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BUREAU OF THE CENSUS

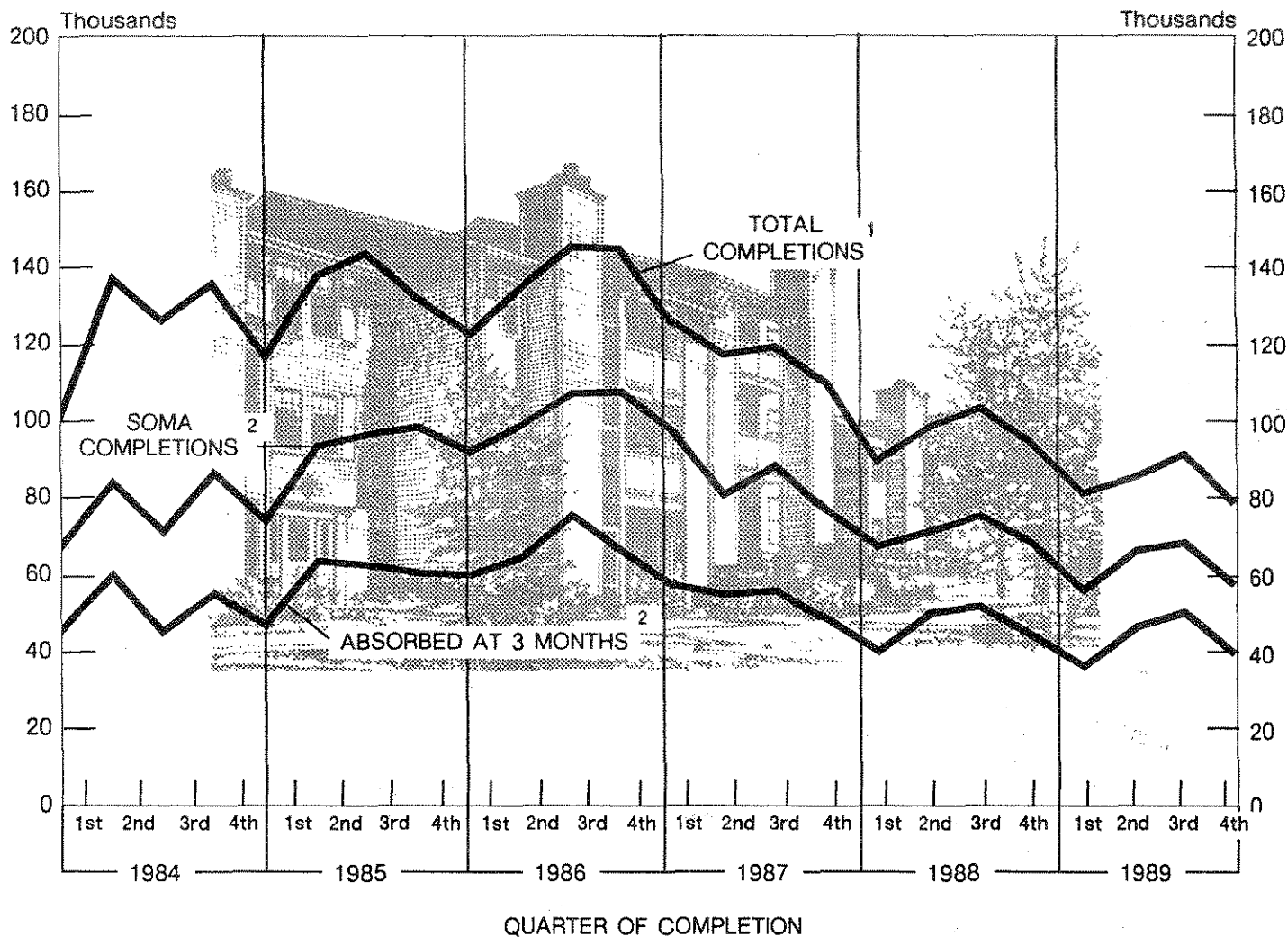
U.S. Department of Housing
and Urban Development

Market Absorption of Apartments

First Quarter 1990—Absorptions
(Completions in Fourth Quarter 1989)

H130-90Q1
Issued June 1990

Figure 1.
Units in Apartment Buildings Completed and Absorbed: 1984 to 1989



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

- 1. All apartments.
- 2. Privately-financed, nonsubsidized, unfurnished apartments.

SUMMARY OF FINDINGS

Of the approximately 57,700 privately-financed, non-subsidized, unfurnished, rental apartments completed in buildings with five units or more during the fourth quarter, October-December 1989, an estimated 71 percent were absorbed (seasonally adjusted) 3 months after their completion. This is about the same (± 5 percent) as the 3-month seasonally adjusted rate of 72 percent for apartments completed in the third quarter of 1989, and about the same (± 6 percent) as the 3-month seasonally adjusted rate of 67 percent for apartments completed during the same (fourth) quarter of 1988. The total number of unfurnished apartments completed in the fourth quarter is significantly lower ($\pm 8,837$) than the (revised) total of 67,300 units completed in quarter three (table 1).

All statistics in this report are limited to apartments in newly-constructed buildings with five units or more. Tables 1 through 4 and 7 are restricted to privately-financed, non-subsidized, unfurnished, rental apartments. Table 5 is restricted to privately-financed, non-subsidized, cooperative and condominium apartments. Tables 6 and 8 are restricted to privately-financed, non-subsidized, condominium apartments. Table 9 is a summary table which includes all newly-constructed apartments in 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.

The statistics in this report are based on a sample survey and consequently they are subject to sampling variability. 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.

The not-seasonally-adjusted 3-month absorption rate for apartments completed in the first two quarters was 69 percent. Apartments completed in the third quarter, July-September 1989, which have been on the market for 6 months were 86 percent absorbed. This is about the same (± 4 percent) as the 87 percent 6-month rate for

apartments completed during the first two quarters of 1989. Apartments which have been on the market for 9 months, those completed during April-June were 92 percent absorbed, and apartments completed in January-March, which have been on the market for 12 months were 96 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 1989 was \$595, unchanged ($\pm \49) from the (revised) \$597 median rent asked for similar apartments completed in the third quarter. Lower-priced units, those renting for less than \$450, were absorbed at a faster rate (± 10) than higher-priced units, those renting for \$750 or more, 78 (± 8) percent versus 62 percent. About 61 percent (35,200) of the units were constructed with two or more bedrooms; the median asking rent of these units was \$627. The median asking rent of the 22,600 units built with fewer than 2 bedrooms was \$528. The number of efficiency apartments (units with no bedroom) completed dropped (± 511) from 1,800 in the third quarter to 800 in the fourth quarter; they represent only one percent of unfurnished completions (table 2).

About 8 percent of the new, privately-financed, unfurnished apartments built in the fourth quarter are in the Northeast; 21 percent are in the Midwest; 33 percent are in the South; and 38 percent of the new apartment construction occurred in the West (table 4).

Approximately 12,400 cooperative and condominium apartments in buildings with five units or more were completed in the fourth quarter of 1989, about the same ($\pm 3,856$) as the (revised) 14,900 such units completed in the third quarter of 1989. The 3-month absorption rate for these apartments was 66 percent which is about the same (± 12 percent) as the 3-month rate of 68 percent in the third quarter (table 5).

Seventy-three percent of all new condominium units had two bedrooms, about the same (± 5 percent) as the estimated 75 percent of the total last quarter. Nineteen percent were either efficiency or one-bedroom apartments, higher (± 4 percent) than the 13 percent share last quarter, and 8 percent had three bedrooms or more, significantly lower (± 3 percent) than the 12 percent in this category in the third quarter (table 6).

An estimated total of 247,800 privately-financed, unfurnished units were completed in the last 12 months, and they had a median asking rent of \$591 (table 7). Eighty-six (± 2) percent of these apartments had been rented by the end of the first quarter of 1990. The total number of condominium apartments completed in the last 12 months was about 57,400 with a median asking price of \$122,000 (table 8). Seventy-eight (± 3) percent of these units were sold by the end of the first quarter.

A total of 78,500 apartments were completed in all buildings with five units or more in the fourth quarter of 1989, significantly fewer ($\pm 8,266$) than last quarter and fewer ($\pm 9,848$) than the total number of units completed

in the same (fourth) quarter of 1988 (table 9). The majority (74 (±6) percent) of the units completed in the fourth quarter were the 57,700 privately-financed, non-subsidized, unfurnished, rental apartments. Cooperative and condominium apartments accounted for about 16 (±3) percent of total fourth quarter 1989 completions. About 1 (±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 about 8 (±6) percent of total completions.

The remaining 1,700 apartments (2 (±1) percent) completed in the fourth quarter 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.

Figure 2.
Percent of New Unfurnished Rental Apartments Completed, by Region: Fourth Quarter 1989

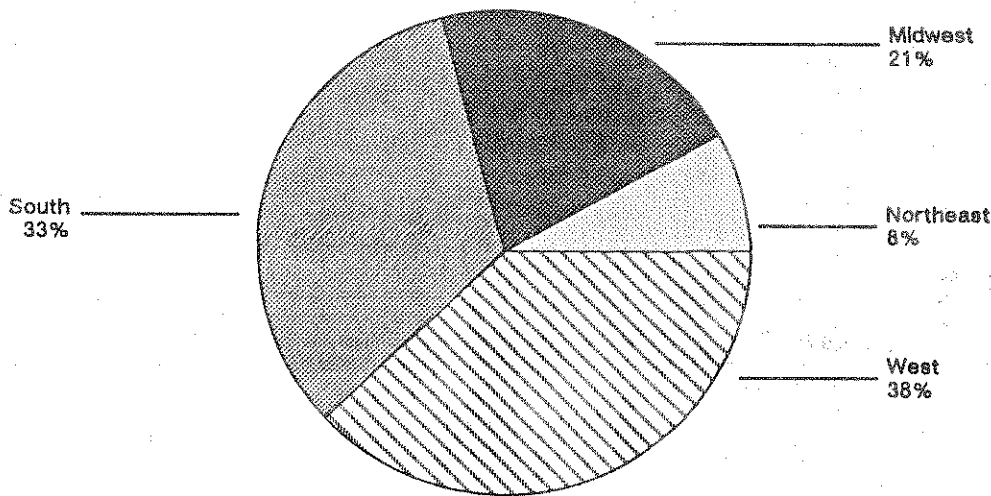
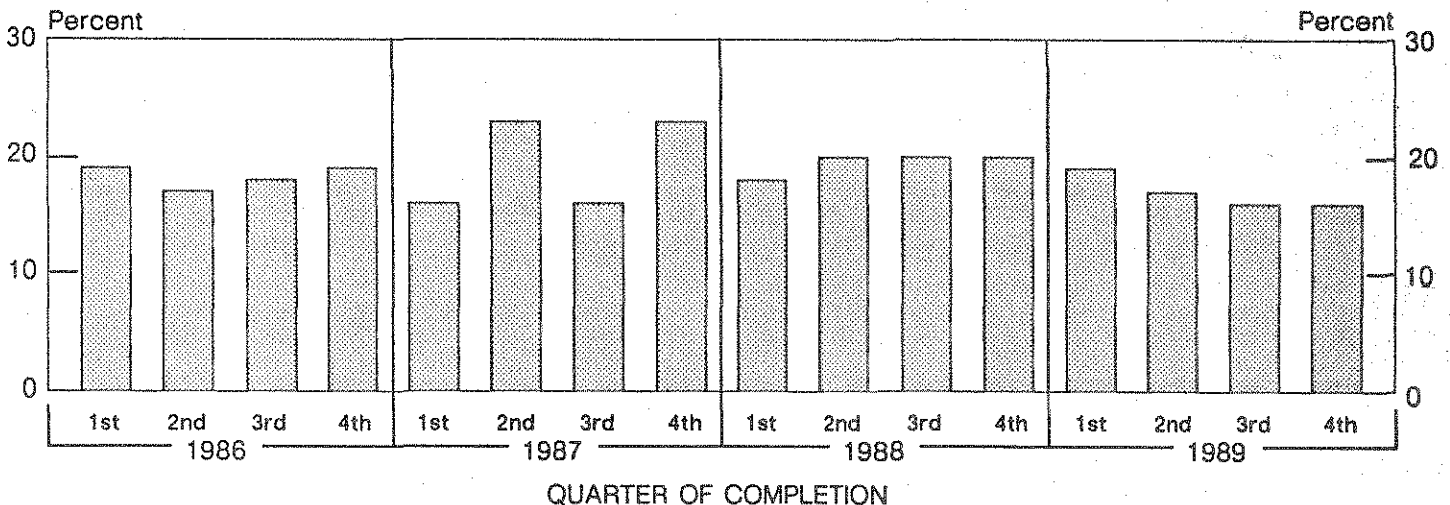


Figure 3.
Cooperative and Condominium Apartment Completions as Percent of Total Apartment Completions: 1986 to 1989



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

Table 1. Absorption Rates of Privately-Financed, Nonsubsidized, Unfurnished Apartments: 1986 to 1989

(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)
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	4,450	65	1.4	70	1.5	86	1.2	92	1.0	95	0.7
July-September	75,600	5,470	67	2.6	68	2.6	83	1.9	93	0.7	97	0.3
October-December	68,800	4,850	67	3.2	65	3.1	83	2.9	91	2.5	93	2.3
1989												
January-March	56,200	3,610	69	2.0	65	1.9	87	1.0	94	0.8	96	0.6
April-June	¹ 66,500	3,500	67	1.6	71	1.7	87	1.2	92	1.0	(NA)	(NA)
July-September	¹ 67,300	3,850	72	2.4	74	2.4	86	2.2	(NA)	(NA)	(NA)	(NA)
October-December ^P	57,700	3,960	71	2.3	69	2.3	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

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

NA Not available.

^PPreliminary.¹Revised.

Table 2. Characteristics of Unfurnished Apartments Completed During the Fourth Quarter of 1989 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)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)
Total.....	57,700	3,960	100	(X)	69	2.3
RENT CLASS						
Less than \$350	3,600	1,920	6	3.2	80	9.5
\$350 to \$449	6,700	1,100	12	1.8	77	4.2
\$450 to \$549	13,100	1,370	23	2.1	75	3.5
\$550 to \$649	12,000	980	21	1.6	69	4.0
\$650 to \$749	7,900	700	14	1.4	64	1.2
\$750 or more.....	14,400	2,850	25	4.3	62	4.3
Median asking rent.....	\$595	\$23	(X)	(X)	\$576	\$29
Fewer than two bedrooms.....	22,600	2,660	39	2.9	70	2.9
Less than \$350	2,600	1,850	5	3.1	89	2.1
\$350 to \$449	3,600	670	6	1.2	73	4.6
\$450 to \$549	6,400	830	11	1.3	69	2.5
\$550 to \$649	3,100	250	5	0.5	63	1.5
\$650 to \$749	2,200	330	4	0.6	63	1.2
\$750 or more.....	4,600	1,790	8	2.9	66	10.9
Median asking rent.....	\$528	\$29	(X)	(X)	\$515	\$35
Two bedrooms or more.....	35,200	2,350	61	2.9	69	3.0
Less than \$350	900	530	2	0.9	(S)	(S)
\$350 to \$449	3,000	980	5	1.6	81	6.5
\$450 to \$549	6,700	1,310	12	2.2	80	6.2
\$550 to \$649	8,900	920	15	1.5	71	5.4
\$650 to \$749	5,800	570	10	1.1	65	1.6
\$750 to \$849	4,200	1,150	7	1.9	61	2.6
\$850 or more.....	5,600	570	10	1.2	58	2.8
Median asking rent.....	\$627	\$19	(X)	(X)	\$609	\$25
BEDROOMS						
No bedroom	800	110	1	0.2	66	0.8
1 bedroom	21,800	2,640	38	2.9	70	3.0
2 bedrooms	30,600	2,110	53	2.4	68	3.1
3 bedrooms or more.....	4,500	910	8	1.6	77	4.6

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

Table 3. Characteristics of Unfurnished Apartments Completed During the Third Quarter of 1989 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.....	67,300	3,850	100	(X)	74	2.4
RENT CLASS						
Less than \$350	2,800	1,640	4	2.4	95	3.5
\$350 to \$449	9,300	2,100	14	2.9	78	9.2
\$450 to \$549	15,000	1,880	22	2.2	79	1.4
\$550 to \$649	14,000	1,220	21	1.9	76	2.1
\$650 to \$749	9,800	730	15	1.3	69	1.5
\$750 or more.....	16,500	2,240	25	3.0	64	6.1
Median asking rent.....	\$597	\$20	(X)	(X)	\$578	\$20
Fewer than two bedrooms.....	27,900	2,380	41	2.2	68	4.0
Less than \$350	1,200	460	2	0.7	95	2.7
\$350 to \$449	5,800	1,230	9	1.7	70	11.3
\$450 to \$549	7,600	880	11	1.1	76	1.9
\$550 to \$649	3,700	310	6	0.5	73	1.2
\$650 to \$749	3,300	370	5	0.6	64	2.4
\$750 or more.....	6,300	1,870	9	2.6	52	10.0
Median asking rent.....	\$540	\$22	(X)	(X)	\$523	\$16
Two bedrooms or more.....	39,400	2,400	59	2.2	78	1.8
Less than \$350	1,600	1,190	2	1.7	94	4.5
\$350 to \$449	3,500	1,530	5	2.2	91	6.6
\$450 to \$549	7,300	1,340	11	1.7	83	2.3
\$550 to \$649	10,300	1,060	15	1.6	77	2.9
\$650 to \$749	6,500	470	10	0.8	72	1.9
\$750 to \$849	3,300	250	5	0.4	74	1.1
\$850 or more.....	7,000	560	10	0.9	70	3.1
Median asking rent.....	\$621	\$17	(X)	(X)	\$607	\$19
BEDROOMS						
No bedroom	1,800	300	3	0.4	70	9.2
1 bedroom	26,100	2,330	39	2.2	68	4.3
2 bedrooms	35,400	2,270	53	2.1	77	1.9
3 bedrooms or more.....	4,000	320	6	0.5	80	1.3

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

Table 4. Unfurnished Apartments Completed During the Fourth Quarter of 1989, by Geographic Area

Not Seasonally Adjusted

(Privately-financed, nonsubsidized, unfurnished, rental apartments in buildings with five units or more. 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)	Percent	Standard error* (percentage points)	Percent	Standard error* (percentage points)
United States, total.....	57,700	3,960	100	(X)	69	2.3
Inside MSA.....	51,600	3,520	89	5.6	69	2.4
In central city.....	22,500	3,510	39	5.3	70	3.2
Not in central city.....	29,000	2,860	50	5.7	67	3.0
Outside MSA.....	6,200	3,470	11	5.6	76	7.0
Northeast.....	4,400	2,750	8	4.6	81	2.5
Midwest.....	11,900	2,950	21	4.8	72	7.8
South.....	19,200	2,950	33	4.6	68	3.7
West.....	22,200	1,930	38	3.5	67	2.0

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

Table 5. Absorption Rates of Cooperative and Condominium Apartments: 1986 to 1989

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)
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	89	2.0
July-September.....	20,400	3,010	20	4.0	56	5.9	68	6.0	72	6.3	77	6.5
October-December....	18,700	3,940	20	4.0	70	1.3	79	2.8	85	3.7	87	3.9
1989												
January-March.....	15,600	1,700	19	2.4	64	5.2	77	6.3	82	5.6	87	3.4
April-June.....	15,000	1,790	18	2.4	72	2.9	79	3.0	82	3.2	(NA)	(NA)
July-September.....	14,900	1,940	16	2.2	68	4.7	76	4.4	(NA)	(NA)	(NA)	(NA)
October-December ^P ..	12,400	1,430	16	2.0	66	5.6	(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 1989 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.....	12,400	1,430	100	(X)	66	5.6
PRICE CLASS						
Less than \$50,000.....	(Z)	(S)	(S)	(S)	(S)	(S)
\$50,000 to \$74,999.....	1,900	330	15	2.7	67	2.6
\$75,000 to \$99,999.....	1,600	120	13	1.3	76	3.7
\$100,000 to \$149,999.....	3,800	890	31	5.1	83	4.4
\$150,000 to \$199,999.....	2,100	230	17	2.5	58	3.3
\$200,000 or more.....	2,800	840	22	5.4	(S)	(S)
Median asking price.....	\$132,500	\$13,400	(X)	(X)	\$123,400	\$13,200
BEDROOMS						
Fewer than 2 bedrooms.....	2,300	450	19	2.1	58	10.2
2 bedrooms.....	9,100	970	73	2.2	68	4.8
3 bedrooms or more.....	1,000	150	8	0.7	63	6.6

*Standard error within range of about 2 chances out of 3. X Not applicable. Z Indicates fewer than 500 units. S Withheld.

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 1990

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 in last 4 quarters	Standard error* (number of apartments)	Apartments rented prior to 1st quarter 1990	Standard error* (number of apartments)	Apartments rented in 1st quarter 1990	Standard error* (number of apartments)	Apartments remaining for rent at end of 1st quarter 1990	Standard error* (number of apartments)
Total.....	247,800	6,660	159,800	6,150	53,500	3,140	34,400	2,230
RENT CLASS								
Less than \$350.....	14,300	3,170	10,100	2,850	3,000	1,670	1,300	690
\$350 to \$449.....	34,000	3,260	24,400	3,420	6,500	1,070	3,100	890
\$450 to \$549.....	54,300	2,800	35,800	2,960	12,800	1,270	5,700	740
\$550 to \$649.....	51,900	2,050	34,000	2,180	11,300	840	6,600	790
\$650 to \$749.....	34,800	1,270	21,600	1,200	7,400	530	5,700	470
\$750 or more.....	58,500	3,170	33,900	1,770	12,600	1,830	12,100	1,530
Median asking rent.....	\$591	\$9	\$578	\$13	\$590	\$20	\$660	\$28
BEDROOMS								
Fewer than 2 bedrooms.....	99,700	4,730	62,900	3,610	21,300	2,460	15,500	1,830
2 bedrooms.....	131,800	4,560	86,500	4,900	28,000	1,770	17,300	1,270
3 bedrooms or more.....	16,200	1,140	10,400	880	4,200	830	1,600	170

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

Note: These data are for completions in the first through the fourth quarters of 1989.

Table 8. Characteristics of Condominium Apartments Completed in the Last 4 Quarters and Reported as Sold and Remaining For Sale in the First Quarter of 1990

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 condominiums completed in last 4 quarters	Standard error* (number of apartments)	Condominiums sold prior to 1st quarter 1990	Standard error* (number of apartments)	Condominiums sold in 1st quarter 1990	Standard error* (number of apartments)	Condominiums remaining for sale at end of 1st quarter 1990	Standard error* (number of apartments)
Total.....	57,400	3,860	34,200	2,710	10,600	820	12,500	1,470
PRICE CLASS								
Less than \$50,000.....	2,100	700	1,600	470	(Z)	(S)	(Z)	(S)
\$50,000 to \$74,999.....	9,100	1,010	6,100	760	1,600	200	1,300	190
\$75,000 to \$99,999.....	9,700	1,330	6,400	1,180	1,700	180	1,600	280
\$100,000 to \$149,999.....	17,700	2,620	10,600	1,850	3,900	690	3,200	870
\$150,000 to \$199,999.....	9,000	920	4,900	690	1,700	260	2,400	440
\$200,000 or more.....	9,800	1,990	4,700	1,100	1,400	170	3,700	1,030
Median asking price.....	\$122,000	\$7,700	\$114,300	\$9,000	\$122,200	\$7,300	\$147,500	\$16,400
BEDROOMS								
Fewer than 2 bedrooms.....	11,700	1,440	6,800	1,470	1,900	290	3,100	530
2 bedrooms.....	40,200	3,530	24,000	2,230	7,900	750	8,300	1,350
3 bedrooms or more.....	5,500	660	3,500	450	800	150	1,100	220

*Standard error within range of about 2 chances out of 3. Z Indicates fewer than 500 units. S Withheld.

Note: These data are for completions in the first through the fourth quarters of 1989.

Table 9. Apartments Completed in Buildings With Five Units or More: 1986 to 1989

Not Seasonally Adjusted

(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*
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	3,620	72,000	4,450	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	20,400	3,010	3,100	1,030	2,500	780
October-December..	95,000	4,770	68,800	4,850	1,100	90	18,700	3,940	3,300	1,030	3,100	1,580
1989												
January-March.....	81,500	3,920	56,200	3,610	^r 600	80	15,600	1,700	6,600	2,320	2,500	560
April-June.....	85,600	2,770	^r 66,500	3,500	^r 1,100	120	^r 15,000	1,790	2,500	620	500	80
July-September.....	92,300	3,400	^r 67,300	3,850	^r 2,800	1,910	^r 14,900	1,490	^r 4,900	1,010	^r 2,500	280
October-December ^p ..	78,500	3,890	57,700	3,960	500	230	12,400	1,430	6,000	3,070	1,700	740

* 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).¹ 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 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,² 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.

¹See the January issue of "Housing Starts," Construction Reports, Series C20, for details of this series.

²See "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 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.

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 21,800 apartments with one bedroom completed in the fourth quarter of 1989. The standard error of this estimate is 2,640. The 68-percent confidence interval as shown by these data is from 19,160 to 24,440. 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 17,576 to 26,024 (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.

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