O R O	1
. . . . . O O R O O O R R	1
. . . . . O O R O O R R R	1
. . . . . O O R R O O O O	1
. . . . . O O R R R O R R	1
. . . . . O O R R R R R O	1
. . . . . O R O O O O R R	1
. . . . . O R R O O R O O	1
. . . . . O R R O R R O O	1
. . . . . O R R R R O R R	1
. . . . . R O O O O O O R	1
. . . . . R O O O O R O R	1
. . . . . R O O R R R R R	1
. . . . . R O R O O O O O	1
. . . . . R O R O O O R O	1
. . . . . R O R R O O O O	1
. . . . . R R O O O O R O	1
. . . . . R R O O R R R R	1
. . . . . R R O R O O O O	1
. . . . . R R R O R O R R	1
. . . . . R R R R R O O R	1
. . . . . R R R R R O R O	1
. . . . . R R R R R R R O	1
. . . . O O O O O O O R O R	1
. . . . O O O O O O R R R O	1
. . . . O O O O R R R R R R	1
. . . . O O O R R R R R O	1
. . . . O O R O O O O O O R	1
. . . . O O R O O O R O O O	1
. . . . O O R R O O O O O O	1
. . . . O O R R O O O O O R	1
. . . . O O R R O R R O O	1
. . . . O O R R R R O O O	1
. . . . O O R R R R R R O	1
. . . . O R O O O R O O O	1
. . . . O R R O R R O O O	1
. . . . O R R R O O O O O	1

CAREER PATH	Frequency
. . . . R O O O O O O R O R	1
. . . . R O O O O R R R R R	1
. . . . R O R R O O O O O	1
. . . . R O R R O R O O O	1
. . . . R O R R R R R R R	1
. . . . R R O O O R R R R	1
. . . . R R O R O O O O O	1
. . . . R R O R O O O R R	1
. . . . R R O R R R R O O	1
. . . . R R O R R R R O R	1
. . . . R R R O O O O O O	1
. . . . R R R O R O R R R	1
. . . . R R R O R R R R R	1
. . . . R R R R O O O O R	1
. . . . R R R R O O O R R	1
. . . . R R R R O O R O R	1
. . . . R R R R O R O R R	1
. . . . R R R R O R R O R	1
. . . . R R R R R O O R R	1
. . . . R R R R R R O O R	1
. . . . R R R R R R O R R	1
. . . O O O O O O O R R O O	1
. . . O O O O O O O R R O R	1
. . . O O O O O O O R R R O	1
. . . O O O O O R O O O O R	1
. . . O O O O O R O R R O	1
. . . O O O O O R R O R O R	1
. . . O O O O O R R R O R	1
. . . O O O O O R R R R O	1
. . . O O O O R R O R R R	1
. . . O O O O R R R O O O	1
. . . O O O O R R R O R O	1
. . . O O O O R R R R O O	1
. . . O O O R R O O O R O	1
. . . O O O R R O O R O O	1
. . . O O O R R R O O O R	1
. . . O O O R R R O R O O	1
. . . O O O R R R R R R O	1
. . . O O R O O O R O O O	1

CAREER PATH	Frequency
. . . O O R O R R R R O O	1
. . . O O R R O O R R O R	1
. . . O O R R O R R O O O	1
. . . O O R R R O O R R O	1
. . . O O R R R R R R O O	1
. . . O R O O O O O R O O	1
. . . O R O O O O R R O R	1
. . . O R R O O O O R O O	1
. . . O R R O O R O O O O	1
. . . O R R R O O O O O R	1
. . . O R R R O O O R O R	1
. . . O R R R O R R O R R	1
. . . O R R R R O R R O O	1
. . . O R R R R R O O R R	1
. . . R O O O O O O O R O	1
. . . R O O O O O O O R R	1
. . . R O O R O O O O O O	1
. . . R O R O O O O O O O	1
. . . R O R R R R R R R R	1
. . . R R O O O R R O O O	1
. . . R R O R O O O R O R	1
. . . R R O R R O O O O R	1
. . . R R O R R R O R R R	1
. . . R R O R R R R R R R	1
. . . R R R O O O O O O R	1
. . . R R R R O O R O O O	1
. . . R R R R O R O O O O	1
. . . R R R R R O R R R O	1
. . . R R R R R O R O R R	1
. . . R R R R R O R R R R	1
. . . R R R R R R O O R R	1
. . O O O O O O O R O O O	1
. . O O O O O O O R O R R	1
. . O O O O O O O R R O O	1
. . O O O O O O O R R O R	1
. . O O O O O O R O O R O	1
. . O O O O O O R O R R O	1
. . O O O O O O R O R R R	1

CAREER PATH	Frequency
. . O O O O O O R R O O R	1
. . O O O O O R R O O O O	1
. . O O O O O R R R R R R	1
. . O O O O R O O R O R R	1
. . O O O O R O R R R R O	1
. . O O O O R R O O O O O	1
. . O O O O R R O R R R R	1
. . O O O O R R R O O R R	1
. . O O O O R R R R O R R	1
. . O O O O R R R R R O R	1
. . O O O O R R R R R R R	1
. . O O O R O O O O R O R	1
. . O O O R O O O O O R R	1
. . O O O R O R R O O O O	1
. . O O O R O R R R R R O	1
. . O O O R R O O R O O O	1
. . O O O R R O O R R R R	1
. . O O O R R O R R O O O	1
. . O O O R R R R R O O O	1
. . O O O R R R R R R R R	1
. . O O R R R R R R R R R	1
. . O R O O O O O O O R R	1
. . O R O O O O O R R O O	1
. . O R O O R O R O O O O	1
. . O R O R O O O O O O O	1
. . O R R O O O O O O O R	1
. . O R R O O O O O R R O	1
. . O R R R O O O O O O O	1
. . O R R R O O R R O O O	1
. . O R R R R O R O O O R	1
. . O R R R R R O O O O O	1
. . O R R R R R O O O O R	1
. . R O O O O O R O R O R	1
. . R O O R R R R O O O O	1
. . R O R R R R R O O R R	1
. . R O R R R R R R R R R	1
. . R R O R O O O O O O O	1
. . R R O R R R R R R R R	1

CAREER PATH	Frequency
. . R R R O O O O O O O R	1
. . R R R O O R R R R R	1
. . R R R O R R R R R R	1
. . R R R R O O O R R R	1
. . R R R R O R R R O R	1
. . R R R R R O O O R R O	1
. . R R R R R O O R R R O	1
. . R R R R R O R O O O O	1
. . R R R R R R O O O R R	1
. . R R R R R R O O R R R	1
. . R R R R R R R O O O O	1
. . R R R R R R R R O O O	1
. O O O O O O O O O R O R	1
. O O O O O O O O O R R O	1
. O O O O O O O O O R O R O	1
. O O O O O O O O O R O R R	1
. O O O O O O O O O R R R O	1
. O O O O O O O O R O R O O	1
. O O O O O O O O R R R O O	1
. O O O O O O O R R R O O O R	1
. O O O O O O O R R R O R O	1
. O O O O O O O R R R O R R	1
. O O O O O R O O O O O R R	1
. O O O O O R R R R R O O	1
. O O O O O R R R R R R R R	1
. O O O O R O O O O O R R R	1
. O O O O R R R O O O O O O	1
. O O O O R R R R O O O O O	1
. O O O O R R R R O R R O	1
. O O O O R R R R R R O O	1
. O O O O R R R R R R R R	1
. O O O R O O O O O O R R R	1
. O O O R O R O O O O O O O	1
. O O O R R O O O O O O O O	1
. O O O R R R O O O R O O	1
. O O O R R R O O O R R R	1
. O O O R R R O R R O O O	1
. O O O R R R R O O O O R	1

CAREER PATH	Frequency
. O O O R R R R O O O O	1
. O O O R R R R R O O R	1
. O O O R R R R R R R O	1
. O O R O O O O O R R R R	1
. O O R O R O O O R O R O	1
. O O R O R R R R R R R O	1
. O O R R O R R R O O O O	1
. O O R R R O O O R O R O	1
. O O R R R O O R R R R R	1
. O O R R R O R O O O O O	1
. O O R R R O R R R R O O	1
. O O R R R R O R R R O R	1
. O O R R R R R O O O O O	1
. O O R R R R R O O O O R	1
. O O R R R R R O R R R O	1
. O O R R R R R O R R R R	1
. O O R R R R R R O O O O	1
. O R O O R R R R R O O O	1
. O R O R R O O O O O O O	1
. O R O R R R R O R R R R	1
. O R R O O O O O O O R O	1
. O R R O O R R R O O O O	1
. O R R O R O O O O O O O	1
. O R R O R R O O R R O O	1
. O R R R O R O O O O O O	1
. O R R R R R O O O O O O	1
. O R R R R R R O O O O R	1
. O R R R R R O R R O O O	1
. O R R R R R O R R R R R	1
. O R R R R R R O O O O O	1
. O R R R R R R O O O R O	1
. O R R R R R R R O R R O	1
. O R R R R R R R R R O R	1
. O R R R R R R R R R R O	1
. R O O O O O O O R R R R	1
. R O O O O O O O R O O O O	1
. R O O O O O O R R R O O O	1
. R O O O R R R O R R O R	1

CAREER PATH	Frequency
. R O O O R R R R O O O	1
. R O R O O O O R O R O O	1
. R O R R R R O O R O R O	1
. R O R R R R O R R R R O	1
. R R O O O O O R O O O O	1
. R R O O O O O O R R O O O	1
. R R O O O O O R R O O O O	1
. R R O O O O R R O O O O O	1
. R R O O O R R R R R R R R	1
. R R O O R R R O R O R O	1
. R R O R R O O O O O O O	1
. R R O R R R R O O O O O	1
. R R R O O O O O O O O O	1
. R R R O O O O O R R R R R	1
. R R R O O O R O O O O O	1
. R R R R O O R O R R R R R	1
. R R R R R O O O O O R R	1
. R R R R R O O R O R R O	1
. R R R R R O R R R R R R	1
. R R R R R R O O R R R R	1
. R R R R R R R O O R R R	1
. R R R R R R R O R O O R	1
. R R R R R R R O R O R R	1
. R R R R R R R R O O O R	1

Appendix B: Metropolitan Area Regression Coefficients

Table B-1: Metropolitan Area Coefficients for Multinomial Logit Regression in Table 12

Always renter stock vs. own/rent			Metropolitan area	Always owner stock vs. own/rent		
Coefficient	Std error	t-statistic		Coefficient	Std error	t-statistic
-1.040	0.648	-1.61	Akron, OH	0.495	0.409	1.21
-0.381	0.465	-0.82	Albany-Schenectady-Troy, NY	1.040	0.367	2.84
-0.127	0.427	-0.30	Albuquerque, NM	-0.519	0.308	-1.69
-0.773	0.390	-1.98	Allentown-Bethlehem-Easton, PA	0.981	0.310	3.17
-30.848	0.722	-42.70	Alton-Granite City, IL	-0.341	0.637	-0.54
-0.166	0.198	-0.84	Anaheim-Santa Ana (Orange County), CA	-0.487	0.155	-3.14
0.650	0.648	1.00	Appleton-Oshkosh-Neenah, WI	1.208	0.592	2.04
-0.601	0.223	-2.70	Atlanta, GA	-0.363	0.173	-2.10
-1.363	1.217	-1.12	Atlantic City, NJ	-0.677	0.691	-0.98
1.258	0.421	2.98	Augusta, GA-SC	0.284	0.605	0.47
-2.638	1.141	-2.31	Aurora-Elgin, IL	0.561	0.348	1.61
0.607	0.447	1.36	Austin, TX	-0.258	0.323	-0.80
0.314	0.404	0.78	Bakersfield, CA	-0.571	0.336	-1.70
-0.382	0.227	-1.68	Baltimore, MD	0.362	0.173	2.09
-1.352	0.582	-2.32	Baton Rouge, LA	-0.490	0.361	-1.36
0.107	0.601	0.18	Beaumont-Port Arthur, TX	0.163	0.624	0.26
-0.041	0.568	-0.07	Beaver, PA	0.291	0.675	0.43
-0.590	0.259	-2.28	Bergen-Passaic, NJ	0.761	0.212	3.60
-0.117	0.613	-0.19	Birmingham, AL	-0.066	0.299	-0.22
-0.922	0.209	-4.41	Boston, MA	0.582	0.161	3.62
0.000	0.867	0.00	Boulder-Longmont, CO	-0.477	0.542	-0.88
-0.816	0.561	-1.45	Bridgeport-Milford, CT	0.774	0.384	2.01
-0.230	0.572	-0.40	Canton, OH	0.466	0.438	1.06
-0.759	0.532	-1.43	Charleston, SC	-0.764	0.375	-2.04
1.137	0.636	1.79	Chattanooga, TN-GA	0.585	0.434	1.35
-1.118	0.137	-8.17	Chicago, IL	0.804	0.109	7.41
-0.170	0.314	-0.54	Cincinnati, OH-KY-IN	0.544	0.247	2.20
-0.251	0.263	-0.96	Cleveland, OH	0.635	0.188	3.38
0.623	0.444	1.40	Colorado Springs, CO	-0.625	0.335	-1.86
-0.650	0.707	-0.92	Columbia, SC	-0.360	0.334	-1.08
0.334	0.316	1.06	Columbus, OH	0.306	0.224	1.37
0.278	0.605	0.46	Corpus Christi, TX	0.023	0.448	0.05
-0.104	0.195	-0.54	Dallas, TX	-0.421	0.155	-2.72
-0.983	0.674	-1.46	Davenport-Rock Island-Moline, IA-IL	0.731	0.547	1.34
-29.284	0.472	-62.01	Daytona Beach, FL	-0.232	0.522	-0.44
-0.450	0.347	-1.30	Denver, CO	-0.058	0.314	-0.19
-0.701	0.722	-0.97	Des Moines, IA	0.190	0.440	0.43
-0.006	0.196	-0.03	Detroit, MI	0.595	0.107	5.54
0.631	0.691	0.91	Duluth, MN-WI	1.024	0.680	1.50
-0.376	0.861	-0.44	East Saint Louis-Belleville, IL	-1.516	1.062	-1.43
0.146	0.382	0.38	El Paso, TX	-0.372	0.286	-1.30
-1.758	1.067	-1.65	Erie, PA	1.278	0.711	1.80
1.693	0.552	3.07	Eugene-Springfield, OR	0.271	0.578	0.47
0.962	0.907	1.06	Evansville, IN-KY	-0.066	0.581	-0.11

Always renter stock vs. own/rent			Metropolitan area	Always owner stock vs. own/rent		
Coefficient	Std error	t-statistic		Coefficient	Std error	t-statistic
0.712	1.060	0.67	Flint, MI	1.403	0.531	2.64
-1.409	0.280	-5.02	Fort Lauderdale-Hollywood, FL	0.272	0.243	1.12
-29.913	0.928	-32.24	Fort Myers-Cape Coral, FL	0.643	1.310	0.49
1.198	0.614	1.95	Fort Wayne, IN	0.505	0.547	0.92
0.274	0.211	1.30	Fort Worth-Arlington, TX	-0.096	0.224	-0.43
-0.071	0.437	-0.16	Fresno, CA	-0.330	0.313	-1.05
-0.275	0.668	-0.41	Gary-Hammond, IN	0.662	0.322	2.06
-0.925	0.501	-1.85	Grand Rapids, MI	0.592	0.336	1.76
0.740	0.505	1.47	Greensboro-Winston Salem-High Point, NC	0.045	0.307	0.15
0.482	0.611	0.79	Greenville-Spartanburg, SC	0.178	0.365	0.49
-0.987	0.557	-1.77	Hartford, CT	-0.137	0.780	-0.18
-2.336	0.459	-5.09	Honolulu, HI	-0.184	0.310	-0.60
-0.119	0.178	-0.67	Houston, TX	-0.310	0.145	-2.14
0.321	0.297	1.08	Indianapolis, IN	0.321	0.253	1.27
1.260	0.826	1.53	Jackson, MS	-0.479	0.641	-0.75
-0.579	0.304	-1.90	Jacksonville, FL	-0.407	0.277	-1.47
-0.432	0.266	-1.62	Jersey City, NJ	0.500	0.424	1.18
-0.108	0.795	-0.14	Johnson City-Kingsport-Bristol, TN-VA	0.692	0.551	1.26
-0.102	0.300	-0.34	Kansas City, MO-KS	-0.211	0.183	-1.15
0.950	0.869	1.09	Knoxville, TN	0.461	0.453	1.02
-0.324	0.449	-0.72	Lake County, IL	0.301	0.311	0.97
-0.878	1.162	-0.76	Lakeland-Winter Haven, FL	0.689	0.648	1.06
-0.483	0.758	-0.64	Lancaster, PA	0.751	0.588	1.28
0.607	1.033	0.59	Lansing-East Lansing, MI	0.094	0.528	0.18
-0.240	0.258	-0.93	Las Vegas, NV	-0.607	0.271	-2.24
-0.666	0.527	-1.26	Lawrence-Haverhill, MA-NH	0.537	0.511	1.05
0.047	0.560	0.08	Lexington-Fayette, KY	-0.166	0.398	-0.42
0.255	0.511	0.50	Little Rock-North Little Rock, AR	-0.523	0.373	-1.40
-0.084	0.135	-0.63	Los Angeles-Long Beach, CA	-0.218	0.094	-2.31
-1.091	0.728	-1.50	Madison, WI	0.654	0.475	1.38
-0.246	0.548	-0.45	McAllen-Edinburgh-Mission, TX	-0.482	0.415	-1.16
0.426	0.559	0.76	Melbourne-Titusville-Palm Bay, FL	0.221	0.633	0.35
0.117	0.375	0.31	Memphis, TN-AR-MS	-0.118	0.254	-0.47
-1.277	0.254	-5.03	Miami-Hialeah, FL	-0.339	0.184	-1.84
-0.107	0.348	-0.31	Middlesex-Somerset-Hunterdon, NJ	0.866	0.295	2.94
-0.359	0.263	-1.37	Milwaukee, WI	0.788	0.231	3.41
-0.279	0.270	-1.03	Minneapolis-Saint Paul, MN	0.993	0.178	5.57
0.956	0.529	1.81	Mobile, AL	-0.170	0.382	-0.45
0.099	0.586	0.17	Modesto, CA	-0.928	0.407	-2.28
-0.859	0.543	-1.58	Monmouth-Ocean, NJ	0.501	0.301	1.66
1.339	0.720	1.86	Montgomery, AL	0.011	0.525	0.02
-0.609	0.346	-1.76	Nashville, TN	0.254	0.304	0.84
-0.889	0.350	-2.54	Nassau-Suffolk, NY	0.545	0.153	3.55
-0.406	0.437	-0.93	New Haven-Meriden, CT	0.945	0.382	2.47
-0.221	0.448	-0.49	New Orleans, LA	0.022	0.293	0.07
-0.755	0.116	-6.49	New York City, NY	0.537	0.113	4.76
0.130	0.233	0.56	Newark, NJ	0.560	0.187	2.99

Always renter stock vs. own/rent			Metropolitan area	Always owner stock vs. own/rent		
Coefficient	Std error	t-statistic		Coefficient	Std error	t-statistic
0.094	0.257	0.37	Norfolk-Newport News, VA-NC	-0.414	0.186	-2.23
-0.663	0.230	-2.88	Oakland, CA	-0.130	0.165	-0.79
0.220	0.342	0.65	Oklahoma City, OK	-0.168	0.248	-0.68
-0.371	0.467	-0.79	Omaha, NE-IA	0.325	0.271	1.20
-0.521	0.278	-1.87	Orlando, FL	-0.653	0.233	-2.81
-0.223	0.515	-0.43	Oxnard-Ventura, CA	-0.390	0.293	-1.33
-0.650	0.714	-0.91	Pensacola, FL	-0.408	0.515	-0.79
-0.202	0.414	-0.49	Peoria, IL	0.350	0.438	0.80
-0.535	0.158	-3.40	Philadelphia, PA-NJ	0.845	0.108	7.83
0.033	0.224	0.15	Phoenix, AZ	-0.381	0.157	-2.42
-0.208	0.302	-0.69	Pittsburgh, PA	0.684	0.174	3.93
-0.458	0.425	-1.08	Providence, RI	0.612	0.325	1.88
-0.058	0.318	-0.18	Raleigh-Durham, NC	-0.327	0.262	-1.25
0.318	0.260	1.22	Riverside-San Bernardino, CA	-0.376	0.192	-1.95
0.655	0.433	1.51	Rochester, NY	0.645	0.293	2.20
-0.737	0.787	-0.94	Rockford, IL	-0.039	0.465	-0.08
0.067	0.277	0.24	Sacramento, CA	-0.860	0.204	-4.21
-0.672	0.259	-2.60	Saint Louis, MO-IL	0.699	0.204	3.43
-31.882	0.616	-51.75	Salem-Gloucester, MA	0.102	0.482	0.21
1.492	0.656	2.27	Salinas-Seaside-Monterey, CA	-1.715	0.876	-1.96
-0.160	0.332	-0.48	Salt Lake City-Ogden, UT	-0.478	0.223	-2.14
0.341	0.271	1.26	San Antonio, TX	-0.445	0.206	-2.15
-0.308	0.196	-1.57	San Diego, CA	-0.446	0.161	-2.77
-1.086	0.217	-5.00	San Francisco, CA	0.099	0.204	0.48
-0.175	0.275	-0.64	San Jose, CA	-0.099	0.193	-0.51
0.192	0.623	0.31	Santa Barbara-Santa Maria-Lompoc, CA	-0.956	0.596	-1.61
1.024	0.558	1.84	Santa Rosa-Petaluma, CA	0.057	0.553	0.10
-31.306	0.846	-37.02	Sarasota, FL	0.446	0.580	0.77
-1.498	0.590	-2.54	Scranton-Wilkes Barre, PA	0.286	0.377	0.76
-0.788	0.255	-3.09	Seattle, WA	-0.158	0.172	-0.92
-0.352	0.422	-0.84	Shreveport, LA	-0.047	0.389	-0.12
1.001	0.530	1.89	Spokane, WA	0.837	0.528	1.59
-0.442	0.425	-1.04	Springfield, MA	-0.112	0.309	-0.36
-2.795	0.880	-3.18	Stamford, CT	-0.298	0.623	-0.48
0.100	0.464	0.22	Stockton, CA	-0.501	0.418	-1.20
0.429	0.609	0.70	Syracuse, NY	1.293	0.542	2.39
1.265	0.374	3.39	Tacoma, WA	-0.250	0.306	-0.82
0.017	0.284	0.06	Tampa-Saint Petersburg-Clearwater, FL	-0.079	0.193	-0.41
0.526	0.680	0.77	Toledo, OH	0.453	0.320	1.41

Always renter stock vs. own/rent			Metropolitan area	Always owner stock vs. own/rent		
Coefficient	Std error	t-statistic		Coefficient	Std error	t-statistic
0.144	1.493	0.10	Trenton, NJ	1.135	0.537	2.11
-0.438	0.362	-1.21	Tucson, AZ	-0.783	0.265	-2.95
0.259	0.555	0.47	Tulsa, OK	-0.058	0.326	-0.18
-1.171	0.992	-1.18	Utica-Rome, NY	0.632	0.718	0.88
0.413	0.654	0.63	Vallejo-Fairfield-Napa, CA	0.846	0.513	1.65
-0.869	0.183	-4.76	Washington, DC-MD-VA	0.060	0.146	0.41
-1.200	0.783	-1.53	Waterbury, CT	-0.549	0.558	-0.98
-1.058	0.525	-2.02	West Palm Beach-Boca Raton, FL	-0.203	0.330	-0.61
0.822	0.409	2.01	Wichita, KS	0.810	0.386	2.10
-1.342	0.494	-2.72	Worcester, MA	0.670	0.326	2.06
-0.107	0.460	-0.23	Youngstown-Warren, OH	0.644	0.348	1.85
-0.591	0.521	-1.13	Chicago Areas	1.662	0.281	5.91
0.584	0.671	0.87	New York Areas	0.955	0.336	2.84
0.623	0.228	2.73	Northern New Jersey Areas	1.104	0.194	5.70
* Coefficient not statistically significant at 0.10 level				*Coefficient significant at 0.10 level but not at 0.05 level		

Table B-2: Metropolitan Area Coefficients for Fractional Logit Regression in Table 14

Metropolitan area	Coefficient	Std error	Wald Chi-Square	Pr > ChiSq
Akron, OH	-0.111	0.163	0.4596	0.4978
Albany-Schenectady-Troy, NY	0.198	0.164	1.4617	0.2267
Albuquerque, NM	0.032	0.131	0.0593	0.8075
Allentown-Bethlehem-Easton, PA	-0.414	0.169	6.0085	0.0142
Alton-Granite City, IL	0.199	0.252	0.6223	0.4302
Anaheim-Santa Ana (Orange County), CA	0.024	0.061	0.1534	0.6954
Appleton-Oshkosh-Neenah, WI	0.284	0.302	0.8830	0.3474
Atlanta, GA	-0.024	0.068	0.1208	0.7281
Atlantic City, NJ	0.336	0.277	1.4652	0.2261
Augusta, GA-SC	-0.165	0.283	0.3392	0.5603
Aurora-Elgin, IL	0.208	0.166	1.5776	0.2091
Austin, TX	-0.376	0.143	6.9647	0.0083
Bakersfield, CA	-0.082	0.159	0.2642	0.6072
Baltimore, MD	0.228	0.074	9.4697	0.0021
Baton Rouge, LA	0.043	0.150	0.0811	0.7758
Beaumont-Port Arthur, TX	-0.249	0.306	0.6642	0.4151
Beaver, PA	-0.978	0.323	9.1870	0.0024
Bergen-Passaic, NJ	0.487	0.089	29.8708	<.0001
Birmingham, AL	-0.156	0.129	1.4473	0.2290
Boston, MA	0.606	0.064	90.7743	<.0001
Boulder-Longmont, CO	0.115	0.204	0.3166	0.5737
Bridgeport-Milford, CT	0.814	0.159	26.2728	<.0001
Canton, OH	-0.416	0.197	4.4476	0.0350
Charleston, SC	-0.237	0.152	2.4381	0.1184
Chattanooga, TN-GA	-0.573	0.202	8.0719	0.0045
Chicago, IL	0.531	0.046	136.2020	<.0001
Cincinnati, OH-KY-IN	0.082	0.106	0.6018	0.4379
Cleveland, OH	0.335	0.087	14.8920	0.0001
Colorado Springs, CO	-0.086	0.144	0.3578	0.5497
Columbia, SC	-0.168	0.156	1.1610	0.2813
Columbus, OH	0.175	0.106	2.7110	0.0997
Corpus Christi, TX	0.505	0.231	4.8075	0.0283
Dallas, TX	-0.126	0.064	3.8975	0.0484
Davenport-Rock Island-Moline, IA-IL	0.392	0.208	3.5673	0.0589
Daytona Beach, FL	-0.159	0.258	0.3803	0.5374
Denver, CO	-0.195	0.114	2.9073	0.0882
Des Moines, IA	0.157	0.199	0.6217	0.4304
Detroit, MI	0.306	0.055	31.3946	<.0001
Duluth, MN-WI	-0.025	0.323	0.0058	0.9392
East Saint Louis-Belleville, IL	-0.015	0.292	0.0027	0.9582
El Paso, TX	-0.119	0.127	0.8832	0.3473
Erie, PA	-0.026	0.271	0.0093	0.9232
Eugene-Springfield, OR	0.515	0.306	2.8399	0.0920
Evansville, IN-KY	-0.162	0.280	0.3360	0.5621
Flint, MI	-0.966	0.307	9.9256	0.0016
Fort Lauderdale-Hollywood, FL	0.297	0.090	10.8077	0.0010
Fort Myers-Cape Coral, FL	1.918	1.010	3.6039	0.0576

Metropolitan area	Coefficient	Std error	Wald Chi-Square	Pr > ChiSq
Fort Wayne, IN	0.106	0.263	0.1641	0.6854
Fort Worth-Arlington, TX	0.001	0.102	0.0001	0.9919
Fresno, CA	-0.080	0.134	0.3581	0.5495
Gary-Hammond, IN	-0.627	0.158	15.7578	<.0001
Grand Rapids, MI	0.410	0.161	6.4486	0.0111
Greensboro-Winston Salem-High Point, NC	-0.504	0.147	11.7287	0.0006
Greenville-Spartanburg, SC	0.919	0.216	18.0150	<.0001
Hartford, CT	0.476	0.242	3.8842	0.0487
Honolulu, HI	0.055	0.115	0.2297	0.6317
Houston, TX	0.209	0.061	11.7598	0.0006
Indianapolis, IN	0.003	0.108	0.0006	0.9802
Jackson, MS	0.436	0.274	2.5250	0.1121
Jacksonville, FL	0.208	0.107	3.7738	0.0521
Jersey City, NJ	0.413	0.114	13.0325	0.0003
Johnson City-Kingsport-Bristol, TN-VA	1.681	0.459	13.4368	0.0002
Kansas City, MO-KS	0.042	0.080	0.2789	0.5974
Knoxville, TN	-0.360	0.208	2.9984	0.0833
Lake County, IL	0.061	0.145	0.1761	0.6748
Lakeland-Winter Haven, FL	-0.245	0.335	0.5355	0.4643
Lancaster, PA	-0.658	0.244	7.2456	0.0071
Lansing-East Lansing, MI	0.528	0.261	4.0891	0.0432
Las Vegas, NV	-0.076	0.104	0.5364	0.4639
Lawrence-Haverhill, MA-NH	0.269	0.193	1.9288	0.1649
Lexington-Fayette, KY	0.038	0.181	0.0443	0.8333
Little Rock-North Little Rock, AR	-0.697	0.149	21.8294	<.0001
Los Angeles-Long Beach, CA	0.020	0.038	0.2779	0.5981
Madison, WI	0.213	0.266	0.6408	0.4234
McAllen-Edinburgh-Mission, TX	0.048	0.221	0.0471	0.8281
Melbourne-Titusville-Palm Bay, FL	-0.330	0.332	0.9862	0.3207
Memphis, TN-AR-MS	0.201	0.108	3.4471	0.0634
Miami-Hialeah, FL	0.145	0.066	4.8278	0.0280
Middlesex-Somerset-Hunterdon, NJ	0.365	0.146	6.2657	0.0123
Milwaukee, WI	0.222	0.097	5.2649	0.0218
Minneapolis-Saint Paul, MN	0.364	0.084	18.7365	<.0001
Mobile, AL	0.885	0.213	17.2228	<.0001
Modesto, CA	0.226	0.171	1.7448	0.1865
Monmouth-Ocean, NJ	0.964	0.156	38.3098	<.0001
Montgomery, AL	-0.683	0.247	7.6684	0.0056
Nashville, TN	-0.028	0.120	0.0546	0.8153
Nassau-Suffolk, NY	0.574	0.080	51.2609	<.0001
New Haven-Meriden, CT	0.133	0.159	0.7048	0.4012
New Orleans, LA	0.050	0.123	0.1648	0.6848
New York City, NY	0.526	0.040	169.4442	<.0001
Newark, NJ	0.385	0.085	20.4338	<.0001
Norfolk-Newport News, VA-NC	-0.223	0.075	8.9616	0.0028
Oakland, CA	0.074	0.064	1.3222	0.2502
Oklahoma City, OK	-0.135	0.114	1.4060	0.2357

Metropolitan area	Coefficient	Std error	Wald Chi-Square	Pr > ChiSq
Omaha, NE-IA	-0.220	0.126	3.0329	0.0816
Orlando, FL	0.135	0.095	2.0224	0.1550
Oxnard-Ventura, CA	0.324	0.127	6.5440	0.0105
Pensacola, FL	-0.302	0.192	2.4588	0.1169
Peoria, IL	0.379	0.204	3.4444	0.0635
Philadelphia, PA-NJ	0.403	0.051	63.5294	<.0001
Phoenix, AZ	-0.047	0.070	0.4601	0.4976
Pittsburgh, PA	0.178	0.085	4.4054	0.0358
Providence, RI	0.527	0.147	12.9254	0.0003
Raleigh-Durham, NC	-0.139	0.123	1.2740	0.2590
Riverside-San Bernardino (6780 used in national surveys), CA	0.073	0.084	0.7456	0.3879
Rochester, NY	-0.119	0.142	0.6957	0.4042
Rockford, IL	0.204	0.220	0.8650	0.3524
Sacramento, CA	-0.175	0.077	5.2047	0.0225
Saint Louis, MO-IL	0.367	0.090	16.4879	<.0001
Salem-Gloucester, MA	0.111	0.223	0.2497	0.6173
Salinas-Seaside-Monterey, CA	-0.066	0.277	0.0571	0.8111
Salt Lake City-Ogden, UT	0.393	0.097	16.4503	<.0001
San Antonio, TX	-0.014	0.091	0.0226	0.8805
San Diego, CA	-0.110	0.061	3.3036	0.0691
San Francisco, CA	0.079	0.072	1.1939	0.2746
San Jose, CA	0.046	0.081	0.3217	0.5706
Santa Barbara-Santa Maria-Lompoc, CA	0.367	0.201	3.3173	0.0686
Santa Rosa-Petaluma, CA	-0.034	0.275	0.0156	0.9006
Sarasota, FL	0.817	0.304	7.2412	0.0071
Scranton-Wilkes Barre, PA	0.108	0.138	0.6115	0.4342
Seattle, WA	0.252	0.070	12.9731	0.0003
Shreveport, LA	0.313	0.198	2.4989	0.1139
Spokane, WA	0.030	0.263	0.0129	0.9097
Springfield, MA	0.730	0.142	26.4992	<.0001
Stamford, CT	0.819	0.220	13.8243	0.0002
Stockton, CA	-0.559	0.170	10.8601	0.0010
Syracuse, NY	0.073	0.261	0.0794	0.7781
Tacoma, WA	-0.393	0.129	9.2611	0.0023
Tampa-Saint Petersburg-Clearwater, FL	0.342	0.087	15.5697	<.0001
Toledo, OH	0.120	0.147	0.6594	0.4168
Trenton, NJ	-0.049	0.376	0.0166	0.8975
Tucson, AZ	-0.146	0.106	1.9092	0.1671
Tulsa, OK	-0.235	0.154	2.3192	0.1278
Utica-Rome, NY	1.006	0.351	8.2142	0.0042
Vallejo-Fairfield-Napa, CA	-0.073	0.268	0.0733	0.7866
Washington, DC-MD-VA	0.424	0.059	52.0028	<.0001
Waterbury, CT	0.257	0.216	1.4205	0.2333
West Palm Beach-Boca Raton, FL	0.045	0.134	0.1130	0.7367
Wichita, KS	0.597	0.220	7.3723	0.0066
Worcester, MA	0.019	0.173	0.0116	0.9142
Youngstown-Warren, OH	0.357	0.175	4.1631	0.0413

Metropolitan area	Coefficient	Std error	Wald Chi-Square	Pr > ChiSq
Chicago Areas	0.368	0.205	3.2237	0.0726
New York Areas	0.840	0.227	13.7224	0.0002
Northern New Jersey Areas	0.335	0.099	11.3789	0.0007
*Coefficient significant at 0.10 level but not at 0.05 level			* Coefficient not statistically significant at 0.10 level	

Appendix C: Regressions Using the Percentage Changes in Population and Homeownership Rate Variables

Table C-1: Multinomial Logit Using Percentage Change in Population and Homeownership Rate

Coefficient	Std error	t-statistic	Probability	Variable	Coefficient	Std error	t-statistic	Probability
-2.257	0.241	-9.37	0.0000	Intercept	-0.959	0.192	-5.00	0.0000
0.394	0.437	0.90	0.3670	Mobile home	0.078	0.228	0.34	0.7320
1.208	0.116	10.38	0.0000	Single family, attached	-0.664	0.074	-8.94	0.0000
2.276	0.100	22.66	0.0000	2-4 unit structure	-2.168	0.115	-18.88	0.0000
2.893	0.116	24.97	0.0000	5-9 unit structure	-1.800	0.159	-11.33	0.0000
3.092	0.124	24.98	0.0000	10-19 unit structure	-2.083	0.200	-10.43	0.0000
2.934	0.131	22.34	0.0000	20-49 unit structure	-1.357	0.173	-7.85	0.0000
2.271	0.128	17.80	0.0000	50+ unit structure	-1.301	0.140	-9.31	0.0000
1.090	0.187	5.82	0.0000	Zero bedrooms	-0.166	0.208	-0.80	0.4240
0.506	0.071	7.18	0.0000	1 bedroom	-0.912	0.120	-7.61	0.0000
-0.817	0.081	-10.12	0.0000	3 bedrooms	0.527	0.055	9.54	0.0000
-0.896	0.172	-5.22	0.0000	4 bedrooms	0.978	0.076	12.90	0.0000
-2.029	0.618	-3.28	0.0010	5+ bedrooms	1.145	0.136	8.40	0.0000
-0.843	0.089	-9.48	0.0000	Add bedroom	0.018	0.060	0.29	0.7690
-0.153	0.108	-1.42	0.1560	Drop bedroom	-0.125	0.070	-1.79	0.0730
-0.042	0.128	-0.33	0.7440	1919 or earlier	-0.087	0.112	-0.78	0.4360
-0.066	0.136	-0.49	0.6280	1920–1929	-0.031	0.116	-0.26	0.7910
-0.233	0.137	-1.70	0.0880	1930–1939	-0.002	0.106	-0.02	0.9850
0.041	0.131	0.32	0.7530	1940–1949	0.152	0.096	1.58	0.1130
0.272	0.117	2.33	0.0200	1950–1959	0.288	0.082	3.52	0.0000
0.276	0.106	2.59	0.0090	1960–1969	0.336	0.081	4.15	0.0000
0.142	0.111	1.27	0.2040	1970–1974	0.238	0.095	2.50	0.0120
-0.313	0.128	-2.45	0.0140	1980–1984	0.183	0.106	1.73	0.0840
0.115	0.121	0.95	0.3400	1985–1989	0.539	0.104	5.19	0.0000
0.004	0.198	0.02	0.9830	1990–1994	0.988	0.147	6.73	0.0000
0.556	0.185	3.00	0.0030	1995–1999	0.969	0.146	6.66	0.0000
0.601	0.196	3.07	0.0020	2000–2004	1.767	0.148	11.95	0.0000
1.947	0.247	7.89	0.0000	2005–2009	2.308	0.207	11.15	0.0000
-0.148	0.061	-2.42	0.0150	Urban suburb	0.235	0.045	5.19	0.0000
-1.091	0.533	-2.05	0.0410	Rural suburb	0.751	0.188	3.99	0.0000
0.154	0.056	2.75	0.0060	Population percentage change	-0.519	0.049	-10.68	0.0000
0.575	0.300	1.92	0.0550	2009 homeownership rate	1.802	0.264	6.82	0.0000
Number of observations			16,390		Log psuedolikelihood		-11348.22	
Wald Chi^2			5,375.01					
Probability Chi^2			0.0000		Psuedo R^2		0.3424	
* Coefficient not statistically significant at 0.10 level					*Coefficient significant at 0.10 level but not at 0.05 level			

Table C-2: Fractional Logit Using Percentage Change in Population and Homeownership Rate

	Coefficient	Std Error	Wald Chi-Square	Pr > ChiSq
Intercept	0.436	0.075	33.8107	<.0001
Mobile home	0.711	0.118	36.4793	<.0001
Single family, attached	-0.379	0.031	154.0366	<.0001
2-4 unit structure	-1.056	0.030	1265.3597	<.0001
5-9 unit structure	-1.294	0.046	787.6065	<.0001
10-19 unit structure	-1.210	0.051	554.5874	<.0001
20-49 unit structure	-1.051	0.054	379.6848	<.0001
50+ unit structure	-0.639	0.045	201.7494	<.0001
Zero bedrooms	-1.112	0.098	128.4828	<.0001
1 bedroom	-0.516	0.032	261.7922	<.0001
3 bedrooms	0.387	0.023	282.9006	<.0001
4 bedrooms	0.615	0.038	269.5709	<.0001
5+ bedrooms	0.741	0.076	95.0428	<.0001
Add bedroom	0.292	0.026	127.3171	<.0001
Drop bedroom	-0.050	0.032	2.4710	0.1160
1919 or earlier	-0.039	0.043	0.8325	0.3616
1920–1929	0.069	0.045	2.3701	0.1237
1930–1939	-0.081	0.042	3.7330	0.0533
1940–1949	0.038	0.039	0.9466	0.3306
1950–1959	0.102	0.035	8.4500	0.0037
1960–1969	0.126	0.034	13.4339	0.0002
1970–1974	0.241	0.039	39.2117	<.0001
1980–1984	0.287	0.043	45.7421	<.0001
1985–1989	0.169	0.045	14.0319	0.0002
1990–1994	0.119	0.076	2.4850	0.1149
1995–1999	0.111	0.084	1.7579	0.1849
2000–2004	0.195	0.108	3.2576	0.0711
2005–2009	-0.043	0.194	0.0502	0.8227
Urban suburb	0.106	0.019	29.8710	<.0001
Rural suburb	0.248	0.107	5.3859	0.0203
Population percentage change	-0.170	0.021	67.9124	<.0001
2009 homeownership rate	-0.037	0.103	0.1274	0.7212
*Coefficient significant at 0.10 level but not at 0.05 level			* Coefficient not statistically significant at 0.10 level	
Test	Chi-Square	DF	Pr > ChiSq	
Likelihood Ratio	7633.684	31	<.0001	