U.S. DEPARTMENT OF COMMERCE
Bureau of the Census

U.S. DEPARTMENT OF HOUSING
and URBAN DEVELOPMENT

H-130-80-Q2
Issued September 1980

Market Absorption of Apartments

Second Quarter 1980 Absorptions
(Completions in First Quarter 1980)

Figure 1. Units in Apartment Buildings Started, Completed, and Absorbed: 1975 to 1980

THOUSANDS

TOTAL COMPLETIONS[2]

STARTS[1]

SOMA COMPLETIONS

ABSORBED AT 3 MONTHS

QUARTER OF COMPLETION
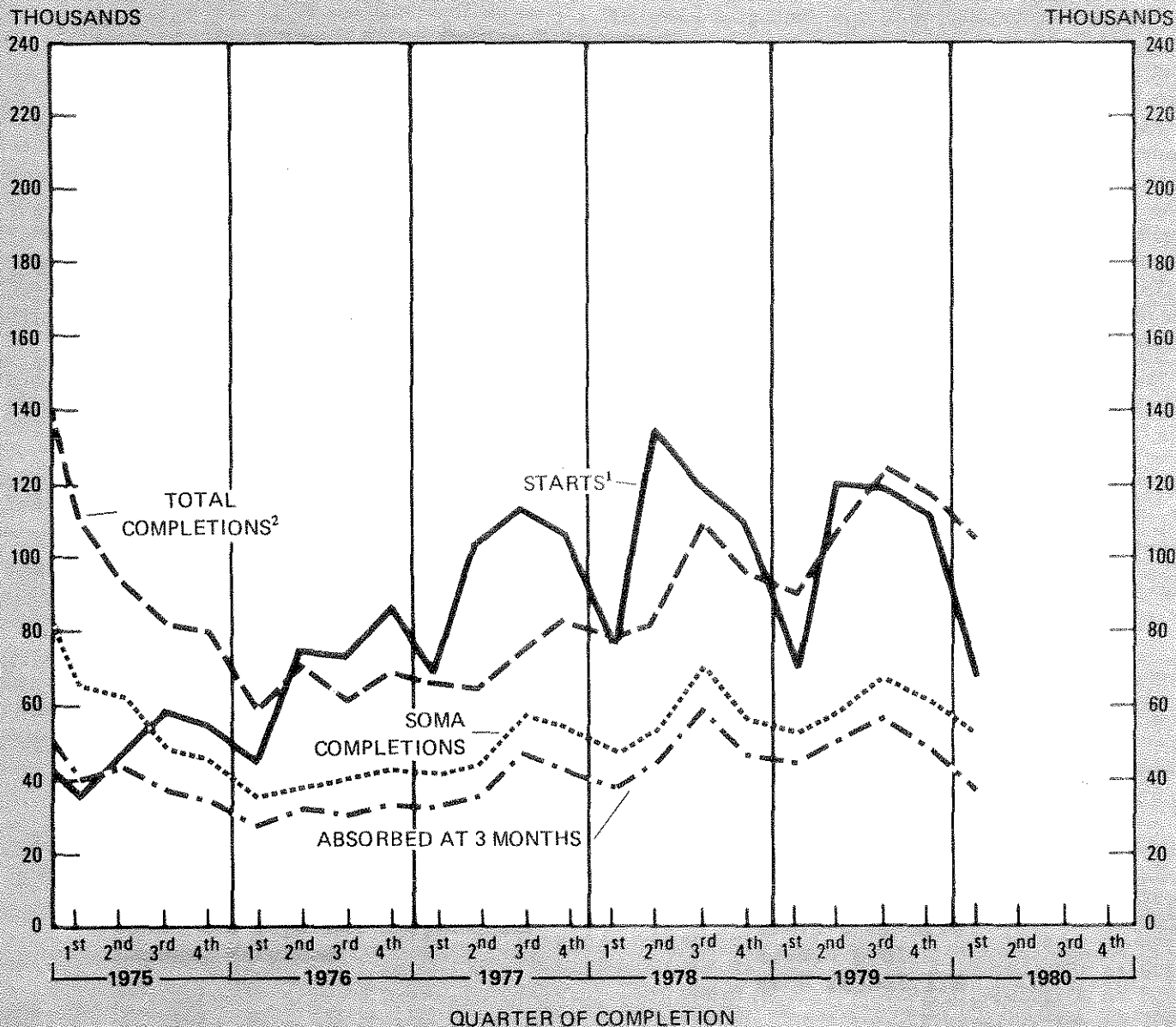
Note: Limited to buildings with five units or more in permit-issuing places.
1. Source: Construction Report, C20-80-5 (May 1980) Table 2.
2. Source: Construction Report, C22-80-5 (May 1980) Table 1.

Privately financed apartments completed during the January-March 1980 quarter were 74 percent absorbed (seasonally adjusted) 3 months after their completion. This is lower than the seasonally adjusted rate of 84 percent occupancy in the first 90 days for apartments completed during the fourth quarter of 1979. The nonseasonally adjusted rate of 72 percent for the first quarter is about the same as the seasonally adjusted rate. Apartments which have been on the market for 9 months—those completed during July-September 1979—were 97 percent absorbed (see table 3).

The median asking rent for newly constructed units was $294 in the first quarter compared with $278 in the fourth quarter 1979. Apartments renting for less than $200 accounted for 6 percent of the total, while those renting for $200-$300 accounted for 47 percent. In comparison, 36 percent rented for $300-$399 and 10 percent rented for $400 or more (see table 1).

The data are based on a sample survey and consequently the figures cited above are subject to sampling variability. As shown in table 3, the 74 and 97 percent figures are subject to sampling errors (i.e., standard errors) of 2.4 and 0.8 percentage points, respectively. This means that there are about 2 chances out of three that a complete count would be in the range of 74 (± 2.4) percentage points and 97 (± 0.8) percentage points. Sampling errors for the figures that follow are indicated in parenthesis.[1]

A total of 105,200 (± 4,250) apartments were completed during the first quarter of 1980. Of the total, some 52,400 (± 2,220) or 50 percent (± 1.9) were the type covered by the Survey of Market Absorption (SOMA), i.e., privately financed, unfurnished rental units built without Federal subsidy in buildings with five or more apartments. These 52,400 units represent a decrease of about 13.5 percent from completions in the fourth quarter of 1979. This decrease may reflect credit tightening on the housing market in addition to the customary seasonal factors involved.

Of the remaining 50 percent (± 1.9), cooperatives and condominiums account for 27 percent (± 1.7) of the total with a 3-month absorption rate of 72 percent (± 3.4) (see table 4). Furnished rental units account for 3 percent (± 0.5). Also excluded from the survey are units in federally subsidized properties built under these 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, which together account for 19 percent (± 1.5). The remainder are excluded for other reasons, including turnkey housing (privately built and sold to local public housing authorities subsequent to completion). The data, however, include privately owned housing subsidized by State and local governments.

[1] See Reliability of Estimates on page 5.

Table 1. CHARACTERISTICS OF APARTMENTS COMPLETED DURING THE FIRST QUARTER OF 1980 AND RENTED WITHIN 3 MONTHS

(Privately financed, nonsubsidized, unfurnished apartments. Data regarding number of bedrooms and asking rent are collected at the initial interview, i.e., 3 months following completion. Data not seasonally adjusted)
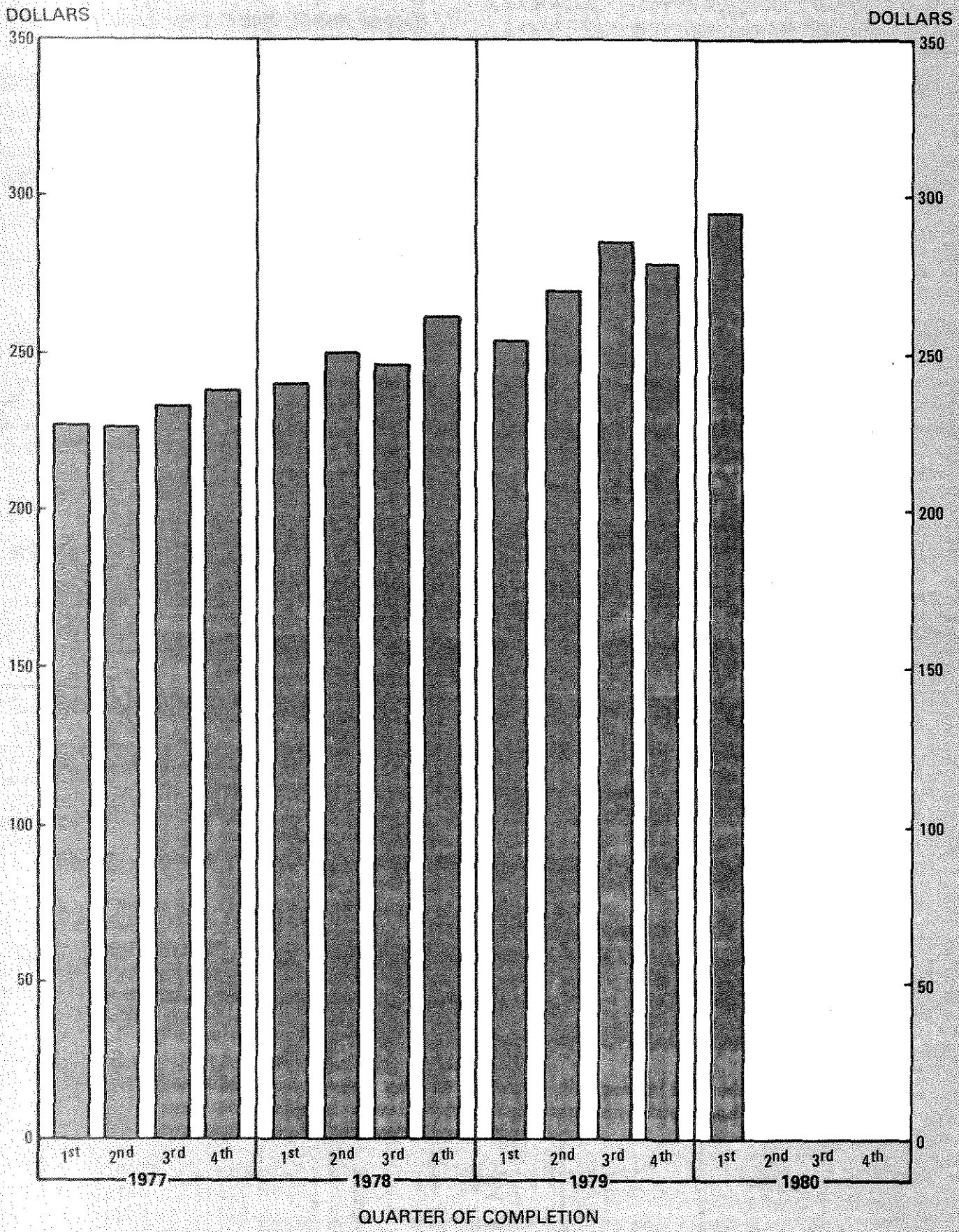
Item	Total units completed		Percent of total units		Percent rented within 3 months	
	Number	Sampling error*	Percent	Sampling error* (percentage points)	Percent	Sampling error* (percentage points)
Total................	52,400	2,220	100	(X)	72	2.5
RENT CLASSES						
Less than $200............	3,200	700	6	1.3	78	9.2
$200 to $249..............	10,600	1,250	20	2.2	78	5.1
$250 to $299..............	14,200	1,420	27	2.4	72	4.7
$300 to $349..............	12,800	1,360	24	2.3	69	5.1
$350 to $399..............	6,300	980	12	1.8	71	7.2
$400 or more.............	5,400	910	10	1.6	65	8.2
Median asking rent........	$294	5.2	(X)	(X)	(X)	(X)
NUMBER OF BEDROOMS						
Less than 2..............	25,400	1,820	48	2.7	74	3.5
2........................	25,100	1,810	48	2.7	70	3.6
3 or more................	2,000	560	4	1.1	63	13.6

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

Figure 2. Median Rent of Apartments Completed in the United States: 1977 to 1980

QUARTER OF COMPLETION

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

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, all 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.

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

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 quarterly report. (See table 2.)

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:

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

When all the completed 5+ buildings in the SOC are designated for SOMA, as is currently the case, this ratio estimate factor will be close to one. 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]

[3] See "Housing Completion," Construction Reports, Series C22.

Table 2. CHARACTERISTICS OF APARTMENTS COMPLETED DURING THE FOURTH QUARTER OF 1979 AND RENTED WITHIN 3 MONTHS (REVISED)

(Privately financed, nonsubsidized, unfurnished apartments. Data regarding number of bedrooms and asking rent are collected at the initial interview, i.e., 3 months following completion. Data not seasonally adjusted)

Item	Total units completed		Percent of total units		Percent rented within 3 months	
	Number	Sampling error*	Percent	Sampling error* (percentage points)	Percent	Sampling error* (percentage points)
Total..................	60,600	2,360	100	(X)	81	2.0
RENT CLASSES						
Less than $150..............	700	330	1	0.5	85	17.0
$150 to $174................	2,600	640	4	1.0	96	4.8
$175 to $199................	3,000	680	5	1.1	83	8.6
$200 to $249................	16,100	1,520	27	2.3	82	3.8
$250 to $299................	14,000	1,420	23	2.1	82	4.1
$300 or more................	24,100	1,800	40	2.5	77	3.4
Median asking rent.........	$278	5.4	(X)	(X)	(X)	(X)
NUMBER OF BEDROOMS						
Less than 2.................	29,200	1,940	48	2.5	80	2.9
2...........................	29,400	1,950	49	2.6	81	2.9
3 or more...................	2,000	560	3	0.9	82	10.8

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

Table 3. ABSORPTION RATES OF PRIVATELY FINANCED NONSUBSIDIZED UNFURNISHED APARTMENTS: 1977 TO 1980

(Structures with five or more units)

Quarter of completion	Total units completed		Seasonally adjusted rented within 3 months		Not seasonally adjusted - rented within--							
					3 months		6 months		9 months		12 months	
	Number	Sampling error*	Percent	Sampling error* (percentage points)	Percent	Sampling error* (percentage points)	Percent	Sampling error* (percentage points)	Percent	Sampling error* (percentage points)	Percent	Sampling error* (percentage points)
1977												
January-March........	41,700	1,730	81	2.4	77	2.6	92	1.7	97	1.1	97	1.0
April-June...........	43,100	1,670	78	2.5	83	2.3	97	1.0	98	0.8	99	0.6
July-September.......	56,000	1,680	79	2.2	83	2.0	93	1.4	97	0.9	99	0.5
October-December.....	54,800	1,940	82	2.1	78	2.2	94	1.3	98	0.8	99	0.5
1978												
January-March........	47,200	1,880	82	2.2	79	2.4	94	1.4	98	0.8	98	0.8
April-June...........	53,600	1,890	80	2.2	84	2.0	95	1.2	98	0.8	99	0.5
July-September.......	71,500	2,220	80	1.9	83	1.8	92	1.3	97	0.8	99	0.5
October-December.....	56,400	2,140	85	1.9	81	2.1	93	1.2	97	0.9	98	0.7
1979												
January-March........	53,200	2,040	86	1.9	83	2.0	95	1.2	99	0.5	99	0.5
April-June...........	59,900	2,260	80	2.1	84	1.9	94	1.2	97	0.9	98	0.7
July-September r.....	66,700	2,430	81	1.9	82	1.9	91	1.4	97	0.8	(NA)	(NA)
October-December	60,600	2,360	84	1.9	81	2.0	93	1.3	(NA)	(NA)	(NA)	(NA)
1980												
January-March........	52,400	2,220	74	2.4	72	2.5	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
April-June...........												
July-September.......												
October-December.....												

*Standard error within range of about 2 chances out of 3.
(NA) Not available.   rRevised.

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 comprise 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, 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.

For example, table 1 of this report shows that there were 25,100 apartments with two bedrooms in the first quarter of 1980. The standard error of this estimate is 1,810. The 68 percent confidence interval as shown by these data is from 23,290 to 26,910. 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 21,480 to 28,720 (using twice the standard error) with 95 percent confidence.

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

Table 4. COOPERATIVE AND CONDOMINIUM APARTMENTS: TOTAL COMPLETED, PERCENT OF ALL 5+ UNITS AND ABSORBED WITHIN 3 MONTHS: 1977 TO 1980

(Privately financed, nonsubsidized apartments in buildings with five or more units. Data not seasonally adjusted)

Quarter of completion	Total units completed		Percent of all 5+ units		Absorbed within 3 months	
	Number	Sampling error*	Percent	Sampling error* (percentage points)	Percent	Sampling error* (percentage points)
1977						
January-March................	10,200	1,200	15	1.7	74	5.5
April-June...................	9,200	1,140	15	1.8	77	5.5
July-September...............	9,700	1,180	13	1.5	59	6.2
October-December............	13,900	1,390	17	1.6	76	4.6
1978						
January-March................	8,900	1,140	12	1.9	74	5.8
April-June...................	14,300	1,400	18	1.7	75	4.5
July-September...............	13,600	1,440	12	1.2	81	4.2
October-December............	17,500	1,550	18	1.5	77	4.0
1979						
January-March................	16,300	1,490	18	1.6	80	3.9
April-June...................	23,200	1,760	22	1.6	73	3.6
July-September[r]............	23,300	1,790	19	1.4	76	3.4
October-December[r]..........	23,600	1,790	24	1.6	70	3.4
1980						
January-March................	28,100	1,890	27	1.7	72	3.4
April-June...................						
July-September...............						
October-December............						

*Standard error within range of about 2 chances out of 3.   [r]Revised.

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