Market Absorption of Apartments

Characteristic Report
(Apartments Completed in 2012)

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

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 *2012 Characteristics Report* provides details about units constructed in 2012, 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 APARTMENT UNITS:* Preliminary estimates from the Survey of Market Absorption show that, during 2012, a total of 104,900 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 29,600 from the 75,300 units constructed in 2011 (Tables 1 and 9; Chart A).

  Two-bedrooms units accounted for 45 percent (47,600) of the new rental construction. This figure was seven percent higher than the 38 percent (39,800) of apartment units constructed with one bedroom. Approximately nine percent (9,800) of the apartment units were constructed with three-bedrooms or more. This number did not differ from the number of efficiencies (no bedroom units), which accounted for approximately seven percent (7,800) of new 2012 rental completions (Table 1; Chart B).

- *ABSORPTIONS (BEDROOMS):* There were no significant differences among the 3-month absorption rate for efficiencies (76 percent), 1-bedroom (68 percent), 2-bedroom (61 percent), and 3-bedroom (63 percent) units built in 2012 (Table 2).

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

- ***RENT:*** The median monthly asking rent for all unfurnished rental apartments completed at the national level in 2012 was $1,096, and was not statistically different then the median rent for unfurnished apartments completed in 2011, asking $1,091 ($1,114 in 2012 dollars). The highest percentage of units rented were those renting for $1,350 or more (32 percent), and those renting for $950 or less (31 percent) ranges – the percentages for these two ranges did not differ significantly. The lowest percentage of units rented in the $1,059 - $1,149 (9 percent), $1,259 - $1,349 (7 percent), and the $1,150 - $1,249 (6 percent) ranges – also not differing significantly from each other. Units renting for $950 - $1,049 account for 14 percent of the apartment units (Table 1).

- ***ABSORPTIONS (RENTS):*** After three months on the U.S. market, there were no significant differences in the percentage of units rented in each of the rent ranges at the national level (Table 2).

- ***RENT (NUMBER OF BEDROOMS):*** The median monthly asking rent for one-bedroom units ($1,045) was lower than the asking rents for both the two-bedroom ($1,158) and the three-bedroom or more ($1,386) 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).

- ***REGIONS:*** The South, with 51 percent, had the highest percentage of new, unfurnished rental completions of any region, followed by the West, with 23 percent. The Midwest (17 percent) ranked third, while the Northeast had the smallest proportion (8 percent) of new rental completions in 2012 (Table 1; Chart C). The Northeast reported the highest percentage (90 percent) of absorption after three months on the market. The figures for the South (64 percent), West (61 percent), and Midwest (60 percent) were not significantly different from each other. The median asking rent in the Northeast was over $1,350 (Table 2; Chart D).

- ***CORE BASED STATISTICAL AREAS (RENTALS):*** In 2012, of the 104,900 unfurnished rental units constructed, 89 percent (approximately 92,900) were completed inside Core Based Statistical Areas (CBSAs). Of those units constructed inside CBSA's, 55 percent of the units were built inside Principal Cities. This number was 10 percent greater than the 45 percent built outside Principal Cities. Only 11 percent (12,000) of new rental units were constructed outside of CBSAs and 54 percent of those were absorbed (rented) within three months. The 3-month absorption rate for units built inside Principal Cities (62 percent), did not differ significantly from the 71 percent built outside Principal Cities (Table 3; Chart E).

- ***UNITS PER FLOOR (RENTALS):*** More of the buildings (47 percent) constructed in 2012 contained 20 to 49 units, compared with 16 percent, or less, for the other units in building categories. After

3-month, 64 percent of those units had been absorbed. Of the 104,900 total units available in 2012, approximately 53,900 (51 percent) were located in buildings with three floors, and 60 percent of those were absorbed after 3-months (Table 4; Chart F).

- *FURNISHED APARTMENT UNITS:* There were approximately 3,700 furnished apartment units constructed in 2012. This is approximately 2,400 units greater than the 1,300 units available in 2011, and approximately 2,500 more than the 1,200 in 2010 (Table 9; Chart G).

- *AMENITIES:* Of the 104,900 unfurnished rental apartments completed in 2012, all of the units were equipped with a dishwasher, and air conditioning was available in 94 percent of the units. About 68 percent of the units had a swimming pool available at no additional cost while parking was included in rent for 84 percent of the units. Approximately 7 percent of the units included electricity in the monthly rent while natural gas was not available in 66 percent of the units (Table 5; Chart H).

- *CONDOS AND CO-OPS:* Approximately 6,400 condominium and cooperative apartments were completed in 2012. This figure is about 4,100 fewer than similar completions in 2011 and 12,500 fewer than in 2010. The 2012 figure is the lowest number of condominiums and cooperative completions reported by SOMA since the survey began in 1970 (Table 9; Chart I). The Northeast (40 percent), South (29 percent) and West (26 percent) did not differ significantly from each other in the share of newly constructed condominiums and co-operative units. With just four percent, the Midwest reported the fewest number of condominium and cooperative units constructed in 2012 (Table 6 and Chart J).

  CONDOS (BEDROOMS): In 2012, there were more condominium units constructed with two-bedrooms (48 percent) than units constructed with 3-plus bedrooms (21 percent), however these percentages did not differ significantly from the 31 percent of units with fewer than two bedrooms (Table 7 and Chart K). Sixty-nine percent of all new condominiums constructed in 2012 provided two bedrooms or more; of those 68 percent were absorbed within three months (Table 7).

- *CONDOS (ASKING PRICE):* The median asking price for all new condominium apartments built in 2012 was $373,300. This figure did not differ significantly from the $440,400 reported in 2011. The Northeast, Midwest, and West regions reported median selling prices exceeding the upper limit of the SOMA survey ranges - $450,000 or more, while the South, reported a median asking price below the lower limit of the ranges - Less than $250,000 (Table 7 and Chart L). Within 3 months, 67 percent of all the condominium units built in 2012 had been sold (absorbed), and there were no significant differences between the 3-month absorption rates among the four regions (Table 7).

  Thirty-eight percent of new condominiums units built in 2012 had an asking price greater than

$450,000 – not significantly different from the approximately 25 percent of the new condominium construction with an asking price less than $250,000. There were no statistical differences found among 3-month absorption rates for new condominium units built in 2012 based on asking price range (Table 7).

- ***ALL APARTMENTS:*** In 2012, there were approximately 157,600 apartments constructed in residential buildings with five units or more. This number is larger than the 129,900 reported in 2011 (Chart M). Of the 157,600 units, 67 percent were nonsubsidized, unfurnished rental apartments; 22 percent were subsidized and tax credit units; 4 percent were condominiums and cooperatives; 2 percent were furnished rental units; and the remaining 5 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). 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 are sold or rented (absorbed) are recorded, providing data for absorption rates 3, 6, 9, and 12 months after completion.

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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.

ESTIMATION

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 2012, there were about 39,800 new 1-bedroom apartments built in the United States. Table A shows the standard error of an estimate of this size to be approximately 3,976 using linear interpolation (see Example A-1). To obtain a 90-percent confidence interval, multiply 3,976 by 1.645, and add and subtract the result (6,541) from 39,800, yielding limits of 33,259 and 46,341. The average estimate of these units completed in 2012 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 68 percent. Table B shows the standard error on a 68 percent rate on a base of 39,800 to be approximately 4.6 percent using linear interpolation (see Example B-1). Multiply 4.6 by 1.645, and add and subtract the result (7.6) from 68. The 90-percent confidence interval for the absorption rate of 68 percent is from 60.4 percent to 75.6 percent.

Table 2 also shows that the median asking rent for the estimated 39,800 1-bedroom apartments built in the United States was $1,045. The standard error of this median is about $28.

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, 39,800.

- 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 39,800 is about 5.09 percent.

- The length of the interval that contains the median. In this example the median lies between $950 to $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, 18 percent (7,100 1-bedroom units renting for $950 to $1,049 divided by 39,800 total 1-bedroom units times 100 = 18 percent).

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

Standard error of median = σ50% x length of interval containing the sample median
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estimated proportion of the base falling within the interval containing the sample median

For this example, the standard error of the median of $1,045 is:

5.09 x 100/18 = $28

Therefore, 1.645 standard errors (28 x 1.645), equal 46. Consequently, an approximate 90-percent confidence interval for the median asking rent of $1,045 is between $999 and $1,091 ($1,045 plus or minus $46).