

Characteristics of Apartments Completed 2011: Analytical Text

Characteristics Report - (Completions in 2011)

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Introduction

Because of the construction boom of the early 1970's, both private industry and Government have had an urgent need for information on the nature of the demand for rental housing. For over forty years, the Survey of Market Absorption (SOMA) has continued to measure how soon privately financed, nonsubsidized, unfurnished units in buildings with five or more units are rented or sold (absorbed) after completion. The 2011 Characteristics Report provides details about units constructed in 2011, 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.

The statistics are based on a survey conducted by the Bureau of the Census, 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:** In 2011, there were approximately 75,300 newly constructed unfurnished rental apartments in buildings with five or more units in the United States (Chart A). Half (50 percent) of those units were built with two bedrooms. One-bedroom units accounted for 31 percent of the total, followed by units with three-or-more bedrooms (16 percent). Efficiencies (no bedrooms), accounted for only about 3 percent of new 2011 rental completions ([Table 1](#) [XLS - 35K] and [Chart B](#) [PNG - 77K]).
- **RENT:** In 2011, approximately 29 percent of the completed unfurnished rental apartments had an asking rent of less than \$950. This was not statistically different from the 28 percent of units renting for \$1,350 or more. There was no significant difference between the next largest proportions - units renting in the \$1,050 to \$1,149 range (17 percent), and those in the \$950 to \$1,049 range (14 percent). Units in the \$1,150 to \$1,249 and \$1,250 to \$1,349 ranges reported the lowest percentage, both at 6 percent ([Table 1](#) [XLS - 35K]).
- **RENT:** The median monthly asking rent for all unfurnished rental apartments completed in 2011 was \$1,091 -- not statistically different than the median rent for unfurnished apartments completed in 2010, \$1,100 -- in 2011 dollars (\$1,066 in 2010 dollars). The median monthly asking rent for one-bedroom units (\$998) was lower than the asking rents for both the two-bedroom (\$1,093) and the three-bedroom or more (\$1,175) units. There was no difference between the latter two categories in terms of asking rents. Units with no bedrooms (efficiencies) had a median asking rent of less than \$950 and therefore could not be compared to the units in the other asking rent groups ([Table 2](#) [XLS - 45K]).
- **ABSORPTIONS (RENTS):** After a three-month period, there were a higher percentage of units absorbed renting for less than \$950 (67 percent), than units renting for between \$950 to \$1,049 (42 percent), and \$1,150 to \$1,249 (37 percent). The absorption rate for units renting in the \$1,050 to \$1,149 range (64 percent) was higher than for those units in the \$950 to \$1,049 and \$1,150 to \$1,249 ranges. Units in the \$1,250 to \$1,349 (49 percent) range and those renting for more than \$1,350 (59 percent) did not differ significantly from each other, and there were no other statistical differences when 3-month absorption rate percentages were compared across the six asking rent ranges ([Table 2](#) [XLS - 45K]).
- **ABSORPTIONS (BEDROOMS):** The three-month absorption rate for efficiencies (84 percent) in 2011 was greater than that for both the two-bedroom (55 percent) and three-bedroom or more (51 percent) units, while statistically unchanged for one-bedroom units ([Table 2](#) [XLS - 45K]).
- **REGIONS:** The South, with 50 percent, had the highest percentage of new, unfurnished rental completions of any region, followed by the Midwest, with 25 percent. The Northeast (16 percent) ranked third, while the West had the smallest proportion (9 percent) of new rental completions in 2011 ([Table 1](#) [XLS - 35K] and [Chart C](#) [PNG - 300K]). There were no significant differences in the percent of units absorbed after three month among the regions. The median asking rents in both the Northeast and the West was over \$1,350 ([Table 2](#) [XLS - 45K] and [Chart D](#) [PNG - 80K]).
- **CORE BASED STATISTICAL AREAS:** In 2011, of the 75,300 unfurnished rental units constructed, 95 percent (approximately 71,400) were completed inside core based statistical areas (CBSAs). Of those constructed inside CBSA's, 51 percent (36,200) were built inside principal cities. This number did not differ significantly from the 49 percent (35,200) built outside principal cities. Only five percent (3,900) of new rental units were completed outside CBSAs and 57 percent of those were absorbed (rented) within three months. This 3-month absorption rate, and the rates for inside (61 percent) and outside (54 percent) principal cities, did not differ from one another ([Table 3](#) [XLS - 42K]).
- **AMENITIES:** Of the 75,300 unfurnished rental apartments completed in 2011, air conditioning was available in 97 percent of the units, while about 57 percent had a swimming pool available at no additional cost. Approximately 9 percent of the units included electricity in the monthly rent while natural gas was not available in 58 percent of the units ([Table 4](#) [XLS - 34K] and [Chart E](#) [PNG - 70K]).
- **CONDOS AND CO-OPS:** Approximately 10,500 condominium and cooperative apartments were completed in 2011, about 8,400 fewer than similar completions in 2010 and 27,900 fewer than in 2009. This the lowest number of condominiums and cooperative completions reported by SOMA since the survey began in 1970 ([Table 8](#) [XLS - 41K] and [Chart F](#) [PNG - 102K]). The Northeast reported the highest percentage of condominium and cooperative construction in 2011 with 51 percent followed by the West with 31 percent. Construction in the South accounted for 16 percent of all condominium and co-op units constructed in 2011, while the Midwest accounted for only 2 percent ([Table 5](#) [XLS - 33K] and [Chart G](#) [PNG - 339K]).

- **CONDOS (BEDROOMS):** In 2011, there were more condominium units constructed with two-bedroom (54 percent) than units with fewer-than-2 bedrooms (26 percent) and units with more-than-2 bedrooms (21 percent) – The 21 percent and the 26 percent did not differ significantly from each other ([Table 6](#) [XLS - 35K] and [Chart H](#) [PNG - 166K]). Within 3 months, 56 percent of the condominium units built in 2011 had been sold (absorbed), and there were no significant differences between the 3-month absorption rates among the four regions ([Table 6](#) [XLS - 35K]).
- **CONDOS (ASKING PRICE):** Forty-nine percent of new condominiums units built in 2011 had an asking price greater than \$450,000, a statistically larger proportion than in any of the other asking price ranges. Approximately 23 percent of the new condominium construction in 2011 had an asking price less than \$250,000. Units selling for less than \$250,000 were absorbed at a rate of 36 percent after 3 months, which is about 31 percentage points fewer than the units in the \$450,000 or more asking price range. With the exception of these two ranges, there were no other statistical differences among 3-month absorption rates for new condominium units built in 2011 based on asking price range ([Table 6](#) [XLS - 35K]).
- The median asking price for all new condominium apartments built in 2011 was \$440,400. This figure cannot be compared to the 2010 median asking price, which exceeded the upper level of the highest asking price range. Units in the Northeast had a median asking price exceeding the upper limit of \$450,000, while the Midwest had a median asking price below the lower limit of \$250,000 ([Table 6](#) [XLS - 35K] and [Chart I](#) [PNG - 95K]). Seventy-four percent of all new condominiums built in 2011 had two bedrooms or more; of those, 4,100 (54%) were absorbed within three months ([Table 6](#) [XLS - 35K]).
- **ALL APARTMENTS:** In 2011, approximately 129,900 apartments in residential buildings with five units or more were completed. This is the lowest number of completions since 1993 when SOMA reported 124,800 apartments in residential buildings with five units or more (and did not differ statistically). The 129,900 apartments in 2011 were 16,600 fewer completions than what SOMA reported in 2010 and approximately one-half of the number of units constructed in 2009 ([Chart J](#) [PNG - 284K]). Of the 129,900 units, 58 percent were nonsubsidized, unfurnished rental apartments; 28 percent were subsidized and tax credit units; 8 percent were condominiums and cooperatives; 1 percent were furnished rental units; and the remaining 5 percent were not in the scope of the survey ([Table 8](#) [XLS - 41K]).
- **ALL APARTMENTS (UNFURNISHED):** Preliminary estimates from the Survey of Market Absorption show that, during 2011, a total of 75,300 privately financed, nonsubsidized, unfurnished rental apartments in buildings of five units or more were completed in permit-issuing areas in the United States. This total is about 15,200 fewer than the estimated 90,500 completions in 2010. The 2011 total number of privately financed, nonsubsidized, unfurnished rental apartments in buildings of five units or more was the lowest since 1993, when 77,200 units were reported by SOMA; these two totals were not statistically different ([Table 8](#) [XLS - 41K]).

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 only. 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. 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). CBSA's 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 CBSA's 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 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

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: 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.

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.

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 3 [XLS - 42K] of this report shows that in 2011, there were about 37,400 new 2-bedroom apartments built in the United States. Table A [XLS - 32K] shows the standard error of an estimate of this size to be approximately 3,863 using linear interpolation. To obtain a 90-percent confidence interval, multiply 3,863 by 1.645, and add and subtract the result (6,355) from 37,400, yielding limits of 31,045 and 43,755. The average estimate of these units completed in 2011 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 3 also shows that the rate of absorption after 3 months for these 2-bedroom apartments built in the United States is 55 percent. Table B [XLS - 32K] shows the standard error on a 55 percent rate on a base of 37,400 to be approximately 5.6 percent using linear interpolation. Multiply 5.6 by 1.645, and add and subtract the result (9.2) from 55. The 90-percent confidence interval for the absorption rate of 55 percent is from 45.8 percent to 64.2 percent.

Table 3 also shows that the median asking rent for the estimated 22,900 2-bedroom apartments built inside principal cities was \$1,283. The standard error of this median is about \$75.

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 of a 50-percent characteristic on the base of the median ($\sigma_{50\%}$). In this example, the estimated standard error of a 50-percent characteristic with the base of 37,400 is about 5.2 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, 21 percent (7,900 2-bedroom units renting for \$1,050 to \$1,149 divided by 37,400 total 2-bedroom units built inside principal cities times 100 = 21 percent).

Standard error of median = $\sigma_{50\%}$ times [length of interval containing the sample median] divided by [estimated proportion of the base falling within the interval containing the sample median]

For this example, the standard error of the median of \$1,093 is:
 $5.2 \times 100/21 = \$25$

Therefore, 1.645 standard errors equal \$41. Consequently, an approximate 90-percent confidence interval for the median asking rent of \$1,093 is between \$1,052 and \$1,134 (\$1,093 plus or minus \$41).

Footnotes

¹ Details may not sum to totals because of rounding.

² See ESTIMATION section below.

³ See New Residential Construction: How the Data are Collected for further details on the SOC sample design.