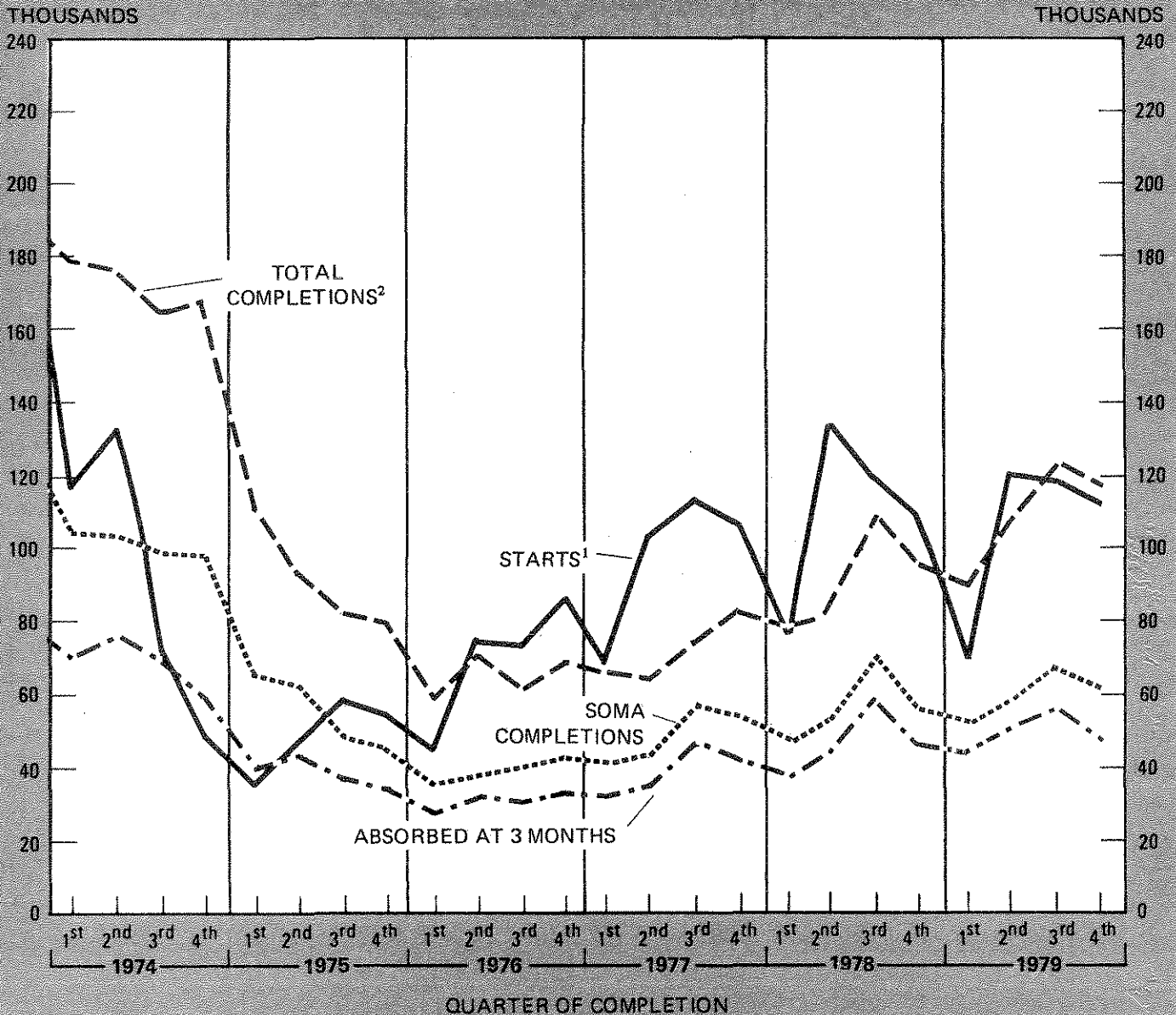U.S. DEPARTMENT OF COMMERCE
Bureau of the Census

U.S. DEPARTMENT OF HOUSING
and URBAN DEVELOPMENT

H-130-80-1
Issued June 1980

Market Absorption of Apartments

First Quarter 1980 Absorptions
(Completions in Fourth Quarter 1979)

Figure 1. Units in Apartment Buildings Started, Completed, and Absorbed: 1974 to 1979

THOUSANDS

TOTAL COMPLETIONS[2]

STARTS[1]

SOMA COMPLETIONS

ABSORBED AT 3 MONTHS

1st 2nd 3rd 4th — 1974 — 1975 — 1976 — 1977 — 1978 — 1979

QUARTER OF COMPLETION

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

Privately financed apartments completed during the October-December 1979 quarter were 83 percent absorbed (seasonally adjusted) 3 months after their completion. This is about the same as the seasonally adjusted rate of 81 percent for apartments completed during the third quarter of 1979. The nonseasonally adjusted rate of 80 percent does not differ significantly from the seasonally adjusted rate. Apartments which have been on the market for 9 months— those completed during April-June 1979-were 97 percent absorbed (see table 3).

The median asking rent for newly constructed units was $275 in the fourth quarter compared with $285 in the third quarter. Aparments renting for less than $200 accounted for 11 percent of the total. In comparison, 50 percent rented for $200-$299 while 38 percent rented for $300 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 83 and 97 percent figures are subject to sampling errors (i.e., standard errors) of 1.9 and 0.9 percentage points, respectively. This means that there are about 2 chances out of three that a complete count would be in the range of 83 (± 1.9) percentage points and 97 (± 0.9) percentage points. Sampling errors for the figures that follow are indicated in parenthesis.[1]

[1] See Reliability of Estimates on page 5.

A total of 117,300 (± 4,510) apartments were completed during the fourth quarter of 1979. Of the total, some 60,400 (± 2,360) or 51 percent (± 1.8) 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. Completions in 1979 followed the same pattern as completions in 1978 falling off in the fourth quarter which may indicate seasonal factors are involved.

Of the remaining 49 percent (± 1.8), cooperatives and condominiums account for 24 percent (± 1.6) of the total with a 3-month absorption rate of 70 percent (± 3.4) (see table 4). Furnished rental units account for 2 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 21 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.

## Table 1. CHARACTERISTICS OF APARTMENTS COMPLETED DURING THE FOURTH QUARTER OF 1979 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...............	60,400	2,360	100	(X)	80	2.0
RENT CLASSES						
Less than $150............	800	360	1	0.5	81	17.4
$150 to $174...............	2,900	670	5	1.1	96	4.6
$175 to $199..............	3,100	690	5	1.1	83	8.5
$200 to $249..............	16,500	1,530	27	2.3	80	3.9
$250 to $299..............	14,100	1,430	23	2.2	81	4.2
$300 or more..............	23,100	1,770	38	2.5	77	3.5
Median asking rent........	$275	5.5	(X)	(X)	(X)	(X)
NUMBER OF BEDROOMS						
Less than 2...............	29,900	1,960	50	2.6	79	3.0
2.........................	28,600	1,930	47	2.6	81	2.9
3 or more.................	1,900	540	3	0.9	83	10.8

*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 1979

DOLLARS

DOLLARS

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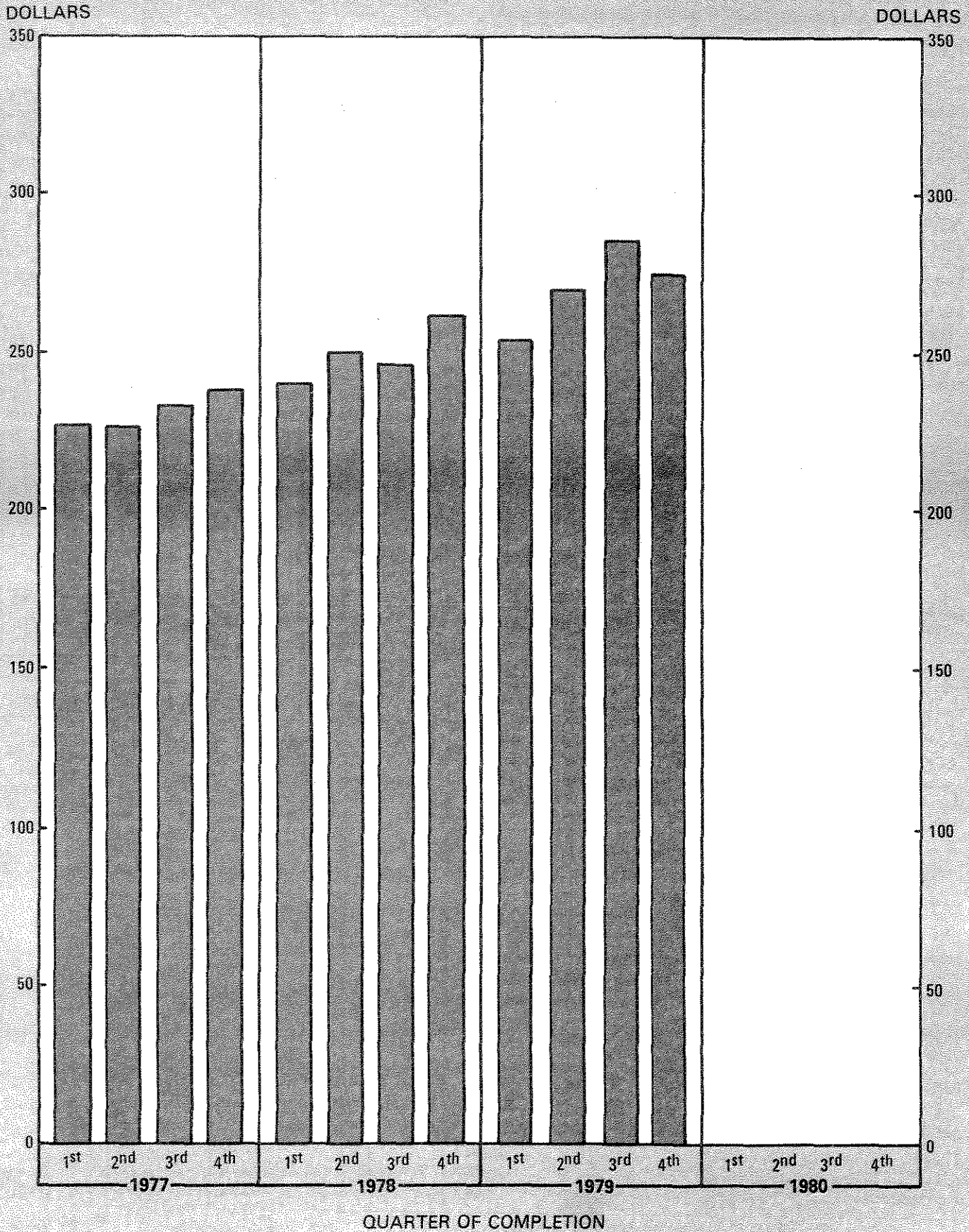
Note: Limited to buildings with five units or more in permit-issuing places.

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:

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

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 THIRD 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.................	66,700	2,430	100	(X)	82	4.8
RENT CLASSES						
Less than $150..............	100	130	(Z)	(Z)	94	29.8
$150 to $174...............	100	130	(Z)	(Z)	97	21.4
$175 to $199...............	3,300	720	5	1.1	86	7.6
$200 to $249...............	15,700	1,500	24	2.1	84	3.7
$250 to $299...............	20,200	1,680	30	2.2	83	3.3
$300 or more...............	27,300	1,910	41	2.4	80	3.0
Median asking rent.........	$285	4.1	(X)	(X)	(X)	(X)
NUMBER OF BEDROOMS						
Less than 2................	31,000	2,000	46	2.4	85	2.5
2..........................	32,500	2,040	49	2.4	78	2.9
3 or more..................	3,100	690	5	1.1	92	6.1

*Standard error within range of about 2 chances out of 3.   (X) Not applicable.   (Z) Less than one-half percent.

Table 3. ABSORPTION RATES OF PRIVATELY FINANCED NONSUBSIDIZED UNFURNISHED APARTMENTS: 1976 TO 1979

(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)
1976												
January-March	35,300	1,660	85	2.4	79	2.7	92	1.8	96	1.3	97	1.1
April-June	38,300	1,730	81	2.6	86	2.3	96	1.3	98	0.9	99	0.6
July-September	40,300	1,610	75	2.7	79	2.6	92	1.7	96	1.2	99	0.6
October-December	43,200	1,750	84	2.2	78	2.5	92	1.7	98	0.9	99	0.6
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[r]	59,900	2,260	80	2.1	84	1.9	94	1.2	97	0.9	(NA)	(NA)
July-September[r]	66,700	2,430	81	1.9	82	1.9	91	1.4	(NA)	(NA)	(NA)	(NA)
October-December	60,400	2,360	83	1.9	80	2.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

*Standard error within range of about 2 chances out of 3.
(NA) Not available.   [r]Revised.

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 28,600 apartments with two bedrooms in the fourth quarter of 1979. The standard error of this estimate is 1,930. The 68 percent confidence interval as shown by these data is from 26,670 to 30,530. 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 24,740 to 32,460 (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: 1976 TO 1979

(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)
1976						
January–March.................	13,700	1,340	23	2.1	56	5.2
April–June..................	11,000	1,230	17	1.8	53	6.0
July–September...............	9,500	1,150	15	1.8	48	6.6
October–December.............	12,000	1,280	17	1.8	54	5.8
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[r].................	23,200	1,760	22	1.6	73	3.6
July–September[r]..............	23,400	1,790	19	1.4	76	3.4
October–December.............	28,700	1,930	24	1.6	70	3.4

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

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