Survey of Market Absorption of New Multifamily Units

Characteristics Report
(Apartments Completed in 2013)

H130/13-C
Issued July 2014

U.S. Department of Commerce
Economics and Statistics Administration
U.S. Census Bureau
U.S. Department of Housing
and Urban Development

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INTRODUCTION

Both private industry and government have an urgent need for information on the nature of the demand for rental housing. For over forty years, the Survey of Market Absorption of New Multifamily Units (SOMA) has measured how soon privately financed, nonsubsidized, unfurnished units in buildings with five or more units are rented or sold (absorbed) after completion. The *2013 Characteristics Report* provides details about units constructed in 2013, yet not necessarily absorbed, such as number of bedrooms, asking rent, and asking price. This publication is of value to builders, bankers, market analysts, land planners, and government officials trying to measure the needs for federal, state and local assistance in providing better housing for everyone.

These statistics are based on a survey conducted by the U.S. Census Bureau, U.S. Department of Commerce, for the Department of Housing and Urban Development. As with all surveys, estimates may vary from actual values because of sampling variation or other factors. All statements in this report have undergone statistical testing and are significant at the 90-percent confidence level.

HIGHLIGHTS[1]

- ***NEW CONSTRUCTION, PRIVATE, UNFURNISHED APARTMENT UNITS:*** Preliminary estimates from the Survey of Market Absorption of New Multifamily Units show that, during 2013, a total of 132,500 privately financed, nonsubsidized, unfurnished rental apartments in buildings of five units or more were completed in permit-issuing areas in the United States. This was an increase of approximately 27,600 from the 104,900 units constructed in 2012 (Tables 1 and 9; Chart A).

  One-bedrooms units accounted for 45 percent (59,800) and two-bedroom units accounted for 42 percent (56,200) of the new rental construction. These two percentages did differ significantly each other. Both percentages were higher than the six percent of efficiency (no bedroom) units and seven percent of units with three-or-more constructed in 2013. The percent of efficiency units and three-plus units did not differ significantly from each other (Table 1; Chart B).

- ***ABSORPTIONS (BEDROOMS):*** There were no significant differences among the 3-month absorption rate for efficiencies (67 percent), 1-bedroom (67 percent), 2-bedroom (62 percent), and 3-or-more bedroom (60 percent) units built in 2013 (Table 2).

[1]Details may not sum to totals because of rounding.

- ***RENT:*** The median monthly asking rent for all unfurnished rental apartments completed in 2013 was $1,267, $171 greater then the median rent for unfurnished apartments completed in 2012: $1,096 ($1,112 in 2013 dollars). The group with the highest percentage of units constructed in 2013 had a median asking rent of $1,350 or more (44 percent). The next highest percentage was units renting for $950 or less (21 percent). Both of these percentages were higher than units renting in the $950 - $1,049 (10 percent,), $1,050 - $1,149 (9 percent), $1,150 - $1,249 (9 percent), and $1,250 - $1,349 (7 percent) ranges. These four percentages did not differ significantly from one another (Table 1).

- ***ABSORPTIONS (RENTS):*** After three months on the market, there were no significant differences in the percentage of units rented in each of the rent ranges for the United States (Table 2).

- ***RENT (NUMBER OF BEDROOMS):*** The median monthly asking rent for a one-bedroom unit in 2013 was $1,188, and for a two-bedroom unit was $1,301 per month. These medians did not differ significantly. Units with efficiencies and those with three-or-more bedrooms had median asking rents exceeding the upper limits of the SOMA survey ranges ($1,350 and $1,450 respectively), and therefore could not be compared to the units in the other asking rent groups (Table 2).

- ***REGIONS:*** In 2013, the South (57 percent) had the highest percentage of new, unfurnished rental completions of any region, followed by the West (23 percent). Both were higher than the 11 percent completed in the Midwest and the 9 percent in the Northeast. The percent of completions in the Midwest and Northeast did not differ significantly (Table 1; Chart C). The Midwest (79 percent) had a larger percentage of new, unfurnished rental completion units absorbed within three months of completion than the South (60 percent). However, the 79 percent in the Midwest did not differ significantly from the Northeast (70 percent) and the West (65 percent). The Northeast, South, and West did not differ significantly from each other (Table 2).

- ***CORE BASED STATISTICAL AREAS (RENTALS):*** In 2013, of the 132,500 unfurnished rental units constructed, approximately 127,500 (96 percent) were completed inside Core Based Statistical Areas (CBSAs). Of those units constructed inside CBSAs, approximately 83,800 (66 percent) of the units were built inside principal cities and 34 percent were built outside principal cities. Only 4 percent (4,900) of new rental units were constructed outside of CBSAs, and 67 percent of those were absorbed (rented) within three months. The 3-month absorption rate for units built inside principal cities (65 percent) did not differ significantly from the 63 percent built outside principal cities (Table 3; Chart E).

- ***UNITS PER FLOOR (RENTALS):*** Of the new buildings completed in 2013, approximately 39 percent contained 20 to 49 units, and after 3-month, 65 percent of those units had been absorbed.

Of the 132,500 total units available in 2013, approximately 39 percent were in buildings with three floors, and 65 percent of those were absorbed after 3-months (Table 4; Chart F).

- ***FURNISHED APARTMENT UNITS:*** There were approximately 3,300 furnished apartment units constructed in 2013. This figure does not differ significantly from the 3,700 units reported in 2012. However, it is about 2,000 more than the 1,300 reported in 2011 and about 2,100 more than the 1,200 in 2010 (Table 9; Chart G).

- ***AMENITIES:*** Of the 132,500 unfurnished rental apartments completed in 2013, air conditioning was available in 94 percent of the units, while about 75 percent had a swimming pool available at no additional cost. Approximately 5 percent of the units included electricity in the monthly rent while natural gas was not available in 68 percent of the units (Table 5; Chart H).

- ***CONDOS AND CO-OPS:*** Approximately 7,900 condominium and cooperative apartments were completed in 2013. This figure did not differ significantly from the 6,400 condo/co-op completions in 2012, nor the 10,500 completed in 2011 (Table 9; Chart I). The Midwest (34 percent), and the Northeast, South, and West (each with 22 percent) did not differ significantly among each other (Table 6 and Chart J).

CONDOS (BEDROOMS): In 2013, more condominium units were constructed with two bedrooms (55 percent) than with fewer than two bedrooms (19 percent) or with 3-plus bedrooms (27 percent). The percentage of units with fewer than two bedrooms and the percentage for 3-plus bedrooms did not differ significantly (Table 7 and Chart K). Within 3 months, 80 percent of the condominium units built in 2013 had been sold (absorbed), and there were no significant differences among the 3-month absorption rates among the four regions. Eighty-one percent of all new condominiums constructed in 2013 offered two or more bedrooms; of those, 81% were absorbed within three months (Table 7).

CONDOS (ASKING PRICE): The median asking price for all new condominium apartments built in 2013 was $338,800. This figure did not differ significantly from the $373,300 reported in 2012. The median selling prices among the South ($281,200), Midwest ($304,100), and West ($357,100) did not differ significantly among each other. The median asking price for condominiums constructed in the Northeast exceeded the upper limit of the SOMA survey ranges - $450,000 or more (Table 7 and Chart L).

The only difference in the total percent of condominiums sold in 2013 was that between the 3 percent selling in the $400,000 to $449,999 range compared to the 25 percent each in the less than $250,000 and more than $450,000 ranges. Those in the $250,000 to $299,999 (13 percent), $300,000 to $349,999 (16 percent), and $350,000 to $399,999 (18 percent) did not differ from each other. There were no statistical differences found among 3-month absorption rates for new

condominium units built in 2013 based on asking price range (Table 7).

- ***ALL APARTMENTS:*** In 2013, there were approximately 186,100 apartments constructed in residential buildings with five units or more. This number is 28,500 units greater than the 157,600 reported in 2012 (Chart M). Of the 186,100 units, 71percent were nonsubsidized, unfurnished rental apartments; 21 percent were subsidized and tax credit units; 4 percent were condominiums and cooperatives; 2 percent were furnished rental units; and the remaining 1 percent were not in the scope of the survey (Table 9).

CHARACTERISTICS OF THE DATA

All statistics from the SOMA refer to apartments in newly constructed buildings with five units or more. Absorption rates reflect the first time an apartment is rented after completion or the first time a condominium or cooperative apartment is sold after completion. If apartments initially intended to be sold as condominium or cooperative units are, instead, offered by the builder or building owner for rent, they are counted as rental apartments. Units categorized as subsidized and tax credited are those built under two Department of Housing and Urban Development programs (Section 8, Low Income Housing Assistance and Section 202, Senior Citizens Housing Direct Loans) and all units in buildings containing apartments in the Federal Housing Administration (FHA) rent supplement program. The data on privately financed units include privately owned housing subsidized by state and local governments. Time-share units, continuing care retirement units, and turnkey units (privately built for and sold to local public housing authorities after completion) are outside the scope of the survey.

Tables 1 through 5 are restricted to privately financed, nonsubsidized, unfurnished rental apartments. Table 6 is restricted to privately financed, nonsubsidized, condominium and cooperative apartments, while Table 7 is limited to privately financed, nonsubsidized condominium apartments only. Table 8 covers privately financed, nonsubsidized, furnished rental apartments and Table 9 is a historical summary of the totals for all types of newly constructed apartments in buildings with five units or more. Estimates published in this report are preliminary and are subject to revision in the H-130, Market Absorption of Apartments annual report.

Additionally, SOMA tabulates and reports absorption rates for units based on their **Core Based Statistical Area** (CBSA). CBSAs include an urban center of at least 10,000 people and adjacent areas that are socioeconomically tied to the urban center by commuting. The term "CBSA" refers collectively to both metropolitan statistical areas and micropolitan areas. Micropolitan

areas are based around Census Bureau-defined urban clusters of at least 10,000 and fewer than 50,000 people. Absorption rates within the CBSAs are further divided into Inside Principal City and Outside Principal City.

Principal Cities of a CBSA are the largest incorporated places with a population of at least 10,000 in the CBSA. If there is no such place present in the CBSA, the largest incorporated place or census designated place (CDP) in the CBSA is termed the Principal City. Principal cities also include any additional incorporated place or CDP with a population of at least 250,000 or in which 100,000 or more persons work.

NOTE TO DATA USERS

The SOMA adopted new ratio estimation procedures in 1990 to derive more accurate estimates of completions.[2] This new procedure was used for the first time in processing annual data for 1990. Please use caution when comparing completions in 1990 and following years with those in earlier years.

SAMPLE DESIGN

The U.S. Census Bureau designed the survey to provide data concerning the rate at which privately financed, nonsubsidized, unfurnished units in buildings with five or more units are rented or sold (absorbed). In addition, the survey collects data on characteristics such as number of bedrooms, asking rent, and asking price.

Buildings for the survey came from those included in the Census Bureau's Survey of Construction (SOC).[3] For the SOC, the United States is first divided into primary sampling units (PSUs), which are stratified based on population and building permits. The PSUs to be used for the survey are then randomly selected from each stratum. Next, a sample of geographic locations that issue permits is chosen within each of the selected PSUs. All newly constructed buildings with five units or more within sampled places and a subsample of buildings with one to four units are included in the SOC.

For the SOMA, the Census Bureau selects, each quarter, a sample of buildings with five or more units that have been reported in the SOC sample as having been completed during that quarter. The SOMA does not include buildings in areas that do not issue permits. In each of the subsequent four quarters, the proportion of units in the quarterly sample that are sold or rented (absorbed) are recorded, providing data for absorption rates 3, 6, 9, and 12 months after completion.

ESTIMATION

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[2]See ESTIMATION section below.
[3]See http://www.census.gov/const/www/newresconstdoc.html#sample for further details on the SOC sample design.

Beginning with data on completions in the fourth quarter of 1990 (which formed the base for absorptions in the first quarter of 1991), the Census Bureau modified the estimation procedure and applied the new estimation procedure to data for the other 3 quarters of 1990 so that annual estimates using the same methodology for 4 quarters could be derived. The Census Bureau did not perform any additional re-estimation of past data.

Using the original estimation procedure, the Census Bureau created design-unbiased quarterly estimates by multiplying the counts for each building by its base weight (the inverse of its probability of selection) and then summing over all buildings. Multiplying the design-unbiased estimate by the following ratio-estimate factor for the country as a whole provides the following estimate:

> Total Units in Buildings with Five Units or More in permit-issuing areas as estimated by the SOC for that quarter DIVIDED by Total Units in Buildings with Five Units or More as estimated by the SOMA for that quarter

Beginning with January 2001 completions, the SOC revised its methodology for estimating the number of units completed for 5+ multi-unit structures. See

> *http://www.census.gov/ftp/pub/const/www/new_methodology_const.html*

for these changes. Thus, caution is required when comparing data from 2001 and forward to any estimates prior to 2001.

In the modified estimation procedure, instead of applying a single ratio-estimate factor for the entire country, the Census Bureau computes separate ratio-estimate factors for each of the four geographic regions. Multiplying the unbiased regional estimates by the corresponding ratio-estimate factors provides the final estimates for regions. The Census Bureau obtains the final estimates for the country by summing the final regional estimates.

This procedure produces estimates of the units completed in a given quarter that are consistent with published figures from the SOC and reduces, to some extent, the sampling variability of the estimates of totals. Annual absorption rates are obtained by computing a weighted average of the four quarterly estimates.

Absorption rates and other characteristics of units not included in the interviewed group or not accounted for are assumed to be identical to rates for units about which data were obtained. The non-interviewed and not-accounted-for cases constitute less than 2 percent of the sample housing units in this survey.

ACCURACY OF THE ESTIMATES

The SOMA is a sample survey and consequently all statistics in this report are subject to

sampling variability. Estimates derived from different samples would differ from these.

Two types of possible errors are associated with data from sample surveys: non-sampling and sampling.

Non-sampling Errors

In general, non-sampling errors can be attributed to many sources: inability to obtain information about all cases in the sample, difficulties with definitions, differences in interpretation of questions, inability or unwillingness of the respondents to provide correct information, and data processing errors. Although no direct measurements of any bias that might result from non-sampling errors has been obtained, the Census Bureau thinks that most of the important response and operational errors were detected during review of the data for reasonableness and consistency.

Sampling Errors

The particular sample used for this survey is one of many possible samples of the same size that could have been selected using the same design. Even if the same questionnaires, instructions, and interviewers were used, estimates from different samples would likely differ from each other. The deviation of a sample estimate from the average of all possible samples is defined as the sampling error. The standard error of a survey estimate provides a measure of this variation and, thus, is a measure of the precision with which an estimate from a sample approximates the average result from all possible samples.

If all possible samples were selected, if each was surveyed under the same general conditions, and if an estimate and its estimated standard error were calculated from each sample, then:

- Approximately 68 percent of the intervals from one standard error below the estimate to one standard error above the estimate (i.e., the 68-percent confidence interval) would include the average result from all possible samples.

- Approximately 90 percent of the intervals from 1.645 standard errors below the estimate to 1.645 standard errors above the estimate (i.e., the 90-percent confidence interval) would include the average result from all possible samples.

- Approximately 95 percent of the intervals from two standard errors below the estimate to two standard errors above the estimate (i.e., the 95-percent confidence interval) would include the average result from all possible samples.

This report uses a 90-percent confidence level as its standard for statistical significance.

For very small estimates, the lower limit of the confidence interval may be negative. In this case,

a better approximation to the true interval estimate can be achieved by restricting the interval estimate to positive values, that is, by changing the lower limit of the interval estimate to zero.

The reliability of an estimated absorption rate (i.e., a percentage) computed by using sample data for both the numerator and denominator depends on both the size of the rate and the size of the total on which the rate is based. Estimated rates of this kind are relatively more reliable than the corresponding estimates of the numerators of the rates, particularly if the rates are 50 percent or more.

In this report, Tables A, B, and C present approximations to the standard errors of various estimates shown. Table A presents standard errors for estimated totals, and Tables B and C present standard errors for estimated percentages for rental apartments and condominiums, respectively. To derive standard errors that would be applicable to a wide variety of items and could be prepared at moderate cost, a number of approximations were required. As a result, the tables of standard errors provide an indication of the order of magnitude of the standard errors rather than the precise standard error for any specific item. Standard errors for values not shown in Tables A, B, or C can be obtained by linear interpolation.

ILLUSTRATIVE USE OF THE STANDARD ERROR TABLES

Table 2 of this report shows that in 2013, there were about 59,800 new 1-bedroom apartments built in the United States. Table A shows the standard error of an estimate of this size to be approximately 4,040 using linear interpolation (see Example A-1). To obtain a 90-percent confidence interval, multiply 4,040 by 1.645, and add and subtract the result (6,646) from 59,800, yielding limits of 53,154 and 66,446. The average estimate of these units completed in 2013 may or may not be included in this computed interval, but one can say that the average is included in the constructed interval with a specified confidence of 90 percent.

Table 2 also shows that the rate of absorption after 3 months for these 1-bedroom apartments built in the United States is 67 percent. Table B shows the standard error on a 67 percent rate on a base of 59,800 to be approximately 3.8 percent using linear interpolation (see Example B-1). Multiply 3.8 by 1.645, and add and subtract the result (6.3) from 67. The 90-percent confidence interval for the absorption rate of 67 percent is from 60.7 percent to 73.3 percent.

Table 2 also shows that the median asking rent for the estimated 59,800 1-bedroom apartments built in the United States was $1,188. The standard error of this median is about $51.

Several statistics are needed to calculate the standard error of a median.

- The base of the median--the estimated number of units for which the median has been calculated. In this example, 59,800.

- The estimated standard error from Table B of a 50-percent characteristic on the base of the median (σ50%). In this example (see Example B-2), the estimated standard error of a 50-percent characteristic with the base of 59,800 is about 4.06 percent.

- The length of the interval that contains the median. In this example, the median lies between $1,150 to $1,249. The length of the interval is $100.

- The estimated proportion of the base falling in the interval that contains the median: in this example, 8 percent (4,700 1-bedroom units renting for $1,150 to $1,249 divided by 59,800 total 1-bedroom units times 100 = 8 percent).

The standard error of the median is obtained by using the following approximation:

$$\text{Standard error of median} = \frac{\sigma 50\% \times \text{length of interval containing the sample median}}{\text{estimated proportion of the base falling within the interval containing the sample median}}$$

For this example, the standard error of the median of $1,188 is:

$$4.06 \times 100/8 = \$51$$

Therefore, 1.645 standard errors (51 x 1.645), equal $84. Consequently, an approximate 90-percent confidence interval for the median asking rent of $1,188 is between $1,104 and $1,272 ($1,188 plus or minus $84).