Market Absorption of Apartments

ANNUAL 2008 –ABSORPTIONS
(Apartments Completed in 2007)

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U.S. Department of Housing
and Urban Development

Questions regarding these data, or for further information on the **Survey of Market Absorption** of Apartments Data, may be directed to **Housing and Household Economic Statistics Division,** Telephone 301-763-3199 or Contact George Boyd at george.t.boyd@census.gov

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.

HIGHLIGHTS[1]

- During 2007, a total of 104,800 privately financed, nonsubsidized, unfurnished, rental apartments in buildings of five units or more were completed in permit-issuing areas in the United States. This estimate does not differ from the estimated 116,400 unfurnished units completed in 2006, nor the 113,000 completions of similar units in 2005. In fact, there were fewer unfurnished rental units built in 2007, 2006 and 2005 than in every year since the 104,000 constructed in 1994 (Table 8).

- Fifty-five percent of the unfurnished rental apartments built in the United States in 2007 were absorbed (rented) within the first 3 months of completion, 74 percent within 6

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

months, 86 percent within 9 months, and 92 percent were rented within a year of completion (Table 1). The South, with 59 percent, had a majority of these new rental completions. The West was next with 27 percent followed by the Midwest (9 percent). The Northeast had only 5 percent of new 2007 rental completions. Three-month absorption rates among the four regions of the country showed no significant differences (Table 1).

- The majority (59 percent) of new unfurnished rental apartments built in 2007 were built in central cities of Core Based Statistical Areas (CBSAs), followed by those built outside central cities (38 percent). Only two percent were built outside CBSAs. Three-month absorption rates among these areas showed no significant differences (Table 1).

- The median asking rent for unfurnished apartments completed in 2007 was $1,023, which did not differ significantly from the $1,063 (in 2007 dollars; $1,034 in 2006 dollars) in 2006. In 2007, about 39 percent of unfurnished apartments rented for $1,150 or more –- a greater proportion than any of the other asking-rent categories. Units renting for less than $750 (17 percent) exceeded those with asking rents of $950 - $1,049 and $1,050 - $1,149 , but did not differ from those renting for $750 - $849 and $850 - $949 (both 13 percent). The proportion of units in the $1,050 - $1,149 asking rent range (8 percent) did not differ from those renting for $950 - $1,049 (11 percent), but comprised a smaller proportion than those renting for $750 - $849 and $850 - $949 (Tables 2 and 3).

- There were no significant differences among 3-month absorption rates by asking rent range for new unfurnished units built in 2007. Analysis of 12-month absorption rates by asking rent category also showed no significant differences (Tables 2 and 3).

- More two-bedroom units (49 percent) were built in 2007 than any other size, followed by one-bedroom units (38 percent). Units with 3 bedrooms or more (11 percent) comprised a smaller proportion than either of the two preceding categories, but did not differ statistically from efficiencies (no bedrooms), (2 percent). The median asking rent for apartments with 1 bedroom ($918) was lower by about $144 than that of 2-bedroom units ($1,062), and by about $246 from that of units with 3 bedrooms or more ($1,164). The median asking rent between the latter two categories did not differ. The median asking rent for efficiency (no bedroom) apartments was not subject to analysis as it exceeded the upper limit of the rent range. There were no statistical differences among both 3-month and 12-month absorption rates based on the number of bedrooms (Table 3).

- Of the 116,400 newly built unfurnished rental apartments in 2006, 96 percent had air conditioning and 79 percent had a swimming pool available. The cost of electricity was included as part of the asking rent in 8 percent of newly built units (Table 4).

- About 91,000 condominium and cooperative apartments were completed in 2007, some 13,600 fewer than similar completions in 2006. Within 3 months, 61 percent had been sold (absorbed), and by the end of 12 months, 83 percent were sold. The 3-month

absorption rate for these newly-built condominium and cooperative units was 67 percent for both the South and the West, which exceeded that of both the Northeast (53 percent) and the Midwest (41 percent) of which these later two regions did not differ statistically from each other. There were no significant differences among 12-month absorption rate for condominiums and cooperatives built in 2007 (Table 5).

- The median asking price for all condominium apartments built in 2006 was $327,200, not statistically different from the median asking price of $320,700 (in 2006 dollars; $310,700 in 2005 dollars) for new condominiums built in 2005. Eighty-two percent of all new condominiums built in 2006 had two or more bedrooms. The South, with 48 percent of new condominium completions in 2006 had a greater proportion than any other region. The West (23 percent) had a greater proportion of new condominium completions than the Midwest (11 percent), but did not differ statistically from the Northeast. Condominiums built in the Midwest and the Northeast also showed no significant difference (Table 6).

- Fewer (5 percent) new condominium units built were built outside CBSAs than in central cities of (49 percent) or outside central cities (47 percent); completions in the latter two areas did not differ statistically. The 3-month absorption rate for condominiums built outside central cities of CBSAs was 59 percent, lower by 12 percentage points than the same rate for units built in central cities, and by 24 percentage points than condominium units built outside CBSAs. There was no significant difference between the 3-month

absorption rate for condominiums built in central cities of CBSAs and outside of CBSAs (Table 6).

- The 283,500 apartments of all types constructed in buildings of five or more units in 2006 exceeded by about 25,500 the number of completions in 2005. However, 2006 total completions did not differ statistically from 2004 multi-unit completions, nor from any year dating back to 1998, except 2003 that had about 22,100 fewer units. Forty-one percent of 2006 completions were nonsubsidized, unfurnished rental apartments; 1 percent were furnished rental units; 37 percent were condominiums and cooperatives; 18 percent were subsidized and tax credit; and the remaining 3 percent were not in the scope of the survey (Table 8).

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.

CHARACTERISTICS OF THE DATA

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 may 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.

All statistics from the Survey of Market Absorption (SOMA) refer to apartments in newly constructed buildings with five units or more. Absorption rates reflect the first time an apartment offered for rent 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 federally subsidized are those built under two Department of Housing and Urban Development programs (Section 8, Low Income Housing Assistance and Section 202, Senior Citizen Housing Direct Loans) and all units in buildings containing apartments in the Federal Housing Administration (FHA) rent supplement program.

The data for 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 subsequent to 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.

NOTE TO DATA USERS

The SOMA adopted new ratio estimation procedures in 1990 to derive more accurate estimates of completions (see section on ESTIMATION). This new procedure was used for the first time in processing annual data for 1990. Caution must be used when comparing the number of completions in 1990 and later 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). For the SOC, the United States is first divided into primary sampling units (PSU's), 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, as well as 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

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 the past data.

Using the original estimation procedure, The Census Bureau created design-unbiased quarterly estimates were 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 Nation as a whole provides the final 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 which 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.

There are two types of possible errors 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 in the course of reviewing 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 of estimates 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 1.6 standard errors below the estimate to 1.6 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 upon 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 a 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 7 of this report shows that 4,000 furnished apartments rented for $950 or more. Table A-1 shows the standard error of an estimate of this size to be approximately 1,100. To obtain a 90-percent confidence interval, multiply 1,100 by 1.6 and add and subtract the result from 4,000 yielding limits of 2,240 and 5,760. The average estimate of these units renting for $950 or more 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 7 also shows that the rate of absorption after 3 months for these 4,000 furnished units is 87 percent. Table B-1 shows the standard error on an 87 percent rate on a base of 4,000 to be approximately 8.9 percent. Multiply 8.9 by 1.6 (yielding 14.2) and add and subtract the result from 87. The 90-percent confidence interval for the absorption rate of 87 percent is from 72.8 percent and 101.2 percent (but in this case the upper limit would be 100 percent, since any percentage cannot exceed 100).

Table 3 shows that the median asking rent for an estimated 63,600 unfurnished 1-bedroom rental apartments was $800. The standard error of this median is about $20.

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, 63,600.

The estimated standard error from Table B-1 of a 50-percent characteristic on the base of the median (å50%). In this example, the estimated standard error of a 50-percent characteristic with the base of 63,600 is about 3.4 percent.

The length of the interval that contains the median. In this example, the median lies between $750 and $849. The length of the interval is $100.

The estimated proportion of the base falling in the interval that

contains the median: in this example, 17 percent. The standard error of the median is obtained by using the following approximation:

Standard error of median = å50% 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 $800 is:

3.4 x 100/17 = $20

Therefore, 1.6 standard errors equals $32. Consequently, an approximate 90-percent confidence interval for the median asking rent of $800 is between $768 and $832 ($800 plus or minus $32).