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
ANNUAL 1992 ABSORPTIONS (Apartments Completed in 1991)

## SUMMARY

During 1991, a total of 165,300 privately financed, nonsubsidized, unfurnished rental apartments in buildings of five units or more were completed in permit-issuing areas in the United States. This is a $23( \pm 7)$ percent decrease from the 214,300 like completions in 1990 and a $33( \pm 6)$ percent decrease from the 246,400 such units completed in 1989. The 1991 total is the lowest level of production of privately financed, nonsubsidized apartments since 1982, when only 117,000 were built. The Northeast showed a 46 ( $\pm 22$ ) percent decrease and the West a ( 29 $( \pm 11)$ percent decrease between 1990 and 1991. Completions of unfurnished rental apartments in the South decreased by $18( \pm 12)$ percent but the number completed in the Midwest was not significantly lower than in 1990 (table 1).

Seventy percent of the unfurnished rental apartments built in the United States in 1991 were rented (absorbed) within the first 3 months of completion, 87 percent within 6 months, 93 percent within 9 months, and 97 percent were
rented within a year of completion. The units built in the Northeast accounted for 4 percent of the nation's new apartments. They were 83 percent absorbed in their first 3 months on the market, and by the end of 12 months they were 97 percent absorbed. Approximately 23 percent of the total were built in the Midwest, and they had a 3-month absorption rate of about 78 percent and a 12-month absorption rate of 97 percent. About 38 percent were built in the South with a 65 percent 3 month rate and a 96 percent 12 -month rate. The 34 percent built in the West were about 68 percent absorbed in 3 months and 97 percent absorbed in 12 months.

Half (51 percent) of new apartments were built in suburban areas, while 41 percent were built in the nation's central cities; the remaining 8 percent were built outside Metropolitan Statistical Areas (MSAs). New apartments inside MSAs were absorbed at the same ( $\pm 11$ percent) rate as those completed outside MSAs after 3 months on the market.

Table 1. Absorption Rates for Unfurnished Apartments Completed, by Geographic Area: 1991
(Privately financed, nonsubsidized, unfurnished, rental apartments in buildings with five units or more. Data may not add to total due to rounding.)

| Geographic areas | Total |  | Percent absorbed within- |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  | Number | Percent | 3 months | 6 months | 9 months |

[^0]For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

All statistics in this report are limited to apartments in newly constructed buildings with five units or more. Absorption rates are based on the first time an apartment offered for rent is rented after completion, or the first time a cooperative or condominium apartment is sold after completion. If apartments intended to be sold as cooperative or condominium units are offered by the builder or building owner for rent, they are counted as rental apartments.

Tables 1 through 4 are restricted to privately financed, nonsubsidized, unfurnished rental apartments. While table 5 is restricted to privately financed, nonsubsidized, cooperative and condominium apartments; table 6 is restricted to privately financed, nonsubsidized condominium apartments only. Table 7 is restricted to privately financed; nonsubsidized, furnished, rental apartments. Table 8 is an historical summary table which includes all newly constructed apartments in buildings with five units or more.

All statistics in this report are based on a sample survey and consequently they are subject to sampling variability. ${ }^{1}$ 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. Estimates of standard errors can be calculated by using tables A and B. They allow us to construct interval estimates with prescribed confidence that the interval includes the average of the estimates from all possible samples. For all the change statements made in this report, 90 -percent confidence intervals for statistical comparisons can be constructed by using the 90 -percent deviate shown in 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, some of the statistical findings which are not part of the tables are also provided with a 90 -percent deviate.

The median asking rent for unfurnished apartments completed in 1991 was $\$ 614$. About 36 percent rented for less than $\$ 550$ and were absorbed at a 3 -month rate of 76 percent and a 12 -month rate of 98 percent. The units with asking rents of $\$ 550$ to $\$ 749$, about 36 percent of the total, were 69 percent absorbed in 3 months and 97 percent absorbed in 12 months. The 29 percent of the 1991 completions with an asking rent of $\$ 750$ or more were 62 percent and 95 percent absorbed in 3 and 12 months, respectively (table 2).

While only a quarter or fewer of the newly completed apartments in the Northeast, Midwest, and South had asking rents of $\$ 750$ or more, 37 percent of such apartments built in the West fell into this category. The fewest such high-priced units were built in the Northeast. The 3 -month absorption rates for $\$ 750$ or more apartments in all four regions were not significantly different from what they were last year, nor were they significantly different from each other.

[^1]One- and two-bedroom apartments accounted for 88 percent of all new rental apartment completions. Onebedroom apartments had a median asking rent of $\$ 535$ and two-bedroom units rented for $\$ 630$. These one- and twobedroom apartments were absorbed at a 3-month rate of about 70 percent, not significantly different from efficiency apartments or the three-bedroom or more apartments which were absorbed at 3 -month rates of 76 and 65 percent respectively (table 3).

About 35,300 cooperative and condominium apartments were completed in 1991. This is a $33( \pm 13)$ percent decrease from the 52,600 such completions in 1990 and a $65( \pm 6)$ percent drop from 5 years earlier ( 101,700 units in 1986) (table 8).

Only 37 percent of the cooperatives and condominiums constructed in the Northeast in 1991 were absorbed by the end of 3 months on the market. The 3 -month rates for the Midwest, South, and West, 63, 67, and 63 percent respectively, were not significantly different from each other. The absorption rate for Northeast units after 1 year on the market was only 68 percent versus the national median of 86 percent (table 5).

The median asking price for all condominium apartments built in 1991 was $\$ 133,600$, not statistically different from the $\$ 121,100$ (adjusted for inflation) median in 1990 (table 6). Eighty-seven percent of all new condominiums were built with two bedrooms or more.

While completions of apartments in all residential buildings with five units or more decreased by about $13( \pm 6)$ percent from 1989 to 1990, they decreased another 26 ( $\pm$ 6) percent from 1990 to 1991 (table 8). Seventy-six percent of 1991 completions were nonsubsidized, unfurnished rental apartments, 16 percent were cooperatives and condominiums, and about 1 percent were furnished rental units.

About 4 percent of all apartments built in 1991 were in federally subsidized properties. These units are built under the following programs of the Department of Housing and Urban Development: Low Income Housing Assistance (Section 8), Senior Citizens Housing Direct Loans (Section 202), and all units in buildings containing apartments in the FHA rent supplement program. The data on privately financed units include privately owned housing subsidized by State and local governments.

An additional 2 percent of all newly constructed units are not in the scope of the survey for the purpose of measuring absorption rates or characteristics and include time-sharing units, continuing care retirement units, and turnkey units (privately built for and sold to local public housing authorities subsequent to completion).

## NOTE TO DATA USERS

The Survey of Market Absorption (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 for
the processing of annual data for 1990. Caution must be used when making comparisons using data for completions in 1990 and later to years prior to 1990.

## SAMPLE DESIGN

The Survey of Market Absorption (SOMA) is designed to provide data concerning the rate at which privately financed unfurnished, nonsubsidized units in buildings with five or more units are rented or sold (absorbed). In addition, data on characteristics of the units, such as rent or price and number of bedrooms, are collected.

The buildings selected for SOMA are those included in the Census Bureau's Survey of Construction (SOC). ${ }^{2}$ For SOC, the United States is first divided into primary sampling units (PSU's) which are sampled on the basis of population and permits. Next, a sample of permit-issuing places is selected within each sample PSU. Finally, all buildings with five units or more within sampled places, as well as a subsample of buildings with one to four units, are selected.

Each quarter, a sample of buildings with five units or more in the SOC sample reported as completed during that quarter come into sample for 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 four quarters.

## ESTIMATION

Beginning with the fourth quarter of 1990 completions data (the first quarter of 1991 absorptions), the estimation procedure was modified. The modified estimation procedure was also applied to the first, second, and third quarters of 1990 completions data so that 1990 annual estimates could be derived using the same methodology for four quarters. No additional re-estimation of the past data is planned.

Prior to this change in the estimation procedure, unbiased quarterly 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 $5+$ buildings in permit-issuing areas as estimated by SOC
for that quarter
total units in $5+$ buildings as estimated by SOMA for that quarter

[^2]For the modified estimation procedure, instead of applying a single ratio-estimate factor for the entire nation, separate ratio-estimate factors shown as above 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 unpublished figures from the SOC and also reduces, to some extent, the sampling variability of the estimates of totals. Annual estimates are obtained by computing a weighted average of the four quarterly estimates.

The factor used to adjust asking rents and prices is based on changes in the average annual Consumer Price Index (CPI-U-X1).

It is assumed that the absorption rates and other characteristics of units not included in the interviewed group or not accounted for are 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.

## RELIABILITY OF THE ESTIMATES

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

## Nonsampling Errors

In general, nonsampling errors can be attributed to many sources: inability to obtain information about all cases in the sample; definitional difficulties; differences in interpretation of questions; inability or unwillingness of 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, it is believed 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 a large number of possible samples of the same size that could have been selected using the same sample design. Even if the same questionnaires, instructions, and interviewers were used, estimates from each of the different samples would 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 response and interviewer errors (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 sampling and nonsampling error measured by the standard error, biases, and some additional nonsampling errors not measured by the standard error. The sample estimate and its estimated standard error enable the user to construct confidence intervals, ranges that would include the average result of all possible samples with a known probability. For example, if all possible samples were selected, each of these were surveyed under essentially the same general conditions, 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., 68 -percent confidence interval) would include the average result of 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., 90 -percent confidence interval) would include the average result of 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., 95 -percent confidence interval) would include the average result of all possible samples.

For very small estimates, the lower limit of the confidence level 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 of all possible samples may be contained in any particular computed interval. However, for a particular sample, one can say with specified confidence that the average result of all possible samples is included in the constructed interval.

The conclusions stated in this report are considered significant at the 90 -percent confidence level.

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.

The figures presented in tables A and B are 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. In order 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 or B can be obtained by linear interpolation.

## ILLUSTRATIVE USE OF STANDARD ERROR TABLES

Table 2 of this report shows that 32,500 units completed in 1991 rented for $\$ 450$ to $\$ 549$. Table A-1 shows the standard error of an estimate of this size to be approximately 3,050 . To obtain a 90 -percent confidence interval, multiply 3,050 by 1.6 and add and subtract the resuit from 32,500 yielding limits of 27,645 and 37,380 . The average estimate of units completed in 1991 renting for $\$ 450$ to $\$ 549$ 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 units is 72 percent. Table B-1 shows the standard error on a 72 percent rate on a base of 32,500 to be approximately 4.2 percent. Multiply 4.2 by 1.6 (yielding 6.7 ) and add and subtract the resulf from 72 . The 90 -percent confidence interval for the absorption rate of 72 percent is from 65.3 to 78.7 .

Table 2 also shows that the median asking rent in the Midwest for unfurnished rental apartments was $\$ 586$. The standard error of this median is about $\$ 19$. This estimate is obtained by using the following approximation:
[length of interval containing the sample median]
[standard error of median] $=\sigma 50 \% \times$
[estimated proportion of the base
talling within the interval
containing the sample median
where $\sigma 50 \%$ is the estimated standard error of the 50 -percent characteristic on the base of the median. In this example, the estimated median, $\$ 586$, lies between $\$ 550$ and $\$ 649$. The length of the interval is $\$ 100$. The estimated proportion of the base (total units completed) of 37,900 falling within this rent class is about 23 percent. Table B-1 shows the estimated error of a 50 -percent characteristic with the base of 37,900 to be about 4.4 percent. Hence, the standard error of the sample median from the above formula is:

$$
4.4 \times \frac{100}{23}=\$ 19
$$

Therefore, 1.6 standard errors equals $\$ 30$. This means that an approximate 90 -percent confidence interval for the median asking rent of $\$ 586$ would be between $\$ 556$ and $\$ 616$ (\$586 plus or minus $\$ 30$ ).

Figure 1.

## Percent Distribution of New Unfurnished Rental and New Cooperative

 and Condominium Units Completed, by Region: 1991Unfurnished Rental
Apartments

Cooperative and Condominium Apartments


Figure 2.
Percent of New Unfurnished Rental Apartments Absorbed
After 3 Months, by Region: 1987 to 1991


Table 2. Absorption Rates for Unfurnished Apartments Completed, by Rent, for the United States and Regions: 1991
(Privately financed, nonsubsidized, unfumished, rental apartments in buildings with five units or more. Data regarding asking rent are collected at the initial interview, i.e., 3 months following completion. Data may not add to total due to rounding. Medians are computed using unrounded data.)

|  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |

[^3]
## Table 3. Absorption Rates for Unfurnished Apartments Completed, by Number of Bedrooms and Rent, for the United States: 1991

(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. Data may not add to total due to rounding. Medians are computed using unrounded data.)

|  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |

X Not applicable.

Table 4. Absorption Rates for Unfurnished Apartments Completed, by Presence of Selected Features and Utilities, for the United States: 1991
(Privately financed, nonsubsidized, unfurnished, rental apartments in buildings with five units or more. Data regarding features and utilities are collected at the initial interview, i.e., 3 months following completion. Data may not add to total due to rounding.)


Table 5. Absorption Rates for Cooperative and Condominium Apartments Completed, by Number of Bedrooms and Regions: 1991
(Privately financed, nonsubsidized apartments in buildings with five units or more. Data regarding number of bedrooms are collected at the initial interview, i.e., 3 months following completion. Data may not add to total due to rounding.)


Table 6. Absorption Rates for Condominium Apartments Completed, by Asking Price and Number of Bedrooms, for the United States: 1991
(Privately financed, nonsubsidized 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. Data may not add to total due to rounding. Medians are computed using unrounded data.)


X Not applicable.

Table 7. Absorption Rates for Fumished Apartments Completed, by Rent and Number of Bedrooms, for the United States: 1991
(Privately financed, nonsubsidized, furnished, 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. Data may not add to total due to rounding. Medians are computed using unrounded data.)

$X$ Not applicable. $\quad Z$ Fewer than 50 units.

Table 8. Apartments Completed in Buildings With Five Units or More: 1970 to 1991
(Data may not add to total due to rounding.)

| Year | Total | Unfurnished apartments |  | Furnished aparments |  | Cooperatives and condominiums |  | Federallysubsidized |  | Other ${ }^{1}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| 1991. | 216,500 | 165,300 | 76 | 2,800 | 1 | 35,300 | 16 | 9,600 | 4 | 3,500 | 2 |
| 1990. | 294,400 | 214,300 | 73 | 2,900 | 1 | 52,600 | 18 | 13,800 | 5 | 10,800 | 4 |
| 1989. | 337,900 | 246,400 | 73 | 4,900 | 1 | 59,700 | 18 | 19,800 | 6 | 7,200 | 2 |
| 1988. | 388,600 | 284,500 | 73 | 4,300 | 1 | 76,200 | 20 | 15,200 | 4 | 8,400 | 2 |
| 1987. | 474,200 | 345,600 | 73 | 7,900 | 2 | 92,300 | 19 | 17,000 | 4 | 11,300 | 2 |
| 1986. | 550,200 | 407,600 | 74 | 11,600 | 2 | 101,700 | 18 | 23,300 | 4 | 6,000 | 1 |
| 1985. | 533,300 | 364,500 | 68 | 7,400 | 1 | 135,800 | 25 | 12,000 | 2 | 13,700 | 3 |
| 1984. | 506,000 | 313,200 | 62 | 9,800 | 2 | 143,600 | 28 | 28,500 | 6 | 10,700 | 2 |
| 1983. | 370,700 | 191,500 | 52 | 4,700 | 1 | 111,800 | 30 | 47,700 | 13 | 15,100 | 4 |
| 1982. | 288,200 | 117,000 | 41 | 5,400 | 2 | 107,900 | 37 | 48,000 | 17 | 10,000 | 3 |
| 1981. | 332,500 | 135,400 | 41 | 6,000 | 2 | 112,600 | 34 | 66,100 | 20 | 12,500 | 4 |
| 1980. | 418,900 | 196,100 | 47 | 9,700 | 2 | 122,800 | 29 | 79,900 | 19 | 10,500 | 3 |
| 1979. | 439,300 | 241,200 | 55 | 12,100 | 3 | 91,800 | 21 | 87,500 | 20 | 6,700 | 2 |
| 1978. | 362,700 | 228,700 | 63 | 11,200 | 3 | 54,500 | 15 | 54,100 | 15 | 14,300 | 4 |
| 1977. | 289,400 | 195,600 | 68 | 16,200 | 6 | 43,000 | 15 | 26,000 | 9 | 8,700 | 3 |
| 1976. | 258,200 | 157,000 | 61 | 12,800 | 5 | 46,300 | 18 | 32,000 | 12 | 10,000 | 4 |
| 1975. | 371,400 | 223,100 | 60 | 11,100 | 3 | 84,600 | 23 | 38,900 | 10 | 13,800 | 4 |
| 1974. | 685,400 | 405,500 | 59 | 20,700 | 3 | 159,000 | 23 | 75,400 | 11 | 25,000 | 4 |
| 1973. | 774,800 | 531,700 | 69 | 36,200 | 5 | 98, 100 | 13 | 82,000 | 11 | 26,800 | 3 |
| 1972. | 718,200 | 497,900 | 69 | 37,700 | 5 | 57,300 | 8 | 93,800 | 13 | 31,400 | 4 |
| 1971. | 583,400 | 334,400 | 57 | 32,200 | 6 | 49,100 | 8 | 104,800 | 18 | 63,000 | 11 |
| 1970. | 526,000 | 328,400 | 62 | 48,200 | 9 | 72,500 | 14 | 55,900 | 11 | 21,000 | 4 |

${ }^{\text {' O }}$ Other includes time-sharing units, continuing-care retirement units, and turnkey units (privately built for and sold to local public housing authorities subsequent to completion).

Table A-1. Standard Errors of Estimated Totals: Completions in 1986 to 1991
(2 chances out of 3 )

| Estimated total | Standard error | Estimated toial | Standard error |
| :---: | :---: | :---: | :---: |
| 1,000 | 500 | 35,000 | 3,200 |
| 2,000 | 800 | 50,000 | 3,800 |
| 3,000 | 900 | 75,000 | 4,700 |
| 4,000 | 1,100 | 100,000 | 5,400 |
| 5,000 | 1,200 | 150,000 | 6,600 |
| 10,000 | 1,700 | 250,000 | 8,500 |
| 15,000 | 2,100 | 350,000 | 10,100 |
| 20,000 | 2,400 | 450,000 | 11,400 |
| 25,000. | 2,700 | 600,000 | 13,200 |

Note: See page 4 for information on the use of this table.

Table B-1. Standard Errors of Estimated Percentages: Completions in 1986 to 1991
(2 chances out of 3 )

| Base of percentage | 98 or 2 | 95 or 5 | 90 or 10 | 80 or 20 | 75 or 25 | 60 or 40 | 50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1,000 | 7.5 | 11.7 | 16.1 | 21.5 | 23.3 | 26.3 | 26.9 |
| 2,000 | 5.3 | 8.3 | 11.4 | 15.2 | 16.5 | 18.6 | 19.0 |
| 3,000 | 4.3 | 6.8 | 9.3 | 12.4 | 13.4 | 15.2 | 15.5 |
| 4,000 | 3.8 | 5.9 | 8.1 | 10.8 | 11.6 | 13.2 | 13.4 |
| 5,000 | 3.4 | 5.2 | 7.2 | 9.6 | 10.4 | 11.8 | 12.0 |
| 10,000 | 2.4 | 3.7 | 5.1 | 6.8 | 7.4 | 8.3 | 8.5 |
| 15,000 | 1.9 | 3.0 | 4.2 | 5.6 | 6.0 | 6.8 | 6.9 |
| 20,000 | 1.7 | 2.6 | 3.6 | 4.8 | 5.2 | 5.9 | 6.0 |
| 25,000 | 1.5 | 2.3 | 3.2 | 4.3 | 4.7 | 5.3 | 5.4 |
| 35,000 | 1.3 | 2.0 | 2.7 | 3.6 | 3.9 | 4.5 | 4.5 |
| 50,000 | 1.1 | 1.7 | 2.3 | 3.0 | 3.3 | 3.7 | 3.8 |
| 75,000 | 0.9 | 1.4 | 1.9 | 2.5 | 2.7 | 3.0 | 3.1 |
| 100,000 | 0.8 | 1.2 | 1.6 | 2.2 | 2.3 | 2.6 | 2.7 |
| 150,000. | 0.6 | 1.0 | 1.3 | 1.8 | 1.9 | 2.2 | 2.2 |
| 250,000. | 0.5 | 0.7 | 1.0 | 1.4 | 1.5 | 1.7 | 1.7 |
| 350,000. | 0.4 | 0.6 | 0.9 | 1.1 | 1.2 | 1.4 | 1.4 |
| 450,000 | 0.4 | 0.6 | 0.8 | 1.0 | 1.1 | 1.2 | 1.3 |
| 600,000. | 0.3 | 0.5 | 0.7 | 0.9 | 1.0 | 1.1 | 1.1 |

[^4]Table A-2. Standard Errors of Estimated Totals: Completions in 1985
(2 chances out of 3 )

| Estimated total | Standard error | Estimated total | Standard error |
| :---: | :---: | :---: | :---: |
| 5,000 | 1.430 | 75,000 | 5,720 |
| 10,000 | 2,030 | 100,000 | 6,650 |
| 15,000 | 2,500 | 150,000 | 8,310 |
| 20,000 | 2,880 | 250,000 | 11,110 |
| 25,000 | 3,240 | 350,000 | 13,590 |
| 35,000 | 3,830 | 450,000 | 15,890 |
| 50,000 | 4,620 | 600,000 | 19,180 |

Note: See page 4 for information on the use of this table.

Table B-2. Standard Errors of Estimated Percentages: Completions in 1985
( 2 chances out of 3 )

| Base of percentage | 98 or 2 | 95 or 5 | 90 or 10 | 80 or 20 | 75 or 25 | 50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5,000 | 4.0 | 6.3 | 8.5 | 11.4 | 12.4 | 14.3 |
| 10,000 | 2.9 | 4.3 | 6.1 | 8.1 | 8.7 | 10.0 |
| 15,000 | 2.3 | 3.5 | 5.0 | 6.6 | 7.1 | 8.2 |
| 20,000 | 1.9 | 3.1 | 4.3 | 5.8 | 6.1 | 7.1 |
| 25,000 | 1.8 | 2.7 | 3.9 | 5.2 | 5.5 | 6.4 |
| 35,000 | 1.5 | 2.4 | 3.2 | 4.3 | 4.7 | 5.5 |
| 50,000 | 1.3 | 1.9 | 2.7 | 3.5 | 3.9 | 4.5 |
| 75,000 | 1.0 | 1.6 | 2.3 | 2.9 | 3.2 | 3.7 |
| 100,000. | 1.0 | 1.5 | 1.9 | 2.6 | 2.7 | 3.2 |
| 150,000. | 0.8 | 1.1 | 1.6 | 2.1 | 2.3 | 2.6 |
| 250,000 | 0.6 | 0.8 | 1.3 | 1.6 | 1.8 | 2.1 |
| 350,000 | 0.5 | 0.8 | 1.0 | 1.3 | 1.5 | 1.8 |
| 450,000. | 0.5 | 0.6 | 1.0 | 1.1 | 1.3 | 1.5 |
| 600,000. | 0.3 | 0.6 | 0.8 | 1.0 | 1.1 | 1.3 |

Note: See page 4 for information on the use of this table.

Table A-3. Standard Errors of Estimated Totals: Completions in 1970 to 1984
(2 chances out of 3 )

| Estimated total | Standard error | Estimated total | Standard error |
| :---: | :---: | :---: | :---: |
| 5,000 | 1,060 | 75,000 | 4,220 |
| 10,000 | 1,500 | 100,000 | 4,910 |
| 15,000 | 1,840 | 150,000 | 6,140 |
| 20,000 | 2,130 | 250,000 | 8,210 |
| 25,000 | 2,390 | 350,000 | 10,040 |
| 35,000 | 2,830 | 450,000 | 11,750 |
| 50,000 | 3,520 | 600,000 | 14,160 |

Note: See page 4 for information on the use of this table.

Table B-3. Standard Errors of Estimated Percentages: Completions in 1970 to 1984
(2 chances out of 3 )

| Base of percentage | 98 or 2 | 95 or 5 | 90 or 10 | 80 or 20 | 75 or 25 | 50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5,000 | 3.0 | 4.6 | 6.3 | 8.4 | 9.2 | 10.6 |
| 10,000 | 2.1 | 3.2 | 4.5 | 6.0 | 6.4 | 7.4 |
| 15,000 | 1.7 | 2.6 | 3.7 | 4.9 | 5.2 | 6.1 |
| 20,000 | 1.4 | 2.2 | 3.2 | 4.3 | 4.5 | 5.2 |
| 25,000 | 1.3 | 2.0 | 2.9 | 3.8 | 4.0 | 4.8 |
| 35,000 | 1.1 | 1.8 | 2.4 | 3.2 | 3.5 | 4.0 |
| 50,000 | 1.0 | 1.4 | 2.0 | 2.6 | 2.9 | 3.3 |
| 75,000 | 0.7 | 1.2 | 1.7 | 2.1 | 2.4 | 2.7 |
| 100,000 | 0.7 | 1.1 | ¢. 4 | 1.9 | 2.0 | 2.4 |
| 150,000 | 0.6 | 0.8 | 1.2 | 1.5 | 1.7 | 1.9 |
| 250,000. | 0.5 | 0.6 | 1.0 | 1.2 | 1.3 | 1.5 |
| 350,000 | 0.4 | 0.6 | 0.7 | 1.0 | 1.1 | 1.3 |
| 450,000 | 0.4 | 0.5 | 0.7 | 0.8 | 1.0 | 1.1 |
| 600,000. | 0.2 | 0.5 | 0.6 | 0.7 | 0.8 | 0.8 |

Note: See page 4 for information on the use of this table.


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[^0]:    Questions regarding these data may be directed to Anne Smoler, Housing and Household Economic Statistics Division, Telephone (301) 763-8552.

[^1]:    ${ }^{1}$ See Reliability of Estimates on page 3.

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

[^3]:    X Not applicable.

[^4]:    Note: See page 4 for information on the use of this table.

