Housing Starts

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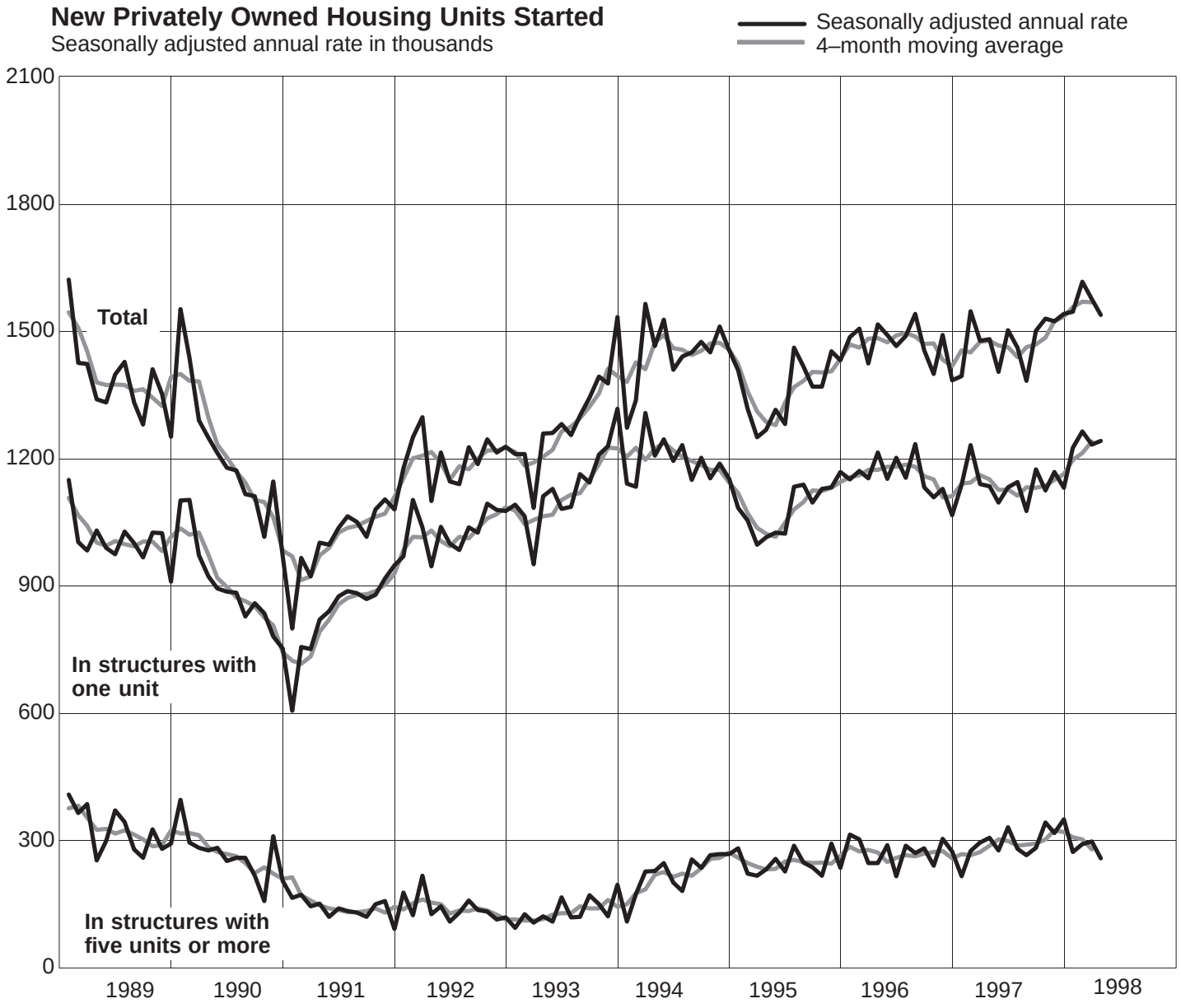
Seasonally adjusted statistics for building permits, January 1996 through March 1998, and unadjusted statistics for January through December 1997 have been revised (see Table 2).

The appendix to this report (beginning on page A–1) includes information on survey definitions, sample design, data compilation, seasonal adjustment, and the reliability of the data.

New Privately Owned Housing Units Started
Seasonally adjusted annual rate in thousands



Note: Total includes units started in structures with two to four units.
Source: U.S. Bureau of the Census, Housing Starts.

Questions regarding these data may be directed to **Erica Filipek,** Residential Construction Branch, Telephone301-457-4703.

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HOUSING STARTS AND BUILDING PERMITS

Privately owned housing starts in April were at a seasonally adjusted annual rate of 1,538,000. This is 2 (±5) percent below the revised March rate of 1,575,000, but 4 (±6) percent above the April 1997 rate of 1,480,000.

Single-family housing starts in April 1998 were at a rate of 1,241,000; this is 1 (±5) percent above the March figure of 1,232,000. The April rate for units in buildings with five units or more was 256,000. The April rate for units in buildings with two to four units was 41,000.

During the first 4 months of this year, 466,600 housing units were started compared with 439,600 units for the same period in 1997. This is an increase of 6 (±3) percent.

New privately owned housing construction was authorized in April in the 19,000 permit-issuing places at a seasonally adjusted annual rate of 1,518,000 units; this is 3 (±1) percent below the revised March rate of 1,569,000, but 7 (±1) percent above the April 1997 rate of 1,423,000.

Single-family authorizations in April 1998 were at a rate of 1,145,000; this is 1 (±1) percent above the March figure of 1,136,000. Authorizations of units in buildings with five units or more were at a rate of 315,000 in April; this is 13 percent below the March figure of 362,000. The April rate of permit-authorized units in buildings with two to four units was 58,000.

During the first 4 months of this year, 482,500 housing units were authorized by permits in the 19,000 places compared with 439,500 units for the same period in 1997. This is an increase of 10 (±1) percent.

In interpreting changes in housing starts and building permits, note that month-to-month changes in seasonally adjusted statistics often show movements which may be irregular. It may take 4 months to establish an underlying trend for total starts, 3 months for building permit authorizations, and 2 months for mobile home shipments.

Except for those on mobile home shipments, the statistics in this report are estimated from sample surveys and are subject to sampling variability as well as nonsampling error including bias and variance from response, nonreporting, and undercoverage. Estimated average relative standard errors of preliminary data are shown in the tables. Whenever a statement such as ''2 (±3) percent above'' appears in the text, this indicates the range (-1 to +5 percent) in which the actual percent change is likely to have occurred. All ranges given are 90-percent confidence intervals and account for only sampling variability. If a range contains zero, it is uncertain whether there was an increase or decrease; that is, the change is not statistically significant. For any comparison cited without a confidence interval, the change is statistically significant. Explanations of confidence intervals and sampling variability appear in the appendix to the January 1998 Current Construction Reports, C20/98-1. On average, the preliminary seasonally adjusted estimates of total housing starts and building permits are revised about ±1 percent.

Housing starts and building permits data do not include mobile home units. Mobile home statistics are shown in Table 5.

HISTORICAL DATA

Historical data on housing starts and residential permit authorizations are available from Construction Starts Branch, Manufacturing and Construction Division, Bureau of the Census, Washington, DC 20233-6900. Telephone 301-457-4703.

A list of tables and special supplements is shown below:

Title	C20 issues				
New privately owned housing units started, by purpose of construction (quarterly and annual data)	98-4	98-1	97-10	97-7	97-4
Total time from start of construction to completion of private residential buildings (annual data)	98-3	97-3	96-3	95-3	94-3
Total time from authorization of construction to start for private residential buildings (annual data)	98-3	97-3	96-3	95-3	94-3
New privately owned housing units, by intended use and design at time of start (annual data)	98-2	97-2	96-2	95-2	94-2
New mobile homes (quarterly and annual data)	98-3	97-12	97-9	97-6	97-5

Table 1. **New Privately Owned Housing Units Started**

[Thousands of units. Detail may not add to total because of rounding]

Period	Total	In structures with—				Inside MSAs[1]	Outside MSAs[1]	North-east	Midwest	South	West
		1 unit	2 units	3 and 4 units	5 units or more						
ANNUAL DATA											
1988	1,488.1	1,081.3	23.4	35.4	348.0	1,243.0	245.1	235.3	274.0	574.9	403.9
1989	1,376.1	1,003.3	19.9	35.3	317.6	1,128.1	248.0	178.5	265.8	536.2	395.7
1990	1,192.7	894.8	16.1	21.4	260.4	946.9	245.7	131.3	253.2	479.3	328.9
1991	1,013.9	840.4	15.5	20.1	137.9	789.2	224.7	112.9	233.0	414.1	254.0
1992	1,199.7	1,029.9	12.4	18.3	139.0	931.5	268.2	126.7	287.8	496.9	288.3
1993	1,287.6	1,125.7	11.1	18.3	132.6	1,031.9	255.8	126.5	297.7	561.8	301.7
1994	1,457.0	1,198.4	14.8	20.2	223.5	1,183.1	273.9	138.2	328.9	639.1	350.8
1995	1,354.1	1,076.2	14.3	19.4	244.1	1,106.4	247.6	117.7	290.1	615.0	331.3
1996	1,476.8	1,160.9	16.4	28.8	270.8	1,211.4	265.5	132.1	321.5	661.9	361.4
1997	1,474.0	1,133.7	18.1	26.4	295.8	1,221.3	252.7	136.8	303.6	670.3	363.3
MONTHLY DATA											
Not Seasonally Adjusted											
1997: January	82.2	66.6	0.6	1.5	13.5	72.1	10.1	8.5	10.5	39.8	23.3
February	94.7	75.1	1.4	1.1	17.1	81.8	12.9	6.2	16.3	47.4	24.8
March	120.4	96.1	0.9	2.6	20.7	101.6	18.8	11.1	22.3	55.5	31.4
April	142.3	109.5	1.8	2.2	28.9	117.1	25.2	13.1	28.4	68.6	32.2
May	136.3	106.2	1.2	1.9	27.0	110.6	25.7	11.7	31.5	58.8	34.4
June	140.4	108.8	1.4	2.6	27.5	114.4	26.0	11.6	31.9	62.3	34.5
July	134.6	107.4	1.9	1.5	23.7	110.4	24.2	14.6	30.0	58.9	31.1
August	126.5	98.8	1.5	2.0	24.2	104.1	22.5	11.6	28.1	55.5	31.3
September	139.2	108.3	2.2	2.0	26.7	113.8	25.4	13.7	29.7	62.6	33.1
October	139.0	99.2	2.0	4.4	33.4	110.9	28.1	11.2	34.0	60.9	33.0
November	112.4	83.7	1.6	2.2	25.0	94.4	18.0	14.7	21.2	49.4	27.1
December	106.0	73.9	1.8	2.3	28.1	90.2	15.8	8.8	19.6	50.6	27.0
1998: January	91.2	72.3	0.8	1.5	16.5	78.1	13.1	8.0	14.4	42.9	25.9
February[r]	101.1	78.9	0.8	3.2	18.1	87.0	14.0	9.4	17.3	51.2	23.2
March[r]	131.0	105.9	1.6	2.1	21.4	112.0	19.0	10.5	24.1	61.8	34.6
April[p]	143.3	117.1	1.4	2.0	22.8	117.5	25.8	12.2	32.2	65.6	33.3
Year to date: 1997	439.6	347.3	4.7	7.4	80.2	372.5	67.1	39.0	77.6	211.3	111.8
1998	466.6	374.2	4.7	8.9	78.8	394.7	71.9	40.1	87.9	221.5	117.0
Seasonally Adjusted Annual Rate											
1997: January	1,394	1,138	42		214	(NA)	(NA)	174	262	608	350
February	1,547	1,231	42		274	(NA)	(NA)	135	375	673	364
March	1,477	1,139	44		294	(NA)	(NA)	152	303	653	369
April	1,480	1,134	41		305	(NA)	(NA)	135	297	698	350
May	1,404	1,095	34		275	(NA)	(NA)	123	297	624	360
June	1,502	1,132	40		330	(NA)	(NA)	116	311	707	368
July	1,461	1,144	38		279	(NA)	(NA)	146	302	668	345
August	1,383	1,076	43		264	(NA)	(NA)	126	277	645	335
September	1,501	1,174	45		282	(NA)	(NA)	139	304	696	362
October	1,529	1,124	64		341	(NA)	(NA)	113	328	714	374
November	1,523	1,167	40		316	(NA)	(NA)	182	272	661	408
December	1,540	1,130	62		348	(NA)	(NA)	131	337	677	395
1998: January	1,545	1,225	49		271	(NA)	(NA)	159	342	665	379
February[r]	1,616	1,263	63		290	(NA)	(NA)	200	367	710	339
March[r]	1,575	1,232	47		296	(NA)	(NA)	141	330	712	392
April[p]	1,538	1,241	41		256	(NA)	(NA)	131	345	692	370
AVERAGE RELATIVE STANDARD ERRORS[2]											
Annual (percent)	1	1	6	9	2	1	3	1	2	2	1
Monthly (percent)	3	3	13	21	7	2	9	9	6	4	3
Year to date (percent)	1	1	10	14	6	2	5	9	4	2	2

NA Not available. [p]Preliminary. [r]Revised.

[1]Metropolitan statistical areas.

[2]Average Relative Standard Errors (Avg. RSE): Annual—Avg. RSE for the last 2 years; Year to date—Avg. RSE for the current period and the same period last year; Monthly—Avg. RSE for the latest 6-month period (January through June or July through December).

Table 2. **New Privately Owned Housing Units Authorized in Permit-Issuing Places**

[Thousands of units. Detail may not add to total because of rounding)

Period	United States							Northeast			Midwest			South			West		
		In structures with—							In structures with—			In structures with—			In structures with—			In structures with—	
	Total	1 unit	2 units	3 and 4 units	5 units or more	Inside MSA's[1]	Outside MSA's[1]	Total	1 unit	2 units or more	Total	1 unit	2 units or more	Total	1 unit	2 units or more	Total	1 unit	2 units or more
ANNUAL DATA																			
17,000-Place Series																			
1993	1,199.1	986.5	26.7	25.6	160.2	1,009.0	190.1	133.5	113.7	19.8	276.6	218.4	58.3	500.7	419.5	81.2	288.2	235.0	53.2
19,000-Place Series																			
1994	1,371.6	1,068.5	31.4	30.8	241.0	1,144.1	227.5	138.5	119.1	19.4	305.2	233.6	71.6	585.5	453.0	132.5	342.4	262.8	79.7
1995	1,332.5	997.3	32.2	31.5	271.5	1,116.8	215.8	124.2	104.5	19.7	296.6	220.5	76.1	583.2	430.3	152.9	328.5	241.9	86.5
1996	1,425.6	1,069.5	33.6	32.2	290.3	1,200.0	225.6	136.9	108.8	28.1	317.8	236.6	81.3	623.4	468.5	155.0	347.4	255.6	91.8
1997[r]	1,441.1	1,062.4	34.9	33.6	310.3	1,220.2	220.9	141.9	111.2	30.7	299.8	220.0	79.8	635.9	464.2	171.7	363.5	267.1	96.5
MONTHLY DATA																			
Not Seasonally Adjusted																			
1995: January	78.0	58.2	1.8	2.0	16.1	67.3	10.7	7.4	6.2	1.2	12.3	8.6	3.7	40.1	29.1	11.0	18.3	14.3	4.0
February	80.4	59.8	2.0	1.3	17.3	69.4	11.1	5.6	4.7	0.9	13.7	10.4	3.3	38.7	28.9	9.8	22.5	15.8	6.6
March	111.5	85.1	3.0	2.9	20.5	93.6	17.9	10.5	8.8	1.7	23.8	18.5	5.3	52.7	39.1	13.6	24.5	18.8	5.8
April	109.7	83.1	2.8	2.5	21.3	90.5	19.3	11.5	9.5	1.9	25.2	19.4	5.8	46.6	34.9	11.7	26.5	19.3	7.2
May	122.8	95.9	3.3	2.6	21.1	101.4	21.4	12.4	11.0	1.4	29.3	22.7	6.6	51.0	39.1	11.9	30.1	23.1	7.0
June	129.3	97.4	3.2	3.4	25.3	106.6	22.8	12.4	10.6	1.9	29.7	23.1	6.6	53.3	39.7	13.7	33.9	24.1	9.8
July	115.6	88.3	2.3	2.4	22.5	95.2	20.4	10.7	9.4	1.2	27.3	20.9	6.4	48.4	36.9	11.6	29.2	21.1	8.2
August	133.5	101.4	3.1	3.0	26.1	111.4	22.1	12.3	10.6	1.7	31.9	23.5	8.3	55.9	42.1	13.8	33.5	25.2	8.3
September	124.1	90.1	3.0	3.0	28.1	104.1	20.0	11.2	9.4	1.8	28.9	20.5	8.4	55.0	39.4	15.5	29.1	20.8	8.3
October	122.2	90.8	3.1	3.3	25.0	101.4	20.8	11.9	9.8	2.1	31.9	22.1	9.8	51.5	37.7	13.7	27.0	21.2	5.8
November	107.8	78.4	2.9	3.1	23.5	90.9	17.0	10.5	8.0	2.5	24.9	18.2	6.7	46.3	33.3	13.0	26.2	18.9	7.3
December	97.4	68.8	1.9	2.0	24.7	85.0	12.4	8.0	6.6	1.4	17.8	12.5	5.2	43.8	30.1	13.7	27.8	19.5	8.4
1996: January	88.3	66.0	2.0	1.8	18.5	77.1	11.1	5.5	4.5	1.0	14.3	10.4	3.9	44.0	33.7	10.3	24.5	17.4	7.1
February	96.0	74.4	2.2	1.9	17.6	83.7	12.3	6.1	5.4	0.7	17.1	13.7	3.4	46.4	37.2	9.2	26.4	18.1	8.4
March	120.4	95.7	2.6	2.3	19.8	101.6	18.8	10.8	8.9	1.9	26.6	20.2	6.3	52.0	43.3	8.7	31.1	23.3	7.8
April	140.1	109.9	3.7	3.2	23.3	116.2	23.8	14.0	10.9	3.1	33.9	26.7	7.2	60.3	47.1	13.1	31.9	25.1	6.8
May	140.5	109.2	3.1	3.0	25.1	116.5	24.0	14.2	11.8	2.4	32.8	26.1	6.6	61.8	46.0	15.8	31.8	25.4	6.4
June	131.4	100.7	2.9	3.1	24.7	109.1	22.3	13.1	10.7	2.4	29.4	23.4	5.9	55.6	42.2	13.4	33.4	24.4	9.0
July	135.1	101.9	2.9	2.8	27.5	111.2	23.9	13.4	11.1	2.4	33.1	24.6	8.5	54.7	41.6	13.1	33.8	24.5	9.3
August	129.1	97.6	3.0	2.5	26.0	108.0	21.1	14.0	10.6	3.4	30.3	22.6	7.8	55.4	41.3	14.2	29.4	23.2	6.2
September	121.1	85.9	3.0	3.1	29.1	101.0	20.1	12.2	9.6	2.5	27.8	20.1	7.7	51.4	35.7	15.7	29.8	20.5	9.3
October	123.7	90.8	3.3	3.7	25.9	103.6	20.1	13.4	10.0	3.4	30.8	21.4	9.4	49.6	38.1	11.5	29.9	21.3	8.6
November	100.7	71.5	2.7	2.6	23.9	86.1	14.7	10.8	8.3	2.4	23.1	15.3	7.9	44.9	31.7	13.2	21.9	16.3	5.7
December	99.2	66.0	2.2	2.0	29.1	86.0	13.2	9.4	7.0	2.5	18.7	12.1	6.6	47.4	30.7	16.8	23.6	16.2	7.3
1997:[r] January	88.1	65.8	2.4	1.5	18.5	77.5	10.6	9.1	6.5	2.6	13.2	9.2	4.0	43.3	33.6	9.8	22.5	16.4	6.1
February	94.1	70.3	2.3	1.8	19.7	81.6	12.5	9.1	5.8	3.3	15.7	11.4	4.3	44.6	34.3	10.4	24.6	18.8	5.9
March	120.1	88.7	2.9	2.5	26.0	102.5	17.6	11.8	8.7	3.0	24.3	18.0	6.3	55.4	39.7	15.7	28.7	22.3	6.4
April	137.2	104.4	3.5	3.1	26.2	113.1	24.2	12.6	10.4	2.2	32.0	24.3	7.7	61.5	45.0	16.5	31.2	24.8	6.4
May	131.6	101.3	3.0	2.8	24.6	108.3	23.3	12.8	11.0	1.9	29.4	22.9	6.5	55.8	42.3	13.5	33.5	25.1	8.4
June	133.6	100.9	3.2	3.4	26.2	111.9	21.7	14.0	11.0	3.0	29.2	22.3	6.9	57.1	42.4	14.8	33.3	25.2	8.1
July	133.7	99.8	3.3	3.3	27.2	113.0	20.7	13.5	11.1	2.4	27.8	21.6	6.2	58.7	41.8	16.9	33.7	25.3	8.5
August	126.0	91.8	2.5	2.9	28.7	105.9	20.1	12.9	9.8	3.1	28.3	20.0	8.3	53.4	38.9	14.4	31.4	23.1	8.4
September	134.4	95.6	3.0	3.2	32.7	113.8	20.6	12.4	10.1	2.3	28.8	20.7	8.2	57.4	40.0	17.5	35.7	24.8	10.9
October	135.5	97.5	3.7	3.9	30.4	114.5	21.0	12.5	10.7	1.8	29.5	20.7	8.8	58.0	41.4	16.6	35.5	24.8	10.7
November	100.4	72.5	2.3	2.2	23.3	85.8	14.6	10.6	8.1	2.5	21.3	14.8	6.5	44.0	32.0	12.1	24.5	17.7	6.8
December	106.4	73.9	2.8	2.9	26.8	92.3	14.1	10.7	8.0	2.7	20.3	14.1	6.2	46.5	32.9	13.6	28.9	18.9	10.0
1998: January	93.5	68.3	2.0	2.0	21.1	82.0	11.5	9.6	6.7	2.9	14.6	10.4	4.1	45.5	34.1	11.5	23.8	17.1	6.7
February	105.6	76.6	2.2	2.6	24.3	92.1	13.6	8.7	6.9	1.8	18.5	13.9	4.7	51.7	37.3	14.4	26.7	18.5	8.2
March[r]	138.0	103.8	2.8	3.4	28.0	119.5	18.5	11.7	9.8	1.9	25.7	20.1	5.7	67.5	47.5	20.1	33.1	26.5	6.6
April[p]	144.6	112.9	2.7	2.7	26.3	121.2	23.4	12.7	11.1	1.7	31.3	24.9	6.3	62.0	47.8	14.2	38.6	29.1	9.5
Year to date: 1997	439.5	329.1	11.1	8.9	90.4	374.7	64.8	42.5	31.4	11.1	85.2	62.9	22.3	204.9	152.5	52.3	106.9	82.3	24.7
1998[2]	482.5	362.5	9.7	10.6	99.6	415.5	66.9	42.8	34.7	8.1	90.3	69.5	20.8	226.7	166.8	59.9	122.7	91.5	31.2

See footnotes at end of table.

Table 2. **New Privately Owned Housing Units Authorized in Permit-Issuing Places**—Con.
[Thousands of units. Detail may not add to total because of rounding]

Period	United States							Northeast			Midwest			South			West		
		In structures with—							In structures with—			In structures with—			In structures with—			In structures with—	
	Total	1 unit	2 units	3 and 4 units	5 units or more	Inside MSA's[1]	Outside MSA's[1]	Total	1 unit	2 units or more	Total	1 unit	2 units or more	Total	1 unit	2 units or more	Total	1 unit	2 units or more
MONTHLY DATA—Con.																			
Seasonally Adjusted Annual Rate																			
1995: January	1,282	967	66		249	(NA)	(NA)	139	121	18	285	206	79	567	412	155	291	228	63
February	1,254	916	52		286	(NA)	(NA)	112	96	16	274	201	73	536	391	145	332	228	104
March	1,226	914	64		248	(NA)	(NA)	128	106	22	274	206	68	558	404	154	266	198	68
April	1,259	925	60		274	(NA)	(NA)	129	106	23	278	202	76	539	396	143	313	221	92
May	1,271	958	61		252	(NA)	(NA)	121	103	18	278	209	69	546	410	136	326	236	90
June	1,305	982	64		259	(NA)	(NA)	119	101	18	295	218	77	565	424	141	326	239	87
July	1,354	1,019	61		274	(NA)	(NA)	117	101	16	303	225	78	598	443	155	336	250	86
August	1,386	1,045	63		278	(NA)	(NA)	121	107	14	310	233	77	600	444	156	355	261	94
September	1,421	1,079	68		274	(NA)	(NA)	128	108	20	315	234	81	638	487	151	340	250	90
October	1,400	1,052	65		283	(NA)	(NA)	128	106	22	322	235	87	634	458	176	316	253	63
November	1,430	1,060	70		300	(NA)	(NA)	126	101	25	314	241	73	622	454	168	368	264	104
December	1,442	1,091	62		289	(NA)	(NA)	129	105	24	300	232	68	618	460	158	395	294	101
1996:r January	1,387	1,051	63		273	(NA)	(NA)	97	87	10	313	240	73	610	461	149	367	263	104
February	1,420	1,085	60		275	(NA)	(NA)	116	105	11	318	246	72	615	477	138	371	257	114
March	1,437	1,108	60		269	(NA)	(NA)	137	111	26	335	244	91	596	484	112	369	269	100
April	1,463	1,108	74		281	(NA)	(NA)	145	108	37	333	251	82	636	485	151	349	264	85
May	1,457	1,096	66		295	(NA)	(NA)	139	109	30	314	243	71	663	485	178	341	259	82
June	1,429	1,089	64		276	(NA)	(NA)	132	109	23	307	239	68	640	482	158	350	259	91
July	1,450	1,074	67		309	(NA)	(NA)	137	110	27	338	243	95	617	461	156	358	260	98
August	1,413	1,061	63		289	(NA)	(NA)	147	113	34	312	234	78	627	459	168	327	255	72
September	1,392	1,037	70		285	(NA)	(NA)	143	113	30	303	229	74	598	447	151	348	248	100
October	1,358	1,010	68		280	(NA)	(NA)	142	106	36	305	222	83	581	443	138	330	239	91
November	1,412	1,031	68		313	(NA)	(NA)	140	111	29	313	220	93	636	454	182	323	246	77
December	1,411	1,015	62		334	(NA)	(NA)	142	111	31	309	212	97	629	455	174	331	237	94
1997:r January	1,399	1,061	65		273	(NA)	(NA)	161	126	35	295	216	79	603	465	138	340	254	86
February	1,450	1,074	64		312	(NA)	(NA)	176	117	59	300	213	87	618	463	155	356	281	75
March	1,438	1,020	65		353	(NA)	(NA)	153	112	41	304	216	88	643	440	203	338	252	86
April	1,423	1,052	69		302	(NA)	(NA)	126	101	25	313	229	84	648	465	183	336	257	79
May	1,422	1,046	65		311	(NA)	(NA)	129	105	24	293	219	74	624	455	169	376	267	109
June	1,398	1,051	68		279	(NA)	(NA)	141	109	32	299	220	79	619	464	155	339	258	81
July	1,441	1,052	77		312	(NA)	(NA)	138	111	27	285	213	72	657	461	196	361	267	94
August	1,445	1,059	64		322	(NA)	(NA)	141	108	33	304	219	85	630	463	167	370	269	101
September	1,475	1,084	67		324	(NA)	(NA)	136	112	24	299	221	78	646	467	179	394	284	110
October	1,502	1,106	74		322	(NA)	(NA)	134	114	20	295	218	77	682	490	192	391	284	107
November	1,475	1,102	58		315	(NA)	(NA)	144	113	31	299	226	73	651	485	166	381	278	103
December	1,467	1,094	82		291	(NA)	(NA)	153	121	32	321	238	83	612	473	139	381	262	119
1998: Januaryr	1,553	1,142	70		341	(NA)	(NA)	174	134	40	336	249	87	667	484	183	376	275	101
Februaryr	1,635	1,176	74		385	(NA)	(NA)	169	138	31	356	259	97	721	502	219	389	277	112
Marchr	1,569	1,136	71		362	(NA)	(NA)	146	119	27	311	228	83	733	501	232	379	288	91
Aprilp	1,518	1,145	58		315	(NA)	(NA)	132	115	17	311	235	76	660	496	164	415	299	116
AVERAGE RELATIVE STANDARD ERRORS[3]																			
Annual (percent)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
Monthly (percent)	1	1	5	7	2	(NA)	(NA)	2	2	6	2	1	6	1	1	3	1	1	1
Year to date (percent)	1	1	7	9	3	(NA)	(NA)	5	3	20	2	1	8	2	1	5	1	2	3

NA Not available. pPreliminary. rRevised. X Not applicable. Z Less than 0.5 percent.

[1]Metropolitan statistical areas.
[2]Reflects revisions not distributed to months.
[3]Average Relative Standard Errors (Avg. RSE): Annual—RSE for the latest year; Year to date—Avg. RSE for the current period and the same period last year; Monthly—Avg. RSE for the latest 6-month period (January through June or July through December).

Table 3. **New Privately Owned Housing Units Authorized, but Not Started, in Permit-Issuing Places at End of Period**

[Thousands of units. Detail may not add to total because of rounding]

Authorized, but not started at end of period	United States				Northeast				Midwest				South				West			
		In structures with—				In structures with—				In structures with—				In structures with—				In structures with—		
	Total	1 unit	2 to 4 units	5 units or more	Total	1 unit	2 to 4 units	5 units or more	Total	1 unit	2 to 4 units	5 units or more	Total	1 unit	2 to 4 units	5 units or more	Total	1 unit	2 to 4 units	5 units or more
END OF YEAR																				
14,000-Place Series																				
1978	207.8	86.7	15.1	106.0	39.6	14.3	1.3	24.0	26.5	12.6	3.0	10.9	83.6	32.0	4.4	47.2	58.1	27.8	6.4	23.9
16,000-Place Series																				
1979	184.1	77.3	14.4	92.4	32.6	12.3	1.1	19.3	19.6	7.7	2.7	9.2	85.3	32.9	5.1	47.4	46.4	24.4	5.5	16.6
1980	173.6	70.1	15.3	88.2	26.0	12.3	1.2	12.6	17.5	6.8	2.9	7.8	88.5	32.9	6.5	49.1	41.6	18.1	4.8	18.7
1981	145.5	60.1	10.7	74.7	23.3	11.5	0.9	10.8	10.0	5.0	1.7	3.2	77.5	29.8	4.9	42.8	34.7	13.8	3.1	17.9
1982	167.8	66.9	11.6	89.3	19.4	9.4	1.0	9.0	10.4	4.5	1.7	4.2	100.3	38.5	5.9	55.9	37.7	14.5	2.9	20.2
1983	178.0	68.9	13.0	96.1	21.9	12.6	1.1	8.2	12.2	5.2	1.8	5.1	104.2	33.6	6.8	63.8	39.8	17.4	3.3	19.0
1984	192.5	66.2	10.2	116.1	23.2	10.8	1.2	11.2	14.0	5.1	1.5	7.5	109.4	34.5	4.8	70.1	45.8	15.7	2.7	27.4
17,000-Place Series																				
1985	223.3	80.6	13.7	129.0	36.9	19.2	2.1	15.7	20.4	5.8	2.2	12.4	120.6	43.3	5.7	71.6	45.4	12.3	3.8	29.3
1986	205.2	92.8	12.3	100.2	34.4	21.2	2.4	10.8	21.1	6.4	2.3	12.4	91.3	43.5	3.8	43.9	58.4	21.7	3.7	33.0
1987	155.0	79.3	11.1	64.6	36.8	23.3	2.1	11.4	11.9	6.5	2.2	3.2	68.6	33.8	3.5	31.4	37.7	15.7	3.3	18.6
1988	156.4	76.4	9.9	70.1	32.9	20.0	1.9	11.0	15.5	5.9	2.3	7.3	64.0	30.4	2.9	30.7	44.0	20.1	2.7	21.1
1989	173.9	93.1	8.4	72.5	34.1	25.1	1.6	7.4	18.0	7.5	1.8	8.7	73.5	34.3	2.1	37.1	48.3	26.2	2.8	19.2
1990	131.6	75.0	8.5	48.1	25.8	20.0	1.3	4.5	14.2	5.7	2.2	6.3	55.1	27.3	2.1	25.7	36.5	22.0	2.9	11.6
1991	126.3	71.1	4.7	50.6	24.4	17.3	0.7	6.4	16.9	6.4	1.4	9.1	51.3	26.0	1.3	24.0	33.8	21.4	1.4	11.1
1992	108.7	71.9	5.1	31.7	18.6	13.5	0.7	4.5	13.4	8.8	1.7	2.9	49.8	33.3	1.3	15.2	26.9	16.3	1.5	9.1
1993	118.9	72.5	3.7	42.8	22.3	15.4	0.5	6.4	14.3	8.6	1.2	4.5	58.5	35.2	1.0	22.3	23.8	13.2	1.0	9.6
1994	115.6	66.0	3.6	46.1	17.1	12.2	0.4	4.5	13.1	8.3	1.2	3.7	58.1	31.2	1.1	25.8	27.3	14.2	1.0	12.1
19,000-Place Series																				
1995	142.2	80.1	4.5	57.6	18.3	13.5	0.5	4.3	18.7	12.8	1.4	4.5	71.6	36.7	1.3	33.6	33.5	17.1	1.2	15.2
1996	126.4	67.5	4.8	54.2	16.0	9.0	0.6	6.4	16.6	10.6	1.7	4.2	68.1	32.3	1.3	34.4	25.8	15.5	1.2	9.2
1997	111.1	63.6	3.7	43.8	11.3	7.1	0.4	3.8	14.1	9.2	1.3	3.6	58.7	32.0	1.2	25.5	26.9	15.2	0.8	10.8
END OF MONTH																				
1997: January	131.8	70.7	4.1	56.9	14.8	8.8	0.6	5.4	19.4	11.5	1.3	6.6	71.5	36.2	1.2	34.0	26.1	14.2	1.1	10.8
February	128.1	69.1	3.7	55.3	16.0	8.6	0.4	6.9	16.3	10.6	1.2	4.4	70.3	34.9	1.1	34.3	25.6	14.9	1.0	9.7
March	133.2	69.4	4.6	59.2	15.7	8.7	0.5	6.5	20.2	13.0	1.6	5.5	73.9	34.6	1.3	38.1	23.5	13.0	1.3	9.2
April	128.6	71.5	3.9	53.1	14.5	9.7	0.4	4.3	22.0	14.6	1.3	6.0	69.6	33.5	1.2	34.9	22.5	13.6	1.0	7.9
May	124.7	72.7	3.6	48.5	15.1	10.1	0.4	4.6	19.9	15.2	1.2	3.5	68.4	33.0	1.2	34.2	21.4	14.3	0.8	6.2
June	122.7	71.8	3.5	47.4	16.3	10.1	0.4	5.9	17.7	13.6	1.2	3.0	68.5	33.9	1.1	33.6	20.1	14.2	0.9	5.1
July	121.6	70.4	4.2	47.0	15.1	9.1	0.5	5.6	17.1	11.9	1.3	3.8	66.9	35.4	1.3	30.2	22.4	14.1	1.1	7.3
August	120.0	67.9	3.6	48.5	15.9	8.4	0.5	7.0	15.0	11.1	1.2	2.7	65.5	33.9	1.1	30.4	23.6	14.4	0.9	8.3
September	119.3	62.7	4.2	52.5	13.3	8.3	0.4	4.6	16.6	9.9	1.6	5.2	65.0	30.8	1.1	33.1	24.4	13.7	1.0	9.6
October	122.0	66.5	4.9	50.6	14.3	9.7	0.5	4.1	15.2	9.4	2.2	3.6	65.6	31.8	1.2	32.6	26.9	15.6	1.1	10.3
November	108.8	60.1	3.7	45.0	10.1	7.0	0.4	2.7	13.2	9.1	1.4	2.6	61.3	29.7	1.0	30.6	24.2	14.3	0.9	9.0
December	111.1	63.6	3.7	43.8	11.3	7.1	0.4	3.8	14.1	9.2	1.3	3.6	58.7	32.0	1.2	25.5	26.9	15.2	0.8	10.8
1998: January	114.1	65.4	5.5	43.2	12.4	7.4	0.6	4.4	15.0	8.4	1.6	5.0	63.0	35.6	2.0	25.4	23.7	13.9	1.3	8.5
February[r]	120.5	68.4	4.3	47.8	11.1	7.7	0.5	2.9	16.7	9.8	1.4	5.5	65.1	36.0	1.4	27.7	27.7	14.9	0.9	11.9
March	130.2	74.8	4.3	51.1	12.0	8.6	0.5	3.0	18.8	11.9	1.2	5.6	72.2	39.1	1.6	31.5	27.2	15.2	1.0	11.1
April[p]	136.7	78.2	4.8	53.7	11.8	7.7	0.6	3.5	20.9	13.4	1.5	6.0	71.8	39.4	1.7	30.6	32.2	17.7	1.0	13.5
AVERAGE RELATIVE STANDARD ERRORS[1]																				
End of period . . (percent). .	3	3	10	6	9	14	38	9	9	8	16	28	4	4	18	8	5	7	14	7

[p]Preliminary. [r]Revised.

[1]Average Relative Standard Errors: Average for the latest 6-month period (January through June or July through December).

Note: These backlog data represent the number of housing units authorized in all months up to and including the last day of the reporting period and not started as of that date without regard to the months of original permit issuance. Cancelled, abandoned, expired, and revoked permits are excluded from the backlog.

Table 4. **New Privately Owned Housing Units Started by Location and Type of Structure**

[Thousands of units. Detail may not add to total because of rounding]

Period	United States			Inside MSAs[1]			Outside MSAs[1]			Northeast			Midwest			South			West		
		In structures with—			In structures with—			In structures with—			In structures with—			In structures with—			In structures with—			In structures with—	
	Total[2]	1 unit	5 units or more	Total[2]	1 unit	5 units or more	Total[2]	1 unit	5 units or more	Total[2]	1 unit	5 units or more	Total[2]	1 unit	5 units or more	Total[2]	1 unit	5 units or more	Total[2]	1 unit	5 units or more
ANNUAL DATA																					
1978	2,020	1,433	462	1,432	941	396	588	492	66	200	147	43	451	325	98	824	604	185	545	358	137
1979	1,745	1,194	429	1,241	790	362	505	405	67	178	123	46	349	243	80	748	522	184	470	306	119
1980	1,292	852	331	914	563	271	379	289	59	125	87	30	218	142	56	643	428	165	306	196	80
1981	1,084	705	288	760	458	236	324	247	52	117	84	25	165	110	40	562	363	153	240	148	69
1982	1,062	663	320	785	452	274	277	211	46	117	79	31	149	99	38	591	357	189	205	127	61
1983	1,703	1,068	522	1,351	795	464	352	272	58	168	123	35	218	153	48	935	557	317	382	234	121
1984	1,750	1,084	544	1,415	830	491	335	254	53	204	158	35	243	167	60	866	528	274	436	230	175
1985	1,742	1,072	576	1,494	882	535	248	190	41	252	182	55	240	148	77	782	504	240	468	239	204
1986	1,805	1,179	542	1,546	970	508	259	209	34	294	228	50	296	188	91	733	504	201	483	261	200
1987	1,620	1,146	409	1,372	934	385	248	212	24	269	204	50	298	203	81	634	485	129	420	255	148
1988	1,488	1,081	348	1,243	874	323	245	207	25	235	181	42	274	194	66	575	443	115	404	264	125
1989	1,376	1,003	318	1,128	798	289	248	205	29	178	132	37	266	190	62	536	409	109	396	272	108
1990	1,193	895	260	947	685	233	246	210	27	131	104	21	253	193	50	479	371	99	329	226	91
1991	1,014	840	138	789	648	117	225	193	21	113	99	8	233	191	31	414	353	51	254	197	47
1992	1,200	1,030	139	932	793	117	268	237	22	127	112	11	288	236	42	497	438	50	288	244	36
1993	1,288	1,126	133	1,032	897	114	256	229	19	126	116	8	298	251	37	562	498	55	302	261	33
1994	1,457	1,198	224	1,183	958	200	274	241	23	138	123	12	329	268	50	639	522	107	351	286	54
1995	1,354	1,076	244	1,106	861	221	248	215	23	118	102	12	290	234	46	615	485	119	331	256	67
1996	1,477	1,161	271	1,211	936	242	265	225	29	132	112	15	321	254	51	662	524	125	361	271	79
1997	1,474	1,134	296	1,221	923	267	253	211	29	137	111	21	304	238	48	670	507	151	363	278	76
QUARTERLY DATA																					
1994: 1st quarter	294	253	35	248	212	32	46	41	4	20	17	3	51	45	5	142	121	19	80	69	9
2nd quarter	423	354	60	339	279	53	84	75	7	43	39	3	104	86	16	180	148	29	95	81	12
3rd quarter	398	326	62	317	254	55	81	72	6	39	35	4	94	77	14	167	137	27	98	77	17
4th quarter	343	266	66	279	212	60	63	54	7	36	32	3	79	60	15	150	115	32	78	58	16
1995: 1st quarter	270	214	48	226	177	44	44	37	4	22	19	2	45	36	8	134	106	24	69	54	14
2nd quarter	371	297	65	298	232	59	73	65	6	36	29	5	85	70	12	160	127	30	91	70	19
3rd quarter	387	308	69	314	245	62	73	63	7	33	30	2	89	72	14	170	133	35	95	73	19
4th quarter	326	257	62	268	207	56	58	50	6	27	24	3	71	57	13	152	118	31	76	59	15
1996: 1st quarter	303	240	57	253	198	52	49	42	6	21	18	2	53	43	8	145	117	27	84	62	20
2nd quarter	428	344	69	348	275	62	80	69	7	39	33	4	96	78	13	188	154	30	105	79	22
3rd quarter	410	324	75	332	257	66	78	67	9	38	33	4	99	78	17	176	139	34	97	74	20
4th quarter	335	252	69	278	206	62	58	47	8	34	27	5	74	55	14	152	115	34	76	55	17
1997: 1st quarter	297	238	51	255	202	47	42	36	4	26	20	5	49	40	6	143	115	26	80	63	15
2nd quarter	419	325	83	342	260	74	77	65	9	36	31	5	92	74	14	190	143	43	101	77	21
3rd quarter	400	315	75	328	252	68	72	62	7	40	33	6	88	72	12	177	134	39	96	75	18
4th quarter	357	257	86	296	209	78	62	48	8	35	28	6	75	52	16	161	115	43	87	62	22
1998: 1st quarter[r]	323	257	56	277	218	52	46	39	5	28	22	5	56	45	8	156	124	28	84	66	16
AVERAGE RELATIVE STANDARD ERRORS[3]																					
Annual (percent)	1	1	2	1	1	2	3	3	10	1	1	6	2	2	7	2	2	4	1	1	2
Quarterly (percent)	1	1	3	1	1	3	5	5	16	4	3	21	3	3	9	2	3	4	2	2	4

[r]Revised.

[1]Metropolitan statistical areas.
[2]Includes units started in structures with two to four units.
[3]Average Relative Standard Errors (Avg. RSE): Annual—Avg. RSE for the last 2 years; Quarterly—Avg. RSE for the latest 2-quarter period (quarter 1 through quarter 2 or quarter 3 through quarter 4).

Table 5. **New Mobile Homes: Placements, Average Sales Price, Dealers' Inventories, and Manufacturers' Shipments**

[Placements and inventory figures may not add to total because of rounding]

Period	Placed for residential use										Number on dealer lots at end of period (thousands)					Mobile home shipments (thous)
	Number (thousands)					Average sales price (dollars)										
	United States	Northeast	Midwest	South	West	United States	Northeast	Midwest	South	West	United States	Northeast	Midwest	South	West	
ANNUAL DATA																
1993	242.5	15.4	44.5	146.7	35.9	30,500	32,000	31,400	27,700	40,500	61.4	4.2	10.6	39.2	7.3	254.3
1994	286.1	16.2	53.0	174.4	42.5	33,500	33,900	34,600	30,500	44,600	72.3	3.9	12.4	47.4	8.6	303.9
1995	310.7	14.6	56.0	198.3	41.8	36,300	37,600	36,600	34,000	46,800	91.0	4.6	15.9	58.0	12.5	339.9
1996	319.7	15.4	56.6	205.1	42.6	38,400	40,200	39,600	36,100	47,700	110.2	4.8	16.3	75.5	13.6	363.3
1997	296.5	13.7	50.9	188.8	43.1	41,100	43,900	41,600	38,700	50,900	143.4	4.8	19.2	105.1	14.4	353.7
MONTHLY DATA																
Not Seasonally Adjusted																
1997: January	22.7	0.6	2.3	16.8	3.0	38,600	48,600	42,300	36,100	47,900	100.2	4.5	15.7	67.0	13.1	26.7
February	21.2	0.5	2.0	15.2	3.6	39,700	47,400	41,700	37,400	47,600	104.5	4.7	17.1	69.6	13.1	26.3
March	29.1	0.8	3.6	20.7	4.0	38,900	40,700	36,700	37,200	49,700	103.1	5.1	17.5	67.9	12.6	28.8
April	25.0	0.9	4.1	16.1	3.9	39,600	42,000	41,200	37,200	47,800	109.0	5.3	18.1	73.4	12.1	32.5
May	24.8	1.3	4.5	15.5	3.5	40,300	43,800	39,000	38,400	49,200	115.4	5.5	18.9	78.1	12.9	31.3
June	24.6	1.2	4.9	14.7	3.7	41,700	45,500	41,500	38,500	53,400	120.2	5.6	19.1	82.6	13.0	31.0
July	26.9	2.0	5.4	15.9	3.7	41,700	43,200	41,300	39,200	52,800	122.0	5.3	18.9	84.8	13.0	28.9
August	25.0	1.3	5.0	14.9	3.8	41,100	43,700	41,000	38,500	51,000	125.0	5.3	19.1	88.0	12.7	31.4
September	26.2	1.9	5.0	15.7	3.5	43,000	45,100	43,000	40,300	54,700	130.9	5.2	19.6	92.9	13.2	31.3
October	26.7	1.4	5.8	15.1	4.4	43,100	41,600	43,100	40,400	52,700	136.4	5.0	19.5	98.6	13.3	34.3
November	22.9	0.9	5.1	13.8	3.2	43,300	41,300	45,100	40,700	52,700	139.5	4.8	19.1	102.0	13.6	26.3
December	21.4	1.0	3.2	14.4	2.9	42,800	46,600	42,800	41,200	50,300	143.4	4.8	19.2	105.1	14.4	24.9
1998: January	17.3	0.6	2.5	11.3	2.9	42,900	48,700	40,400	40,800	52,000	149.7	4.7	19.4	110.7	14.8	26.7
February[p]	19.4	0.4	2.8	13.8	2.4	40,600	52,400	42,200	38,900	47,700	155.2	5.1	20.3	113.9	16.0	27.7
March	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	31.7
Seasonally Adjusted[1]																
1997: January	373	14	52	260	47	(X)	(X)	(X)	(X)	(X)	100	5	17	65	13	348
February	306	11	45	202	48	(X)	(X)	(X)	(X)	(X)	104	5	17	69	13	356
March	335	12	55	221	47	(X)	(X)	(X)	(X)	(X)	101	5	17	67	12	354
April	304	12	56	190	46	(X)	(X)	(X)	(X)	(X)	106	5	17	73	11	366
May	274	14	49	170	41	(X)	(X)	(X)	(X)	(X)	114	5	17	78	12	354
June	254	12	48	154	40	(X)	(X)	(X)	(X)	(X)	119	5	18	83	13	353
July	308	20	53	192	44	(X)	(X)	(X)	(X)	(X)	125	5	19	87	13	356
August	272	12	47	174	38	(X)	(X)	(X)	(X)	(X)	127	5	19	89	13	354
September	295	18	48	189	40	(X)	(X)	(X)	(X)	(X)	133	5	20	94	14	351
October	281	13	54	170	45	(X)	(X)	(X)	(X)	(X)	138	5	20	99	14	349
November	291	10	59	177	44	(X)	(X)	(X)	(X)	(X)	140	5	20	101	14	352
December	290	14	44	191	41	(X)	(X)	(X)	(X)	(X)	144	5	21	104	14	353
1998: January	293	14	57	176	47	(X)	(X)	(X)	(X)	(X)	148	5	21	108	15	362
February[p]	283	9	61	181	32	(X)	(X)	(X)	(X)	(X)	154	5	20	113	15	377
March	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	(X)	(X)	(X)	(X)	(NA)	(NA)	(NA)	(NA)	(NA)	374
AVERAGE RELATIVE STANDARD ERRORS[2]																
Annual (percent)	4	17	9	5	9	3	13	6	4	7	(X)	(X)	(X)	(X)	(X)	(X)
Monthly (percent)	4	16	8	5	10	2	11	5	3	6	1	8	4	2	4	(X)

NA Not available. [p]Preliminary (does not apply to shipments). X Not applicable.

[1]Data for placements and shipments of mobile homes are seasonally adjusted at an annual rate.
[2]Average Relative Standard Errors (Avg. RSE): Annual—Avg. RSE for the last 2 years; Monthly—Avg. RSE for the latest 6-month period (January through June or July through December).

Source: Except for manufacturers' shipments, these data are produced by the Commerce Department's Bureau of the Census from a survey sponsored by the Department of Housing and Urban Development. Statistics on shipments are compiled from manufacturers' reports to the National Conference of States on Building Codes and Standards (NCSBCS).

Table 6. **New Privately Owned Housing Units Started by Purpose of Construction**

[Thousands of units. Detail may not add to total because of rounding]

Period	Total	In structures with—							
		1 unit					2 units or more		
		Total	For sale[1]	For owner occupancy on owner's land		For rent	Total	For sale	For rent
				Contractor built	Owner built				
ANNUAL DATA									
1978	2,020	1,433	901	287	231	14	587	131	456
1979	1,745	1,194	742	213	222	17	551	173	378
1980	1,292	852	526	149	164	12	440	163	277
1981	1,084	705	426	122	148	10	379	158	221
1982	1,062	663	409	108	133	12	400	140	259
1983	1,703	1,068	713	151	179	24	635	210	425
1984	1,750	1,084	728	157	165	33	665	206	459
1985	1,742	1,072	713	177	157	26	669	154	515
1986	1,805	1,179	782	204	166	27	626	143	483
1987	1,620	1,146	732	208	178	28	474	130	344
1988	1,488	1,081	709	196	154	22	407	99	307
1989	1,376	1,003	648	192	144	19	373	87	286
1990	1,193	895	529	196	147	22	298	56	241
1991	1,014	840	490	198	138	14	174	41	132
1992	1,200	1,030	618	224	168	19	170	41	128
1993	1,288	1,126	716	225	162	22	162	44	118
1994	1,457	1,198	763	245	169	22	259	52	206
1995	1,354	1,076	712	199	133	33	278	51	227
1996	1,477	1,161	774	218	144	25	316	59	257
1997[r]	1,474	1,134	784	189	131	29	341	59	282
QUARTERLY DATA									
1992: 1st quarter	262	219	145	42	28	4	44	10	34
2nd quarter	341	296	173	67	52	4	44	11	34
3rd quarter	322	276	159	64	49	5	46	10	36
4th quarter	275	239	145	52	37	5	36	11	25
1993: 1st quarter	241	213	142	42	26	3	27	10	18
2nd quarter	367	324	204	62	52	6	43	11	32
3rd quarter	356	309	192	64	48	5	46	12	34
4th quarter	324	279	181	55	38	6	45	11	34
1994: 1st quarter	294	253	176	46	26	5	41	12	30
2nd quarter	423	354	221	75	54	4	69	14	54
3rd quarter	398	326	199	71	50	5	72	16	56
4th quarter	342	266	170	52	36	7	77	12	64
1995: 1st quarter	270	214	149	37	25	4	56	11	45
2nd quarter	371	297	195	54	37	10	74	15	59
3rd quarter	387	308	198	59	42	9	79	13	66
4th quarter	326	257	177	46	27	8	69	12	57
1996: 1st quarter	303	240	175	40	21	4	63	11	52
2nd quarter	428	344	229	70	39	5	85	18	67
3rd quarter	410	324	210	63	44	7	87	18	68
4th quarter	335	252	171	46	30	5	83	16	67
1997: 1st quarter	297	238	175	36	22	5	59	13	46
2nd quarter	419	325	220	56	40	7	94	18	77
3rd quarter	400	315	215	55	38	7	86	17	69
4th quarter[r]	357	257	178	42	29	8	101	13	88
1998: 1st quarter[p]	323	257	194	36	23	5	66	13	53
AVERAGE RELATIVE STANDARD ERRORS[2]									
Annual (percent)	1	1	2	6	5	14	2	12	3
Quarterly (percent)	1	1	2	7	7	19	4	18	5

[p]Preliminary. [r]Revised.

[1]Includes houses already sold when construction started.

[2]Average Relative Standard Errors (Avg. RSE): Annual—Avg. RSE for the last 2 years; Quarterly—Avg. RSE for the latest 2-quarter period (quarter 1 through quarter 2 or quarter 3 through quarter 4).

Notes: Housing units for which purpose of construction was not reported have been distributed proportionally to those for which the information was reported. Quarterly estimates may not add to the annual figures as the latter include late reports and corrections.

Appendix A.
Definitions and Survey Description

DEFINITIONS

The start of construction of a privately owned housing unit is when excavation begins for the footings or foundation of a building intended primarily as a housekeeping residential structure and designed for nontransient occupancy. All housing units in a multifamily building are defined as being started when excavation for the building has begun. Beginning with statistics for September 1992, estimates of housing starts include units in residential structures being totally rebuilt on an existing foundation.

A housing unit is a single room or group of rooms intended for occupancy as separate living quarters by a family, by a group of unrelated persons living together, or by a person living alone. Separate living quarters are those in which the occupants do not live and eat with any other persons in the structure and which have direct access from the outside of the building or through a common hall which is used or intended to be used by the occupants of another unit or by the general public.

A housekeeping residential building is one consisting primarily of housing units. New housing starts exclude group quarters (such as dormitories and rooming houses), transient accommodations (such as transient hotels, motels, and tourist courts), mobile homes (trailers), moved or relocated buildings, and housing units created in an existing residential or nonresidential structure. However, in a building combining substantial residential and nonresidential floor areas, every effort is made to include the residential units in these statistics, even though the primary function of the entire building is for nonresidential purposes.

Housing units, as distinguished from mobile homes, include conventional ''stick-built'' units, prefabricated, panelized, componentized, sectional, and modular units. Except for table 5, mobile homes—single-wide and multiwide—are excluded from the statistics. A mobile home is defined as a portable dwelling constructed to be towed on its own chassis and designed for use without a permanent foundation; it is manufactured with the transportation gear as an integral part of the unit and can be towed from site to site.

Publicly owned housing units (contract awards) are excluded from the statistics. Units in structures built by private developers with partial public subsidies or which are for sale upon completion to local public housing authorities under the HUD ''Turnkey'' program are both classified as private housing.

The statistics, by type of structure, refer to the structural characteristics of the building. The one-unit structure category includes fully detached, semidetached (semiattached, side-by-side), rowhouses, and townhouses. In the case of attached units, each must be separated from the adjacent unit by a ground-to-roof wall in order to be classified as a one-unit structure. Also, these units must not share heating/air-conditioning systems or interstructural public utilities, such as water supply, power supply, or sewage disposal lines. Units built one on top of another and those built side-by-side which do not have a ground-to-roof wall and/or have common facilities (i.e., attic, basement, heating plant, plumbing, etc.) are classified by the number of units in the structure (i.e., two-unit structure, three-unit structure, etc.). In these statistics, apartment buildings are defined as buildings containing five units or more. Apartments in a conventional-type apartment building may share a common basement, heating plant, stairs, entrance halls, and water supply and sewage disposal facilities. Townhouse apartments, though attached, are not separated by a ground-to-roof wall and/or share some interstructural facilities, such as water supply, sewage disposal, etc.

Ownership is not the criterion for structural classifications in this report. A condominium apartment building is classified with apartment buildings in structures with five units or more, despite the fact that each unit is individually owned. Condominium townhouses may be in the one-unit category if each unit is separated from its neighbor by a ground-to-roof wall (no commonly shared interstructural facilities), or in the multiunit building categories if they are not separated from each other by a ground-to-roof wall (share interstructural facilities).

The standard census geographic regions are used in the tables of this report. States contained in each region are as follows: **Northeast** — Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania; **Midwest** — Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; **South** — Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas; **West** — Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, and Hawaii.

The distribution of housing starts between units inside and outside metropolitan statistical areas (MSAs) is based on the definitions published by the Office of Management

and Budget in *Metropolitan Statistical Areas*. Data for the period beginning January 1994 are based on the 1992 definitions, as amended June 1993; data for the period January-December 1993 are based on the 1992 definitions; data for January 1984-December 1992 are based on the 1974 definitions, as amended June 1983; data for January 1976-December 1983 are based on the 1974 definitions, as amended August 1975; data for January 1975-December 1975 are based on the 1967 definitions, as amended April 1974; data for January 1974-December 1974 are based on the 1967 definitions, as amended November 1973; data for April 1973-December 1973 are based on the 1967 definitions, as amended February 1973; data for April 1968-March 1973 are based on the 1967 definitions.

SAMPLE DESIGN AND SELECTION

The sample design for the Survey of Construction is a stratified multistage cluster design derived from the Current Population Survey (CPS), 1980 design. Each state was divided into areas made up of counties (towns in New England) and independent cities. These areas were grouped within each state to form strata for the CPS according to metropolitan status and 1980 labor force, race/ethnic origin, population change, and family and housing characteristics. One area from each of the strata was selected with probability proportional to the number of persons 16 years of age and older. The CPS strata were further stratified into 169 strata according to Census region, metropolitan status, building permit activity in 1982, population, and the percent of the population in areas which do not issue permits. One of the CPS selected areas was chosen from each of these 169 strata with probability proportional to the number of persons 16 and older.

Within each of these 169 areas, the sample was selected from two different sample frames: permit-issuing places and land areas not covered by building permit systems.

Each of the 17,000 permit-issuing places was assigned to one of six size classes based on a weighted average of 1978, 1981, and 1982 permit activity. The permit places in each of the 169 areas were grouped into these six size classes and a systematic sample of places was selected from each one of them. Places were selected at different sampling rates in each of the classes so that larger proportions of the places were selected from the larger size classes. For example, all places in the largest size classes fell into sample if they were in the 169 areas, whereas, only an expected 1 in 40 of the places in the smallest size class fell into sample. Approximately 840 permit-issuing places were selected.

Monthly, census field representatives sample permits from these 840 permit-issuing places. They select permits for one-to-four-unit buildings with probability proportional to the number of units at an overall rate of 1 in 40. All permits for buildings with five units or more are selected.

Within each of the 169 areas, the land not covered by building permit systems, called nonpermit areas, was identified. Small land areas (1980 Census enumeration districts) in these nonpermit areas were grouped into two strata according to the 1980 population. Overall, 1 out of every 120 land areas was selected from the strata with the larger areas and 1 out of 600 was selected from the strata with the smaller areas. Monthly, census field representatives intensively canvassed about 130 selected land areas looking for all housing units started.

In January 1995, the area covered by building permit systems was expanded to 19,000 permit-issuing places. Canvassing was stopped in those selected land areas now represented by permit-issuing places. census field representatives continue to canvass monthly about 70 land areas still not covered by building permit systems.

HOUSING STARTS COMPILATION

The compilation of the housing starts series is a multistage process. First, an estimate is made monthly of the number of housing units for which building permits have been issued in all 19,000 permit-issuing places (table 2). The estimate of building permit authorizations is based on a sample of 8,500 of these 19,000 jurisdictions.

Second, for each permit selected in the 840 permit-issuing places, an inquiry is made of the owner or the builder to determine in which month and year the unit(s) covered by the permit was (were) started. In case the units authorized by permits in a particular month are not started by the end of that month, followups are made in successive months to find out when the units were actually started.

From this sample of permits, ratios are calculated (by type of structure) of the number of units started to the number of units covered by permits; separate ratios are calculated for units started from permits of that month and of each preceding month. These ratios, or starts rates, are then applied to the appropriate estimate of the number of units authorized by permits in the corresponding months to provide estimates of the number of units started for each month of authorization.

Having produced estimates of the number of units started with permit authorization, two additional adjustments are made.

1. An upward adjustment of 3.3 percent is made to the number of one-unit structures (single-family houses) started to account for those units started within permit-issuing areas but without permit authorization. (A study spanning a 4 year period indicated that permits were obtained for all buildings with two housing units or more.)

2. Upward imputations are made to account for those units started prior to permit authorization and for late reports.

The estimates for housing units started in the 19,000 permit-issuing places result from the procedures outlined above.

Third, units identified as started in the monthly canvass of nonpermit areas are weighted appropriately to provide an estimate of total housing starts in areas not covered by building permit systems.

Addition of this estimate of starts in nonpermit areas to the estimate of starts in the 19,000 permit-issuing places results in an estimate of total private housing units started (Table 1).

STARTS BY TYPE OF STRUCTURE

A total of 14 different sets of starts rates that change from month to month are utilized to calculate the number of housing units started by type of structure in permit places. Eight sets of starts rates are used for one-unit structures: separate sets of rates for metropolitan and nonmetropolitan areas within each of the four regions. For structures with five units or more, separate sets of starts rates are used for each of the four regions. Single sets of starts rates are used for all regions for structures with two units and for structures with three and four units.

Starts by type of structure in nonpermit areas are calculated directly in the estimating procedure described above.

BUILDING PERMITS

Data on housing units authorized by local building permits relate to the time of issuance rather than to the actual start of construction. They do, however, provide some indication of residential building activity in advance of the start of actual construction. Although construction is started on most residential buildings in the same month in which the permit is issued, several months may pass before start of construction.

The 19,000 areas with local building permit systems for which figures are currently given in this report (Table 2) account for a major portion of residential building in the United States. For the country as a whole, approximately 96 percent of private housing units are now constructed in permit-issuing places. Beginning with 1994, data are based upon 19,000 places. Data for 1985 through 1994 are for 17,000 places; data for 1978 through 1984 are for 16,000 places; data for 1971 through 1978 are for 14,000 places; data for 1968 through 1972 are for 13,000 places.

Monthly estimates of building permit authorizations are based on reports from a stratified probability sample of 8,500 local building permit jurisdictions. A more detailed description of the sample is provided in the Census Bureau's monthly C40 series, *Housing Units Authorized by Building Permits*.

MOBILE HOME SHIPMENTS

Beginning with the data for November 1977, the statistics on manufacturers' shipments of mobile homes (Table 5) produced by the National Conference of States on Building Codes and Standards (NCSBCS) are published in this report in lieu of those previously provided by the Manufactured Housing Institute (MHI). MHI has accepted, and now publishes, the NCSBCS statistics. For further information on NCSBCS data collection procedures, write to NCSBCS, 481 Carlisle Drive, Herndon, Virginia 22070.

A mobile home is defined as a movable dwelling, 8 feet or more wide and 40 feet or more long, designed to be towed on its own chassis, with transportation gear integral to the unit when it leaves the factory, and without need of a permanent foundation. These mobile homes include multi-wides and expandable mobile homes. Excluded are travel trailers, motor homes, and modular housing. The shipments figures are based on reports submitted by manufacturers on the number of mobile homes actually shipped during the survey month. Shipments to dealers may not necessarily be placed for residential use in the same month as they are shipped. The number of mobile ''homes'' used for nonresidential purposes is not known.

MOBILE HOME PLACEMENTS

Data shown on mobile home placements (Table 5) are based on a survey conducted by the Bureau of the Census and sponsored by the Department of Housing and Urban Development.

The methodology for collecting information on new mobile homes for 1974 through 1979 involved contacting a sample of mobile home dealers each month within 137 geographic areas or primary sampling units. The dealers were requested to provide data on the number of mobile homes received from manufacturers, the number placed on a site for residential use, and the number held in inventory.

The methodology used after 1979 involves a monthly sample of new mobile homes shipped by manufacturers. The dealer to whom the sampled unit was shipped is contacted by telephone and asked about the status of the unit. This is done each month until that unit is reported placed.

RELIABILITY OF DATA

The various estimates of privately owned housing units started and privately owned housing units authorized by building permits which are shown in this publication are based on sample surveys and may differ from statistics which would have been obtained from a complete census using the same schedules and procedures. An estimate

based on a sample survey is subject to both sampling error and nonsampling error. The accuracy of a survey result is determined by the joint effects of these errors.

Measures of Sampling Errors

Sampling error reflects the fact that only a particular sample was surveyed rather than the entire population. Each sample selected for the Housing Starts and Building Permits surveys is one of a large number of similar probability samples that, by chance, might have been selected under the same specifications. Estimates derived from the different samples would differ from each other. The standard error, or sampling error, of a survey estimate is a measure of the variation among the estimates from all possible samples and, thus, is a measure of the precision with which an estimate from a particular sample approximates the average from all possible samples.

Estimates of the standard errors have been computed from the sample data for selected statistics in this report. They are presented in the tables in the form of average relative standard errors. The relative standard error equals the standard error divided by the estimated value to which it refers.

The sample estimate and an estimate of its standard error allow us to construct interval estimates with prescribed confidence that the interval includes the average result of all possible samples with the same size and design. For example, suppose Table 1 of this report showed that an estimated 110,000 units in one-unit structures were started in a particular month. Further, suppose that the average relative standard error of this estimate is 3 percent. Multiplying 110,000 by 0.03, we obtain 3,300 as the standard error. This means that we are confident, with 2 chances out of 3 being correct, that the average estimate from all possible samples of one-unit structures started during the particular month is between 113,300 and 106,700 units. To increase the probability to about 9 chances out of 10 that the interval contains the average value over all possible samples (this is called a 90-percent confidence interval), multiply 3,300 by 1.6, yielding limits of 115,280 and 104,720 (110,000 units plus or minus 5,280 units). The average estimate of one-unit structures started during the specified month may or may not be contained in any one of these computed intervals; but for a particular sample, one can say that the average estimate from all possible samples is included in the constructed interval with a specified confidence of 90 percent.

Ranges of 90-percent confidence intervals for estimated percent changes are shown in the text. When the range of the confidence interval contains zero, it is unclear whether there was an increase or decrease; that is, the change is not statistically significant.

Nonsampling Errors

As calculated for this report, the coefficient of variation estimates sampling variation but does not measure all nonsampling error in the data. Nonsampling error consists of both a variance component and a bias component. Bias is the difference, averaged over all possible samples of the same size and design, between the estimate and the true value being estimated. Nonsampling errors are usually attributed to many possible sources: (1) coverage error failure to accurately represent all population units in the sample, (2) inability to obtain information about all sample cases, (3) response errors, possibly due to definitional difficulties or misreporting, (4) mistakes in recording or coding the data obtained, and (5) other errors of coverage, collection and nonresponse, response, processing, or imputing for missing or inconsistent data. These nonsampling errors also occur in complete censuses. Although no direct measures of these errors have been obtained, precautionary steps have been taken in all phases of the collection, processing, and tabulation of the data to minimize their influence.

As described in the section, ''Housing Starts Compilation,'' a potential source of bias is the upward adjustment of 3.3 percent made to account for one-unit structures started in permit-issuing areas without permit authorization. Another source is the imputation for units started prior to permit authorization and for late reports. For the Building Permits Survey, estimates are imputed for nonresponse. The final estimates of privately owned housing units started and building permits issued are imputed less than 2 percent.

SEASONAL ADJUSTMENT

For analyzing general trends in the economy, seasonally adjusted data are usually preferred since seasonal adjustment eliminates the effect of changes that normally occur at about the same time and in about the same magnitude every year. For example, suppose that the normal month-to-month change in an unadjusted series between February and March was an increase of 20 percent. Then, an increase in the unadjusted series of less than 20 percent would be viewed as a decrease in the seasonally adjusted series; an increase of exactly 20 percent would be viewed as no change in the adjusted series; and an increase of more than 20 percent would be viewed as an increase in the adjusted series.

The recurring changes in a series that are removed by seasonal adjustment result from such factors as normal changes in weather and differing lengths of months. It should be emphasized that seasonal adjustment does not account for abnormal weather conditions or for year-to-year changes in weather.

Most of the seasonally adjusted series in this report are shown as seasonally adjusted annual rates (SAAR). A SAAR is the seasonally adjusted monthly rate multiplied by 12.

The seasonal adjustment indexes shown in this publication for Building Permits and Mobile Home Shipments were developed using X-12 ARIMA. All other indexes were

developed using X-11 ARIMA. X-12 ARIMA is an enhanced version of the X-11 ARIMA seasonal adjustment program. We expect to use X-12 ARIMA exclusively within a year.

The X-12 and X-11 ARIMA programs give summary statistics which are used in determining the adequacy of the seasonal adjustment. These statistics are summarized in tables A-4 and A-5. A description of X-11 ARIMA appears in ''The X-11 ARIMA Seasonal Adjustment Method,'' by Estela Bee Dagum, Statistics Canada, 25-A Coats Building, Ottawa, Ontario, K1A0T6. The enhancements in X-12 ARIMA are summarized in ''New Capabilities and Methods of the X-12 ARIMA Seasonal Adjustment Program,'' by David Findley and others, U.S. Census Bureau, which appeared in the Journal of Business & Economic Statistics, April 1998, Vol. 16, No. 2. For more information on X-11 ARIMA and X-12 ARIMA see the reference manuals posted on the Census Bureau's website (www.census.gov/pub/ts).

An assumption underlying the seasonal adjustment process is that the original series can be separated into a seasonal component, a trading-day component, a trend-cycle component, and an irregular component. The seasonally adjusted series consists of the trend-cycle and irregular components taken together. The trend-cycle component includes the long-term trend and the business cycle. The irregular component is made up of residual variations, such as the sudden impact of political events and the effects of strikes, unusual weather conditions, reporting and sampling errors, etc.

Housing Starts

Seasonal indexes are developed concurrently each month for total private housing starts, by region and by type of structure. With the concurrent seasonal adjustment procedure, each series is run through the X-11-ARIMA program every month as new data become available. The seasonally adjusted U.S. total is the sum of six seasonally adjusted components: single-family structures in each of the four regions, U.S. total for two-to-four unit structures, and U.S. total for structures with five units or more. Also, the unadjusted data for the four regions are seasonally adjusted and subsequently modified so that the seasonally adjusted U.S. total derived from the regions equals the seasonally adjusted U.S. total derived from the structures. The seasonal indexes for private housing starts shown in Table A-1 include trading-day adjustment factors which were estimated internally by the regression routine.

Building Permits

Seasonal indexes are also developed concurrently each month for total housing units authorized by building permits, by region and by type of structure. The seasonally adjusted building permits estimates are computed using a procedure similar to that used for housing starts. Regional estimates of units in structures with 2 units or more are not seasonally adjusted directly. These seasonally adjusted annual rates are derived by calculating the differences between the seasonally adjusted regional total and one-unit estimates.

Trading-day adjustment factors for building permits are not estimated internally by the regression routine. The daily pattern obtained empirically from the unadjusted building permits data closely approximates a 5-day week in which Monday through Friday are assigned equal weight and Saturday and Sunday receive zero weights, and, thus, the trading-day adjustment is based on this pattern. (There is no holiday adjustment in the assignment of daily weights.) The seasonal indexes for building permits shown in Table A-2 include this trading-day adjustment.

Mobile Home Shipments

Seasonal indexes for mobile home shipments are derived once a year; projected indexes are computed for the upcoming 12 months. Seasonal adjustment of mobile home shipments, beginning in November 1977, is based on shipments from July 1976 through December 1995, as reported by NCSBCS, and adjusted MHI shipments for the period January 1970 through June 1976. Seasonal adjustment of mobile home shipments for the period January 1976 through October 1977 is based on shipments from January 1959 through September 1977 that were provided by MHI, and included estimates for firms not associated with MHI. The seasonal indexes shown in Table A-3 include trading-day adjustment factors which were estimated internally by the regression routine.

Mobile Home Placements

Seasonal indexes are developed concurrently for each month for total mobile home placements and mobile homes on dealer lots. The seasonally adjusted U.S. total is the sum of the four regional components. The seasonal indexes shown in Table A-3 include trading-day adjustment factors which were estimated internally by the regression routine.

CENSUS BUREAU CONSTRUCTION REPORTS AND RELATED PUBLICATIONS

Current Construction Reports, Series C21: *New Residential Construction in Selected Metropolitan Areas* (quarterly).

Current Construction Reports, Series C22: *Housing Completions* (monthly).

Current Construction Reports, Series C25: *New One-Family Houses Sold* (monthly).

Current Construction Reports, Series C30: *Value of New Construction Put in Place* (monthly).

Current Construction Reports, Series C50: *Expenditures for Residential Improvements and Repairs* (quarterly).

Construction Review: A quarterly publication of the Internation Trade Administration, U.S. Department of Commerce.

Table A-1. **Seasonal Indexes Used to Adjust Housing Units Started**

Period	United States implicit index[1]	In structures with—						All units			
		1 unit				2 to 4 units	5 units or more				
		North-east	Midwest	South	West			North-east	Midwest	South	West
1995											
January	72.1	57.4	51.8	77.2	81.6	62.8	80.1	60.3	50.2	82.3	80.8
February	74.4	49.8	50.0	86.8	82.9	69.7	75.4	54.1	53.2	85.1	81.1
March	99.7	88.3	93.1	109.6	105.3	103.1	85.0	93.8	91.7	105.2	106.5
April	110.7	108.9	115.2	112.5	106.0	114.2	108.0	107.2	112.6	114.2	107.6
May	119.1	119.0	130.1	116.9	117.2	106.2	117.7	121.0	126.9	116.3	115.2
June	115.6	126.3	129.5	111.0	116.1	127.4	103.3	123.4	129.2	105.6	115.8
July	106.0	117.1	120.4	101.9	107.5	104.9	98.5	112.1	114.7	104.1	106.6
August	115.1	116.6	122.0	108.8	116.6	105.6	119.2	121.1	124.4	106.6	116.6
September	107.3	111.5	114.9	103.6	104.4	105.6	108.6	109.7	113.8	102.5	105.3
October	110.6	115.6	119.6	102.9	103.9	111.5	123.9	114.3	124.4	105.4	104.5
November	88.6	100.7	86.7	88.6	79.4	109.9	92.5	103.1	90.8	87.6	79.7
December	77.8	85.2	66.1	77.7	77.3	79.3	88.2	77.9	67.5	84.4	77.7
1996											
January	73.3	59.3	52.3	78.6	82.7	61.8	79.3	61.2	49.8	82.4	81.7
February	76.5	53.1	51.4	89.9	85.4	72.6	78.4	57.1	55.3	87.6	84.8
March	97.8	86.4	91.4	106.8	104.8	100.6	83.3	88.4	91.5	104.1	105.8
April	116.1	113.3	119.6	118.8	111.4	117.0	113.5	114.4	116.2	118.8	112.6
May	115.9	115.6	125.5	114.2	112.2	106.3	115.3	117.6	124.1	111.9	112.3
June	113.1	121.7	127.2	107.8	115.1	123.4	101.6	118.7	125.6	105.7	113.9
July	110.9	123.2	125.9	106.0	111.1	107.6	101.5	120.7	117.3	106.8	108.5
August	112.4	115.8	119.0	107.5	114.4	102.4	113.4	114.7	125.4	103.8	115.8
September	106.1	109.1	114.8	101.5	102.5	104.7	109.6	111.4	109.3	102.4	102.2
October	112.3	117.2	121.6	104.7	103.8	116.8	124.5	119.2	126.9	105.6	106.4
November	89.7	100.5	86.8	89.3	82.0	113.7	91.7	98.5	94.3	87.9	80.7
December	80.7	86.7	68.1	79.3	79.2	77.9	93.7	79.7	69.5	88.5	79.7
1997											
January	70.8	59.2	50.5	76.6	79.7	59.8	75.7	58.9	48.1	78.7	80.1
February	73.4	52.3	49.2	86.8	83.6	69.8	75.0	55.0	52.3	84.4	81.9
March	97.8	87.2	92.2	107.3	103.8	98.9	84.5	90.7	90.9	104.8	105.3
April	115.4	111.7	119.1	118.3	110.2	117.8	113.4	117.1	114.7	118.0	110.7
May	116.5	115.7	124.0	114.1	114.0	107.2	118.0	113.6	127.6	113.3	115.1
June	112.1	121.2	128.0	108.5	114.4	121.5	100.0	120.2	122.8	105.4	112.8
July	110.5	122.8	126.2	104.9	110.3	107.2	102.2	120.5	119.1	106.4	108.9
August	109.8	113.8	116.9	105.2	112.8	97.7	110.4	110.9	121.6	102.9	111.7
September	111.2	114.1	120.9	106.5	108.4	109.2	113.6	117.3	115.8	107.1	108.6
October	109.1	115.1	117.6	102.3	100.6	118.4	117.5	116.3	122.7	100.7	103.8
November	88.6	96.0	84.2	87.1	80.8	113.1	94.8	95.6	92.4	88.7	78.6
December	82.6	83.8	67.6	82.0	80.4	78.2	96.7	79.9	69.6	89.4	81.6
1998											
January	70.8	60.9	52.3	76.7	82.3	57.2	72.9	60.6	50.5	77.8	82.4
February[r]	75.0	59.1	54.6	87.0	81.6	76.3	75.1	55.6	56.0	85.4	80.8
March[r]	99.8	88.3	91.7	109.2	107.9	94.2	86.8	92.5	89.5	106.6	108.5
April[p]	111.8	106.5	117.0	116.0	107.6	100.8	107.0	112.8	112.1	114.3	108.7

[p]Preliminary. [r]Revised.

[1]The implicit seasonal index is the ratio of the unadjusted number of housing units started in the United States to the seasonally adjusted national total of housing units started. It provides an indication of the overall seasonality for the particular month.

Note: These seasonal indexes include trading-day adjustment factors.

Table A-2. **Seasonal Indexes Used to Adjust Housing Units Authorized in Permit-Issuing Places**

Period	United States implicit index[1]	In structures with—						All units			
		1 unit				2 to 4 units	5 units or more				
		North-east	Midwest	South	West			North-east	Midwest	South	West
1995											
January	73.0	61.2	50.1	84.8	75.0	68.1	77.4	63.6	51.8	85.1	75.3
February	77.0	58.9	62.2	88.6	83.3	77.1	72.4	59.0	59.4	85.6	80.3
March	109.0	99.0	107.6	116.0	113.6	107.7	99.5	97.9	104.1	113.2	110.7
April	104.7	108.4	115.5	105.9	104.6	104.9	93.5	108.8	111.1	106.0	103.7
May	115.9	128.3	130.5	114.3	117.3	113.6	100.4	123.8	126.4	111.9	110.6
June	118.9	125.2	127.0	112.2	121.3	122.6	117.2	125.0	121.2	113.5	125.1
July	102.4	112.0	111.6	99.9	100.9	93.0	98.8	109.2	108.5	97.4	104.5
August	115.4	118.0	120.9	113.6	116.2	111.9	112.8	120.8	122.8	111.3	112.9
September	104.8	104.7	105.0	97.1	99.6	105.0	122.9	105.2	110.3	103.7	103.0
October	104.7	110.6	112.9	98.8	100.3	117.2	106.3	112.0	118.8	97.3	102.5
November	90.5	95.4	90.6	88.0	85.6	102.1	94.1	98.3	93.9	88.2	84.2
December	81.1	75.9	65.0	78.6	79.4	75.4	102.8	74.7	71.2	85.3	84.7
1996[r]											
January	76.4	64.1	51.6	88.7	78.5	71.3	81.0	66.3	53.1	87.6	78.1
February	80.9	61.5	65.6	92.8	88.4	80.1	74.9	61.0	62.0	89.2	84.1
March	100.5	91.7	98.6	106.3	104.2	99.5	91.6	90.9	96.4	105.3	103.0
April	113.0	116.7	126.1	114.4	112.5	112.6	98.1	115.7	118.3	113.0	110.1
May	115.6	128.0	128.7	113.4	116.6	113.9	103.2	124.3	126.3	112.5	110.9
June	110.2	116.1	117.3	104.6	112.9	113.6	108.4	117.1	113.4	105.9	116.9
July	111.4	121.0	120.9	109.3	110.6	101.8	106.5	118.6	118.0	105.5	113.7
August	110.2	114.0	115.4	107.3	109.9	105.4	110.5	115.6	117.2	106.5	107.5
September	104.5	104.5	106.4	96.7	99.2	104.1	119.7	103.7	108.2	102.3	102.1
October	110.1	114.4	117.4	104.4	106.0	124.6	111.9	117.5	125.8	102.1	107.8
November	86.9	92.2	86.3	83.5	81.1	98.4	92.4	94.9	90.7	85.3	81.1
December	84.7	79.2	68.8	82.3	82.8	77.4	102.2	77.0	73.2	88.2	86.6
1997[r]											
January	76.4	64.0	51.0	87.8	78.0	71.2	82.2	66.5	53.0	87.3	78.4
February	77.5	58.5	62.0	88.3	84.7	76.4	73.0	58.0	59.5	85.2	80.9
March	98.9	91.4	99.9	106.2	103.6	98.2	87.9	89.1	94.5	103.4	100.9
April	113.9	114.6	126.2	116.1	113.5	114.5	101.6	118.1	121.4	115.6	111.4
May	110.4	122.9	123.3	109.6	112.8	107.6	96.9	118.3	118.7	108.2	107.9
June	112.6	120.4	121.7	108.1	115.2	116.0	106.9	120.6	114.3	107.3	117.3
July	112.4	122.6	121.9	109.7	113.6	105.2	107.3	121.0	118.8	106.9	116.2
August	106.6	109.7	111.1	102.5	105.9	101.1	110.3	112.8	114.7	102.9	105.4
September	110.6	109.6	112.3	102.8	105.0	110.7	125.7	108.5	115.5	107.7	108.5
October	109.2	113.7	114.5	102.8	103.9	127.2	114.0	114.4	124.1	102.6	107.3
November	83.1	88.5	83.1	80.5	77.2	94.9	87.9	92.7	87.5	82.4	77.5
December	87.1	83.4	70.6	84.8	84.3	80.0	108.3	83.7	79.3	91.6	89.6
1998											
January[r]	74.3	64.1	49.6	84.8	75.2	67.1	78.9	67.1	52.0	83.7	75.4
February[r]	78.0	59.9	63.0	89.5	85.1	76.2	75.1	57.4	61.7	86.3	81.9
March[r]	103.5	94.9	103.6	111.6	110.6	103.0	90.0	93.6	98.8	110.0	104.4
April[p]	114.3	115.4	127.3	115.6	116.7	114.4	100.2	116.4	121.4	113.5	112.4

[p]Preliminary. [r]Revised.

[1]The implicit seasonal index is the ratio of the unadjusted number of housing units authorized by building permits in the United States to the seasonally adjusted national total of housing units authorized. It provides an indication of the overall seasonality for the particular month.

Note: These seasonal indexes include trading-day adjustment factors.

Table A-3. **Seasonal Indexes Used to Adjust New Mobile Home Placements, Dealer's Inventories, and Manufacturers' Shipments**

Period	New mobile homes placed for residential use					New mobile homes on dealer lots at end of period					Mobile home shipments
	United States implicit index[1]	Northeast	Midwest	South	West	United States implicit index[1]	Northeast	Midwest	South	West	
1995[r]											
January	70.6	50.4	50.4	77.6	72.7	100.8	93.0	95.7	103.1	100.0	88.4
February	79.0	53.2	53.2	89.0	85.3	100.8	96.3	102.5	100.7	102.9	88.6
March	101.8	78.5	78.5	110.9	101.1	102.2	102.4	103.8	101.2	105.0	107.7
April	99.8	88.8	88.8	102.6	100.1	103.2	108.0	107.7	100.4	107.3	97.2
May	111.4	113.7	113.7	110.8	111.3	102.8	105.4	108.4	99.6	104.3	109.4
June	116.2	124.0	124.0	115.0	109.6	101.8	104.9	105.2	99.5	102.1	111.8
July	105.6	120.8	120.8	100.4	103.3	98.0	100.8	100.4	96.9	98.3	88.2
August	113.6	130.1	130.1	106.6	118.2	98.0	101.9	98.2	98.1	94.6	116.9
September	104.2	120.2	120.2	97.3	105.6	97.6	98.5	95.9	98.9	93.9	102.6
October	110.6	126.6	126.6	105.2	114.4	97.4	98.8	95.6	99.3	94.7	111.4
November	96.8	105.6	105.6	95.6	90.6	99.2	96.5	94.2	101.1	97.4	98.6
December	86.6	87.2	87.2	87.2	83.8	99.0	93.6	93.0	100.8	99.1	78.3
1996[r]											
January	72.4	51.3	51.3	78.1	76.0	99.8	92.7	95.2	102.8	99.8	91.7
February	82.4	55.8	55.8	93.4	89.4	104.6	99.3	105.2	104.1	106.6	93.8
March	101.0	77.2	77.2	110.4	100.7	101.8	102.1	103.0	101.0	104.6	98.2
April	100.4	89.9	89.9	103.9	101.2	102.8	107.9	107.2	100.4	107.4	105.8
May	110.8	113.4	113.4	110.5	107.3	101.4	105.2	108.4	99.5	104.1	110.5
June	112.8	118.4	118.4	112.2	109.7	100.6	104.6	105.2	99.4	102.0	101.4
July	107.4	123.4	123.4	101.5	105.0	97.4	100.8	100.9	96.9	98.3	96.2
August	112.0	128.9	128.9	104.4	116.6	98.4	101.7	98.8	98.3	94.5	112.2
September	106.0	125.2	125.2	98.9	107.1	97.8	99.0	96.2	99.2	94.2	102.0
October	111.0	126.6	126.6	105.7	115.8	98.8	99.7	96.1	99.5	95.1	118.3
November	95.4	103.6	103.6	94.2	88.7	99.0	96.5	94.2	101.1	97.3	93.9
December	88.0	87.1	87.1	89.5	82.1	99.2	94.0	93.3	100.9	99.6	81.1
1997[r]											
January	73.0	52.9	52.9	77.6	76.1	100.2	92.4	94.8	102.6	99.6	92.2
February	83.2	53.5	53.5	90.4	89.1	100.4	95.5	101.0	100.4	102.9	88.5
March	104.2	78.1	78.1	112.6	102.6	102.0	101.7	102.5	100.9	104.2	97.6
April	98.6	88.2	88.2	101.5	102.5	102.8	107.7	106.9	100.3	107.3	106.7
May	108.6	109.7	109.7	109.7	103.2	101.2	105.2	108.4	99.5	103.9	106.1
June	116.2	121.3	121.3	114.9	111.1	101.0	104.6	105.2	99.3	101.9	105.2
July	104.8	123.0	123.0	99.6	101.5	97.6	101.0	101.3	97.0	98.3	97.6
August	110.2	127.7	127.7	102.6	118.5	98.4	101.5	99.1	98.4	94.5	106.5
September	106.6	125.9	125.9	99.6	106.1	98.4	99.0	96.4	99.3	94.5	107.2
October	114.0	129.4	129.4	106.6	118.5	98.8	99.9	96.2	99.6	95.3	118.1
November	94.4	102.9	102.9	93.3	87.4	99.6	96.5	94.3	101.1	97.1	89.7
December	88.6	86.7	86.7	90.7	83.9	99.6	94.5	93.3	100.9	99.9	84.4
1998											
January	70.8	52.6	52.6	77.2	74.8	101.2	92.3	94.5	102.5	99.5	88.5
February[p]	82.2	54.8	54.8	91.7	90.0	100.8	95.7	99.7	100.5	103.9	88.2
March	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	101.9
April	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	107.8
May	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	100.6
June	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	110.3
July	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	97.5
August	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	105.9
September	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	107.8
October	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	113.3
November	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	92.7
December	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	85.5

NA Not available. [p]Preliminary (does not apply to shipments). [r]Revised (does not apply to shipments).

[1]The implicit seasonal index is the ratio of the unadjusted United States estimate to the seasonally adjusted United States estimate. It provides an indication of the overall seasonality for the particular month.

Note: These seasonal indexes include trading-day adjustment factors.

Table A-4. **Average Percent Changes and Related Measures for Monthly Housing Starts and Permit Authorizations**

Series	Average percentage change				Ratio of irregular component to cyclical component (I/C)	Number of months for cyclical dominance (MCD)
	Original series (O)	Seasonally adjusted series (CI)	Irregular component (I)	Cyclical component (C)		
HOUSING STARTS						
U. S. total	**11.93**	**5.80**	**5.49**	**1.50**	**3.67**	**4**
Northeast	23.84	13.96	13.82	1.71	8.09	9
Midwest	24.69	12.46	12.24	1.48	8.25	10
South	11.53	7.62	7.43	1.76	4.23	4
West	13.24	9.34	8.89	2.16	4.12	4
1 unit						
Northeast	23.86	11.62	11.15	2.20	5.07	6
Midwest	25.31	11.85	11.70	1.49	7.86	8
South	11.20	7.03	6.70	1.58	4.24	4
West	13.47	8.80	8.20	2.06	3.98	4
2 to 4 units	26.54	21.48	21.43	2.36	9.07	12
5 units or more	20.55	16.98	16.78	2.30	7.31	7
PERMIT AUTHORIZATIONS						
U. S. total	**10.98**	**3.09**	**2.69**	**1.21**	**2.21**	**3**
Northeast	15.97	6.96	6.38	2.00	3.19	4
Midwest	20.48	6.58	5.93	1.83	3.25	4
South	9.83	4.12	3.81	1.33	2.88	3
West	12.21	5.34	4.90	1.53	3.20	4
1 unit						
Northeast	16.97	5.62	5.17	1.74	2.98	4
Midwest	18.65	3.44	2.83	1.52	1.87	3
South	10.23	3.23	2.79	1.25	2.23	3
West	11.72	4.54	3.95	1.61	2.46	3
2 to 4 units	14.71	7.43	7.30	1.01	7.20	7
5 units or more	15.45	8.32	8.21	1.55	5.30	6

Note: See page A-11 for definitions of the measures shown in this table.

Table A-5. **Average Percent Changes and Related Measures for Monthly New Mobile Home Placements, Dealers' Inventories, and Manufacturers' Shipments**

Series	Average percentage change				Ratio of irregular component to cyclical component (I/C)	Number of months for cyclical dominance (MCD)
	Original series (O)	Seasonally adjusted series (CI)	Irregular component (I)	Cyclical component (C)		
NEW MOBILE HOMES PLACED FOR RESIDENTIAL USE						
U. S. total	**12.28**	**6.67**	**6.59**	**0.80**	**8.27**	**8**
Northeast	22.40	11.18	11.09	0.99	11.16	12
Midwest	22.40	11.18	11.09	0.99	11.16	12
South	11.61	8.02	7.89	1.04	7.61	8
West	16.47	11.44	11.36	1.01	11.25	12
NEW MOBILE HOMES ON DEALER LOTS AT END OF PERIOD						
U. S. total	**2.44**	**2.04**	**1.46**	**1.27**	**1.16**	**2**
Northeast	5.21	3.96	3.40	1.51	2.25	3
Midwest	3.83	2.74	2.24	1.26	1.78	2
South	2.73	2.56	1.80	1.51	1.19	2
West	3.83	3.16	2.65	1.38	1.93	3
MOBILE HOME SHIPMENTS						
U. S. total	**11.36**	**2.01**	**1.30**	**1.16**	**1.12**	**2**

Definitions of Summary Measures

The following are brief definitions of the measures shown here. More complete explanations appear in *Electronic Computers and Business Indicators* by Julius Shiskin, issued as Occasional Paper 57 by the National Bureau of Economic Research, 1957 (reprinted from the *Journal of Business*, October 1957).

'O' is the average month-to-month percentage change, without regard to sign, in the original series.

'CI' is the average month-to-month percentage change, without regard to sign, in the seasonally adjusted series.

'I' is the average month-to-month percentage change, without regard to sign, for the irregular component, which is obtained by dividing the cyclical component into the seasonally adjusted series.

'C' is the average month-to-month percentage change, without regard to sign, in the cyclical component. 'C' is a smooth, flexible moving average of the seasonally adjusted series.

'I/C' is the average month-to-month percentage change, without regard to sign, of the irregular component divided by the average month-to-month percentage change, without regard to sign, of the cyclical component. It serves as an indication of the series' relative smoothness (small values) or irregularity (large values).

MCD (months for cyclical dominance) gives an estimate of the appropriate time span over which to observe cyclical movement in a monthly series. In deriving MCD, the average (without regard to sign) percentage changes in the irregular and in the cyclical component are computed for 1-month spans (Jan.-Feb., Feb.-Mar., etc.), 2-month spans (Jan.-Mar., Feb.-Apr., etc.), up to 12-month spans. MCD is the shortest span for which the average change (without regard to sign) in the cyclical component is larger than the average change (without regard to sign) in the irregular component; thus, it indicates the point at which fluctuations begin to be more attributable to cyclical than to irregular movements. MCD is small for smooth series and large for erratic series.