U.S. Department of Commerce

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

Market Absorption
of Apartments
FIRST QUARTER 1998-ABSORPTIONS (Completions in Fourth Quarter 1997)

Figure 1.
Units in Apartment Buildings Completed and Absorbed: 1993 to 1997

${ }^{1}$ All apartments.
${ }^{2}$ Privately financed, nonsubsidized, unfurnished rental apartments.
Note: Limited to buildings with five units or more in permit-issuing places.
Source: U.S. Bureau of the Census, H130, Market Absorption of Apartments.

## HIGHLIGHTS ${ }^{1}$

- An estimated 72,600 apartments were completed in buildings with five units or more in the fourth quarter of 1997. This estimate is not significantly different from the 66,300 apartments completed in the third quarter of 1997, but is $9,900( \pm 7,560)$ higher than the 62,700 apartments completed in the same quarter of the previous year (Table 11). Of the units completed in the fourth quarter of 1997, approximately 55,800 were privately financed, nonsubsidized, unfurnished, rental apartments. This estimate is not significantly different from the revised 51,300 unfurnished rental units completed last quarter, but is $12,600( \pm 9,220)$ higher than the 43,200 unfurnished rental completions in the fourth quarter of 1996.
- In the fourth quarter of 1997, an estimated 71 percent (seasonally adjusted) of the newly completed, unfurnished apartments were rented (absorbed) within 3 months of completion. This estimate is not significantly different from the 73 percent rate percent rate in the previous quarter (Table 1). The not-seasonally adjusted 3-month absorption rate for the 55,800 apartments completed in the fourth quarter was 69 percent, which is 7 $( \pm 6)$ percentage points lower than the rate last quarter.
- The median asking rent for all privately financed, nonsubsidized, unfurnished units completed in buildings with five units or more in the fourth quarter of 1997 was $\$ 713$, which was not significantly different from the revised third-quarter 1997 median asking rent of $\$ 730$. (See Tables 2 and 3.)
- The majority ( 52 percent) of the unfurnished, rental apartments were built in the South, followed by 28 percent in the West. The Midwest ranked third in terms of rental completions with 17 percent, while the fewest completions (3 percent) were in the Northeast. (See Table 4.)
- Approximately 9,700 condominium and cooperative apartments in buildings with five units or more were completed in the fourth quarter of 1997. This estimate is not significantly different from the revised 7,400 such completions last quarter, nor does it differ significantly from the estimated 14,200 units completed in the same quarter of 1996 (Table 5). In the fourth quarter of 1997, condominiums and cooperatives accounted for about 13 percent of all completions in buildings with five or more units.
- About 88 percent of the 9,300 condominium apartments completed in the fourth quarter of 1997 were sold (absorbed) within 3 months of completion, which was 13 $( \pm 9)$ percentage points higher than the 75 percent absorption rate for condominium completions last quarter. The

[^0]median asking price for condominiums built in the fourth quarter was $\$ 129,800$, not significantly different from the revised median asking price last quarter. (See Tables 6 and 7.)

- Of the remaining apartments completed in all buildings with five units or more in the fourth quarter of 1997, 200 were furnished units, 4,100 units were in federally subsidized properties, and about 2,800 units were not in the scope of the survey. (See Table 11.)


## CHARACTERISTICS OF THE DATA

All statistics from the Survey of Market Absorption (SOMA) are limited to apartments in newly constructed buildings with five units or more. Absorption rates are based on 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 federally subsidized are those built under the following programs of the Department of Housing and Urban Development: Low Income Housing Åssistance (Section 8), Senior Citizens Housing Direct Loans (Section 202), 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. Units categorized as not in the scope of the survey include time-sharing units, continuing care retirement units, and turnkey units (privately built for and sold to local public housing authorities after completion).

Tables 1 through 4 and 9 are restricted to privately financed, nonsubsidized, unfurnished, rental apartments. Table 5 is restricted to privately financed, nonsubsidized, condominium and cooperative apartments, while Tables 6, 7,8 , and 10 are limited to condominium apartments only. Table 11 is a summary table which includes all newly constructed apartments in buildings with five units or more.

The SOMA is a sample survey and consequently all statistics in this report are subject to sampling variability. Estimates derived from different samples would likely differ from these.

The standard error of a survey estimate is a measure of the variation among the estimates from all possible samples. It allows us to construct an interval with prescribed confidence that the interval includes the average of the estimates from all possible samples. (Estimates of standard errors have been computed from the sample data and are presented in the tables).

For all the statements about changes made in this report, 90-percent confidence intervals for statistical comparisons can be constructed by using the 90 -percent deviate shown in the parentheses after the change; however, when a 90 -percent confidence interval contains zero, we are uncertain whether or not the change has occurred. In addition, any statistical findings that are not part of the tables or are derived by collapsing intervals within a table are also provided with 90 -percent confidence intervals.

## NOTE TO DATA USERS

The SOMA adopted new ratio estimation procedures in 1990 to derive more accurate estimates of completions. ${ }^{2}$ Caution must be used when comparing the number of completions in 1990 and later with those in earlier years.

## SAMPLE DESIGN

The SOMA is designed 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, data on characteristics of the units, such as number of bedrooms and rent or price, are collected.

The buildings selected for the SOMA are drawn 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 permit-issuing places 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.

Each quarter, a sample of buildings with five units or more in the SOC sample reported as completed during that quarter are chosen for the SOMA. Buildings completed in nonpermit-issuing areas are excluded from consideration. Information on the proportion of units absorbed 3, 6, 9, and 12 months after completion is obtained for units in buildings selected in a given quarter in each of the next 4 quarters.

## ESTIMATION

Estimates published for a given quarter are preliminary and are subject to revision in ensuing quarters. Each quarter, the absorption data for some buildings are received

[^1]too late for inclusion in the report. These late data are included in a revised table in the next quarterly report. They are finalized in the annual report.

Beginning with data on completions in the fourth quarter of 1990 (which formed the base for absorptions in the first quarter of 1991), the estimation procedure was modified. The modified estimation procedure was also applied to the data for the other 3 quarters of 1990 so that annual estimates could be derived using the same methodology for 4 quarters. No additional re-estimation of past data is planned.

Before this change in the estimation procedure, unbiased estimates were formed by multiplying the counts for each building by its base weight (the inverse of its probability of selection) and then summing over all buildings. The final estimate was then obtained by multiplying the unbiased estimate by the following ratio estimate factor for the Nation as a whole:
total units in buildings with five or more units in permitissuing areas as estimated by the SOC for that quarter

> total units in buildings with five or
more units as estimated by the SOMA for that quarter
For the modified estimation procedure, instead of applying a single ratio-estimate factor for the entire nation, separate ratio-estimate factors are computed for each of the four census regions. The final estimates for regions are obtained by multiplying the unbiased regional estimates by the corresponding ratio-estimate factors. The final national estimate is obtained by summing the final regional estimates.

This procedure produces estimates of the units completed in a given quarter which are consistent with the published figures from the SOC and reduces, to some extent, the sampling variability of the estimates of totals.

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 where 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

There are two types of possible errors associated with data from sample surveys: nonsampling and sampling errors. The following is a description of the nonsampling and sampling errors associated with the SOMA.

## 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 the interpretation of questions; inability or unwillingness of the respondents to provide correct information; and errors made in processing the data. These nonsampling errors also occur in complete censuses. Although no direct measurements of the biases have been obtained, we believe 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 attempts to provide a measure of this variation among the estimates from the possible samples and, thus, is a measure of the precision with which an estimate from a sample approximates the average result of all possible samples.

As calculated for this survey, the standard error also partially measures the variation in the estimates due to errors in response and by interviewers (nonsampling errors), but it does not measure, as such, any systematic biases in the data. Therefore, the accuracy of the estimates depends on both 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 do capture all of the effect of sampling error and, in this case, some nonsampling error as well.

If all possible samples were selected, each of them was surveyed under essentially the same general conditions, there were no systematic biases, and 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 average result from all possible samples either is or is not contained in any particular computed interval. However, for a particular sample, one can say with specified confidence that the average result from all possible samples is included in the constructed interval.

For example, Table 4 of this report shows that there were 9,300 apartments completed in the fourth quarter of 1997 in the Midwest. The standard error of this estimate is 2,570 . The 68 -percent confidence interval as shown by these data is from 6,730 to 11,870. Therefore, a conclusion that the average estimate derived from all possible samples lies within a range computed in this way would be correct for roughly 68 percent of all possible samples. Similarly, we could conclude that the average estimate derived from all possible samples lies within the interval from 5,190 to 13,410 (using 1.6 times the standard error) with 90 -percent confidence.

Figure 2.
Percent of New Unfurnished Rental Apartments Completed, by Rent Category

## Fourth Quarter 1997



Third Quarter 1997
(revised)


Source: U.S. Bureau of the Census, H130, Market Absorption of Apartments.

Figure 3.
Cooperative and Condominium Apartment Completions as Percent of Total Apartment Completions: 1993 to 1997


Note: Limited to buildings with five units or more in permit-issuing places.
Source: U.S. Bureau of the Census, H130, Market Absorption of Apartments.

Table 1. Absorption Rates of Privately Financed, Nonsubsidized, Unfurnished Rental Apartments: 1991 to 1997
[Building with five units or more]


## Table 2. Characteristics of Unfurnished Apartments Completed During the Fourth Quarter of 1997 and of Those Rented Within 3 Months (Preliminary)

Not Seasonally Adjusted
[Privately financed, nonsubsidized, unfurnished, rental apartments in buildings with five units or more. Data regarding number of bedrooms and asking rent are collected at the initial interview, i.e., 3 months following completion. Details may not sum to totals because of rounding. Medians are computed using unrounded data]


*One standard error (i.e., 68-percent confidence interval). X Not applicable.

Table 3. Characteristics of Unfurnished Apartments Completed During the Third Quarter of 1997 and of Those Rented Within 3 Months (Revised)
Not Seasonally Adjusted
[Privately financed, nonsubsidized, unfurnished, rental apartments in buildings with five units or more. Data regarding number of bedrooms and asking rent are collected at the initial interview, i.e., 3 months following completion. Details may not sum to totals because of rounding. Medians are computed using unrounded data]

| Item | Total unfurnished apartments completed |  | Percent of total units |  | Percent rented within 3 months |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Standard error* (number of apartments) | Percent | Standard error* (percentage points) | Percent | Standard error* (percentage points) |
| Total. | 51,300 | 3,880 | 100 | (X) | 76 | 2.7 |
| ASKING RENT |  |  |  |  |  |  |
| Less than \$450 | 3,400 | 1,070 | 7 | 2.0 | 90 | 3.2 |
| \$450 to \$549 | 5,800 | 1,370 | 11 | 2.3 | 81 | 5.5 |
| \$550 to \$649 | 10,000 | 2,130 | 19 | 3.3 | 71 | 5.4 |
| \$650 to \$749 | 8,100 | 860 | 16 | 1.7 | 74 | 3.5 |
| \$750 to \$849 | 8,000 | 980 | 16 | 1.7 | 71 | 6.0 |
| \$850 or more | 16,000 | 1,360 | 31 | 2.5 | 77 | 3.3 |
| Median asking rent | \$730 | \$34 | (X) | (X) | \$726 | \$37 |
| Fewer than two bedrooms. | 14,600 | 1,200 | 28 | 2.0 | 83 | 1.2 |
| Less than \$450 | 1,500 | 390 | 3 | 0.8 | 83 | 3.8 |
| \$450 to \$549 | 2,400 | 600 | 5 | 1.0 | 80 | 4.5 |
| \$550 to \$649 | 2,800 | 450 | 5 | 0.8 | 83 | 3.4 |
| \$650 to \$749 | 2,600 | 400 | 5 | 0.8 | 82 | 2.3 |
| \$750 to \$849 | 2,300 | 340 | 5 | 0.7 | 87 | 1.5 |
| \$850 or more | 3,000 | 210 | 6 | 0.5 | 83 | 0.8 |
| Median asking rent | \$674 | \$32 | (X) | (X) | \$678 | \$35 |
| Two bedrooms or more | 36,700 | 3,320 | 72 | 2.0 | 73 | 3.5 |
| Less than \$450 | 1,900 | 980 | 4 | 1.9 | 95 | 2.6 |
| \$450 to \$549 | 3,400 | 980 | 7 | 1.8 | 81 | 6.8 |
| \$550 to \$649 | 7,200 | 2,080 | 14 | 3.5 | 67 | 7.0 |
| \$650 to \$749 | 5,500 | 870 | 11 | 1.6 | 70 | 5.1 |
| \$750 to \$849 | 5,700 | 930 | 11 | 1.7 | 65 | 7.8 |
| \$850 to \$949 | 4,700 | 640 | 9 | 1.2 | 60 | 8.4 |
| \$950 or more | 8,300 | 1,040 | 16 | 1.9 | 84 | 1.5 |
| Median asking rent | \$756 | \$41 | (X) | (X) | \$753 | \$48 |
| BEDROOMS |  |  |  |  |  |  |
| No bedroom | 800 | 120 | 2 | (Z) | 87 | 1.6 |
| 1 bedroom. | 13,800 | 1,120 | 27 | 1.9 | 83 | 1.2 |
| 2 bedrooms. | 27,900 | 2,850 | 54 | 2.7 | 76 | 2.9 |
| 3 bedrooms or more | 8,800 | 1,530 | 17 | 2.7 | 64 | 9.2 |

*One standard error (i.e., 68-percent confidence interval). X Not applicable. Z Fewer than 50 units or less than one-half of one percent.

Table 4. Unfurnished Apartments Completed During the Fourth Quarter of 1997 by Geographic Area
Not Seasonally Adjusted
[Privately financed, nonsubsidized, unfurnished, rental apartments in buildings with five units or more. Data regarding asking rent are collected at the initial interview. Details may not sum to totals because of rounding. Medians are computed using unrounded data]

| Geographic area | Total unfurnished apartments completed |  |  |  | Percent of total units |  | Percent rented within 3 months |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Standard error* (number of apartments) | Median asking rent | Standard <br> error* <br> (dollars) | Percent | Standard error* (percentage points) | Percent | Standard error* (percentage points) |
| United States, total. . | 55,800 | 3,810 | \$713 | 20 | 100 | (X) | 69 | 2.6 |
| Inside MA . | 51,900 | 4,600 | \$723 | 25 | 93 | 3.9 | 69 | 2.8 |
| In central city . | 19,900 | 2,260 | \$704 | 56 | 36 | 3.7 | 69 | 2.1 |
| Not in central city | 32,000 | 3,820 | \$728 | 26 | 57 | 4.3 | 69 | 4.1 |
| Outside MA | 3,900 | 2,120 | \$518 | 143 | 7 | 3.9 | 72 | 9.7 |
| Northeast | 1,700 | 1,240 | \$709 | 71 | 3 | 2.2 | 26 | 20.4 |
| Midwest. | 9,300 | 2,570 | \$658 | 70 | 17 | 4.2 | 82 | 5.7 |
| South. | 29,000 | 2,220 | \$717 | 27 | 52 | 4.3 | 69 | 2.2 |
| West | 15,800 | 2,640 | \$745 | 47 | 28 | 3.9 | 66 | 5.2 |

*One standard error (i.e., 68-percent confidence interval). X Not applicable.

Table 5. Absorption Rates of Condominium and Cooperative Apartments: 1991 to 1997
Not Seasonally Adjusted
[Buildings with five units or more]


*One standard error (i.e., 68-percent confidence interval). NA Not available. ${ }^{\text {PPreliminary. } \quad \text { 'Revised. } \quad Z \text { Fewer than } 50 \text { units or less than }}$ one-half of one percent.

Table 6. Characteristics of Condominium Apartments Completed During the Fourth Quarter of 1997 and of Those Sold Within 3 Months (Preliminary)

## Not Seasonally Adjusted

[Privately finacned, nonsubsidized, condominium apartments in buildings with five units or more. Data regarding number of bedrooms and asking price are collected at the initial interview, i.e., 3 months following completion. Details may not sum to totals because of rounding. Medians are computed using unrounded data]

*One standard error (i.e., 68-percent confidence interval). X Not applicable.

Table 7. Characteristics of Condominium Apartments Completed During the Third Quarter of 1997 and of Those Sold Within 3 Months (Revised)
Not Seasonally Adjusted
[Privately financed, nonsubsidized, condominium apartments in buildings with five units or more. Data regarding number of bedrooms and asking price are collected at the initial interview, i.e., 3 months following completion. Details may not sum to totals because of rounding. Medians are computed using unrounded data]

*One standard error (i.e., 68-percent confidence interval). X Not applicable.

Table 8. Condominium Apartments Completed During the Fourth Quarter of 1997 by Geographic Area
Not Seasonally Adjusted
[Privately financed, nonsubsidized, condominium apartments in buildings with five units or more. Data regarding asking price are collected at the initial interview. Details may not sum to totals because of rounding. Medians are computed using unrounded data]

| Geographic area | Total condominium apartments completed |  |  |  | Percent of total units |  | Percent sold within 3 months |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Standard error* (number of apartments) | Median asking price | Standard error* (dollars) | Percent | Standard error* (percentage points) | Percent | Standard error* (percentage points) |
| United States, total. . | 9,300 | 2,370 | \$129,800 | 22,400 | 100 | (X) | 88 | 2.4 |
| Inside MA | 7,000 | 1,420 | \$141,100 | 19,680 | 76 | 20.2 | 86 | 2.5 |
| In central city | 4,000 | 1,280 | \$175,900 | 170,560 | 42 | 13.8 | 87 | 3.9 |
| Not in central city | 3,100 | 550 | \$118,700 | 16,250 | 33 | 10.5 | 84 | 1.3 |
| Outside MA | 2,300 | 2,320 | \$102,400 | 80,080 | 24 | 20.2 | 93 | 1.0 |
| Northeast | (Z) | (Z) | (Z) | (Z) | (Z) | (Z) | (Z) | (Z) |
| Midwest. | 1,000 | 220 | \$132,200 | 40,820 | 11 | 3.9 | 83 | 2.6 |
| South. | 6,200 | 2,480 | \$128,800 | 34,270 | 67 | 10.0 | 91 | 2.1 |
| West | 2,000 | 260 | \$131,900 | 9,260 | 22 | 6.8 | 80 | 1.1 |

*One standard error (i.e., 68-percent confidence interval). $\quad X$ Not applicable. Z Fewer than 50 units or less than one-half of one percent.

## Table 9. Characteristics of Unfurnished Apartments Completed in the Last Four Quarters and of Those Reported as Rented and Remaining for Rent in the First Quarter of 1998

[Privately financed, nonsubsidized, unfurnished, rental apartments in buildings with five units or more. Data regarding number of bedrooms and asking rent are collected at the initial interview, i.e., 3 months following completion. Details may not sum to totals because of rounding. Medians are computed using unrounded data]


*One standard error (i.e., 68-percent confidence interval).
Note: These data are for completions in the first through fourth quarters of 1997.

Table 10. Characteristics of Condominium Apartments Completed in the Last Four Quarters and of Those Reported as Sold and Remaining for Sale in the First Quarter of 1998
[Privately financed, nonsubsidized, condominium apartments in buildings with five units or more. Data regarding number of bedrooms and asking price are collected at the initial interview, i.e., 3 months following completion. Details may not sum to totals because of rounding. Medians are computed using unrounded data]

*One standard error (i.e., 68-percent confidence interval).
Note: These data are for completions in the first through fourth quarters of 1997.

Table 11. Apartments Completed in Buildings With Five Units or More: 1991 to 1997
[Details may not sum to totals because of rounding]


*One standard error (i.e., 68-percent confidence interval). ${ }^{\mathrm{p}}$ Preliminary. ${ }^{\mathrm{r}}$ Revised. Z Fewer than 50 units or less than one-half of one percent.
${ }^{1}$ Other includes time-sharing units, continuing care retirement units, and turnkey housing (privately built for and sold to local public housing authorities subsequent to completion).


[^0]:    ${ }^{1}$ Numbers in parentheses represent the 90 -percent confidence interval. Details may not sum to totals because of rounding.

[^1]:    ${ }^{2}$ See ESTIMATION above.
    ${ }^{3}$ See the January 1998 issue of "Housing Starts," Construction Reports, Series C20, for details of this survey.

