

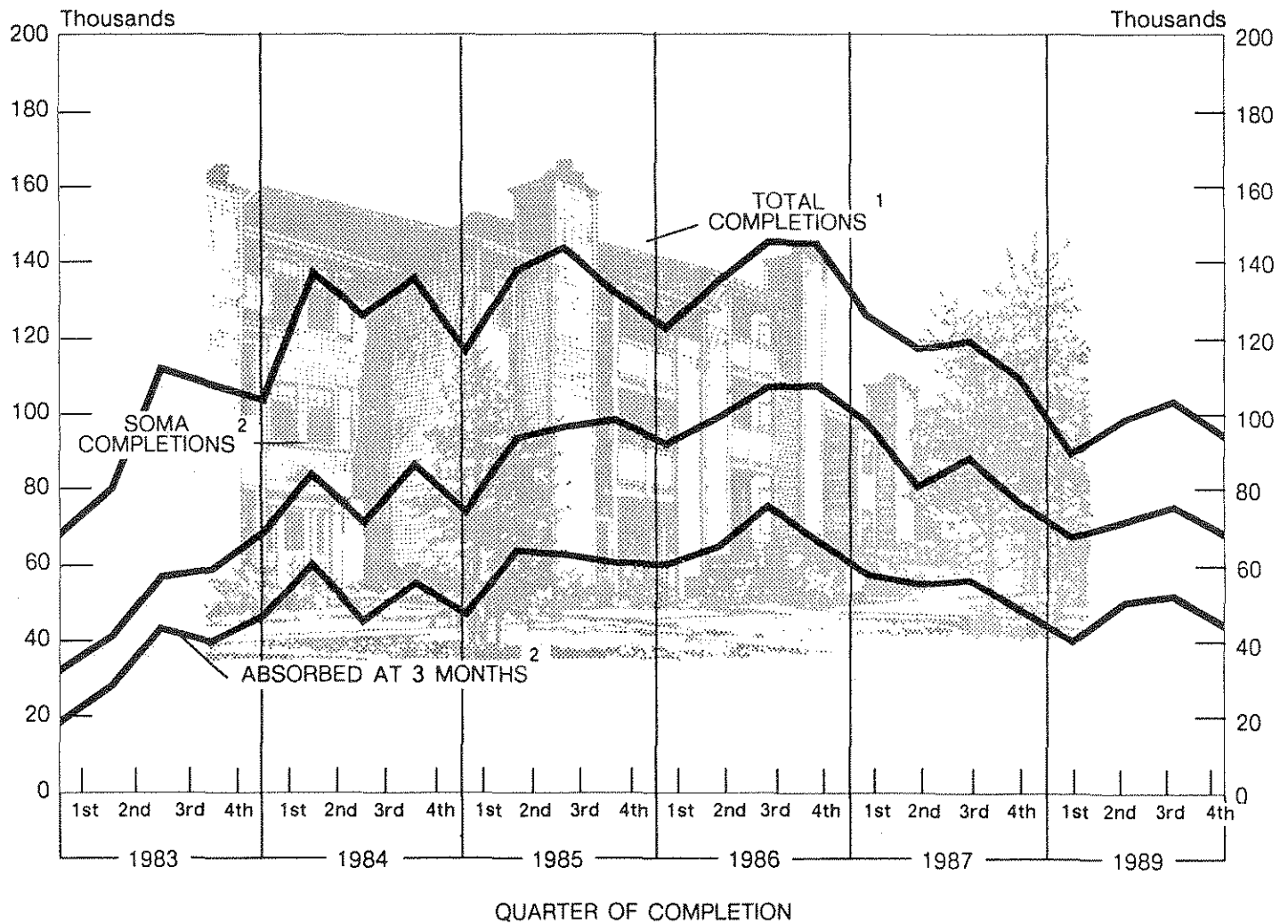
U.S. Department of Commerce
 BUREAU OF THE CENSUS
 U.S. Department of Housing
 and Urban Development

Market Absorption of Apartments

First Quarter 1989—Absorptions
 (Completions in Fourth Quarter 1988)

H130-89-Q1
 Issued June 1989

Figure 1.
 Units in Apartment Buildings Completed and Absorbed: 1983 to 1988



Note: Limited to buildings with five or more units in permit-issuing places.

- 1. Source: Construction Reports, C22-89-2 (February 1989) table 2.
- 2. Privately financed, nonsubsidized, unfurnished apartments.

SUMMARY OF FINDINGS

Of the 68,700 privately financed, nonsubsidized, unfurnished rental apartments completed in buildings with five units or more during the fourth quarter, October-December 1988, 68 percent were absorbed (seasonally adjusted) 3 months after their completion. This is about the same (± 6 percent) as the 3-month seasonally adjusted rate of 67 percent for apartments completed in the third quarter of 1988, and also about the same (± 6 percent) as the seasonally adjusted rate of 65 percent for fourth quarter 1987 completions (table 1).

The 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 have been computed from the sample data and are presented in the tables. 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 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, some of the statistical findings which are not part of the tables are also provided with a 90-percent deviate.

Apartments completed in the third quarter, July-September 1988, which have been on the market for 6 months were 84 percent absorbed. This is about the same (± 5 percent) as the 80 percent 6-month rate for apartments completed during the same (third) quarter of 1987. Apartments which have been on the market for 9 months, those completed during April-June 1988, were 92 percent absorbed, and apartments completed in January-March, which have been on the market for 12 months were 95 percent absorbed.

The median asking rent for all privately financed unfurnished units in buildings with 5 units or more constructed in the fourth quarter of 1988 was greater than \$550, as it was in the last (third) quarter. About 57 percent (39,300) of the units were constructed with two or more bedrooms; the median asking price of these units was \$609. The median asking rent of the 29,400 units with fewer than 2 bedrooms was \$528 (table 2).

Ninety-seven percent of all newly constructed, privately financed, unfurnished apartments were located in metropolitan areas; 37 percent were in central cities and 60 percent were in suburban areas. Two percent of the new apartment construction was in the Northeast; 17

percent was in the Midwest; 30 percent was in the South; and 51 percent of the new apartment construction occurred in the West, significantly higher than the 41 percent of the total that was constructed in the West in the last (third) quarter (table 4).

Approximately 18,900 cooperative and condominium apartments in buildings with five units or more were completed in the fourth quarter of 1988, about the same ($\pm 8,130$) as the number of such units completed in the third quarter. However, the 3-month absorption rate for these apartments was 71 percent, significantly higher than the 3-month rate of 56 percent for the 20,200 units completed in the third quarter (table 5).

The 18,600 condominium apartments constructed in the fourth quarter of 1988 was about the same ($\pm 8,370$) as the (revised) 19,900 such units completed last quarter. Seventy-three percent of the new condominium units had two bedrooms. Ten percent had three bedrooms or more, and 16 percent were either efficiency or one-bedroom apartments (table 6).

A total of 284,500 unfurnished units were completed in the last 12 months, and they had a median asking rent of \$550 or more (table 7). The total number of condominium apartments completed in the last 12 months was 74,100 with a median asking price of \$116,500 (table 8).

A total of 94,900 apartments were completed in all buildings with five units or more in the fourth quarter of 1988 (table 9). The majority (72 (± 6) percent) of the units completed in the fourth quarter were the 68,700 privately financed, nonsubsidized, unfurnished, rental apartments. Cooperative and condominium apartments accounted for about 20 (± 7) percent of total fourth quarter 1988 completions. About 1 percent (± 0.1) percent were furnished rental apartments.

Units in federally subsidized properties built under 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) accounted for 3 (± 2) percent of total completions.

About 3 (± 2) percent of the apartments completed 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). The data on privately financed units include privately owned housing subsidized by State and local government.

¹See Reliability of Estimates on page 10.

Figure 2.
**Median Rent of Apartments Completed in
 the United States: 1985 to 1988**

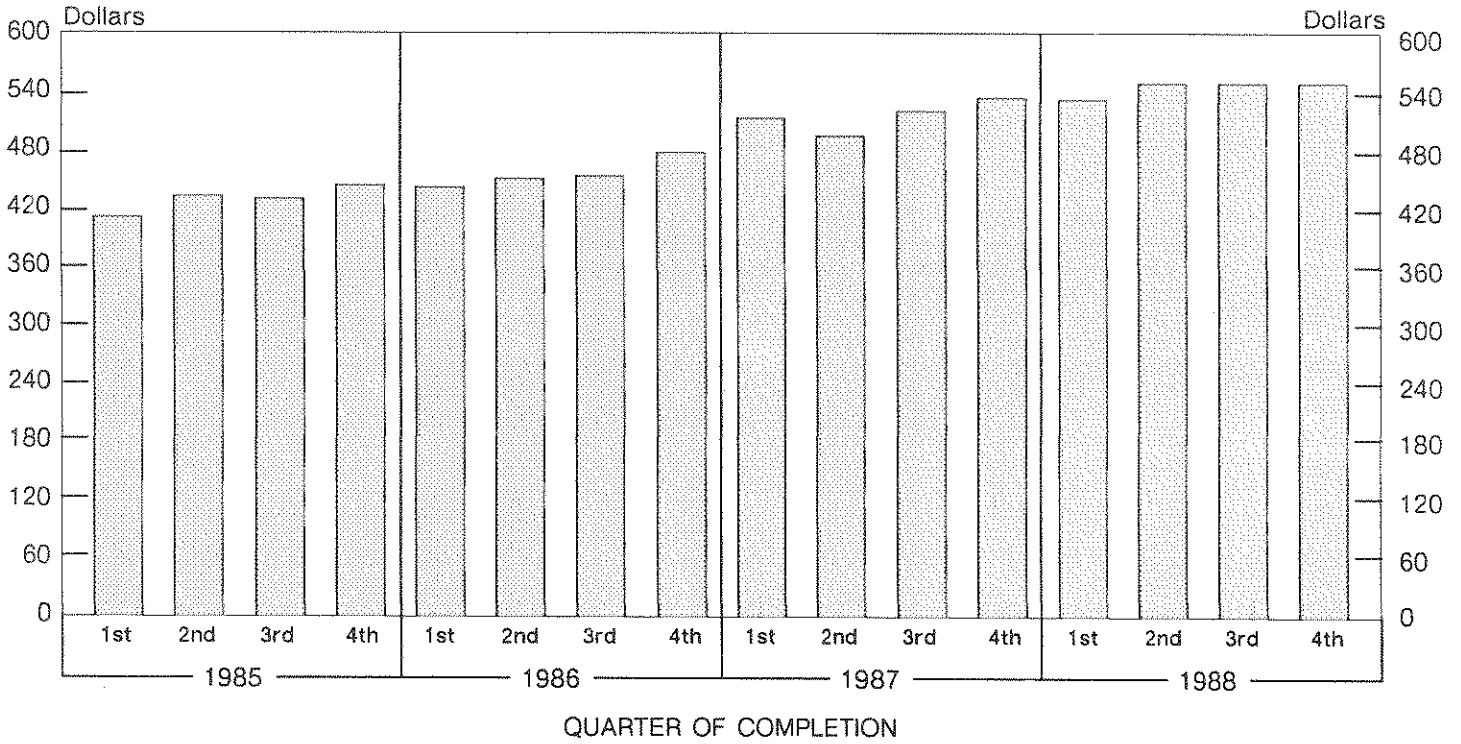
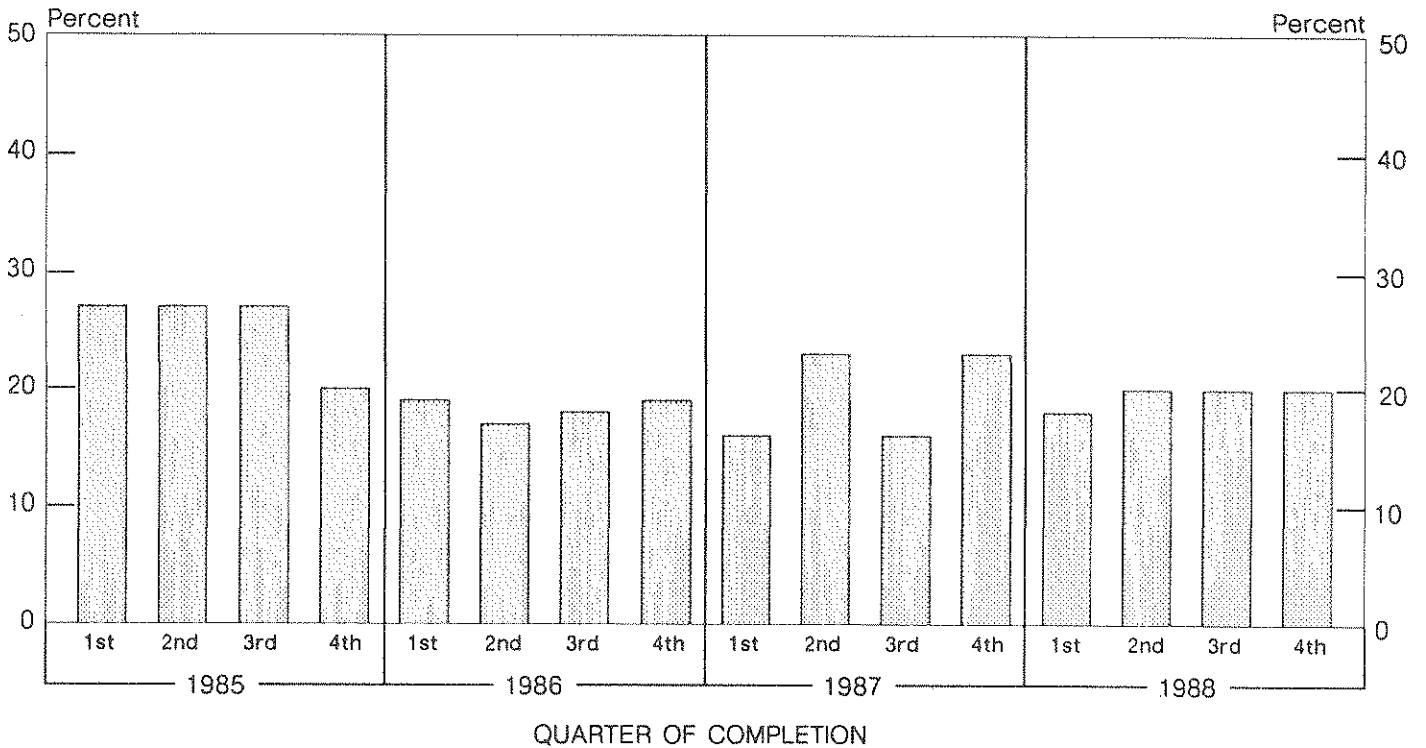


Figure 3.
**Cooperative and Condominium Apartment Completions as Percent of
 Total Apartment Completions: 1985 to 1988**



Note: Limited to Buildings with five or more units in permit-issuing places.

Table 1. Absorption Rates of Privately Financed Nonsubsidized Unfurnished Apartments: 1985 to 1988
(Buildings with five units or more.)

Quarter of completion	Total unfurnished apartments completed		Seasonally adjusted--rented within 3 months		Not seasonally adjusted--rented within--							
					3 months		6 months		9 months		12 months	
	Number	Standard error* (number of apartments)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)
1985												
January-March	74,800	3,260	67	1.5	64	2.1	84	1.6	91	1.2	94	1.2
April-June	94,200	4,080	65	2.0	68	2.0	85	1.5	92	1.1	95	0.9
July-September	97,100	3,900	64	1.9	65	1.9	83	1.5	91	1.1	96	0.8
October-December ...	98,300	3,420	65	1.6	62	1.6	82	1.3	93	0.9	96	0.7
1986												
January-March	92,700	3,430	67	1.7	65	1.7	86	1.3	93	0.9	96	0.8
April-June	99,600	4,020	63	1.9	66	1.9	84	1.4	91	1.1	95	0.8
July-September	107,700	5,670	69	1.7	71	1.7	85	1.3	92	1.0	96	0.4
October-December ...	107,700	5,670	64	1.8	61	1.9	81	1.5	91	0.6	95	0.4
1987												
January-March	97,700	4,620	60	1.8	58	2.1	80	2.6	88	2.7	92	2.4
April-June	81,600	4,760	64	2.2	68	1.4	87	0.7	93	0.7	96	0.4
July-September	89,300	4,240	62	2.4	63	2.4	80	2.4	87	2.0	93	1.4
October-December ...	77,000	4,670	65	2.1	63	2.0	83	1.3	92	0.8	96	0.5
1988												
January-March	68,100	3,870	63	2.0	60	1.8	82	1.0	90	0.9	95	0.7
April-June	72,000	4,460	65	1.4	70	1.5	86	1.2	92	1.0	(NA)	(NA)
July-September	75,600	5,470	67	2.6	68	2.6	84	1.9	(NA)	(NA)	(NA)	(NA)
October-December ^P ..	68,700	4,760	68	3.0	66	3.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

*Standard error within range of about 2 chances out of 3.

NA Not available.

^PPreliminary.

^rRevised.

Table 2. Characteristics of Unfurnished Apartments Completed During the Fourth Quarter of 1988 and 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. Data may not add to total due to 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 or dollars)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)
Total.....	68,700	4,760	100	(X)	66	3.0
RENT CLASS						
Less than \$350.....	4,500	1,980	7	2.7	96	1.2
\$350 to \$399.....	4,300	1,150	6	1.5	78	9.1
\$400 to \$449.....	5,100	1,000	7	1.4	70	5.0
\$450 to \$499.....	8,400	1,240	12	1.6	74	3.6
\$500 to \$549.....	8,400	860	12	1.4	64	2.5
\$550 or more.....	37,900	3,650	55	4.2	60	3.2
Median asking rent.....	\$550+	(X)	(X)	(X)	(X)	(X)
Fewer than two bedrooms.....						
Less than \$350.....	29,400	2,960	43	2.1	64	4.9
\$350 to \$399.....	3,200	1,340	5	1.8	95	2.5
\$400 to \$449.....	2,100	340	3	0.5	69	5.3
\$450 to \$499.....	3,700	730	5	1.0	67	6.6
\$500 to \$549.....	4,200	450	6	0.8	69	2.8
\$550 or more.....	2,800	330	4	0.6	68	1.8
Median asking rent.....	\$528	\$27	(X)	(X)	(X)	(X)
Two bedrooms or more.....						
Less than \$350.....	39,300	2,520	57	2.1	68	2.5
\$350 to \$399.....	1,300	960	2	1.4	99	0.5
\$400 to \$449.....	2,300	1,190	3	1.7	86	12.6
\$450 to \$499.....	1,400	590	2	0.8	79	9.6
\$500 to \$549.....	4,300	1,150	6	1.5	79	5.4
\$550 to \$649.....	5,600	790	8	1.2	63	3.5
\$650 or more.....	8,000	580	12	1.1	61	2.5
Median asking rent.....	\$609	\$16	(X)	(X)	(X)	(X)
BEDROOMS						
No bedroom.....	2,000	680	3	0.9	36	12.2
1 bedroom.....	27,400	2,490	40	1.6	66	4.0
2 bedrooms.....	36,100	2,460	53	2.1	68	2.6
3 bedrooms or more.....	3,200	320	5	0.5	65	2.8

*Standard error within range of about 2 chances out of 3.

X Not applicable.

Table 3. Characteristics of Unfurnished Apartments Completed During the Third Quarter of 1988 and 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. Data may not add to total due to 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.....	75,600	5,470	100	(X)	68	2.6
RENT CLASS						
Less than \$350	3,900	1,470	5	1.9	84	6.0
\$350 to \$399	5,100	1,040	7	1.4	77	7.8
\$400 to \$449	8,100	1,230	11	1.5	71	6.1
\$450 to \$499	7,600	800	10	1.1	68	3.5
\$500 to \$549	7,900	1,210	10	1.2	74	4.6
\$550 or more.....	43,000	4,280	57	3.4	64	2.8
Median asking rent.....	\$550 +	(X)	(X)	(X)	(X)	(X)
Fewer than two bedrooms.....	32,300	3,080	43	2.2	70	3.0
Less than \$350	2,800	940	4	1.2	79	7.2
\$350 to \$399	2,200	450	3	0.6	80	4.8
\$400 to \$449	5,400	790	7	1.0	67	5.2
\$450 to \$499	3,800	310	5	0.5	59	2.9
\$500 to \$549	3,200	980	4	1.1	85	4.3
\$550 or more.....	15,000	2,410	20	2.6	66	4.1
Median asking rent.....	\$531	\$24	(X)	(X)	(X)	(X)
Two bedrooms or more.....	43,300	3,320	57	2.2	67	2.8
Less than \$350	1,200	610	2	0.8	95	4.4
\$350 to \$399	2,900	950	4	1.3	75	13.2
\$400 to \$449	2,700	1,040	4	1.3	79	11.3
\$450 to \$499	3,800	680	5	0.9	77	4.2
\$500 to \$549	4,700	750	6	1.0	67	5.5
\$550 to \$649	8,000	960	11	1.0	63	4.0
\$650 or more.....	20,000	2,350	26	2.4	63	2.5
Median asking rent.....	\$629	\$21	(X)	(X)	(X)	(X)
BEDROOMS						
No bedroom	4,100	1,910	5	2.4	64	8.8
1 bedroom	28,300	2,310	37	1.8	70	2.6
2 bedrooms	39,200	2,730	52	1.8	67	2.8
3 bedrooms or more.....	4,000	1,140	5	1.4	67	3.8

*Standard error within range of about 2 chances out of 3. X Not applicable.

Table 4. Unfurnished Apartments Completed During the Fourth Quarter of 1988, by Geographic Area
Not Seasonally Adjusted

(Privately financed, nonsubsidized, unfurnished, rental apartments in buildings with five units or more. Data are collected at the initial interview, i.e., 3 months following completion. Data may not add to total due to rounding.)

Geographic area	Total unfurnished apartments completed		Percent of total units		Percent rented within 3 months	
	Number	Standard error* (number of apartments or dollars)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)
United States, total	68,700	4,760	100	(X)	66	3.0
Inside MSA's	66,800	4,660	97	2.0	66	3.0
In central city	25,500	2,050	37	3.5	65	3.0
Not in central city	41,300	4,620	60	3.7	66	4.7
Outside MSA's	1,900	1,420	3	2.0	86	7.3
Northeast	1,200	410	2	0.6	59	13.4
Midwest	11,800	1,710	17	2.5	73	6.6
South	20,900	1,590	30	2.7	60	4.0
West	34,800	4,550	51	3.9	68	4.8

*Standard error within range of about 2 chances out of 3. X Not applicable.

Table 5. Absorption Rates of Cooperative and Condominium Apartments: 1985 to 1988
Not Seasonally Adjusted

(Buildings with five units or more.)

Quarter of completion	Total cooperative and condominium apartments completed		Percent of all units in buildings with 5 units or more		Percent absorbed within--							
					3 months		6 months		9 months		12 months	
	Number	Standard error* (number of apartments)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)
1985												
January-March	32,700	2,850	28	2.0	65	4.1	81	3.4	86	3.0	90	3.0
April-June	36,600	3,570	26	6.0	69	4.3	78	3.8	82	3.7	87	3.2
July-September	39,000	3,510	27	4.0	59	4.4	70	4.1	84	3.3	89	2.8
October-December	27,400	2,870	21	4.2	69	4.8	81	4.1	85	3.7	90	3.1
1986												
January-March	23,300	2,830	19	4.7	75	5.1	86	4.2	90	3.8	94	3.1
April-June	23,700	3,130	17	4.9	72	5.9	79	5.3	82	5.0	85	4.7
July-September	26,500	3,300	18	5.1	74	5.4	81	4.9	87	4.2	92	1.1
October-December	28,200	3,390	19	4.7	73	5.3	83	4.5	88	2.2	93	1.0
1987												
January-March	20,600	3,210	16	5.2	78	5.5	88	2.1	92	1.5	94	1.2
April-June	27,000	4,190	23	3.2	78	3.1	87	1.8	90	1.4	93	1.0
July-September	19,000	2,810	16	2.0	66	2.9	77	2.9	83	3.0	89	2.7
October-December	25,700	3,310	23	3.2	72	4.2	80	3.6	85	3.4	91	2.2
1988												
January-March	16,200	2,150	18	2.4	69	6.5	85	1.7	89	1.8	91	1.6
April-June	21,000	2,810	21	2.7	63	7.1	75	7.0	86	1.9	(NA)	(NA)
July-September	20,300	3,010	20	4.0	56	5.9	68	6.0	(NA)	(NA)	(NA)	(NA)
October-December ^P	18,900	4,080	20	4.0	71	1.3	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

*Standard error within range of about 2 chances out of 3. NA Not available. ^PPreliminary. ^RRevised.

Table 6. Characteristics of Condominium Apartments Completed During the Fourth Quarter of 1988 and Sold Within 3 Months

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

Item	Total condominium apartments completed		Percent of total units		Percent sold within 3 months	
	Number	Standard error* (number of apartments)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)
Total.....	18,600	4,080	100	(X)	71	1.3
PRICE CLASS						
Less than \$50,000.....	300	100	2	0.7	71	12.0
\$50,000 to \$74,999.....	2,900	440	16	4.0	75	2.8
\$75,000 to \$99,999.....	3,200	510	17	4.4	74	2.7
\$100,000 to \$149,999.....	3,700	790	20	5.6	73	4.1
\$150,000 to \$199,999.....	2,200	650	12	3.3	65	4.0
\$200,000 or more.....	6,300	3,820	34	13.9	68	1.3
Median asking price.....	\$138,800	\$27,330	(X)	(X)	(X)	(X)
BEDROOMS						
Fewer than 2 bedrooms.....	3,000	780	16	3.9	68	2.2
2 bedrooms.....	13,600	3,210	73	3.2	71	1.5
3 bedrooms or more.....	1,900	570	10	1.3	71	5.7

*Standard error within range of about 2 chances out of 3. X Not applicable.

Table 7. Characteristics of Unfurnished Apartments Completed in the Last 4 Quarters and Reported as Rented and Remaining For Rent in the First Quarter of 1989

(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.)

Item	Total unfurnished apartments completed in last 4 quarters	Standard error* (number of apartments)	Apartments rented prior to 1st quarter 1989	Standard error* (number of apartments)	Apartments rented in 1st quarter 1989	Standard error* (number of apartments)	Apartments remaining for rent at end of 1st quarter 1989	Standard error* (number of apartments)
Total.....	284,500	7,100	175,200	6,400	63,700	2,970	45,600	2,360
RENT CLASS								
Less than \$350.....	17,000	2,490	11,400	2,140	4,900	1,620	700	190
\$350 to \$399.....	22,100	2,170	15,800	2,170	4,200	1,210	2,100	490
\$400 to \$449.....	27,800	2,080	18,800	2,340	5,500	720	3,500	580
\$450 to \$499.....	35,900	2,370	22,700	2,330	8,400	1,210	4,800	450
\$500 to \$549.....	31,600	1,950	19,300	2,050	7,400	650	5,000	670
\$550 or more.....	150,000	5,070	87,200	4,080	33,300	1,530	29,500	2,070
Median asking rent.....	\$550 +	(X)	\$549	\$8	\$550 +	(X)	\$550 +	(X)
BEDROOMS								
Fewer than 2 bedrooms.....	124,100	5,290	77,100	4,520	26,500	1,910	20,500	1,950
2 bedrooms.....	147,500	4,550	90,300	4,400	34,100	2,250	23,100	1,290
3 bedrooms or more.....	12,900	1,260	7,800	1,090	3,100	340	2,000	320

*Standard error within range of about 2 chances out of 3. X Not applicable.

Note: These data are for the first through the fourth quarter of 1988 completions.

Table 8. Characteristics of Condominium Apartments Completed in Last 4 Quarters and Reported as Sold and Remaining For Sale in the First Quarter of 1989

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

Item	Total condominiums completed in last 4 quarters	Standard error* (number of apartments)	Condominiums sold prior to 1st quarter 1989	Standard error* (number of apartments)	Condominiums sold in 1st quarter 1989	Standard error* (number of apartments)	Condominiums remaining for sale at end of 1st quarter 1989	Standard error* (number of apartments)
Total.....	74,100	6,440	41,200	2,750	17,000	2,210	15,900	2,150
PRICE CLASS								
Less than \$50,000.....	2,900	560	2,000	410	500	80	400	160
\$50,000 to \$74,999.....	12,800	1,420	8,000	910	3,000	480	1,800	350
\$75,000 to \$99,999.....	16,100	1,890	9,800	1,330	3,200	350	3,100	820
\$100,000 to \$149,999.....	16,200	1,830	10,200	1,090	3,300	610	2,600	420
\$150,000 to \$199,999.....	12,500	2,920	6,000	1,540	2,000	460	4,500	1,360
\$200,000 or more.....	13,700	4,860	5,100	1,120	5,000	1,990	3,600	1,330
Median asking price.....	\$116,500	\$9,940	\$103,800	\$6,710	\$128,400	\$16,670	\$150,500	\$12,060
BEDROOMS								
Fewer than 2 bedrooms.....	13,200	1,510	6,800	870	2,800	3,600	3,600	810
2 bedrooms.....	51,800	5,860	29,500	2,400	12,300	10,000	10,000	1,800
3 bedrooms or more.....	9,100	2,200	4,900	1,010	1,800	2,300	2,300	870

*Standard error within range of about 2 chances out of 3.

Note: These data are for the first through the fourth quarter of 1988 completions.

Table 9. Apartments Completed in Buildings With Five Units or More: 1985 to 1988

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

Quarter of completion	Total apartments completed		Unfurnished apartments		Furnished apartments		Cooperatives and condominiums		Federally subsidized		Other ¹	
	Number	Standard error*	Number	Standard error*	Number	Standard error*	Number	Standard error*	Number	Standard error*	Number	Standard error*
1985												
January-March.....	117,900	6,290	74,800	3,260	1,100	590	32,700	2,850	2,500	880	6,800	1,430
April-June.....	138,300	8,040	94,200	4,060	1,700	850	36,600	3,570	3,300	1,190	2,500	1,030
July-September.....	144,500	7,850	97,100	3,990	2,100	890	39,000	3,550	2,400	970	3,900	1,010
October-December..	132,600	7,110	98,300	3,420	2,500	940	27,400	2,870	3,800	1,160	600	460
1986												
January-March.....	123,400	7,220	92,700	3,430	1,400	710	23,300	2,830	5,300	1,440	700	530
April-June.....	135,500	8,300	99,600	4,020	4,600	1,460	23,700	3,130	6,600	1,740	900	650
July-September.....	145,900	5,640	107,700	5,670	3,100	1,200	26,500	3,670	6,900	1,780	1,600	870
October-December..	145,400	5,640	107,700	5,670	2,500	1,080	28,200	3,890	4,400	1,430	2,700	1,120
1987												
January-March.....	126,400	5,140	97,700	4,620	1,400	780	20,600	3,210	3,700	1,310	3,000	1,160
April-June.....	117,800	5,140	81,600	4,760	2,600	530	27,000	4,190	3,200	280	3,300	880
July-September.....	119,900	5,140	89,300	4,240	3,800	1,440	19,000	2,810	5,900	2,000	2,000	520
October-December..	110,000	3,620	77,000	4,640	100	20	25,700	3,310	4,200	1,320	3,000	1,580
1988												
January-March.....	90,500	3,620	68,100	3,870	400	40	16,200	2,150	4,700	1,900	1,100	90
April-June.....	99,100	3,610	72,000	4,460	200	80	21,000	2,810	4,100	1,310	1,700	440
July-September.....	104,000	4,840	75,600	5,470	2,500	1,360	20,300	3,010	3,100	1,030	2,500	780
October-December ^P ..	94,900	4,770	68,700	4,760	900	90	18,900	4,080	3,300	1,030	3,200	1,580

* Standard error within range of about 2 chances out of 3. ^P Preliminary. ^r Revised.

¹Other includes time-sharing units, continuing care retirement units, and turnkey housing (privately built for and sold to local public housing authorities subsequent to completion).

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 units or more 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 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 permitissuing places is selected within each sample PSU. Finally, all 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.

Each quarter the absorption data for some buildings are received too late for inclusion in the report. These late data will be included in a revised table in the next quarterly report.

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: total units in 5+ buildings in permit-issuing areas as estimated by the SOC for that quarter divided by 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.

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 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, 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—

1. 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.

²See the January issue of "Housing Starts," Construction Reports, Series C20, for details of this survey.

³See "Housing Completions," Construction Reports, Series C22.

2. 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.
3. 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 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 90-percent confidence level. For example, table 2 of this report shows that there were 29,400 apartments with fewer than two bedrooms completed in the fourth quarter of 1988. The standard error of this estimate is 2,960. The 68-percent confidence interval as shown by these data is from 26,440 to 32,360. 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 24,664 to 34,136 (using 1.6 times the standard error) with 90 percent confidence.

The data in this report are preliminary and subject to slight changes in the annual report.

U.S. Department of Commerce
BUREAU OF THE CENSUS
Washington, D.C. 20233

Official Business
Penalty for Private Use, \$300

FIRST-CLASS MAIL
POSTAGE & FEES PAID
CENSUS
PERMIT No. G-58