U.S. DEPARTMENT OF COMMERCE
Bureau of the Census

U.S. DEPARTMENT OF HOUSING
and URBAN DEVELOPMENT

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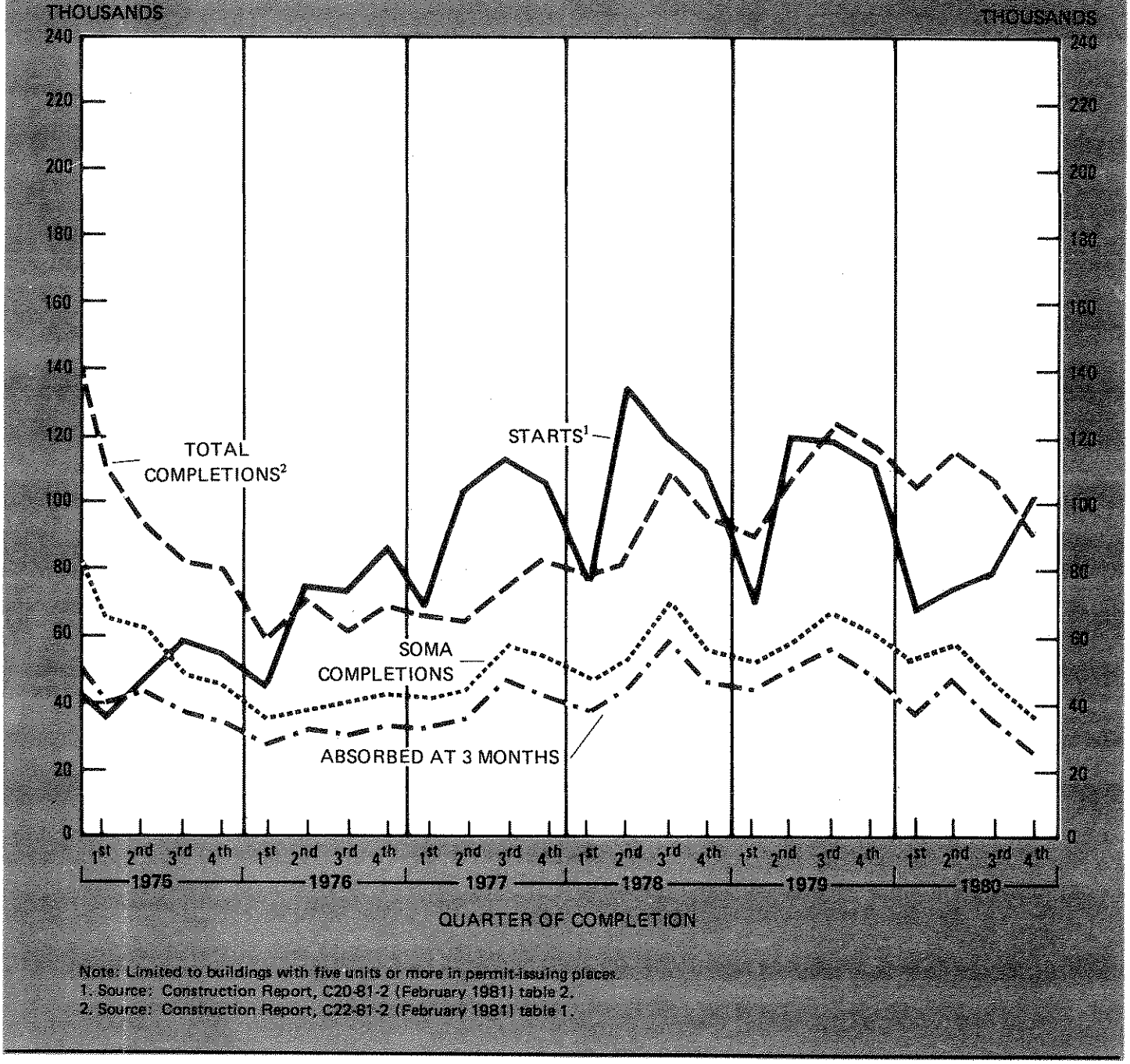
Market Absorption of Apartments

First Quarter 1981 Absorptions (Completions in Fourth Quarter 1980)

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



Note: Limited to buildings with five units or more in permit-issuing places.
1. Source: Construction Report, C20-81-2 (February 1981) table 2.
2. Source: Construction Report, C22-81-2 (February 1981) table 1.

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Privately financed, nonsubsidized, unfurnished apartments completed during the October-December 1980 quarter were 75 percent absorbed (seasonally adjusted) 3 months after their completion. This is the same as the seasonally adjusted rate of 75 percent occupancy in the first 90 days for apartments completed during the third quarter of 1980, but is lower than the seasonally adjusted rate of 84 percent for fourth quarter 1979 completions. Apartments which have been on the market for 9 months—those completed during April-June 1980—were 96 percent absorbed (see table 3).

The median asking rent for newly constructed units was $323 in the fourth quarter which was about the same as the $317 median in the third quarter of 1980. Apartments renting for less than $200 accounted for 1 percent of the total, while those renting for $200-$299 accounted for 41 percent. In comparison, 33 percent rented for $300-$399 and 25 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 75 and 96 percent figures are subject to sampling errors (i.e., standard errors) of 2.8 and 1.0 percentage points, respectively. This means that there are about 2 chances out of 3 that a complete count would be in the range of 73 (± 2.8) percentage points and 96 (± 1.0) 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 90,500 (± 3,920) apartments were completed during the fourth quarter of 1980. Of the total, 37,000 (± 1,990) or 41 percent (± 2.0) 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. This represents a decrease of about 20 percent from completions in the third quarter of 1980 and a 39 percent decrease from completions in the fourth quarter of 1979. This is the lowest number of apartments completed since the first quarter of 1977 and is also the lowest number of completions in the fourth quarter ever recorded in the survey.

Of the remaining 59 percent (± 2.1), cooperatives and condominiums account for 33 percent (± 2.0) of the total with a three-month absorption rate of 70 percent (± 3.4). Cooperative and condominium apartments continue to comprise an increasing segment of total apartment completions (see table 4).

Furnished rental units account for 3 percent (± 0.7). 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 building containing apartments in the FHA rent supplement program. Together these units account for 21 percent (± 1.7) of the total. The remainder are excluded for other reasons, including turnkey housing (privately build and sold to local public housing authorities subsequent to completion). The data, however, include privately owned housing subsidized by State and local governments.

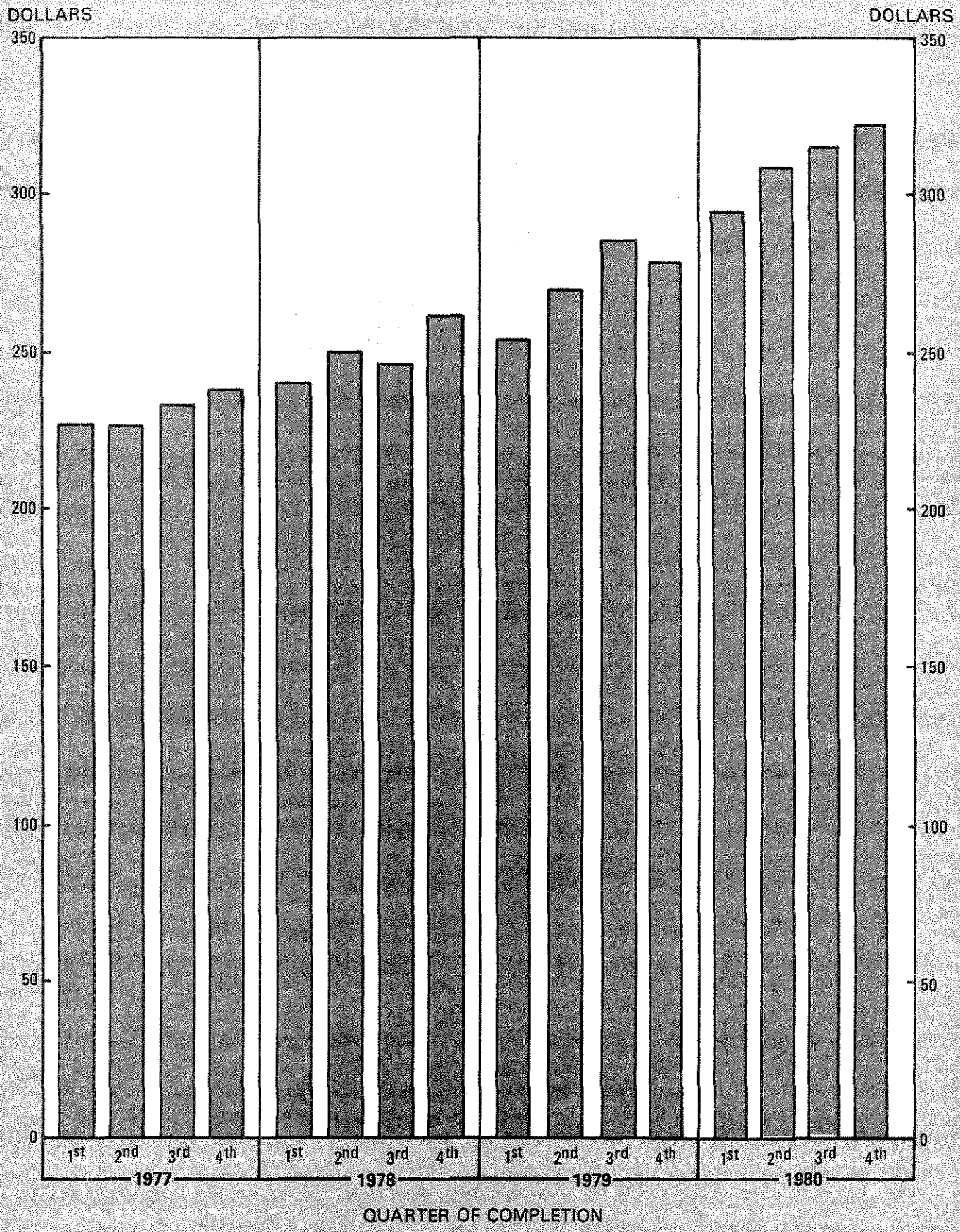
Table 1. CHARACTERISTICS OF APARTMENTS COMPLETED DURING THE FOURTH QUARTER OF 1980 AND RENTED WITHIN 3 MONTHS

(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	37,000	1,990	100	(X)	71	3.0
RENT CLASSES						
Less than $200	400	250	1	0.6	83	23.6
$200 to $249	4,900	860	13	2.2	83	6.7
$250 to $299	10,200	1,260	28	2.9	69	5.8
$300 to $349	6,400	980	17	2.5	69	7.3
$350 to $399	5,800	935	16	2.4	72	7.4
$400 or more	9,200	1,160	25	2.8	66	6.2
Median asking rent	$323	9.4	(X)	(X)	(X)	(X)
NUMBER OF BEDROOMS						
Less than 2	17,900	1,560	48	3.3	70	4.3
2	17,400	1,540	47	3.3	72	4.3
3 or more	1,700	510	5	1.4	68	14.2

*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



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 next 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 Completions," Construction Reports, Series C22.

Table 2. CHARACTERISTICS OF APARTMENTS COMPLETED DURING THE THIRD QUARTER OF 1980 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	46,300	2,200	100	(X)	76	2.5
RENT CLASSES						
Less than $200	900	380	2	0.8	83	15.7
$200 to $249	6,400	980	14	2.0	84	5.8
$250 to $299	12,100	1,330	26	2.6	79	4.7
$300 to $349	10,800	1,260	23	2.5	74	5.3
$350 to $399	8,300	1,110	18	2.2	80	5.5
$400 or more	7,800	1,080	17	2.0	60	7.0
Median asking rent	$317	6.3	(X)	(X)	(X)	(X)
NUMBER OF BEDROOMS						
Less than 2	22,700	1,740	49	2.9	77	3.5
2	22,100	1,720	48	2.9	76	13.0
3 or more	1,500	480	3	1.0	50	16.2

*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	53,900	2,060	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	66,700	2,430	81	1.9	82	1.9	91	1.4	97	0.8	99	0.5
October-December	60,600	2,360	84	1.9	81	2.0	93	1.3	97	0.9	99	0.5
1980												
January-March	51,900	2,220	74	2.4	72	2.5	89	1.7	95	1.2	97	0.9
April-June	58,800	2,340	76	2.2	79	2.1	93	1.3	96	1.0	(NA)	(NA)
July-September[r]	46,300	2,200	75	2.5	76	2.5	90	1.8	(NA)	(NA)	(NA)	(NA)
October-December	37,000	1,990	75	2.8	71	3.0	(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 17,400 apartments with two bedrooms in the fourth quarter of 1980. The standard error of this estimate is 1,540. The 68 percent confidence interval as shown by these data is from 15,860 to 18,940. 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 14,320 to 20,480 (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	16,700	1,510	18	1.6	80	3.9
April-June	23,200	1,760	22	1.6	73	3.6
July-September	23,300	1,790	19	1.4	76	3.4
October-December	28,600	1,930	24	1.6	72	3.3
1980						
January-March	28,400	1,900	27	1.7	73	3.3
April-June	32,600	2,020	28	1.7	72	3.1
July-September	34,800	2,040	32	1.8	72	3.0
October-December	29,500	1,870	33	2.0	70	3.4

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

Table 5. HOUSING UNITS COMPLETED IN BUILDINGS WITH FIVE OR MORE UNITS: 1979 AND 1980

(Limited to buildings in permit-issuing places)

Quarter of completion	Total		Unfurnished apartments		Furnished apartments		Cooperatives and condominiums		Federally subsidized		Other[1]	
	Number	Sampling error*	Number	Sampling error*	Number	Sampling error*	Number	Sampling error*	Number	Sampling error*	Number	Sampling error*
1979												
January-March.....	91,000	3,930	53,900	2,060	3,500	730	16,700	1,510	14,800	1,440	2,000	560
April-June.....	107,600	4,300	59,900	2,260	1,900	540	23,200	1,760	21,700	1,710	900	380
July-September.....	123,400	4,630	66,700	2,430	3,700	760	23,300	1,790	27,100	1,900	2,600	640
October-December....	117,300	4,510	60,600	2,360	3,000	680	28,600	1,930	23,900	1,800	1,200	430
1980												
January-March.....	105,200	4,250	51,900	2,220	3,200	700	28,400	1,900	20,300	1,660	1,400	470
April-June.....	115,600	4,470	58,800	2,340	2,800	660	32,600	2,020	20,200	1,670	1,200	430
July-September[r].....	107,700	4,300	46,300	2,200	1,500	480	34,800	2,040	19,800	1,650	5,300	900
October-December....	90,500	3,920	37,000	1,990	2,400	610	29,500	1,870	19,000	1,590	2,600	630

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

[1]Other includes turnkey housing (privately built and sold to local public housing authorities subsequent to completion).

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