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Market Absorption of Apartments

ANNUAL: 1983 ABSORPTIONS

(Completions in 1982)

SUMMARY

During 1982, completions of privately financed, nonsubsidized, unfurnished apartments in buildings of five units or more totaled about 117,000 units. This represents a decrease of about 14 percent from the 135,400 units completed in 1981 and is 78 percent lower than the 531,700 unfurnished apartments completed in the peak year of 1973. Of the furnished units completed in 1982, 72 percent were rented within the first 3 months of completion, 87 percent within 6 months, and 96 percent within 12 months.

The same proportion of new unfurnished apartments were built with two bedrooms as were built with one bedroom (46 percent). About 5 percent had three or more bedrooms while only 3 percent were built without a bedroom. The median rent for apartments completed in 1982 was $385; an increase of about 11 percent over the $347 median rent for apartments completed in 1981. Units renting for $400 or more accounted for 44 percent of newly completed units compared with 31 percent in 1981. About two-thirds of the new units (64 percent) included air-conditioning in rental payments and about three-fourths (74 percent) had swimming pools available at no extra cost.

A large majority (82 percent) of unfurnished apartments were constructed inside standard metropolitan statistical areas in 1982, with approximately 44 percent located in central cities and 38 percent in suburban areas. Regionally, about three-fifths (57 percent) of the newly constructed units were built in the South and about one-fifth were built in the North Central (19 percent) and West (20 percent) regions. Only 4 percent of the new units were built in the Northeast region.

The data are based on a sample survey and, consequently, the figures cited are subject to sampling variability. Sampling errors (i.e., standard errors) for these figures can be calculated by using tables I and II.[1] These standard errors imply there are about 2 chances out of 3 that a complete count would be contained in the interval around the estimate defined by the standard error.

In 1982, a total of about 288,200 apartments were completed in buildings with five units or more, a decrease of 13 per-

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[1] See reliability of estimates on page 2.

cent from the 332,800 apartments completed in 1981. Forty-one percent were nonsubsidized, unfurnished apartments. Of the remainder, cooperatives and condominiums accounted for 37 percent of the new completions. The 3-month absorption rate for cooperative and condominium apartments in 1982 was 54 percent. In 1981 cooperative and condominium apartments had a 3-month absorption rate of 62 percent. Cooperative and condominium apartments are predominantly two bedrooms or larger (80 percent). Sixty percent of these units were built in the South and 23 percent in the West regions of the United States. The remaining 17 percent were about equally divided between the North Central (9 percent) and Northeast regions (8 percent).

Furnished rental units accounted for 2 percent of the total number of privately financed apartments in buildings with five units or more. Three months after completion, 85 percent of these units were absorbed. Furnished units tended to be smaller than unfurnished units. Apartments with fewer than two bedrooms accounted for 78 percent of the furnished units while only about half (49 percent) of the unfurnished units had fewer than two bedrooms. The median rent for furnished units was $312.

Federally subsidized properties which account for 17 percent of total units completed are excluded from this survey. These units are built under the following 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. An additional 3 percent of the units 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.

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 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 units or more as well as a subsample of buildings with one to four units are selected.

Each quarter all buildings with five housing units or more in the SOC sample reported as completed during that quarter come into the 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.

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
> _____
> 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] and also reduces, to some extent, the sampling variability of the estimates of totals. Annual estimates are obtained by summing the four quarterly final estimates.

It is assumed that the absorption rates and other character-istics of units not included in the interview 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.

[2] See "Housing Starts," Construction Reports Series C20, for details of this survey.
[3] See "Housing Completions," Construction Reports, Series C22.

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 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 interval 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.

The reliability of an estimated absorption rate (i.e., a percentage) computed by using sample data for both the numerator and denominator depends upon both the size of the rate and the size of the total on which the rate is based. Estimated rates of this kind are relatively more reliable than the corresponding estimates of the numerators of the rates, particularly if the rates are 50 percent or more.

The figures presented in tables I and II are approximations to the standard errors of various estimates shown in the report. Table I presents standard errors for estimated totals, and table II presents standard errors of estimated percents. In order to derive standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, the tables of standard errors provide an indication of the order of magnitude of the standard errors rather than the precise standard error for any specific item. Standard errors for values not shown in tables I or II can be obtained by linear interpolation.

USE OF STANDARD ERROR TABLES

Table 1 of this report shows that 5,100 units completed in 1982 rented for $200 to $249. Table I shows the standard error of an estimate of this size to be approximately 897. The 68 percent confidence interval as shown by these data is from 4,203 to 5,997. 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 3,306 to 6,894 (using twice the standard error) with 95 percent confidence.

Table 1 shows the rate of absorption after 3 months for these 5,100 units is 88 percent. Table II shows the standard error on an 88 percent rate on a base of 5,100 to be approximately 6.6 percent. The 68 percent confidence interval for this estimate is from 81.4 to 94.6 percent. 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 dervied from all possible samples lies within the interval from 74.8 to 100.0 (using twice the standard error) with 95 percent confidence.

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FIGURE A.

Percent of Apartments Absorbed, by Quarter of Completion, by Months on the Market: 1982

12 Months
9 Months
6 Months
3 Months

Percent

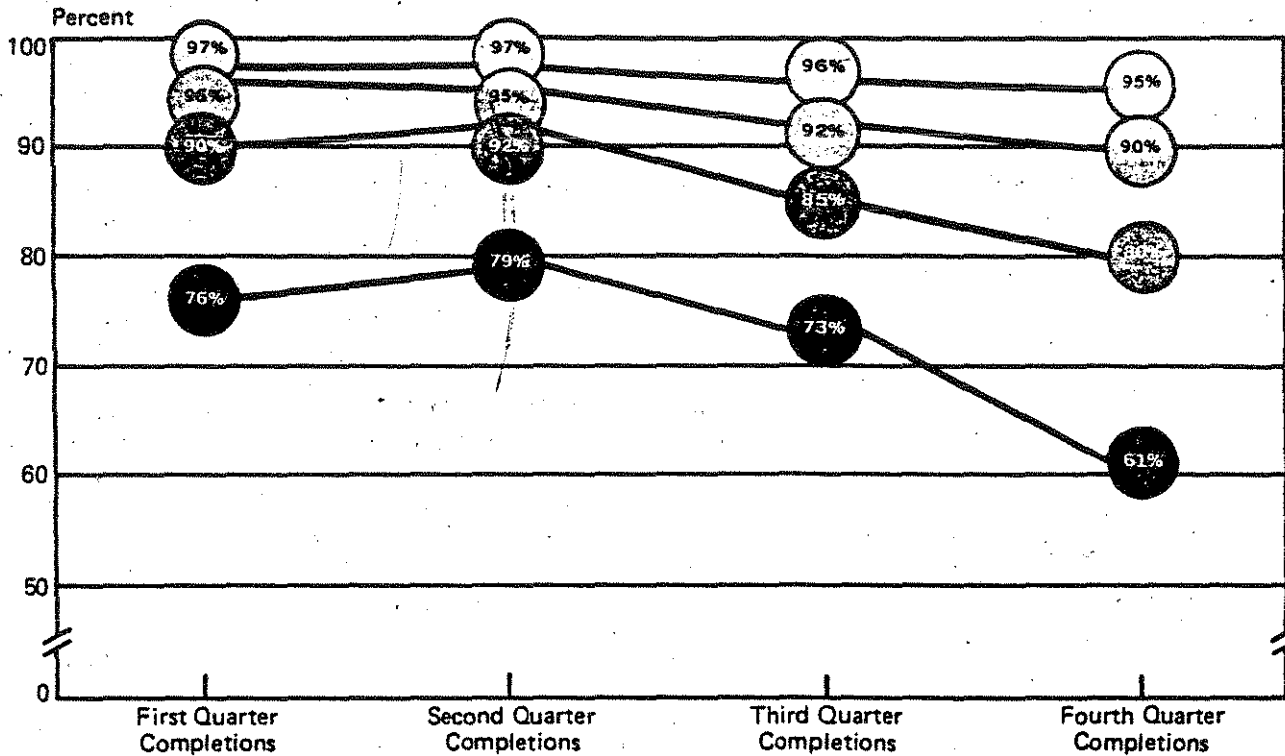| First Quarter Completions | Second Quarter Completions | Third Quarter Completions | Fourth Quarter Completions |
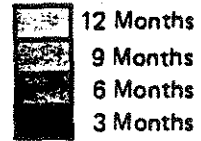
FIGURE B.

Percent of Apartments Absorbed, by Region, by Months on the Market: 1982

12 Months
9 Months
6 Months
3 Months

Percent

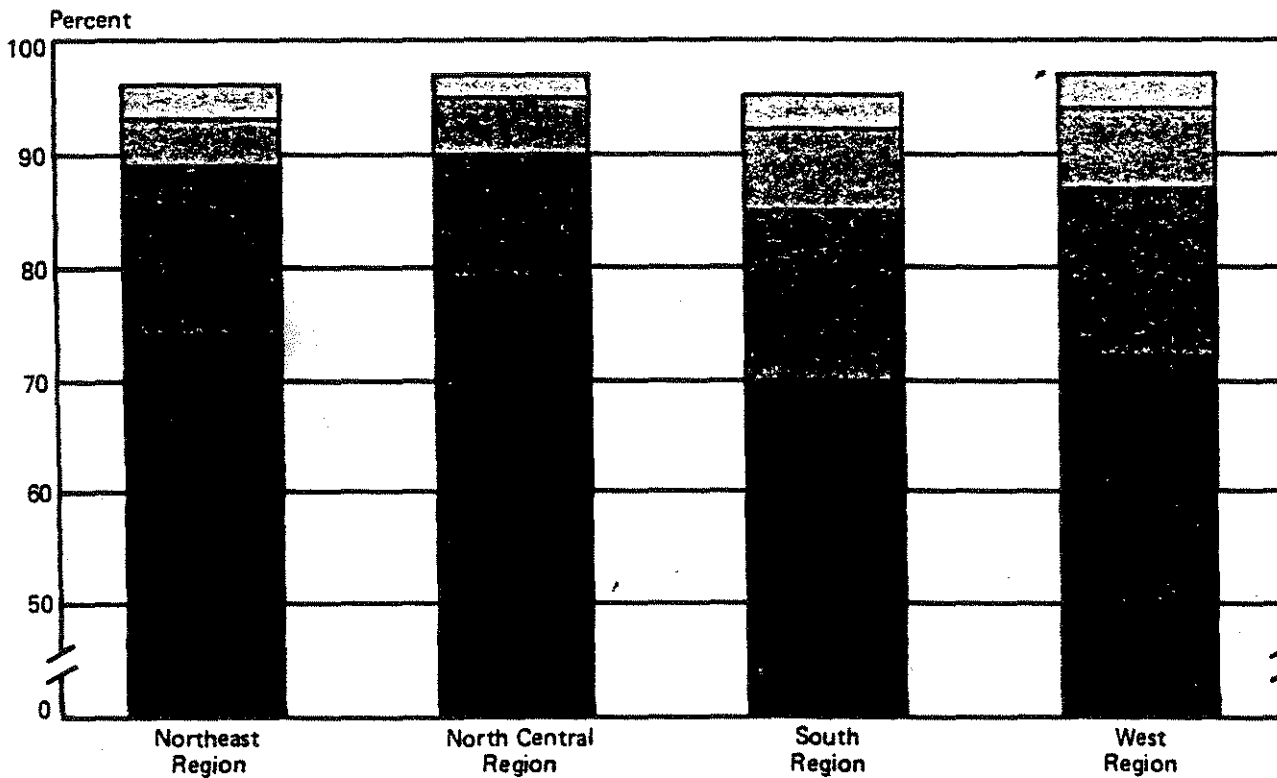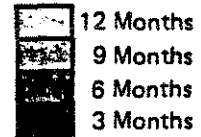| Northeast Region | North Central Region | South Region | West Region |

Table 1. Absorption Rates for Apartments Completed, by Number of Bedrooms and Rent Classes, for the United States: 1982

(Privately financed, nonsubsidized, unfurnished 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.)

Characteristics	Total		Percent absorbed after—			
	Number	Percent	3 months	6 months	9 months	12 months
Total......................	117,000	100	72	87	93	96
Less than $200................	1,400	1	92	97	98	99
$200 to $249.................	5,100	4	88	97	99	99
$250 to $299.................	12,600	11	74	89	98	99
$300 to $349.................	22,200	19	75	90	95	98
$350 to $399.................	24,500	21	72	87	93	96
$400 or more................	51,300	44	68	83	90	94
Median rent.................	$385	(X)	(X)	(X)	(X)	(X)
No bedrooms................	3,600	3	76	90	94	95
Less than $200................	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)
$200 to $249.................	600	1	75	95	99	99
$250 to $299.................	800	1	94	98	99	100
$300 to $349.................	400	(Z)	68	88	96	98
$350 to $399.................	900	1	71	94	98	98
$400 or more................	800	1	68	76	81	83
Median rent.................	$340	(X)	(X)	(X)	(X)	(X)
1 bedroom..................	54,100	46	70	85	92	96
Less than $200................	900	1	90	96	98	98
$200 to $249.................	1,900	2	78	94	98	99
$250 to $299.................	7,100	6	65	86	96	99
$300 to $349.................	15,700	13	74	89	94	98
$350 to $399.................	13,000	11	68	84	91	95
$400 or more................	15,500	13	67	80	88	92
Median rent.................	$356	(X)	(X)	(X)	(X)	(X)
2 bedrooms.................	53,300	46	73	87	94	96
Less than $200................	400	(Z)	96	100	100	100
$200 to $249.................	2,600	2	99	100	100	100
$250 to $299.................	4,600	4	84	91	99	100
$300 to $349.................	5,600	5	77	93	98	99
$350 to $399.................	10,500	9	77	90	95	97
$400 to $449.................	9,800	8	72	88	95	97
$450 or more................	19,800	17	65	81	89	93
Median rent.................	$415	(X)	(X)	(X)	(X)	(X)
3 bedrooms or more..........	6,000	5	78	94	96	97
Less than $200................	100	(Z)	98	98	98	98
$200 to $249.................	-	-	-	-	-	-
$250 to $299.................	100	(Z)	53	100	100	100
$300 to $349.................	400	(Z)	70	96	100	100
$350 to $399.................	200	(Z)	98	100	100	100
$400 to $449.................	900	1	51	100	100	100
$450 or more................	4,400	4	83	92	95	97
Median rent.................	$450	(X)	(X)	(X)	(X)	(X)

- Represents zero.   X Not applicable.   Z Indicates less than fifty or less than one-half percent.

Table 2. Absorption Rates for Apartments Completed, by Geographic Area: 1982

(Privately financed, nonsubsidized, unfurnished apartments in buildings with five units or more. Data may not add to total due to rounding)

Geographic areas	Total		Percent absorbed after—			
	Number	Percent	3 months	6 months	9 months	12 months
United States, total.................	117,000	100	72	87	93	96
Inside SMSA's:						
In central city........................	51,400	44	69	84	92	95
Not in central city....................	45,000	38	69	85	92	96
Outside SMSA's............................	20,600	18	87	96	98	98
Northeast................................	4,600	4	74	89	93	96
North Central............................	21,900	19	79	90	95	97
South....................................	66,800	57	70	85	92	95
West.....................................	23,700	20	72	87	94	97

Table 3. Absorption Rates for Apartments Completed, by Presence of Air Conditioning and Swimming Pool, for the United States: 1982

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

Characteristics	Total		Percent absorbed after—			
	Number	Percent	3 months	6 months	9 months	12 months
Unfurnished total.....................	117,000	100	72	87	93	96
Air conditioning:						
Included in rent........................	75,100	64	70	85	91	95
Available at extra cost.................	32,200	28	74	90	96	98
Not available...........................	8,200	7	75	90	96	98
Not reported............................	1,500	1	76	83	97	97
Swimming pool:						
Included in rent........................	86,100	74	69	85	92	96
Available at extra cost.................	2,200	2	79	87	88	91
Not available...........................	28,000	24	81	92	96	97
Not reported............................	700	1	71	85	89	96

Z Indicates less than one-half of one percent.

Table 4. Furnished Apartments Completed, by Number of Bedrooms and Rent Classes, for the United States: 1982

(Privately financed, nonsubsidized, furnished 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.)

Characteristics	Total	
	Number	Percent
Total...	5,400	100
Rent Classes:		
Less than $200.................................	(Z)	(Z)
$200 to $249..................................	1,100	20
$250 to $299..................................	1,300	24
$300 to $349..................................	1,100	20
$350 to $400..................................	900	17
$400 or more..................................	900	17
Median rent...................................	$312	(X)
Bedrooms:		
None..	1,000	19
1 bedroom.....................................	3,200	59
2 bedrooms....................................	1,100	20
3 bedrooms or more............................	100	2

X Not applicable.   Z Indicates less than fifty or less than one-half percent.

Table 5. Absorption Rates for Furnished Apartments Completed, by Rent Classes and Bedrooms, for the United States: 1982

(Privately financed, nonsubsidized, furnished apartments in buildings with five units or more. Data regarding asking rent and bedrooms 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.)

Characteristics	Total	Percent absorbed within--			
		3 months	6 months	9 months	12 months
Total..................................	5,400	85	98	100	100
Rent Classes:					
Less than $200........................	(Z)	(Z)	(Z)	(Z)	(Z)
$200 to $249..........................	1,100	88	99	100	100
$250 to $299..........................	1,300	83	95	100	100
$300 to $349..........................	1,100	83	98	100	100
$350 to $399..........................	900	81	100	100	100
$400 or more..........................	900	90	99	100	100
Median rent...........................	$312	(X)	(X)	(X)	(X)
Bedrooms:					
None..................................	1,000	69	92	100	100
1 bedroom.............................	3,200	89	99	100	100
2 bedrooms............................	1,100	87	99	100	100
3 bedrooms or more....................	100	100	100	100	100

X Not applicable.   Z Indicates less than fifty or less than one-half percent.

Table 6. Absorption Rates for Cooperative and Condominium Apartments Completed by Number of Bedrooms and Geographic Regions: 1982

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

Characteristics	Total completed		Percent absorbed within--			
	Number	Percent	3 months	6 months	9 months	12 months
Total.........................	107,900	100	54	69	78	84
Bedrooms:						
None...........................	600	1	63	80	87	91
1 bedroom..........................	20,700	19	56	73	81	86
2 bedrooms........................	75,600	70	55	69	78	85
3 bedrooms or more...............	11,000	10	47	62	70	78
Region:						
Northeast........................	8,600	8	45	74	84	89
North Central....................	9,500	9	56	71	81	87
South...........................	64,500	60	60	73	81	87
West............................	25,300	23	42	57	67	75

Table I. Standard Errors of Estimated Totals: 1982 Completions

(1 standard error)

Estimated total	Standard error	Estimated total	Standard error
5,000.......................................	890	75,000..................................	3,550
10,000......................................	1,260	100,000.................................	4,130
15,000......................................	1,550	150,000.................................	5,160
20,000......................................	1,790	250,000.................................	6,900
25,000......................................	2,010	350,000.................................	8,440
35,000......................................	2,380	450,000.................................	9,870
50,000......................................	2,870	600,000.................................	11,900

Table II. Standard Errors of Estimated Percentages: 1982 Completions

(1 standard error)

Base of percentage	Estimated percentage					
	98 or 2	95 or 5	90 or 10	80 or 20	75 or 25	50
5,000...	2.9	4.6	6.2	8.2	9.0	10.4
10,000..	2.1	3.2	4.4	5.8	6.3	7.4
15,000..	1.7	2.6	3.6	4.8	5.2	6.0
20,000..	1.4	2.2	3.1	4.2	4.5	5.2
25,000..	1.3	2.0	2.8	3.7	4.0	4.6
35,000..	1.1	1.7	2.3	3.1	3.4	3.9
50,000..	0.9	1.4	2.0	2.6	2.9	3.3
75,000..	0.7	1.2	1.6	2.2	2.3	2.6
100,000.......................................	0.6	1.0	1.4	1.8	2.0	2.3
150,000.......................................	0.6	0.8	1.1	1.5	1.7	1.9
250,000.......................................	0.4	0.6	1.0	1.2	1.4	1.5
350,000.......................................	0.4	0.6	0.8	1.0	1.1	1.3
450,000.......................................	0.3	0.5	0.6	0.9	1.0	1.1
600,000.......................................	0.2	0.4	0.6	0.7	0.8	1.0