Annual 2011 Absorptions: Analytical Text

Annual 2011 - Absorptions (Completions in 2010)

H130/11-A
Issued April 2012

U.S. Department of Commerce
Economics and Statistics Administration
BUREAU OF THE CENSUS

U.S. Department of Housing and Urban Development

Introduction

The Survey of Market Absorption (SOMA) measures how soon privately financed, nonsubsidized, unfurnished units in buildings with five or more units are rented or sold (absorbed) after completion. In addition, the survey collects data on characteristics such as number of bedrooms, asking rent, and asking price.

The estimates in this report are based on responses from a sample of the population. As with all surveys, estimates vary from actual values because of sampling variation or other factors. All comparisons made in this report have undergone statistical testing and are significant at the 90-percent confidence level.

The Annual Report is produced at the end of the first quarter of the current year and details absorption information for all privately financed, nonsubsidized, unfurnished units in buildings with five or more units from the previous year. Every five years, a comprehensive report is produced that includes ten (10) additional tables. These additional tables also provide historical data restricted to privately financed, nonsubsidized, unfurnished rental apartments and condominium/cooperative units.

Quarterly Reports are also produced and released three months after the end of the absorption quarter. For example, units completed/constructed in the First Quarter (January, February, and March) will have their initial absorptions recorded in the Second Quarter (April, May, and June). In July and August, the data are analyzed and a report is released to the public the first week of September. For additional information, see Sample Design.

Highlights [1]

- New Construction – All Apartments: In 2010, there were approximately 89,100 privately financed, nonsubsidized, unfurnished, rental apartments in buildings of five units or more completed in permit-issuing areas in the United States. This is the lowest number reported since 1993 (77,200 units). (Tables 1 [XLS - 33K] and 8 [XLS - 46K] ; Chart A10H-1 [PDF - 136K])
- Absorption Rates: Sixty-one percent of the unfurnished rental apartments built in the United States in 2010 were absorbed (rented) within the first three months of completion, 79 percent within six months, 87 percent within nine months, and 92 percent within a year. (Table 1 [XLS - 33K])
- There were no statistically significant differences among 3-month absorption rates by rent range for new unfurnished units built in 2010, except that a larger percentage of the apartments in the “less than $850” and the “$850 - $949” ranges were absorbed than in the “$950 - $,1049” and the “1,250 or more” ranges. Analysis of 12-month absorption rates (percentages) showed no significant differences by asking rent range. (Tables 2 [XLS - 37K] and 3 [XLS - 38K]).
- Regions: The South had the highest percentage of the new rental completions, 48 percent. The West was second with 27 percent, followed by the Midwest (18 percent), while the Northeast reported only 7 percent of new 2010 rental completions. The 3-month absorption rate in the Northeast (79 percent) exceeded that of the West (55 percent) by 24 percentage points, as well as the rate for the South (60 percent) by 19 percentage points. No other significant differences were found between regions. (Table 1 [XLS - 33K] ; Chart A [PDF - 91K])
- Metropolitan Areas: The majority (97 percent) of new unfurnished rental apartments built in 2010 were built inside Core Based Statistical Areas [2] (CBSA´s), of which 62 percent were built inside principal cities of CBSA´s, and 35 percent were built outside principal cities (suburbs). Of the 89,100 privately financed, nonsubsidized, unfurnished, rental apartments in buildings of five units or more, approximately three percent were built outside CBSA´s. There were no significant differences found among the 3-month absorption rates for the units Inside CBSA´s (61 percent), Outside CBSA´s (73 percent), Inside Principal Cities (59 percent), and Outside Principal Cities (65 percent). (Table 1 [XLS - 33K])
- Rent: The median asking rent for unfurnished apartments completed in 2010, was $1,077 (Chart B [PDF - 103K]) . This did not differ not differ significantly from the $1,080 median [3] in 2009. In 2010, about 35 percent of unfurnished apartments rented for $1,250 or more – a greater percentage than the other “Asking Rent” ranges. The next largest range was those units with asking rents less than $850 (21 percent). Seventeen percent of all the unfurnished apartment units in 2010 had an asking rent of between $1,050 and $1,249. The $850 to $949 and $950 to $1,049 ranges comprised 14 percent and 13 percent respectively, and were not statistically different from each other. (Table 2 [XLS - 37K])
- Bedrooms: Of the 89,100 units constructed in 2010, two-bedroom units accounted for 47 percent of the total, followed by 38 percent of the units with one bedroom. Unfurnished rental units with 3 bedrooms or more (10 percent) comprised the third most units while efficiencies - no bedrooms (6 percent) accounted for the fewest number.There were no significant differences in the three and twelve month absorption rates based on the number of bedrooms in units. (Table 3 [XLS - 38K] ; Chart C [PDF - 134K])
- Rent By Number of Bedrooms: In 2010 the median asking rent for an efficiency unit was $1,031, $1,015 for one-bedroom units, $1,121 for two-bedroom units, and $1,143 for three-bedroom. The median asking rent for a one-bedroom unit was lower, by about $106, than the median asking rent for a two-bedroom unit. This was the only statistical difference found among median asking rents. Overall, the median asking rent for unfurnished apartments in 2010 was $1,077. (Table 3 [XLS - 38K])
- Amenities: In 2010, of the 89,100 newly built unfurnished rental apartments, 96 percent came equipped with a dishwasher, 90 percent included air conditioning, and 73 percent had a swimming pool available. The cost of electricity was included as part of the asking rent in 6

percent of the newly built units. Propane or natural gas was not available in 59 percent of the units constructed, and nine percent charged for parking. (Table 4 [XLS - 34K] ; Chart D [PDF - 113K])

- Condominiums and Cooperative Units: In 2010, approximately 19,100 condominium and cooperative apartments were constructed. This figure represents half of what was reported in 2009 (38,200), and the fewest number of condominium/cooperative units ever reported in the history of SOMA dating back to 1970 completions. (Chart A10H-2 [PDF - 202K]). Of the 19,100 units, 42 percent were sold (absorbed) within three months. By the end of 12 months, 76 percent of the units were absorbed. Among the four geographical regions, after three and twelve months, there were no significant differences in the absorption rates for condominiums and cooperatives built in 2010. (Table 5 [XLS - 33K])
- Condominium Selling Price: The median asking price for all condominium apartments built in 2010 was over $400,000 (exceeding our upper range). Seventy-two percent of all new condominiums built in 2010 had two or more bedrooms. Approximately six percent of the new condominiums were efficiencies with no bedroom. (Table 6 [XLS - 38K])
- Regions (Condominiums): Of the condominiums completed in 2010, the Midwest reported fewer units (8 percent) than those constructed in the Northeast (39 percent) and the West (36 percent), yet was not statistically different from those reported in the South (17 percent). There were no statistical differences among the South, Northeast, and West regions. The absorption rates after three months (South and Midwest 49 percent each, Northeast 47 percent, and the West 33 percent) did not differ significantly among the four regions. (Table 6 [XLS - 38K] ; Chart A [PDF - 91K])
- Metropolitan Areas (Condominiums): Nearly all (98 percent) of the new condominium units built in 2010 were completed inside CBSAs. Of those units inside CBSA's, seventy percent were built inside principal cities and twenty-eight percent were built outside principal cities. The 3-month absorption rate for condominiums built outside of the CBSA's, inside principal cities of CBSA's, and outside principal cities of CBSA's, did not differ significantly. (Table 6 [XLS - 38K])
- New Construction: The 146,500 apartments of all types constructed in buildings of five or more units in 2010 is the lowest number reported by SOMA over the past 15 years. In 1994, there were approximately 154,900. (Table 8 [XLS - 46K] ; Chart A10H-3 [PDF - 149K])
- Other Units: Sixty-one percent of 2010 completions were nonsubsidized, unfurnished rental apartments; 21 percent were subsidized and tax credit units; 13 percent were condominiums and cooperatives; one percent were furnished rental units; and the remaining four percent were not in the scope of the survey. (Table 8 [XLS - 46K] ; Chart A10H-4 [PDF - 144K])

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 credit 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 4 are restricted to privately financed, nonsubsidized, unfurnished rental apartments. Table 5 is restricted to privately financed, nonsubsidized condominium and cooperative apartments, while Table 6 is limited to privately financed, nonsubsidized condominium apartments. Table 7 covers privately financed, nonsubsidized, furnished rental apartments and Table 8 is a historical summary of the totals for all types of newly constructed apartments in buildings with five units or more.

Note to Data Users

The SOMA adopted new ratio estimation procedures in 1990 to derive more accurate estimates of completions [4]. This new procedure was used for the first time in processing annual data for 1990. Please use caution when comparing the number of 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) [5]. 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. Finally, 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 were sold or rented ("absorbed") are recorded, providing data for absorption rates 3, 6, 9, and 12 months after completion.

Estimation

Beginning with data on completions in the fourth quarter of 1990 (which formed the basis 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 three quarters of 1990 so that annual estimates using the same methodology for four 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

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 census regions. Multiplying the unbiased regional estimates by the corresponding ratio-estimate factors provides the final estimates for regions. The Census Bureau obtains the final estimate 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 noninterviewed 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 one another. The standard error of a survey estimate is a measure of the variation among the estimates from all possible samples. The methodology for calculating standard errors is explained in the section on Accuracy of the Estimates.

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

Nonsampling Errors

In general, nonsampling 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 errors made in processing the data. Although no direct measurements of the biases have 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 each of the different samples would likely differ from each other. The deviation of a sample estimate from the average from 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.

As calculated for this survey, the standard error also partially measures the variation in the estimates due to errors in responses and by the interviewers (nonsampling errors), but it does not measure, as such, any systematic biases in the data. Therefore, the accuracy of the estimates depends on the standard error, biases, and some additional nonsampling errors not measured by the standard error. As a result, confidence intervals around estimates based on this sample reflect only a portion of the uncertainty that actually exists. Nonetheless, such intervals are extremely useful because they capture all of the effect of sampling error and, in this case, some nonsampling error as well.

If all possible samples were selected, if each of them was surveyed under the same general conditions, if there were no systematic biases, 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.

Tables A and B present approximations to the standard errors of various estimates shown in the report. Table A presents standard errors for estimated totals, and Table B presents standard errors of estimated percents. 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-1 to A-3 or B-1 to B-3 can be obtained by linear interpolation.

Illustrative Use of the Standard Error Tables

Table 2 [XLS - 37K] of this report shows that 42,800 unfurnished apartments were built in the South in 2010. Table A-1 [XLS - 43K] shows the standard error of an estimate of this size to be approximately 3,512. To obtain a 90-percent confidence interval, multiply 3,512 by 1.645 (yielding 5,777), and add and subtract the result from 42,800, yielding limits of 37,023 and 48,577. The average estimate of these units 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 those 42,800 units built in the South was 60 percent. Table B-1 [XLS - 35K] shows the standard error on a 60 percent rate on a base of 42,800 to be approximately 4.1 percent. Multiply 4.1 by 1.645 (yielding 6.7), and add and subtract the result from 60. The 90-percent confidence interval for the absorption rate of 60 percent is from 53.3 percent to 66.7 percent.

The median asking rent for these 42,800 unfurnished rental apartments built in the South was $1,005. The standard error of this median is about $52.

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, 42,800.
- The estimated standard error from Table B-1 of a 50-percent characteristic on the base of the median (σ50%). In this example, the estimated standard error of a 50-percent characteristic with the base of 42,800 is about 4.1 percent.
- The length of the interval that contains the median. In this example, the median lies between $950 and $1,049. The length of the interval is $100.
- The estimated proportion of the base falling in the interval that contains the median--in this example, 15 percent. The standard error of the median is obtained by using the following approximation:

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

For this example, the standard error of the median of $1,005 is:
4.1 x 100/15 = $27

Therefore, 1.645 standard errors equal $45. Consequently, an approximate 90-percent confidence interval for the median asking rent of $1,005 is between $960 and $1,050 ($1,005 plus or minus $45).

Footnotes

[1] *Details may not sum to totals because of rounding.*
[2] *The term "core based statistical area" (CBSA) became effective in 2000 and refers collectively to metropolitan and micropolitan statistical areas.*
[3] *The figure shown for the 2009 median has been adjusted to reflect inflation; the Median Asking Rent, as reported in the 2009 publication, was $1,063.*
[4] *See ESTIMATION section below.*
[5] *See New Residential Construction for further details on the SOC sample design.*