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Market Absorption of Apartments

ANNUAL: 1978 ABSORPTIONS
(Completions in 1977)

INTRODUCTION

During 1977, completions of privately financed, nonsubsidized and unfurnished apartments in buildings of five or more units totaled about 195,600. Of these, 80 percent were rented within the first 3 months of completion, 94 percent were rented within 6 months, and 99 percent within 12 months.

Fifty-five percent of these new apartments had two bedrooms or more, while 44 percent had less than two. Only 3 percent of the new units had monthly rents of less than \$150. Those renting for \$200 to \$249 and \$250 or more accounted for about the same percent of the total at 37 percent and 36 percent, respectively, while those renting for \$150 to \$199 accounted for 23 percent of the total (see table 1). About half (50 percent) included swimming pools in rental payments and almost two out of five (37 percent) included air-conditioning at extra cost (see table 3).

The 3- and 6-month absorption rates tended to be higher for low rent units than for high rent units. For example, of the apartments renting for less than \$200, approximately 81 percent were rented within 3 months, while those renting for \$300 or more had an absorption rate of 72 percent within the same period. As market exposure increased to 9 months, the absorption rates of all units tended to be the same regardless of the rent asked.

The majority (80 percent) of these unfurnished apartments were constructed inside standard metropolitan statistical areas, with about half located inside and half located outside central cities. A regional comparison of the total shows that almost a third of the units were built in each of three regions: the North Central (31 percent), the South (31 percent), and the West (33 percent). Only 6 percent of the units were constructed in the Northeast (see table 2).

Data from the Survey of Market Absorptions (SOMA) show that in general apartment owners are continuing to make proportionally fewer new apartments available with utility and fuel costs included in the monthly rent.¹ Tables 4 through 7

¹ See Department of Commerce, Bureau of the Census publication, *Utilities and Heating Fuels Included in New Apartment Rents: 1973 and 1976*, H-131B, July 1978.

show percentages on inclusion in rent and availability of these items for 1976 and 1977. It should be noted that "heating fuel" refers to whatever fuel is used to heat the apartment and may include electricity or gas.

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 I and II.² These standard errors imply there are about two chances out of three that a complete count would be contained in the interval around the estimate defined by the standard error.

Throughout all of 1977, a total of about 289,400 privately financed apartments were completed in buildings with five units or more, of which 68 percent were nonsubsidized unfurnished apartments. Of the remainder, 15 percent were cooperatives and condominiums with a 3-month absorption rate of 71 percent. Cooperatives and condominiums are predominantly two bedrooms or larger (80 percent) and 68 percent were built in the South and West regions of the United States (see tables 10 and 11).

Furnished rental units accounted for 6 percent of the total number of privately financed apartments. Three months after completion, 90 percent of these units were absorbed. While about one-half of all unfurnished units are the two-bedroom type, only one out of four of the furnished are two-bedroom units. The survey indicates that a furnished apartment is likely to be smaller than an unfurnished one, with one and no bedroom categories accounting for 75 percent of the furnished while these categories are 44 percent of the unfurnished units (see tables 8 and 9).

Excluded from the survey are units in federally subsidized properties, 9 percent, built under these programs of the Department of Housing and Urban Development: Senior Citizens Housing direct loans (Section 202), FHA below-market interest rate mortgages (Section 221 BMIR), FHA interest supplements on rental mortgages (Section 236), and all units in buildings containing apartments in the FHA rent supplement

² See *Reliability of Estimates*.

program. However, the data include privately-owned housing, subsidized by State and local governments. In addition, 3 percent are excluded for other reasons including turnkey housing (privately built and sold to local public housing authorities subsequent to completion).

SAMPLE DESIGN

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

In each quarter, a sample of about 2,000 buildings with five units or more completed during that quarter, is selected. The sample is selected from buildings reported as completed in a sample of building permits in the Census Bureau's Housing Starts Survey.³ Buildings completed in nonpermit-issuing areas are excluded from consideration in this survey.

Information is obtained for the units in the buildings selected in a given quarter in each of the next four quarters on the proportion of units occupied 3, 6, 9, and 12 months after completion.

ESTIMATION

The estimation procedure used in the survey involves, as a final step, the inflation of the weighted sample results to the quarterly estimates of housing completions obtained from the Housing Completions Survey. As the Housing Completions Survey is based on a larger sample than the Market Absorption Survey, it provides a more stable set of controls for estimates which can be obtained from both surveys. In addition to reducing the sampling variability of the estimates of totals from the SOMA, the ratio estimation procedure, as a useful by-product, produces estimates of the units completed in a given quarter which are consistent with the published figures from the Housing Completions series.⁴

The absorption rates assume that the absorption rates 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 comprise less than 2 percent of the sample housing units in this survey.

RELIABILITY OF ESTIMATES

The sample used for this survey is only one of a large number of possible samples of the same size that could have been selected

using the same sample design, sample selection, and measurement procedures. Estimates derived from these samples would differ from each other.

The standard error of a survey estimate is a measure of the variation among the estimates from all possible samples and is therefore, a measure of the precision with which an estimate from a particular sample approximates the average result of all possible samples. As calculated for this report, the standard error also partially measures the effect of certain nonsampling errors but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples between the estimate and the desired value. The accuracy of a survey result depends upon the sampling and nonsampling errors measured by the standard error, and the bias and other types of nonsampling error not measured by the standard error.

The estimate and its associated standard error may be used to construct a confidence interval; that is, if all possible samples were selected, each of these surveyed under essentially the same general conditions and an estimate and its estimated standard error were calculated from each sample, then approximately 95 percent of the intervals from two standard errors below the estimate to two standard errors above the estimate would include the average value of all possible samples. The average value of all possible samples may or may not be contained in any particular computed interval. But for a particular sample, one can say with specified confidence that the average of all possible samples is included in the constructed interval. Similarly, the chances are about two out of three that the survey estimate will differ from the average result of all possible samples by less than one standard error, and 99 out of 100 that the survey estimate will differ from the average result by less than 2½ times the standard error.

The figures presented in tables I and II are approximations to the standard errors of various estimates shown in the report. 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.

The reliability of an estimated absorption rate (i.e., a percentage) computed by using sample data for both the numerator and the 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 rate, particularly if the rates are 50 percent or more. Table II contains the standard errors of estimated rates.

³ See "Housing Starts," Construction Reports Series C20, for the details of this survey.

⁴ See "Housing Completions," Construction Reports, Series C22.

FIGURE A

Percent of Apartments Absorbed, by Months on the Market: 1977

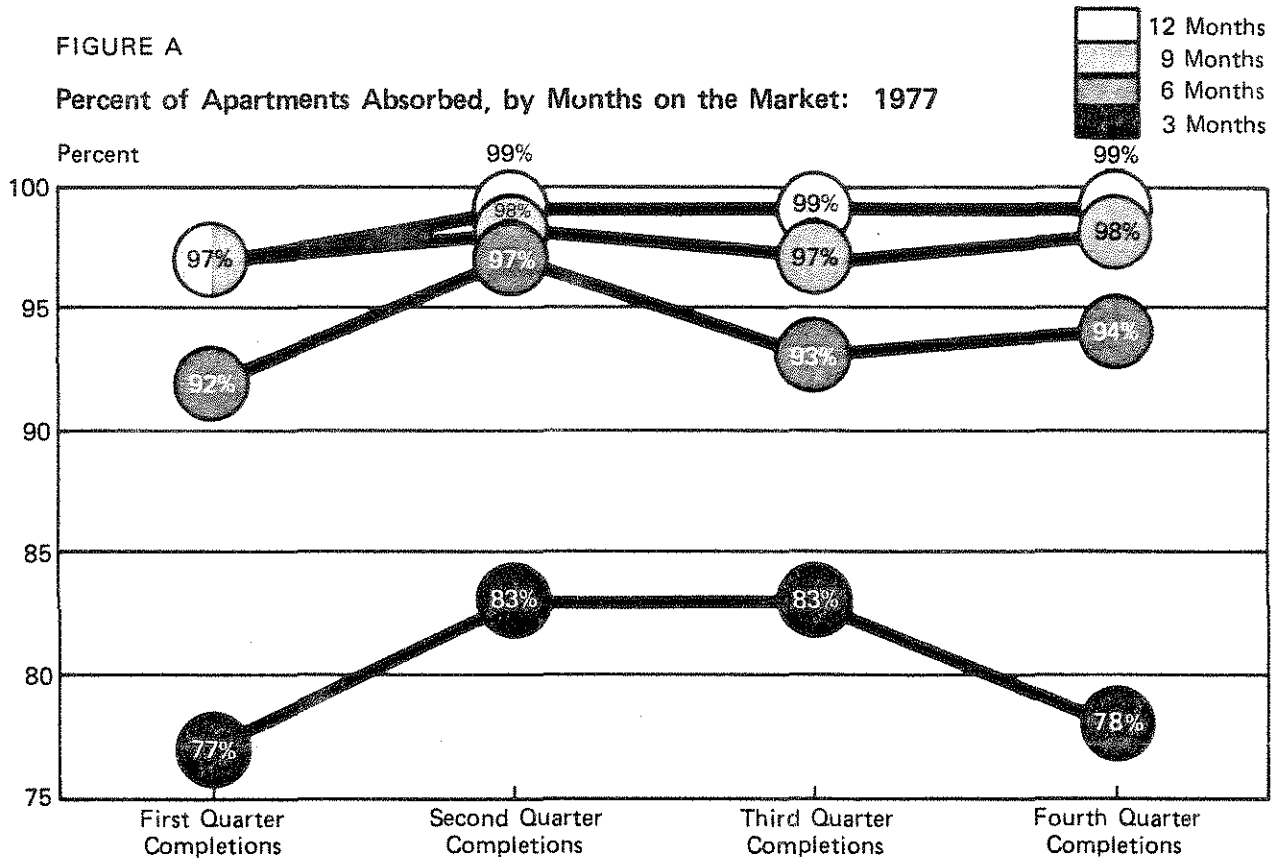


FIGURE B

Percent of Apartments Absorbed, by Region, by Months on the Market: 1977

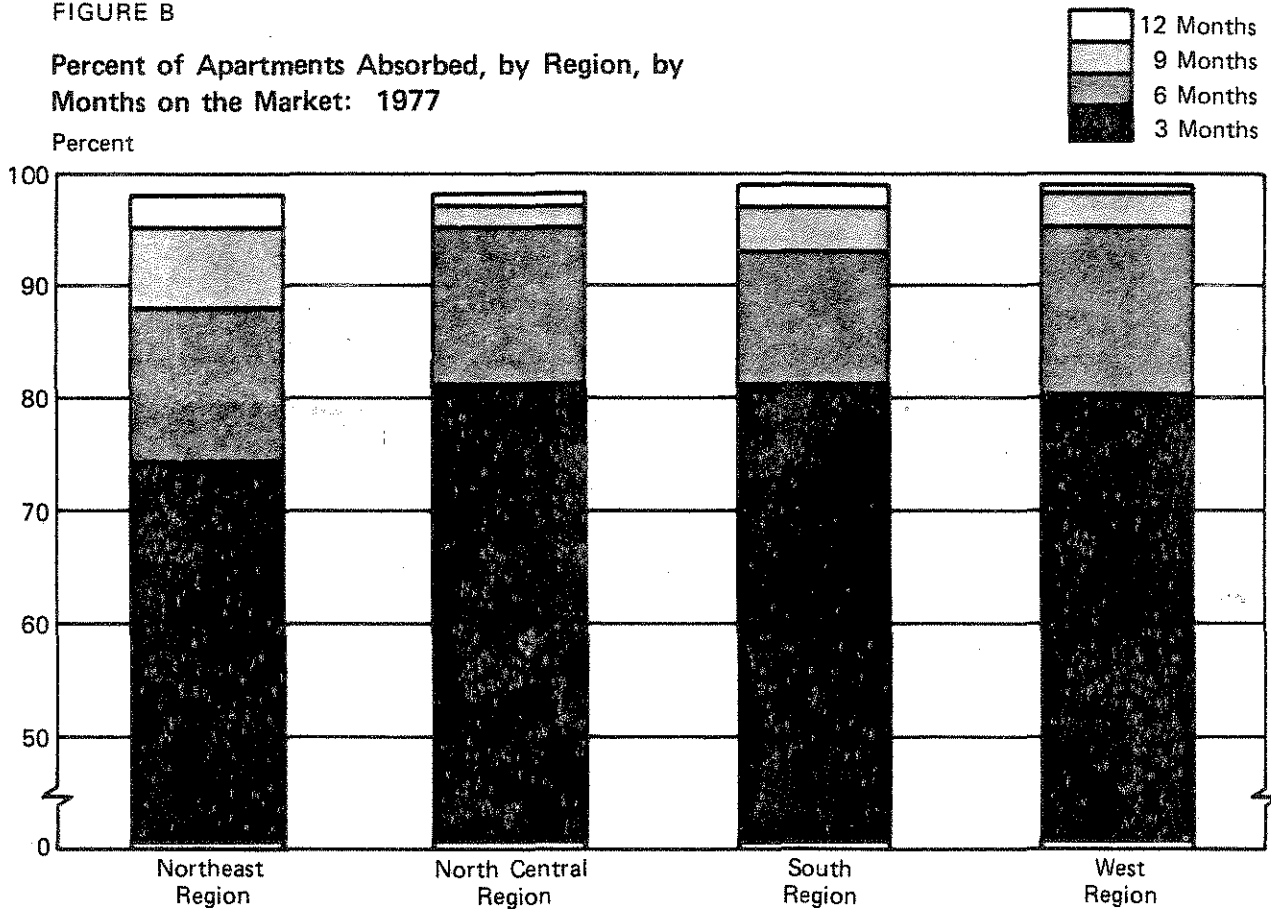


Table 1. Absorption Rates for Apartments Completed During 1977, by Number of Bedrooms and Rent Classes, for the United States

(Privately financed, nonsubsidized, unfurnished apartments in buildings with 5 or more units. Data regarding number of bedrooms and asking rent are collected at the initial interview; i.e., 3 months following completion.)

Characteristics	Total		Percent absorbed after--			
	Number	Percent	3 months	6 months	9 months	12 months
Total.....	195,600	100	80	94	97	99
Less than \$150.....	6,400	3	84	98	98	98
\$150 to \$174.....	14,500	7	75	96	98	98
\$175 to \$199.....	30,400	16	84	96	99	99
\$200 to \$249.....	72,500	37	83	95	98	99
\$250 to \$299.....	47,600	24	79	92	96	98
\$300 or more.....	24,200	12	72	90	97	99
	232					
No bedroom.....	6,700	3	83	96	99	99
Less than \$150.....	900	(Z)	74	100	100	100
\$150 to \$174.....	1,800	1	87	96	98	98
\$175 to \$199.....	1,800	1	85	98	99	99
\$200 to \$249.....	1,700	1	83	95	99	100
\$250 to \$299.....	200	(Z)	74	94	99	99
\$300 or more.....	300	(Z)	73	88	100	100
1 bedroom.....	81,100	41	83	95	98	99
Less than \$150.....	4,900	3	84	97	97	97
\$150 to \$174.....	7,600	4	79	99	100	100
\$175 to \$199.....	22,700	12	84	95	99	99
\$200 to \$249.....	31,900	16	85	95	98	99
\$250 to \$299.....	10,100	5	87	97	99	100
\$300 or more.....	3,800	2	63	85	96	98
2 bedrooms.....	100,600	51	78	92	96	98
Less than \$150.....	700	(Z)	99	100	100	100
\$150 to \$174.....	5,000	3	64	91	95	95
\$175 to \$199.....	5,900	3	83	96	98	98
\$200 to \$249.....	37,900	19	82	95	98	99
\$250 to \$299.....	35,600	18	77	90	95	98
\$300 to \$349.....	9,500	5	75	91	97	99
\$350 or more.....	6,000	3	71	90	96	98
3 bedrooms or more.....	7,200	4	77	93	97	99
Less than \$150.....	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)
\$150 to \$174.....	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)
\$175 to \$199.....	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)
\$200 to \$249.....	1,000	1	74	98	99	100
\$250 to \$299.....	1,700	1	84	94	96	100
\$300 to \$349.....	2,400	1	73	90	97	99
\$350 or more.....	2,100	1	78	92	97	98

(Z) Indicates less than 50 and less than one-half percent.

Table 2. Absorption Rates for Apartments Completed During 1977, by Geographic Area

(Privately financed, nonsubsidized, unfurnished apartments in buildings with 5 or more units)

Geographic areas	Total		Percent absorbed after--			
	Number	Percent	3 months	6 months	9 months	12 months
United States, total....	195,600	100	80	94	97	99
Inside SMSA's:						
In central city.....	78,400	40	85	96	98	99
Not in central city.....	79,000	40	80	94	98	99
Outside SMSA's.....	38,200	20	72	90	95	97
Northeast.....	11,200	6	74	88	95	98
North Central.....	59,800	31	81	95	97	98
South.....	60,800	31	81	93	97	99
West.....	63,800	33	80	95	98	99

Table 3. Absorption Rates for Apartments Completed During 1977, by Presence of Air Conditioning and Swimming Pool, for the United States

(Privately financed, nonsubsidized, unfurnished apartments in buildings with 5 or more units. Data regarding air conditioning and swimming pool are collected at the initial interview, i.e., 3 months following completion.)

Characteristics	Total		Percent absorbed after--			
	Number	Percent	3 months	6 months	9 months	12 months
Unfurnished total.....	195,600	100	80	94	97	99
AIR CONDITIONING						
Included in rent.....	71,600	37	79	92	97	98
Available at extra cost.....	94,700	48	82	95	98	99
Not available.....	28,800	15	80	94	97	99
Not reported.....	500	(Z)	84	98	99	100
SWIMMING POOL						
Included in rent.....	97,700	50	85	96	99	100
Available at extra cost.....	1,900	1	81	99	99	100
Not available.....	95,300	49	76	91	96	98
Not reported.....	600	(Z)	97	99	99	100

(Z) Indicates less than one-half of one percent.

**Table 4. New Apartments Completed With Utilities and Heating Fuel Included in Rent, by Region:
1976 and 1977**

(Data in percent. Privately financed, nonsubsidized, unfurnished apartments in buildings with 5 units or more. Data regarding electricity, gas, and heating fuel collected at the initial interview; i.e., 3 months following completion.)

Utilities	Total		Northeast		North Central		South		West	
	1976	1977	1976	1977	1976	1977	1976	1977	1976	1977
Total completions.....	157,000	195,600	16,000	11,200	54,000	60,000	48,000	60,700	38,000	63,700
ELECTRICITY										
Total.....	100	100	100	100	100	100	100	100	100	100
Included in rent.....	16	9	21	8	3	6	36	18	9	4
Available at extra cost.....	84	91	79	91	97	94	64	82	91	96
Not available or not reported....	(Z)	(Z)	-	1	(Z)	(Z)	(Z)	(Z)	-	(Z)
GAS										
Total.....	100	100	100	100	100	100	100	100	100	100
Included in rent.....	26	21	16	23	28	27	39	27	12	9
Available at extra cost.....	17	18	10	7	19	16	9	10	28	31
Not available or not reported....	57	61	74	70	53	56	52	64	60	61
HEATING FUEL*										
Total.....	100	100	100	100	100	100	100	100	100	100
Included in rent.....	45	30	67	55	44	35	62	43	16	9
Available at extra cost.....	54	69	33	44	56	65	37	57	83	90
Not available or not reported....	1	(Z)	-	1	(Z)	(Z)	1	(Z)	1	1

- Represents zero. (Z) Indicates less than one-half of one percent.

*Heating fuel refers to whatever fuel is used to heat the apartment and may include electricity or gas.

Table 5. Utilities and Heating Fuel Included in Rent, by Rent Class: 1976 and 1977

ata in percent. Privately financed, nonsubsidized, unfurnished apartments in buildings with 5 units or more. Data regarding electricity, gas, and heating fuel collected at the initial interview; i.e., 3 months following completion.)

Utilities	Rent Class			
	Less than \$250		\$250 or more	
	1976	1977	1976	1977
Total completions.....	113,000	171,500	44,000	24,100
ELECTRICITY				
Total.....	100	100	100	100
Included in rent.....	15	9	21	10
Available at extra cost.....	85	91	79	90
Not available or not reported.....	(Z)	(Z)	-	(Z)
GAS				
Total.....	100	100	100	100
Included in rent.....	25	20	29	28
Available at extra cost.....	15	16	21	33
Not available or not reported.....	59	64	50	39
HEATING FUEL*				
Total.....	100	100	100	100
Included in rent.....	42	30	54	35
Available at extra cost.....	57	70	45	64
Not available or not reported.....	(Z)	(Z)	(Z)	(Z)

- Represents zero. (Z) Indicates less than one-half of one percent.

*Heating fuel refers to whatever fuel is used to heat the apartment and may include electricity or gas.

Table 6. Utilities and Heating Fuel Included in Rent, by Inside and Outside SMSA's: 1976 and 1977

(Data in percent. Privately financed, nonsubsidized, unfurnished apartments in buildings with 5 units or more. Data regarding electricity, gas, and heating fuel collected at the initial interview; i.e., 3 months following completion.)

Utilities	United States		Inside SMSA's				Outside SMSA's	
			In central cities		Not in central cities			
	1976	1977	1976	1977	1976	1977	1976	1977
Total completions.....	157,000	195,600	65,000	78,000	67,000	79,000	25,000	38,600
ELECTRICITY								
Total.....	100	100	100	100	100	100	100	100
Included in rent.....	16	9	27	9	11	8	2	10
Available at extra cost.....	84	91	73	90	89	92	98	89
Not available or not reported....	(Z)	(Z)	-	(Z)	(Z)	(Z)	-	(Z)
GAS								
Total.....	100	100	100	100	100	100	100	100
Included in rent.....	26	21	31	26	23	17	25	17
Available at extra cost.....	17	18	11	19	18	17	30	19
Not available or not reported....	57	61	58	55	59	65	46	64
HEATING FUEL*								
Total.....	100	100	100	100	100	100	100	100
Included in rent.....	45	30	51	31	40	30	45	30
Available at extra cost.....	54	69	49	69	59	70	55	69
Not available or not reported....	1	(Z)	1	(Z)	1	(Z)	-	1

- Represents zero. (Z) Indicates less than one-half of one percent.

*Heating fuel refers to whatever fuel is used to heat the apartment and may include electricity or gas.

Table 7. Utilities and Heating Fuel Included in Rent by With/Without Elevator: 1976 and 1977

Data in percent. Privately financed, nonsubsidized, unfurnished apartments in buildings with 5 units or more. Data regarding electricity, gas, and heating fuel collected at the initial interview; i.e., 3 months following completion.)

Utilities	With elevators		Without elevators	
	1976	1977	1976	1977
Total completions.....	12,000	11,500	145,000	184,100
ELECTRICITY				
Total.....	100	100	100	100
Included in rent.....	31	16	15	9
Available at extra cost.....	69	84	85	91
Not available or not reported.....	-	(Z)	(Z)	(Z)
GAS				
Total.....	100	100	100	100
Included in rent.....	34	50	26	19
Available at extra cost.....	17	19	17	18
Not available or not reported.....	49	31	57	63
HEATING FUEL*				
Total.....	100	100	100	100
Included in rent.....	64	56	44	29
Available at extra cost.....	34	43	56	71
Not available or not reported.....	2	1	1	(Z)

- Represents zero. (Z) Indicates less than one-half of one percent.

*Heating fuel refers to whatever fuel is used to heat the apartment and may include electricity or gas.

**Table 8. Furnished Apartments Completed
During 1977, by Number of Bedrooms and
Rent Classes, for the United States**

(Privately financed, nonsubsidized, furnished apartments in buildings with 5 or more units. Data regarding number of bedrooms and asking rent are collected at the initial interview; i.e., 3 months following completion.)

Characteristics	Total	
	Number	Percent
Total.....	16,200	100
RENT CLASSES		
Less and \$150.....	500	3
\$150 to \$174.....	1,200	7
\$175 to \$199.....	5,900	36
\$200 to \$249.....	4,900	30
\$250 or more.....	3,700	23
BEDROOMS		
None.....	5,700	35
1 bedroom.....	6,400	40
2 bedrooms.....	4,000	25
3 bedrooms or more.....	200	1

**Table 9. Absorption Rates for Furnished Apartments Completed During 1977, by Rent Classes and
Bedrooms, for the United States**

(Privately financed, nonsubsidized, furnished apartments in buildings with 5 units or more. Data regarding asking rent are collected at the initial interview; i.e., 3 months following completion.)

Characteristics	Total	Percent absorbed within--			
		3 months	6 months	9 months	12 months
Total.....	16,200	90	99	100	100
RENT CLASSES					
Less than \$150.....	500	88	99	100	100
\$150 to \$174.....	1,200	93	100	100	100
\$175 to \$199.....	5,900	87	98	100	100
\$200 to \$249.....	4,900	91	100	100	100
\$250 or more.....	3,700	93	99	99	99
BEDROOMS					
None.....	5,700	92	99	100	100
1 bedroom.....	6,400	90	99	100	100
2 bedrooms.....	4,000	88	99	99	99
3 bedrooms or more.....	200	100	100	100	100

Table 10. Cooperative and Condominium Apartments Completed During 1977, by Number of Bedrooms and Geographic Regions, for the United States

(Privately financed, nonsubsidized, apartments in buildings with 5 or more units. Data regarding number of bedrooms are collected at the initial interview; i.e., 3 months following completion.)

Characteristics	Total	
	Number	Percent
Total.....	43,000	100
BEDROOMS		
None.....	500	1
1 bedroom.....	7,800	18
2 bedrooms.....	26,000	60
3 bedrooms or more.....	8,700	20
REGION		
Northeast.....	6,800	16
North Central.....	6,900	16
South.....	17,400	40
West.....	11,900	28

Table 11. Absorption Rates for Cooperative and Condominium Apartments Completed During 1977, by Number of Bedrooms and Geographic Regions, for the United States

(Privately financed, nonsubsidized, apartments in buildings with 5 or more units. Data regarding number of bedrooms are collected at the initial interview, i.e., 3 months following completion.)

Characteristics	Total	Percent absorbed within--			
		3 months	6 months	9 months	12 months
Total.....	43,000	71	83	90	93
BEDROOMS					
None.....	500	94	95	98	100
1 bedroom.....	7,800	67	79	87	92
2 bedrooms.....	26,000	68	81	89	93
3 bedrooms or more.....	8,700	82	91	95	96
REGION					
Northeast.....	6,800	82	93	97	97
North Central.....	6,900	59	80	90	93
South.....	17,400	62	74	84	90
West.....	11,900	85	92	95	96

ILLUSTRATIVE USE OF THE STANDARD ERROR TABLES

Table I of this report shows that 14,500 units completed in 1977 rented for \$150 to \$174. Table I shows the standard error of an estimate of this size to be approximately 1,521. The chances are 68 out of 100 the estimate differs from a complete census by less than 1,521. The chances are 95 out of 100 that the estimate differs from a complete census by less than 3,042 (twice the standard error).

Table I shows the rate of absorption after three months for these 14,500 units is 75 percent. Table II shows the standard error of a 75 percent rate on a base of 14,500 to be approximately 4.5 percent. Consequently, chances are 68 out of 100 that the estimated rate would be within 4.5 percentage points of a complete census figure and chances are 95 out of 100 that the estimated rate would be within 9.0 percentage points of a census figure; i.e., the 95 percent confidence interval would be from 66.0 to 84.0 percent.

Table I. Standard Errors of Estimated Totals: 1970 to 1977 Completions

(1 standard error)

Estimated total	Standard error	Estimated total	Standard error
5,000.....	890	75,000.....	3,550
10,000.....	1,260	100,000.....	4,130
15,000.....	1,550	150,000.....	5,160
20,000.....	1,790	250,000.....	6,900
25,000.....	2,010	350,000.....	8,440
35,000.....	2,380	450,000.....	9,870
50,000.....	2,870	600,000.....	11,900

Table II. Standard Errors of Estimated Percentages: 1970 to 1977 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.....	2.5	3.9	5.3	7.1	7.7	8.9
10,000.....	1.8	2.7	3.8	5.0	5.4	6.2
15,000.....	1.4	2.2	3.1	4.1	4.4	5.1
20,000.....	1.2	1.9	2.7	3.6	3.8	4.4
25,000.....	1.1	1.7	2.4	3.2	3.4	4.0
35,000.....	0.9	1.5	2.0	2.7	2.9	3.4
50,000.....	0.8	1.2	1.7	2.2	2.4	2.8
75,000.....	0.6	1.0	1.4	1.8	2.0	2.3
100,000.....	0.6	0.9	1.2	1.6	1.7	2.0
150,000.....	0.5	0.7	1.0	1.3	1.4	1.6
250,000.....	0.4	0.5	0.8	1.0	1.1	1.3
350,000.....	0.3	0.5	0.6	0.8	0.9	1.1
450,000.....	0.3	0.4	0.6	0.7	0.8	0.9
600,000.....	0.2	0.4	0.5	0.6	0.7	0.8