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Market Absorption of Apartments

ANNUAL 1986 ABSORPTIONS
(Completions in 1985)

SUMMARY

During 1985, completions of privately financed, nonsubsidized, unfurnished rental apartments in buildings of five units or more totaled 364,500 units. This represents an increase of about 16 percent from the 313,200 units completed in 1984. Sixty-five percent of these units were rented within the first 3 months of completion, 84 percent within 6 months, 92 percent within 9 months and 95 percent were rented within a year of completion.

About 51 percent of new unfurnished apartments were built with two bedrooms and 43 percent were built with one bedroom. Units with three or more bedrooms and those with no bedrooms accounted for 3 and 2 percent, respectively. The median asking rent for apartments completed in 1985 was $432, an increase of about 10 percent from the $393 median for similar units completed in 1984. Units renting for $400 or more accounted for 61 percent of newly completed units. Of this group 28 percent rented for $500 or more. Less than half (47 percent) of the newly built units in 1984 rented for $400 or more, while only 17 percent went for $500 or more. Apartments available for under $400 were 70 percent rented 3 months after completion and those available for $400 or more were 63 percent rented after 3 months. About 42 percent of the new units included air-conditioning in rental payments and about 77 percent had swimming pools available at no extra cost.

A large majority (95 percent) of unfurnished apartments were built inside metropolitan statistical areas in 1985, with 43 percent located inside central city and 52 percent in suburban areas. Regionally, slightly under one-half (46 percent) of new apartments were built in the South a decrease from 62 percent for this region in 1984. The percentage of completions in the West increased to 37 percent in 1985 compared to 24 percent in 1984. Approximately 15 percent of the nonsubsidized, unfurnished rental units completed in 1986 were built in the Midwest and only 2 percent in the Northeast region.

The data are based on a sample survey and, consequently, the figures cited are subject to sampling variability. Sampling errors (i.e., standard errors) for these figures can be calculated by using tables A and B[1]. These standard errors imply that there are about 2 chances out of 3 that a complete count would be contained in the interval around the estimate defined by the standard error.

[1] See reliability of estimates on page 2.

In 1985, a total of about 533,300 apartments were completed in buildings with five units or more which was not significantly different from the 506,000 apartments completed in 1984. Sixty-eight percent were nonsubsidized, unfurnished apartments up from the 62 percent in 1984. Of the remainder, cooperatives and condominiums with 135,800 units accounted for 25 percent of the new completions. The 3-month absorption rate for cooperative and condominium apartments in 1985 was 65 percent, not significantly different from the 69 percent absorbed in 3 months in 1984.

Cooperative and condominium apartments are predominantly two bedrooms or larger (78 percent). Fifty-nine percent of these units were built in the South, 19 percent in the West, 14 percent in the Northeast and 8 percent in the Midwest regions of the United States. The 14 percent completed in the Northeast is double what it was in 1984, and, as in 1984, there were more than twice as many cooperative and condominiums built in the Northeast than rental apartments. The median asking price for condominium apartments built in 1985 was $88,500 compared to the $76,500 median asking price for 1984. About 37 percent of the apartments completed in 1985 had an asking price of $100,000 or more, while only 4 percent were being sold for under $40,000.

Furnished rental units accounted for 1 percent of the total number of privately financed apartments in buildings with five units or more. Furnished units tended to be smaller than unfurnished units. Apartments with fewer than two bedrooms accounted for 73 percent of furnished units while less than half (45 percent) of the unfurnished had fewer than two bedrooms. The median asking rent for furnished units was $379, considerably less than the $432 for unfurnished units.

Federally subsidized properties accounted for 2 percent of total units completed. Completions of these types of units decreased from 28,500 in 1984 to 12,000 in 1985 and is only about one-fourth (25 percent) the number (47,700) completed in 1983. 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. An additional 3 percent of all the units are excluded for other reasons and include time-sharing units, continuing care retirement units, and turnkey housing (privately built for and sold to local public housing authorities subsequent to completion). The data on privately financed units

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Questions regarding these data may be directed to Charles Clark, Housing Division, Telephone 301-763-2866

include privately owned housing subsidized by State and local governments.

SAMPLE DESIGN

The Survey of Market Absorption (SOMA) is designed to provide data concerning the rate at which nonsubsidized and unfurnished privately financed units in buildings with five or more units are rented (or absorbed). In addition, data on characteristics of the units, such as rent 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 this survey, the United States is first divided into primary sampling units (PSU's) which are sampled on the basis of population. Next, a sample of permit-issuing places is selected within each sample PSU. Finally, all buildings within sampled places with five or more units as well as a subsample of buildings with one to four units are selected.

Each quarter, a sample of buildings with five or more housing units 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

Unbiased quarterly estimates are 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 is then obtained by multiplying the unbiased estimate by the following ratio estimate factor:

$$\frac{\text{total units in 5 + buildings in permit-issuing areas as estimated by the SOC for that quarter}}{\text{total units in 5 + buildings as estimated by SOMA for that quarter}}$$

This procedure produces estimates of the units completed in a given quarter which are consistent with the published figures from the Housing Completions Series,[3] and also reduces, to some extent, the sampling variability of the estimates of totals. Annual estimates are obtained by summing the four quarterly final estimates.

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.

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[2]See "Housing Starts," Construction Reports, Series C20, for details of this survey.
[3]See "Housing Completions," Construction Reports, Series C22.

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, definitional difficulties, differences in the interpretation of questions, inability or unwillingness to provide correct information on the part of respondents, mistakes in recording or coding the data, and other errors of collection, response, processing, coverage, and estimation for missing data.

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—

1. Approximately 68 percent of the intervals from one standard error below the estimate to one standard error above the estimate would include the average result of all possible samples.

2. Approximately 90 percent of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the average result of all possible samples.

3. Approximately 95 percent of the intervals from two standard errors below the estimate to two standard errors above the estimate would include the average result of all possible samples.

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 of 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 of all possible samples is included in the constructed interval.

The conclusions stated in this report are considered significant at the 95-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 1 of this report shows that 41,600 units completed in 1985 rented for $300 to $349. Table A shows the standard error of an estimate of this size to be approximately 4,178. The 68 percent confidence interval as shown by these data is from 37,422 to 45,778. 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 33,244 to 49,956 (using twice the standard error) with 95 percent confidence.

Table I shows the rate of absorption after 3 months for these units is 69 percent. Table B shows the standard error on a 69 percent rate on a base of 41,600 to be approximately 4.5 percent. The 68 percent confidence interval for this estimate is from 64.5 to 73.5 percent. 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 sampl... Similarly, we could conclude that the average estimate derived from all possible samples lies within the interval from 60.0 to 78.0 (using twice the standard error) with 95 percent confidence.

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Figure 1. Percent of Apartments Absorbed, by Quarter of Completion, by Months on the Market: 1985

Legend:
- 12 Months
- 9 Months
- 6 Months
- 3 Months

Percent

Data points:
- First Quarter Completions: 94%, 91%, 84, 64
- Second Quarter Completions: 95%, 92%, 86, 68
- Third Quarter Completions: 96%, 91%, 83, 65
- Fourth Quarter Completions: 96%, 93%, 82, 62
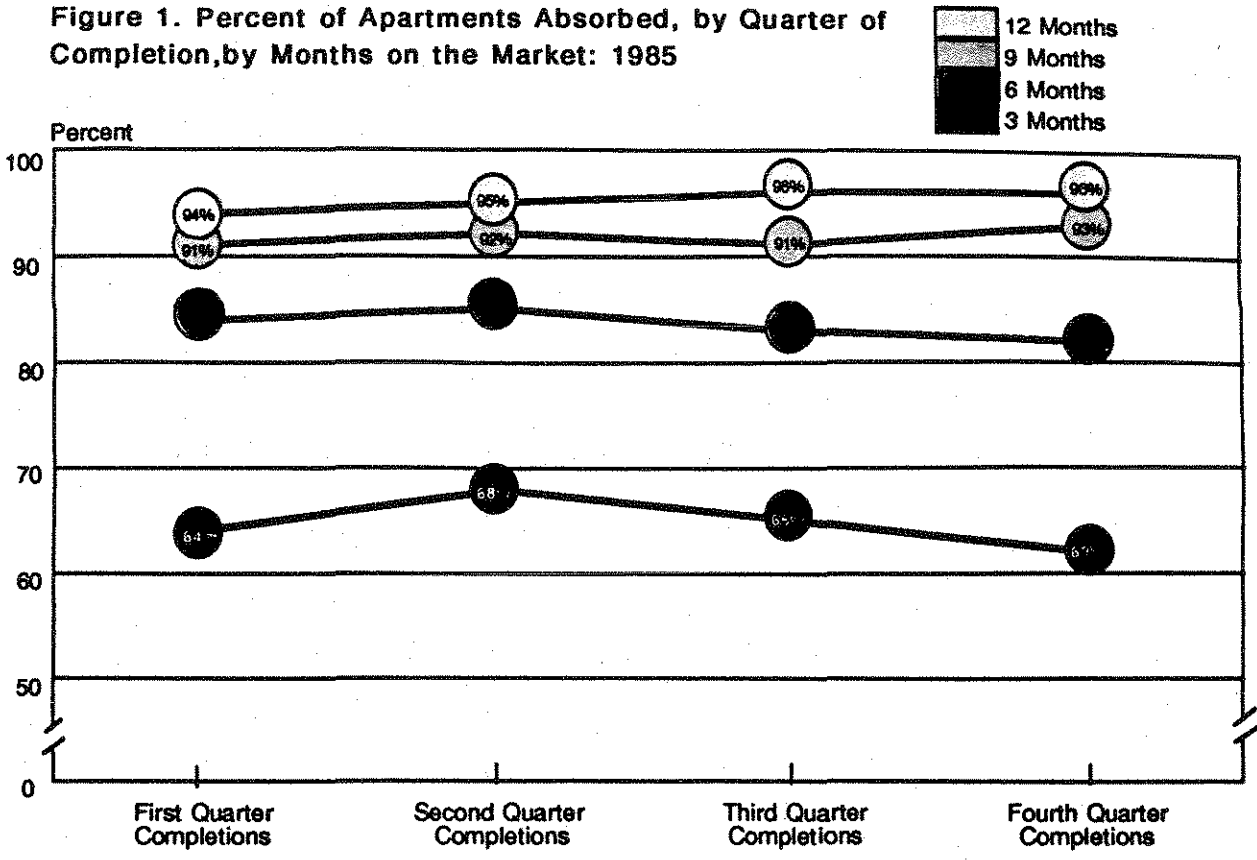
Figure 2. Percent of Apartments Absorbed, by Region, by Months on the Market: 1985

Legend:
- 12 Months
- 9 Months
- 6 Months
- 3 Months

Percent

Regions: Northeast Region, Midwest Region, South Region, West Region
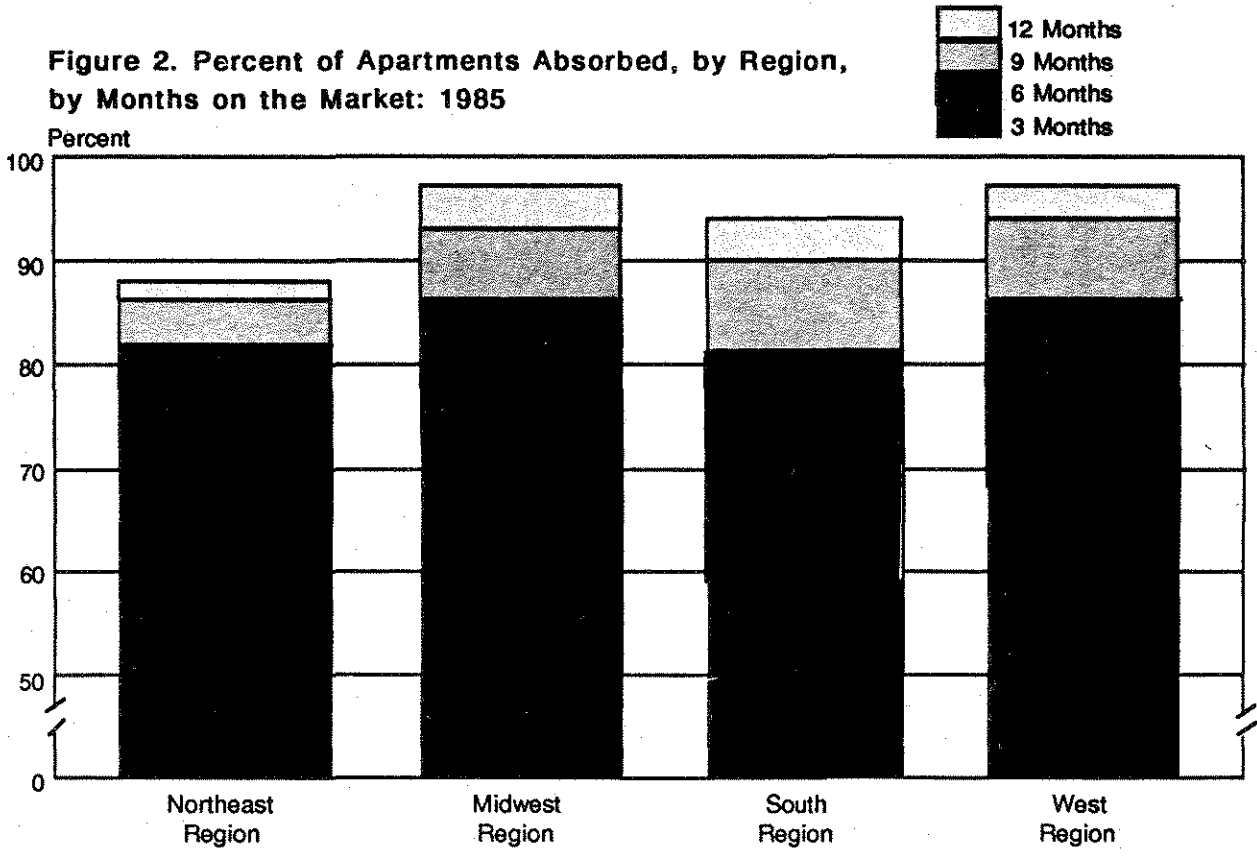
Table 1. Absorption Rates for Apartments Completed, by Number of Bedrooms and Rent, for the United States: 1985

(Privately financed, nonsubsidized, unfurnished 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.)

Characteristics	Total		Percent absorbed within--			
	Number	Percent	3 months	6 months	9 months	12 months
Total.........................	364,500	100	65	84	92	95
Less than $300..................	30,500	8	69	87	93	95
$300 to $349...................	41,600	11	69	86	93	96
$350 to $399...................	72,000	20	71	88	94	97
$400 to $449...................	60,500	17	61	81	91	96
$450 to $499...................	57,400	16	59	81	91	95
$500 or more...................	102,500	28	63	82	90	94
Median rent....................	$432	(X)	(X)	(X)	(X)	(X)
No bedroom.....................	8,600	2	68	84	91	94
Less than $300..................	2,500	1	73	90	97	99
$300 to $349...................	1,700	(Z)	67	83	90	95
$350 to $399...................	1,100	(Z)	69	85	94	99
$400 to $449...................	600	(Z)	52	64	78	86
$450 to $499...................	600	(Z)	67	81	90	91
$500 or more...................	2,000	1	66	84	88	90
Median rent....................	$351	(X)	(X)	(X)	(X)	(X)
1 bedroom......................	158,000	43	66	84	92	95
Less than $300..................	21,100	6	72	88	93	94
$300 to $349...................	26,300	7	64	83	91	95
$350 to $399...................	41,500	11	68	86	94	96
$400 to $449...................	28,900	8	61	83	92	97
$450 to $499...................	15,000	4	60	81	91	95
$500 or more...................	25,100	7	66	84	90	93
Median rent....................	$388	(X)	(X)	(X)	(X)	(X)
2 bedrooms.....................	187,100	51	64	83	91	95
Less than $300..................	6,900	2	59	83	92	97
$300 to $349...................	13,400	4	77	93	97	98
$350 to $399...................	28,800	8	74	89	95	98
$400 to $449...................	29,800	8	61	80	90	94
$450 to $499...................	39,600	11	58	80	90	95
$500 to $549...................	24,900	7	59	79	90	95
$550 or more...................	43,700	12	63	81	90	94
Median rent....................	$469	(X)	(X)	(X)	(X)	(X)
3 bedrooms or more.............	10,800	3	65	87	95	97
Less than $300..................	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)
$300 to $349...................	100	(Z)	81	99	100	100
$350 to $399...................	600	(Z)	79	98	99	100
$400 to $449...................	1,200	(Z)	40	81	99	100
$450 to $499...................	2,100	1	72	93	100	100
$500 to $549...................	1,100	(Z)	57	81	95	96
$550 or more...................	5,600	2	68	85	92	96
Median rent....................	$550+	(X)	(X)	(X)	(X)	(X)

X Not applicable.   Z Indicates less than fifty or less than one-half percent.

Table 2. Absorption Rates for Apartments Completed, by Geographic Area: 1985

(Privately financed, nonsubsidized, unfurnished 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	12 months
United States, total..................	364,500	100	65	84	92	95
Inside MSA's.............................	345,500	95	64	83	91	95
In central city.........................	157,100	43	62	83	91	95
Not in central city.....................	188,400	52	65	83	92	96
Outside MSA's............................	18,900	5	83	94	96	97
Northeast................................	8,200	2	68	82	86	88
Midwest..................................	53,900	15	73	86	93	97
South....................................	166,400	46	59	81	90	94
West.....................................	135,900	37	68	86	94	97

Table 3. Absorption Rates for Apartments Completed, by Presence of Air-Conditioning and Swimming Pool, for the United States: 1985

(Privately financed, nonsubsidized, unfurnished apartments in building with five units or more. Data regarding air conditioning and swimming pool are collected at the initial interview, i.e., 3 months following completion. Data may not add to total due to rounding)

Characteristics	Total		Percent absorbed within--			
	Number	Percent	3 months	6 months	9 months	12 months
Unfurnished total..................	364,500	100	65	84	92	95
Air conditioning:						
Included in rent........................	152,000	42	63	81	90	94
Available at extra cost.................	177,200	49	66	84	92	96
Not available...........................	31,100	9	70	92	97	99
Not reported............................	4,200	1	48	71	83	91
Swimming pool:						
Included in rent........................	282,300	77	62	82	91	95
Available at extra cost.................	3,200	1	64	81	86	89
Not available...........................	74,000	20	75	90	96	97
Not reported............................	4,900	1	45	71	84	91

Table 4. Absorption Rates for Cooperative and Condominium Apartments Completed, by Number of Bedrooms and Geographic Region: 1985

(Privately financed, nonsudsidized, 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.)

Characteristics	Total		Percent absorbed within--			
	Number	Percent	3 months	6 months	9 months	12 months
Total......................	135,800	100	65	77	85	89
Number of bedrooms:						
None.......................	2,600	2	69	83	87	88
1 bedroom..................	27,200	20	63	76	81	87
2 bedrooms.................	84,700	62	65	77	86	90
3 bedrooms or more.........	21,400	16	69	80	84	87
Region:						
Northeast..................	18,900	14	67	78	97	98
Midwest....................	10,500	8	64	76	81	84
South.....................	80,400	59	67	78	82	87
West......................	26,000	19	58	75	83	88

Table 5. Absorption Rates for Condominium Apartments Completed, by Asking Price and Number of Bedrooms, for the United States: 1985

(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.)

Item	Total		Percent absorbed within--			
	Number	Percent	3 months	6 months	9 months	12 months
Total......................	134,100	100	65	77	84	89
Price classes:						
Less than $40,000..............	5,900	4	77	90	95	96
$40,000 to $49,999.............	7,900	6	66	84	88	92
$50,000 to $74,999.............	32,000	24	67	79	85	89
$75,000 to $99,999.............	39,300	29	73	82	87	90
$100,000 or more...............	49,000	37	55	69	80	85
Median asking price............	$88,500	(X)	(X)	(X)	(X)	(X)
Number of bedrooms:						
Less than 2....................	28,900	22	63	76	81	87
2..............................	83,800	62	65	77	86	89
3 or more......................	21,400	16	69	80	84	87

X Not applicable.

Table 6. Absorption Rates for Furnished Apartments Completed, by Rent and Number of Bedrooms, for the United States: 1985

(Privately financed, nonsubsidized, furnished apartments in buildings with five units or more. Data regarding asking rent and bedrooms 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.)

Item	Total		Percent absorbed within--			
	Number	Percent	3 months	6 months	9 months	12 months
Total..........................	7,400	100	75	92	97	99
Rent class:						
Less than $300....................	1,800	24	48	87	96	99
$300 to $349.....................	1,100	15	78	89	95	97
$350 to $399.....................	1,400	19	90	94	98	100
$400 to $449.....................	900	12	68	90	98	99
$450 to $499.....................	800	11	85	95	98	99
$500 or more.....................	1,400	19	91	96	97	98
Median rent......................	$379	(X)	(X)	(X)	(X)	(X)
Number of bedrooms:						
None.............................	2,400	32	62	88	97	98
1 bedroom........................	3,000	41	78	91	96	99
2 bedrooms.......................	1,100	15	74	95	96	98
3 bedrooms or more...............	1,000	14	100	100	100	100

X Not applicable.

Table 7. Housing Units Completed in Buildings With Five Units or More: 1970 to 1985

(Data may not add to total due to rounding.)

Year	Total	Unfurnished apartments	Furnished apartments	Cooperatives & condominiums	Federally subsidized	Other[1]
	Number of units					
1970..	526,000	328,400	48,200	72,500	55,900	21,000
1971..	583,400	334,400	32,200	49,100	104,800	63,000
1972..	718,200	497,900	37,700	57,300	93,800	31,400
1973..	774,800	531,700	36,200	98,100	82,000	26,800
1974..	685,400	405,500	20,700	159,000	75,400	25,000
1975..	371,400	223,100	11,100	84,600	38,900	13,800
1976..	258,200	157,000	12,800	46,300	32,000	10,000
1977..	289,400	195,600	16,200	43,000	26,000	8,700
1978..	362,700	228,700	11,200	54,500	54,100	14,300
1979..	439,300	241,200	12,100	91,800	87,500	6,700
1980..	418,900	196,100	9,700	122,800	79,900	10,500
1981..	332,500	135,400	6,000	112,600	66,100	12,500
1982..	288,200	117,000	5,400	107,900	48,000	10,000
1983..	370,700	191,500	4,700	111,800	47,700	15,100
1984..	506,000	313,200	9,800	143,600	28,500	10,700
1985..	533,300	364,500	7,400	135,800	12,000	13,700

[1]Other includes time-sharing units, continuing care retirement units, and turnkey housing built and sold to local public housing authorities subsequent to completion.

Table A. **Standard Error of Estimated Totals: January to December 1985 Completions**

(1 standard error)

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

Table B. **Standard Error of Estimated Percentages: January to December 1985 Completions**

(1 standard error)

Base of percentage	Estimated 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

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