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Delton Alderman



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Abstract

This publication provides an overview of the 2013 U.S. housing market, including updated information and data, and is part of an ongoing series of quarterly and annual housing reports that provide historical information on housing permits, starts, houses under construction, and completions. In addition, short briefs present information regarding house sales, construction spending and economic impact, demographics, affordability and financing, wood usage in housing, types of housing, and other factors that affect the U.S. housing market. The purpose of this series of reports is to present periodic snapshots of the dynamic U.S. housing industry. This publication is based in part on data produced by the U.S. Department of Commerce, Census Bureau; the National Association of Realtors; the National Association of Homebuilders; and the Forest Products Laboratory and Northern Research Station of the U.S. Forest Service.

Keywords: Housing, permits, starts, under construction, completions, construction spending

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United States Housing, 2013

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Overview

The U.S. housing construction and sales markets marginally improved in 2013. Consensus housing projections indicated that 2013 would be a banner year for U.S. housing; these projections were overly optimistic. Although housing construction sectors improved on average about 20%, consensus forecasts overestimated these same sectors by nearly the same amount. In the first quarter of 2013, total permits, starts, houses under construction, and completions were substantially greater than recorded in the final quarter of 2012; however, by year end the increases were only slightly more than at the beginning of 2013. Home improvement or remodeling spending also increased incrementally from quarter one through quarter four. A combination of factors hindered the construction and sales markets, including rapidly rising housing prices, escalating mortgage rates in the spring (the foremost season for housing sales), stringent loan requirements, declining real median incomes, and lackluster household formations.

Housing Permits

Number of housing permits is valued as a forward-looking indicator that may provide an estimate of the future housing construction market. In 2005, at the peak of the housing boom, 2.155 million building permits were issued at a seasonally adjusted annual rate (SAAR), the most since 1972. In 2013, issued permits increased by 19.4% over 2012 (Tables 1 and 2; Fig. 1). For additional comparison, the average number of permits issued in 2013 was 30.7% less than the 1959–2008 average and 27.5% less than the 1959–2013 average (Table 11).

Table 1. Housing permits, starts, under construction, and completions, by year and by month (2013)^{a,b}

	Permits	Starts	Under construction	Completions
2000	1,592.3	1,569	933.8	1,573.7
2001	1,636.7	1,603	959.4	1,570.8
2002	1,747.7	1,705	1,001.2	1,648.4
2003	1,889.2	1,848	1,141.4	1,678.7
2004	2,070.1	1,956	1,237.1	1,841.9
2005	2,155.3	2,068	1,355.9	1,931.4
2006	1,838.9	1,801	1,204.9	1,979.4
2007	1,398.4	1,355	1,025.0	1,502.8
2008	905.4	905.5	780.9	1,119.7
2009	583	554.0	495.4	794.4
2010	605	586.9	411.0	651.7
2011	610.7	608.8	417.7	585.2
2012	829.7	780.6	532.5	649.2
2013	990.8	924.9	688.7	764.4
2013 ^c				
Jan	947	896	562	726
Feb	976	951	580	723
Mar	926	994	593	805
Apr	1,040	848	607	699
May	1,010	915	621	719
Jun	938	831	629	763
Jul	977	898	640	779
Aug	948	885	653	763
Sep	993	863	661	761
Oct	1,067	936	668	815
Nov	1,037	1,105	688	826
Dec	1,022	1,034	711	775

^aIn thousands, annual and monthly data.

^bData are for conventional housing and do not include mobile home shipments.

^cSeasonally adjusted annual rate.

Data source: Census Bureau (2014a).

Housing Starts

Number of housing starts is also a leading indicator for the overall housing market, because starts are generally regarded as integral in the creation of economic activity. Starts include new single-family (SF) and multifamily (MF) structures, which historically make up a significant portion of the U.S. gross domestic product. From a historical perspective, a record 2.068 million (SAAR) housing starts were recorded in 2005. In 2013, starts increased 66.9% from the 2009 nadir (Tables 1 and 2; Fig. 1). Overall, starts increased steadily throughout 2013, with a few declines along the way. Comparing 2013 to long-term averages, starts were 39.7% less than the 1959–2008 average and 36.5% less than the 1959–2013 average (Table 11).

Housing Under Construction

Housing under construction is generally considered as a lagging indicator for assessing the housing market but can be used to assess current construction employment and building material demand. Houses under construction increased steadily throughout 2013; yet the number was 49.2% less than in 2005 (Tables 1 and 2; Fig. 1). For further comparison, the 2013 housing under construction average was 29.4% less than the 1969–2008 average and 25.4% less than the 1969–2013 average (Table 11).

Table 2. Total yearly comparisons, 2012 and 2013^{a,b,c}

	2013	Change year-over-year (%)	2012
Permits	990.8	19.4	829.7
Starts	924.9	18.5	780.6
Under construction	688.7	29.3	532.5
Completions	764.4	17.7	649.2

^aIn thousands, annual and monthly data.

^bData are for conventional housing and do not include mobile home shipments.

^cSeasonally adjusted annual rate.

Data source: Census Bureau (2014a).

Housing Completions

Number of housing completions indicates the quantity of houses finished and available for sale or rent. Normally, completions lag starts by 5 to 6 months. Analysts may use these data to develop sales estimates for consumer-based products, such as furniture and home appliances. Housing completions were mixed in 2013, with November recording the greatest number (SAAR basis) of completions for the year (Tables 1 and 2; Fig. 1). Comparing long-term averages, 2013 completions were 50.1% less than the 1969–2008 average and 46.9% less than the 1969–2013 average (Table 11). In 2013, completions were 61.8% less than the 2,100,500 recorded in 1973, the most completions recorded/ reported since data collection began.

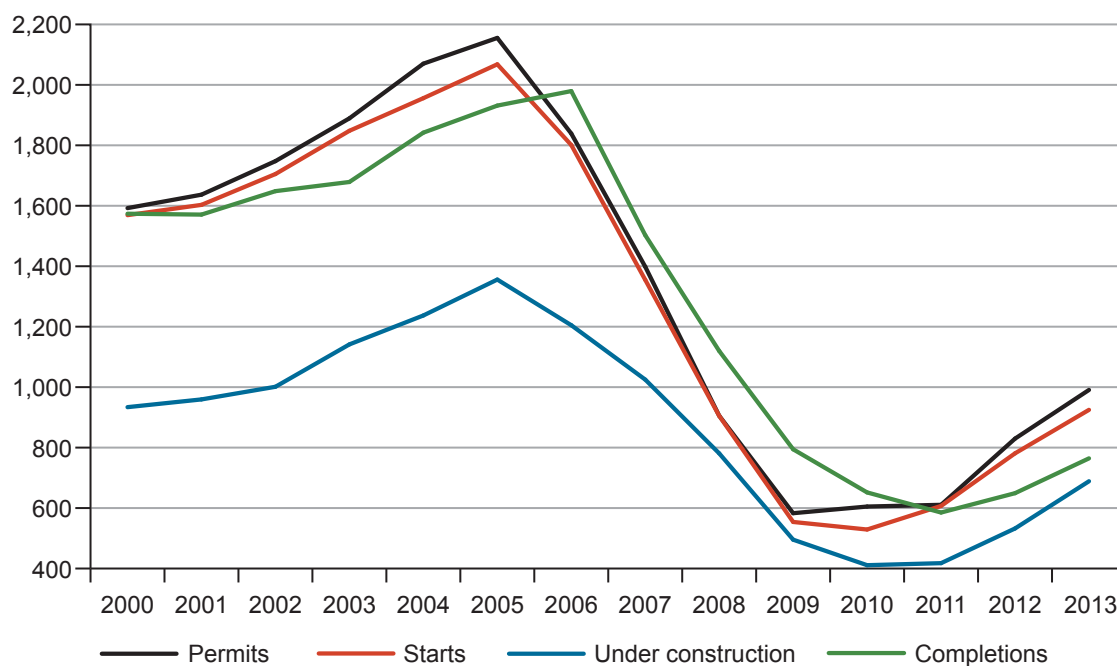


Figure 1. Total housing permits, starts, under construction, and completions, 2000–2013, in thousands. Data source: Census Bureau (2014a).

Single-Family Housing

In 2005, at the apex of the housing boom, 1.682 million SF building permits were issued (annual rate, AR); SF permits issued in 2013 were 63.1% less than in 2005 (Table 3, Fig. 2). Assessing SF starts, the high-water mark was nearly 1,716 million (AR) units in 2005; SF permits issued in 2013 were 64.0% less. In 2013, there were about 65% less SF units under construction than in 2005 (929.1 thousand) (AR). In 2005, there were 1.654 million (AR) SF completions recorded; 65.6% less completions were estimated in 2013 (Tables 3 and 4; Fig. 2).

In 2013, SF permits increased by 19.4% over 2012, and 19.7% year-over-year. From January to December 2013, SF starts increased 9.2% (SAAR) and 15.4% year-over-year. In the same time frame, SF houses under construction increased 17.7% (SAAR) and 19.3% year-over-year. SF completions also improved from January to December, a 1.9% (SAAR) increase and 17.8% year-over-year (Tables 3 and 4; Fig. 2). Note that SF completions normally lag starts by 6 months to a year.

Contrasting 2013 data and SF long-term averages, 2013 SF permits issued were 33.9% less than the 1959–2008 average and 30.9% less than the 1959–2013 average. SF starts were 43.4% less than the 1959–2008 average and 40.5% less than the 1959–2013 average. SF units under construction were 43.9% less than the 1969–2008 average and 40.4% less than the 1969–2013 average. SF completions were 48.4% less than the 1968–2008 average and 45.1% less than the 1968–2013 average (AR) (Table 11).

Table 3. Single-family (SF) housing permits, starts, under construction, and completions, by year and by month (2013)^{a,b}

	SF permits	SF starts	SF under construction	SF completions
2000	1,198.1	1,231	623.4	1,241.8
2001	1,235.6	1,273	638.3	1,255.9
2002	1,332.6	1,359	668.8	1,325.1
2003	1,460.9	1,499	772.9	1,386.3
2004	1,613.4	1,611	850.3	1,531.5
2005	1,682.0	1,716	929.1	1,653.9
2006	1,378.2	1,465	764.7	1,654.5
2007	979.9	1,046	579.1	1,218.4
2008	575.6	622.0	377.3	818.8
2009	441.1	445.1	283.1	520.1
2010	447.0	471.2	247.3	496.3
2011	413.6	430.6	221.6	446.3
2012	518.7	535.3	267.7	483.0
2013	620.8	617.6	319.4	569.1
2013 ^c				
Jan	597	618	288	557
Feb	611	650	293	569
Mar	605	613	294	591
Apr	622	591	302	529
May	624	597	306	560
Jun	627	601	313	541
Jul	616	596	316	579
Aug	631	617	320	569
Sep	617	582	323	563
Oct	625	603	322	604
Nov	645	710	330	593
Dec	617	675	339	568

^aIn thousands, annual and monthly data.

^bData are for conventional housing and do not include mobile home shipments.

^cSeasonally adjusted annual rate (SAAR).

Data source: Census Bureau (2014a).

Table 4. Single-family (SF) yearly comparisons, 2012 and 2013^{a,b,c}

	2013	Change year-over-year (%)	2012
SF permits	620.8	19.7	518.7
SF starts	617.6	15.4	535.3
SF under construction	319.4	19.3	267.7
SF completions	569.1	17.8	483.0

^aIn thousands, annual and monthly data.

^bData are for conventional housing and do not include mobile home shipments.

^cSeasonally adjusted annual rate.

Data source: Census Bureau (2014a).



Figure 2. Total single-family housing permits, starts, under construction, and completions, 2000–2013, in thousands. Data source: Census Bureau (2014a).

Multifamily Housing

In 1972, 1,185.8 million MF building permits were issued (AR), the greatest number ever recorded. MF permits issued in 2013 were 68.8% less than in 1972. Assessing MF starts, the high-water mark was 1,047.4 million (AR) units in 1972; MF starts in 2013 were 70.7% less. In 2013 there were 39.7% less MF units under construction than in 1972 (929.6 thousand) (AR). In 1973, there were 903.3 thousand (AR) SF completions recorded; 79.5% less completions were estimated in 2013.

In 2013, MF permits increased by 17.6% over 2012, 17.6% year-over-year. From January to December 2013, MF starts increased 26.6% (SAAR) and 25.1% year-over-year. In the same time frame, MF houses under construction increased 36.6% (SAAR) and 39.4% year-over-year. MF completions also improved from January to December, a 22.0% (SAAR) increase and 17.4% year-over-year. Note that MF completions normally lag starts by 6 months to a year (Tables 5 and 6; Fig. 3).

Contrasting 2013 data with long-term MF averages, 2013 MF permits issued were 24.6% less than in the 1959 to 2008 period and 20.8% less than recorded for the 1959 to 2013 average. MF starts were 31.4% less than in the 1959 to 2008 period and 27.3% less than recorded for the 1959 to 2013 average. MF units under construction were 9.2% less than in the 1964 to 2008 period and 4.8% less than recorded for the 1964 to 2013 average. MF completions were 56.9% less than in the 1969 to 2008 period and 54.2% less than recorded for the 1969 to 2013 average (AR) (Table 11).

Table 5. Multifamily (MF) housing permits, starts, under construction, and completions, by year and by month (2013)^{a,b}

	MF permits	MF starts	MF under construction	MF completions
2000	394.2	338	310.4	334
2001	401.1	329	321.0	332
2002	415.1	346	332.3	315
2003	428.3	349	368.6	323
2004	456.6	345	386.8	292
2005	473.3	353	426.8	310
2006	460.7	336	440.2	296
2007	418.5	309	445.9	325
2008	329.8	284	403.7	284
2009	141.8	109	212.3	301
2010	157.0	116	163.8	274
2011	197.1	178	196.2	155
2012	267.7	245	264.9	166
2013	370.1	307	369.3	185
2013 ^c				
Jan	350	267	265	159
Feb	365	291	278	147
Mar	321	356	289	209
Apr	418	243	294	164
May	386	307	304	149
Jun	311	219	306	208
Jul	361	283	313	192
Aug	317	255	322	189
Sep	376	271	327	190
Oct	442	322	335	199
Nov	392	386	348	221
Dec	405	338	362	194

^aIn thousands, annual and monthly data.

^bData are for conventional housing and do not include mobile home shipments.

^cSeasonally adjusted annual rate.

Data source: Census Bureau (2014a).

Table 6. Multifamily (MF) yearly comparisons, 2012 and 2013^{a,b,c}

	2013	Change year-over-year (%)	2012
MF permits	370.1	17.6	314.6
MF starts	307.0	25.1	245.3
MF under construction	369.3	39.4	264.9
MF completions	195.3	17.4	166.3

^aIn thousands, annual and monthly data.

^bData are for conventional housing and do not include mobile home shipments.

^cSeasonally adjusted annual rate.

Data source: Census Bureau (2014a).

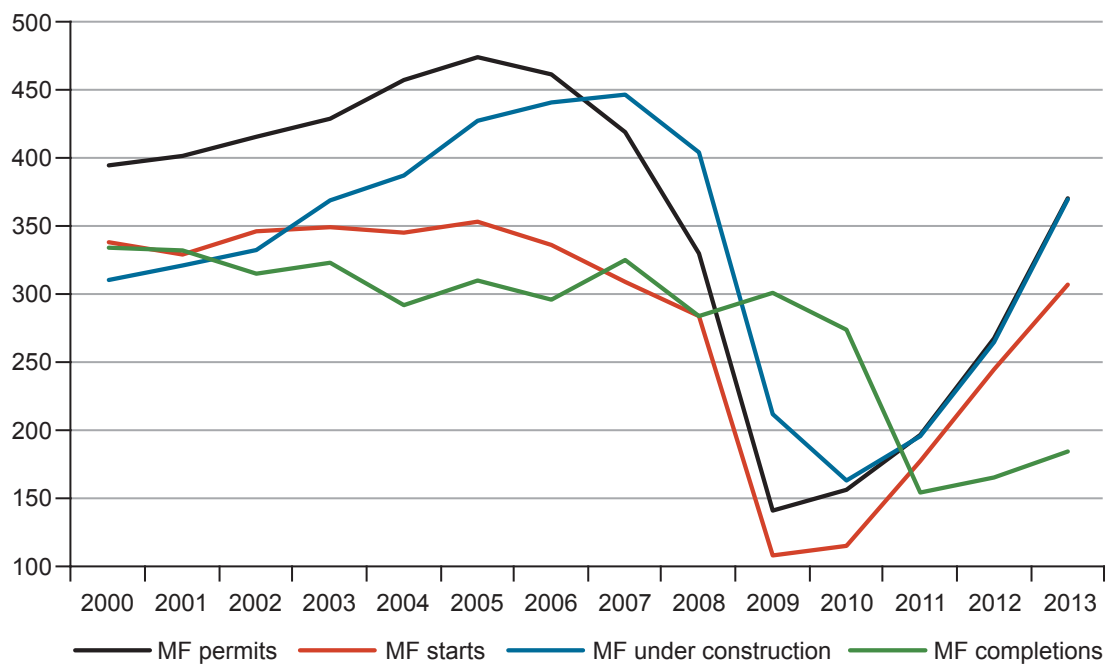


Figure 3. Total multifamily housing permits, starts, under construction, and completions, 2000–2013, in thousands. Data source: Census Bureau (2014a).

House Sales

Existing house sales provide insight to the current housing market and are important for the home improvement industry and, by extension, the forest products industry. For the past several years, investors comprised nearly 30% of existing housing purchases (NAR (National Association of Realtors) 2014c), and these houses were purchased primarily to become rental units. In 2005, 7.076 million (SAAR) existing houses were sold; at the nadir of the housing crisis in 2008, the number of sales was 4.110 million (SAAR). In both January and December 2013, 4.870 million (SAAR) existing house sales were reported; contrasting 2013 versus 2012, existing sales increased 9.2% year-over-year (Tables 7 and 8; Fig. 4).

New house sales are important for many reasons to the forest products industry, primarily because if new houses are not built and sold, demand for forest products decreases. New house sales in 2013 were mixed, with some of the lowest monthly numbers since new housing sales data were first recorded in 1963. The greatest number of new houses sold occurred in 2005, when 1.283 million units (SAAR) were recorded. In 2013, the monthly average was 430,000 (SAAR) new houses sold. In January 2013, 442,000 (SAAR) new house sales were reported, and in December 446,000 (SAAR) were sold—a 0.9% increase in December over January. On a year-over-year comparison, sales increased 16.6% (Tables 7 and 8; Fig. 4).

A comparison of 2013 new and existing house sales data to their respective long-term averages indicates that new house sales were 38.4% less than in the 1959 to 2008 period and 35.0% less than the 1959 to 2013 average. For existing houses, 2013 sales were 13.3% less than the 1959 to 2008 average and 3.9% less than the 1959 to 2013 average (AR) (Table 11).

Table 7. New and existing house sales, by year and by month (2013)^{a,b}

	New house sales	Existing house sales
2000	877	5,173
2001	908	5,333
2002	973	5,631
2003	1,086	6,176
2004	1,203	6,778
2005	1,283	7,076
2006	1,051	6,478
2007	776	5,040
2008	485	4,110
2009	375	4,340
2010	323	4,190
2011	306	4,260
2012	368	4,660
2013	430	5,090
	2013 ^c	
Jan	442	4,870
Feb	448	4,950
Mar	440	4,960
Apr	452	4,990
May	431	5,150
Jun	459	5,160
Jul	367	5,380
Aug	379	5,330
Sep	399	5,260
Oct	450	5,130
Nov	445	4,830
Dec	446	4,870

^aIn thousands, annual and monthly data

^bData are for conventional housing and do not include mobile home shipments.

^cSeasonally adjusted annual rate.

Data sources: Census Bureau (2014b), National Association of Realtors (2014a).

Table 8. New and existing house sales, yearly comparisons, 2012 and 2013^{a,b,c}

	2013	Change year-over-year (%)	2012
New sales	430	16.6	368
Existing sales	5,090	9.2	4,660

^aIn thousands, annual and monthly data.

^bData are for conventional housing and do not include mobile home shipments.

^cSeasonally adjusted annual rate.

Data sources: Census Bureau (2014a), National Association of Realtors (2014a).

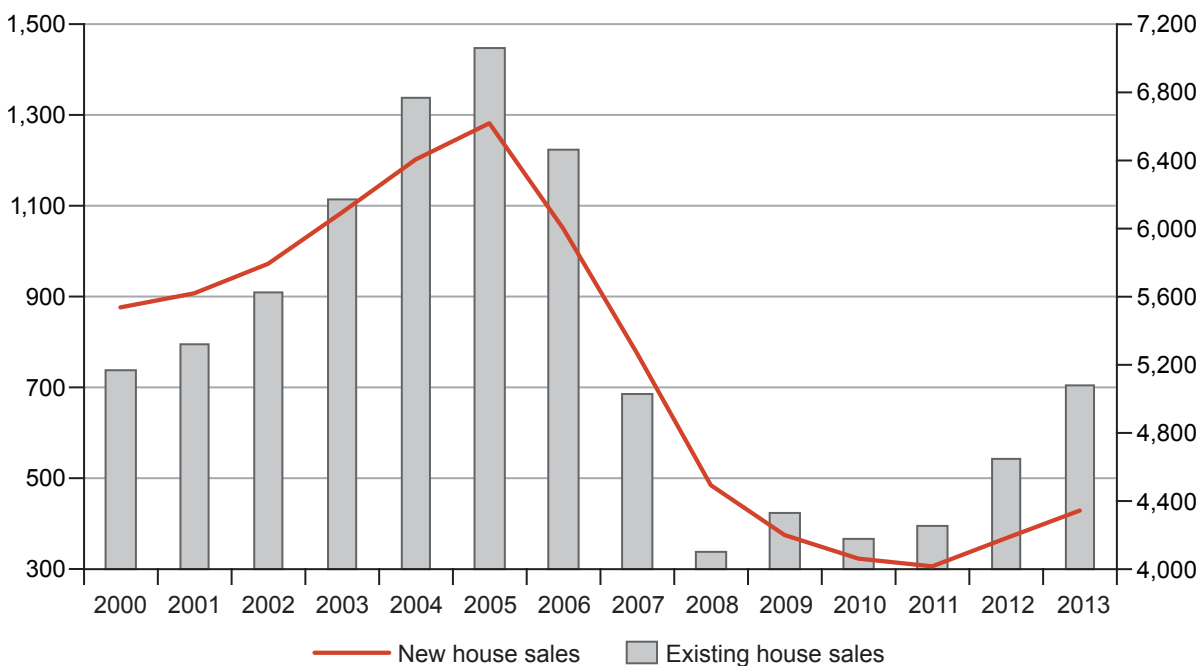


Figure 4. New (left-hand axis) and existing (right-hand axis) house sales, 2000–2013, in thousands.
Data sources: Census Bureau (2014b), NAR (2014a).

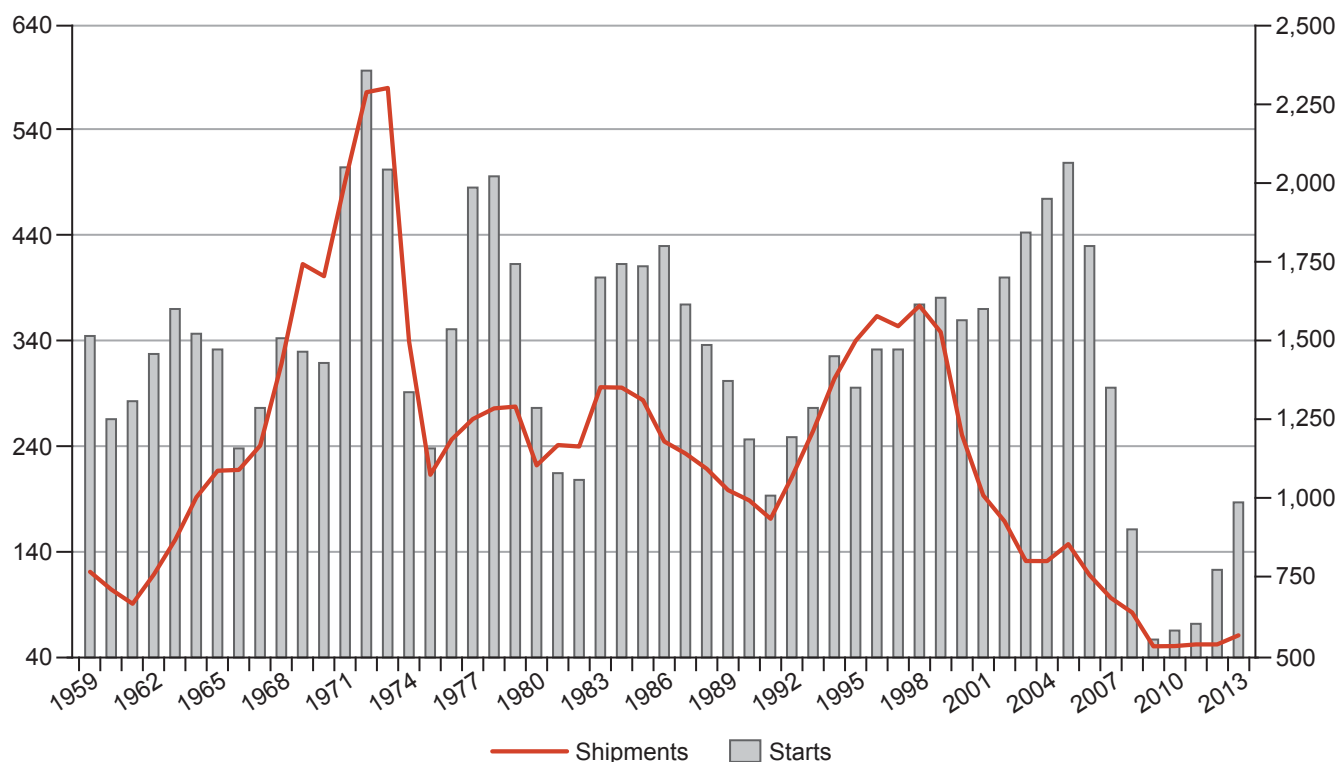


Figure 5. U.S. shipments of manufactured homes (left-hand axis), in thousands, and total U.S. housing starts (right-hand axis), in thousands. Data source: Census Bureau (2014f).

Manufactured Housing

Manufactured housing was a substantial component of the new housing market in the United States for several decades. For instance, from 1963 to 2001, manufactured housing shipments averaged nearly 20% of overall U.S. housing starts. Beginning in 2001, manufactured housing production registered a sharp decrease, averaging 147,867 shipments between 2001 and 2006 and 62,971 shipments between 2007 and 2013. Respectively, this was 8.2% and 7.2% of total U.S. housing starts. From 2010 to 2013, manufactured housing has averaged 53,350 units per year (Fig. 5).

Residential Construction Spending

Private residential construction spending is also an important indicator for the overall health of the housing market. In 2006 US\$ 433.5 million (SAAR) was spent for new single-family housing and US\$ 52.8 million (SAAR) was spent for MF housing. For improvements or remodeling, US\$ 144.9 million (SAAR) was spent in 2006, compared with 124.7 million (SAAR) in 2012 (Table 9, Fig. 6). It should be noted the U.S. Census Bureau does not directly report remodeling expenditures, and thus outlays are reported as improvement spending (Tables 9 and 10; Fig. 6).

In 2013, private residential spending recorded a 15.0% increase comparing January to December (SAAR) and a 19.8% year-over-year increase (AR). By segment, new single-family expenditures increased 18.5% (SAAR) comparing January to December and recorded a year-over-year 29.3% increase (AR). Multifamily housing outlays increased 25.7% (SAAR) comparing January to December and increased 43.6% (AR) year-over-year. Improvement expenditures, comparing January and to December, increased 8.6% (SAAR) and registered a 5.6% year-over-year increase (AR) (Tables 9 and 10; Fig. 6).

Contrasting long-term residential construction spending averages, in 2013 total private residential construction spending was 10.4% less than the 1993 to 2008 average and 3.6% less than the 1993 to 2013 average. New single-family expenditures were 32.9% less than the 1993 to 2008 average and 22.6% less than the 1993 to 2013 average. MF spending was 6.9% greater than the 1993 to 2008 average and 11.1% greater than the 1993 to 2013 average. Improvement expenditures were 1.5% greater than the 1993 to 2008 average and 1.3% greater than the 1993 to 2013 average (all AR) (Table 11).

Table 9. Construction spending for total private residential, single-family (SF), multifamily (MF), and improvements by year and by month (2013)^{a,b}

	Private residential spending ^c	SF spending	MF spending	Improvement spending
2000	346,138	236,788	28,259	81,091
2001	364,414	249,086	30,305	85,023
2002	396,696	265,889	32,952	97,855
2003	446,035	310,575	35,116	100,344
2004	532,900	377,557	39,944	115,399
2005	611,899	433,510	47,297	131,092
2006	613,731	415,997	52,803	144,931
2007	493,246	305,184	48,959	139,103
2008	350,257	185,776	44,338	120,144
2009	245,912	105,336	28,538	112,038
2010	238,801	112,569	14,668	111,564
2011	238,106	106,946	14,669	116,941
2012	280,260	132,010	22,200	126,010
2013	336,209	170,768	32,330	133,111
2013 ^d				
Jan	316,541	154,025	29,208	133,308
Feb	320,834	161,914	28,898	130,022
Mar	322,645	165,775	29,325	127,545
Apr	324,399	167,414	30,672	126,313
May	330,046	169,196	30,957	129,893
Jun	331,308	169,788	31,384	130,136
Jul	331,472	171,015	30,708	129,749
Aug	339,203	174,334	32,539	132,330
Sep	346,549	175,405	34,445	136,699
Oct	347,274	174,841	35,640	136,793
Nov	354,502	177,839	37,349	139,314
Dec	364,000	182,469	36,729	144,802

^aIn thousands of dollars, annual and monthly data.^bData are for conventional housing and do not include mobile home shipments.^cPrivate residential spending = single-family + multifamily + improvement.^dSeasonally adjusted annual rate.

Data source: Census Bureau (2014c).

Table 10. Construction expenditure yearly comparisons, 2012 and 2013^{a,b,c}

	2013	Change year-over-year (%)	2012
Private residential ^d	336,209	19.8	280,574
Single-family	170,768	29.3	132,015
Multifamily	32,330	43.6	22,510
Improvement	133,111	5.6	126,050

^aIn thousands of dollars, annual and monthly data.^bData are for conventional housing and do not include mobile home shipments.^cAnnual rate.^dPrivate residential spending = single-family + multifamily + improvement.

Data source: Census Bureau (2014c).

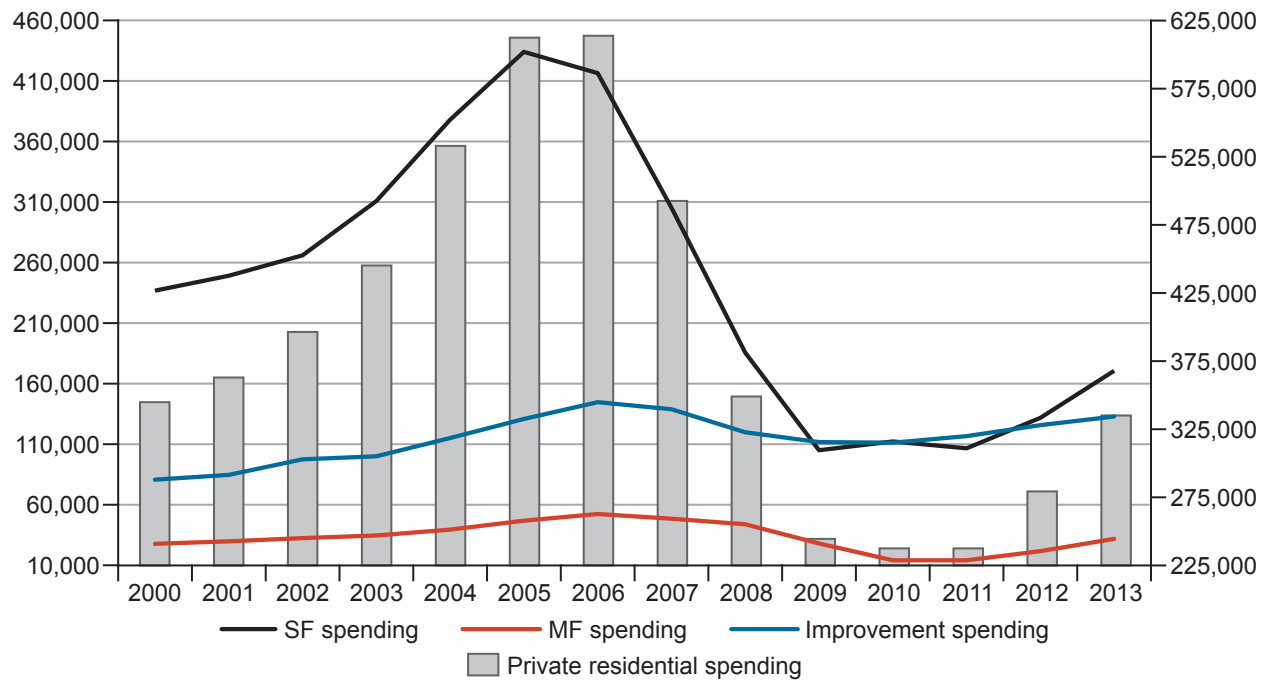


Figure 6. Construction spending, in thousands of dollars, for total private residential, single-family, multifamily, and improvement spending, 2000–2013, in millions. SF, MF, and IS, left-hand axis; private residential spending, right-hand axis. Data sources: Census Bureau (2014c,d).

Table 11. Historic annual construction averages^{a,b,c}

	Average by time period			
	1959–2008	1969–2008	1968–2008	
Total permits	1,430.0			
Total starts	1,534.1			
Total under construction		975.7		
Total completions			1,531.9	
	1959–2013	1969–2013	1968–2013	
Total permits	1,366.1			
Total starts	1,457.4			
Total under construction		923.9		
Total completions			1,440.3	
	1959–2008	1969–2008	1968–2008	
SF permits	939.4			
SF starts	1,092.2			
SF under construction		569.1		
SF completions			1,101.8	
	1959–2013	1969–2013	1968–2013	
SF permits	898.5			
SF starts	1,038.4			
SF under construction		535.7		
SF completions			1,001.8	
	1959–2008	1969–2008	1968–2008	
MF permits	490.7			
MF starts	441.9			
MF under construction		406.6		
MF completions			430.1	
	1959–2013	1969–2013	1968–2013	
MF permits	467.6			
MF starts	419.1			
MF under construction		388.2		
MF completions			430.1	
	1963–2007	1963–2013	1999–2007	1999–2013
New house sales	697.1	659.9		
Existing house sales ^d			5,873.6	5,300.8
	1993–2007	Adjusted ^f	1993–2013	Adjusted ^f
Private residential spending ^e	375.1	466.1	348.7	413.0
SF spending	254.7	316.3	220.7	264.4
Improvement spending	90.3	112.7	98.9	114.7
	1993–2008	Adjusted	1993–2013	Adjusted
MF spending	31.1	37.5	29.1	33.9

^aIn thousands and in thousands of dollars, annual data.^bData are for conventional housing and do not include mobile home shipments.^cAnnual rate.^dNational Association of Realtors (2013a).^ePrivate residential spending = single-family + multifamily + improvement.^fAdjusted for inflation.

Data sources: Census Bureau (2014a), National Association of Realtors (2013a).

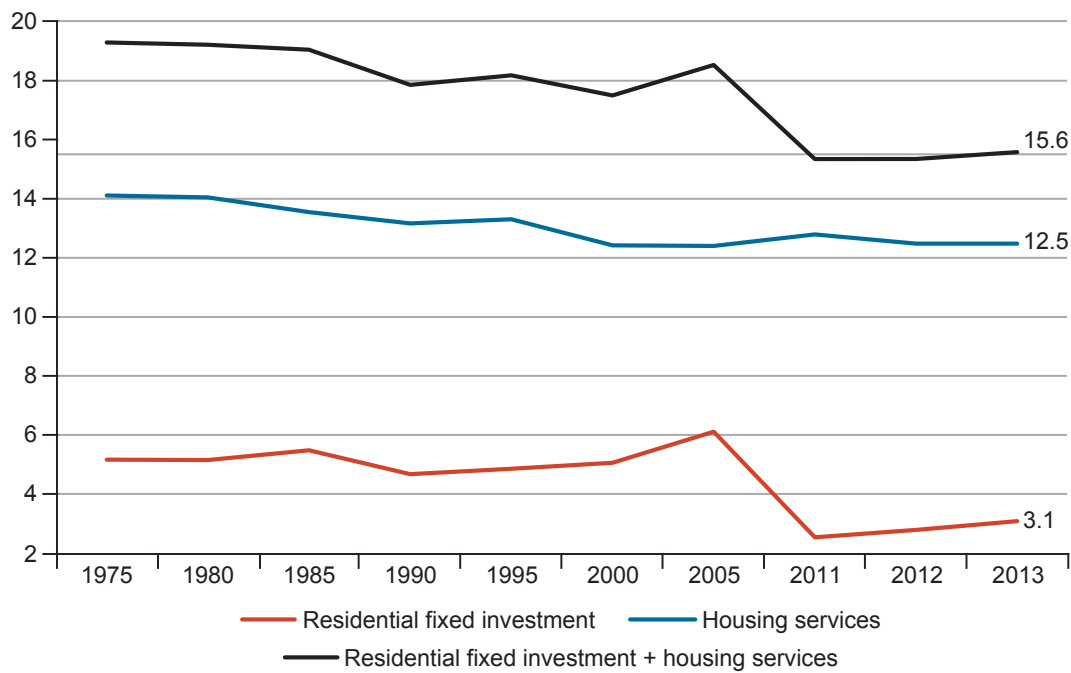


Figure 7. Contribution of housing to GDP, in percentage of total GDP, 1975–2013. Data sources: Bureau of Economic Analysis (2014), National Association of Homebuilders (2014).

Housing as a Component of GDP

As an important component of the U.S. gross domestic product (GDP) and overall economy, housing is typically valued by two discrete means. The National Association of Homebuilders (2014) defines housing’s contribution to the GDP as follows: “(1) private residential investment and (2) consumption spending of housing services. Residential investment includes construction of new single-family and multifamily structures, residential remodeling, manufactured home production, and brokers’ fees. Consumption spending on housing services includes gross rents (which include utilities) paid by renters and owners’ imputed rent. Historically, residential investment has averaged roughly 5% of GDP, while housing services have averaged between 12% and 13%, for a combined 17% to 19% of GDP. These shares tend to vary during business cycles...” (Fig. 7).

Although these are direct measures of housing’s economic impact, these estimates unintentionally mask the influence of housing construction on allied economic networks. First, in the early stages of a business cycle recovery, residential construction stimulates about one-fifth of all economic growth. Second, construction is credited with influencing local government revenue, engenders substantial employment (in recent decades, in the millions), increases building materials and home furnishings purchases, and enhances the consumer wealth effect (Lascelles 2012). Banking, mortgage finance, and the financial sector also are components of the housing economy.

In 2013, housing construction’s aggregate share of U.S. GDP remained less than the historical average. In 2013, housing was increased nearly 1.3% year-over-year from 2012. It was estimated that housing comprised 15.6% of the U.S. GDP (residential fixed investment totaled 3.1% and housing services was 12.5%) in 2013 (Fig. 7) (National Association of Homebuilders 2014).

Components of and Factors Influencing U.S. Housing in 2013

As with most markets, including housing, several factors influence the market. Following is a brief synopsis of several of these variables. However, not included are discussions regarding the overall U.S. economy, U.S. employment and the types of jobs produced, availability of building lots, construction employment in housing, deficient credit houses and their sale (that is, delinquencies, foreclosures, real estate owned, auctions or short-sales, underwater houses, or shadow inventory), and changing home ownership preferences.

Affordability

Affordability metrics utilize several economic and financial inputs to provide an estimate of a consumers capacity “... to purchase a median-priced home.” For instance, one of the more ubiquitous affordability indexes is provided by the NAR. Their inputs include median family income, median housing prices, a down payment of 20%, qualifying ratio (that is, the monthly principal and interest payment cannot

exceed 25% of the median family monthly income), and the current mortgage interest rate (that is, the effective interest rate charged on closed existing homes provided by the Federal Housing Finance Board) (NAR 2014b).

In 2013, housing affordability peaked early in the year and then began to decline (Fig. 8). Increasing housing prices also affected the first-time home buyer because the percentage purchase share is negatively correlated with the change in house price growth (Patrabansh et al. 2014). Declining affordability was primarily due to an increase in mortgage rates during the spring buying season. Other factors included decreasing real median incomes and increasing housing prices.

Demographics

Demographics, as a field of study, typically quantifies a population and its segments. Household formations are a subset of demographic research, and formations are considered to be one of the cornerstones of the U.S. housing market. Typically, when new households form, these households first rent and then eventually purchase a house. Generally, household formations occur when adult children leave their parents' homes or a single person exits shared housing. According to the U.S. Department of Census, a "household" is an occupied housing unit; a "householder" is a person in whose name the housing unit is rented or owned (this person must be at least 15 years of age); and a "family household"

has at least one person living in the house who is related to the householder by birth, marriage, or adoption (Census Bureau 2014h).

In the aftermath of the housing crash and the "Great Recession," the rate of household formations has declined dramatically (Figs. 9 to 11). Dunne (2012) reported that between 1997 and 2002, approximately 1.5 million households were formed per year. With the onset of the Great Recession, about 500,000 households were created annually between 2008 and 2010, and 1.1 million were formed in 2011. The 18 to 34 age group is critical for a healthy housing market, and nearly 75% of the total deficit in overall household formations were in this age cohort. On average, this cohort would normally have formed more than 1 million new households yearly. The total shortfall was nearly 7.4 million (using the Current Population Survey) in the 2008 to 2011 time period. For further reference, the Joint Center for Housing Studies (2014) reported that "Weak labor markets, declining incomes, and high rents continue to dampen household growth. The pace of household formations has languished in the 600,000–800,000 range for several years, far below the annual averages posted in recent decades." As reported by the U.S. Census Bureau (2014i), there were 122,459 million households in 2012 and 122,952 million in 2013, an increase of 493,000, much less than the historical average.

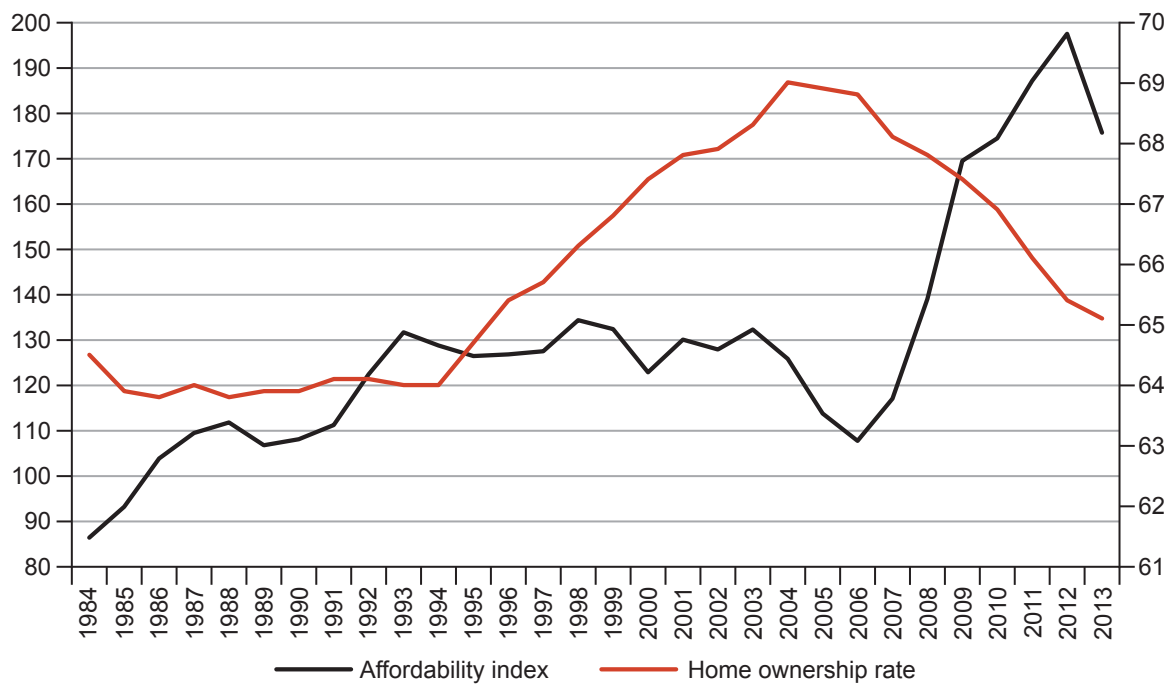


Figure 8. Housing affordability index (left-hand axis) and home ownership rate (percentage) (right-hand axis). Data sources: Census Bureau (2014g), NAR (2014b).

As a result of the financial crisis, a large percentage of children are living at home, doubling up with similar aged cohorts, or renting apartments (another explanation for apartment renting is shifting preferences). For example, of the households formed in 2013, 63.9%, or 315,000, were rental households. Fry and Passel (2014) amplify these data and report that “A record 57 million Americans, or 18.1% of the population of the U.S., lived in multi-generational family households in 2012, double the number who lived in such households in 1980. Young adults ages 25 to 34 have been a major component of the growth in the population living with multiple generations since 1980—and especially since 2010. By 2012, roughly one-in-four of these young adults (23.6%) lived in multi-generational households, up from 18.7% in 2007 and 11% in 1980.”

As a result of changing economics and demographics, transformations are occurring in the structure of the housing market. According to Vitner et al. (2013), these changes have increased demand for rental units: “Some of the strongest population gains are occurring among the youngest cohorts, where home owner rates have fallen sharply in recent years. This is one of the key reasons rental demand is rising solidly.”

In addition, the “baby boomer” demographic is projected “... to account for 20% of the population”; “... is driving demand for homes in active adult communities and retiree markets”; and also may “... downsize to a smaller home”

(Vitner et al. 2013). Also, according to Vitner et al. (2013), “...the sheer size of this demographic suggests that there could be excess for-sale inventory, as there is a large gap between the boomer and the next large demographic cohort”.

Financing

In past decades, housing purchases were largely insensitive to increasing interest rates, with the exception being extreme rises in interest rates. In 2013, the housing market was negatively affected by interest rate sensitivity and stringent housing finance regulations.

In 2013, the average rate on a 30-year fixed-rate mortgage increased nearly 23% from quarter 1 to quarter 4. The average mortgage rate was 3.5% in quarter 1, 3.7% in quarter 2, 4.4% in quarter 3, and 4.3% in quarter 4 (Mortgage Bankers Association 2014a). As a result of increasing interest rates, in combination with other factors, mortgage originations were disappointing in 2013. For instance, in quarter 1, total mortgage originations for 1–4 family units was nearly US\$ 524 billion; by the end of quarter 4, total mortgage originations for 1–4 family units was nearly US\$ 293 billion—a substantial 78.8% decrease (Mortgage Bankers Association 2014b). In 2013, according to the Federal Financial Institutions Examination Council (2014), the number of mortgage originations declined to 8.7 million, a decrease of nearly 11% from 9.8 million in 2012. However, in the segment where large quantities of forest-based products

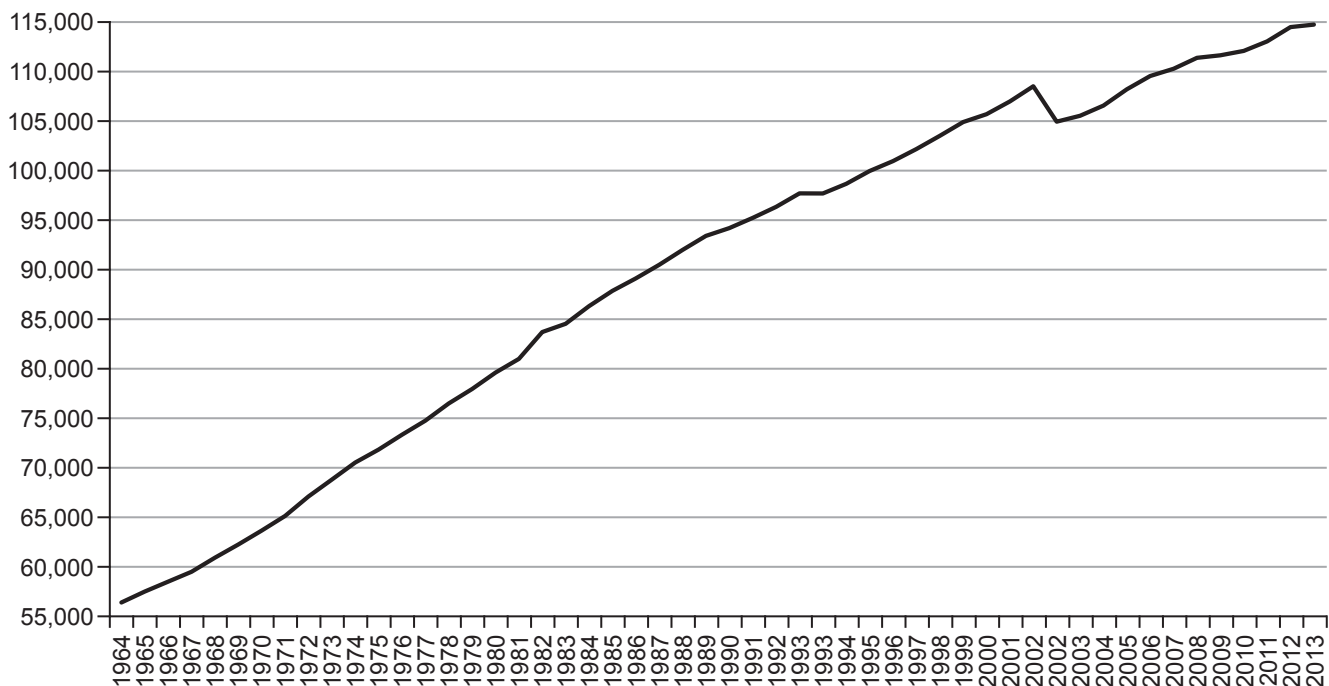


Figure 9. Household formations, 1964–2013, in thousands. Data source: Census Bureau (2014e).

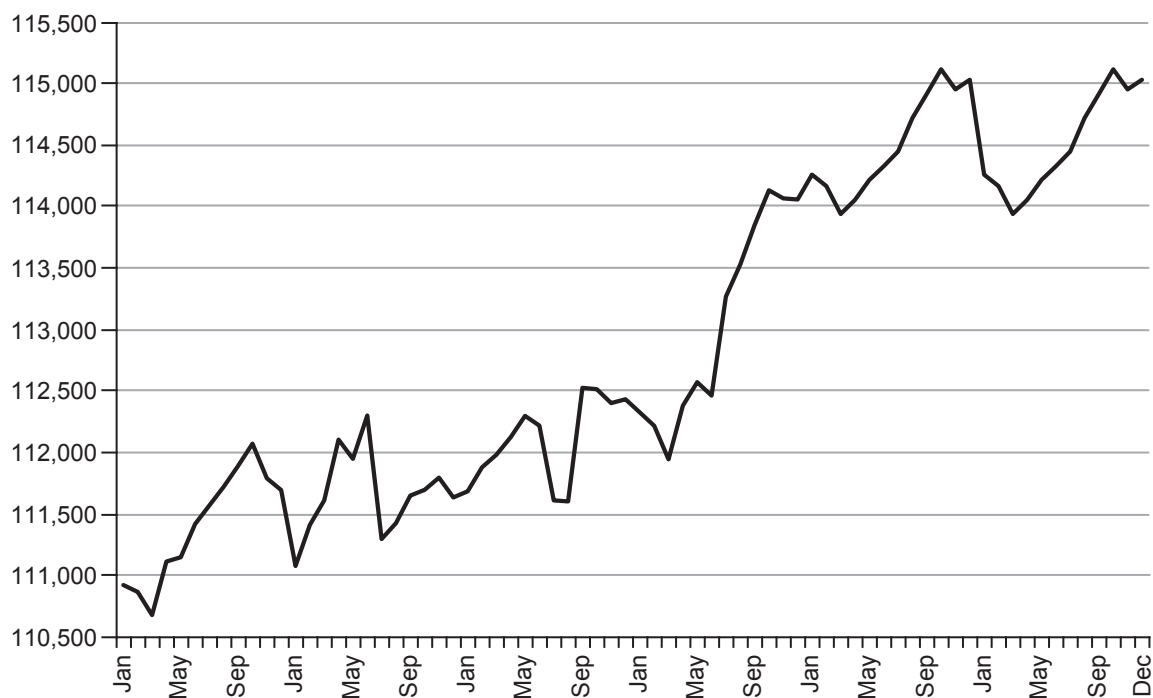


Figure 10. Household formations, January 2008 to December 2013, in thousands.
Data source: Census Bureau (2014e).

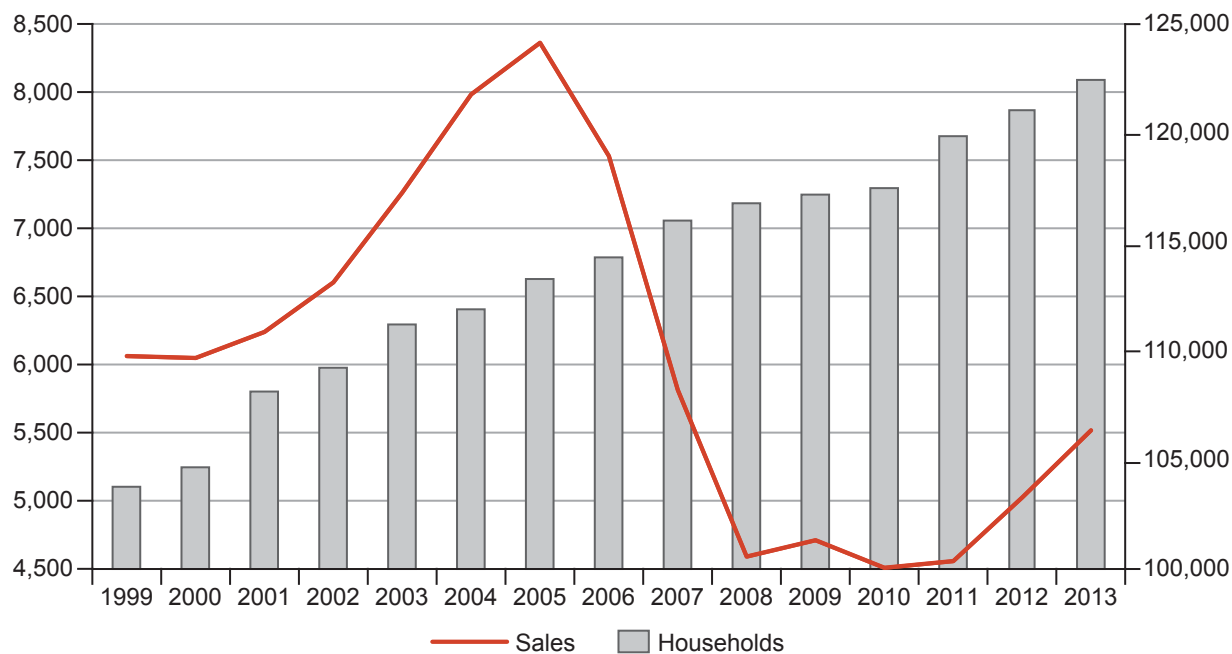


Figure 11. Household formations (right-hand axis) and total housing sales (left-hand axis), January 1999 to December 2013, in thousands. Data source: Census Bureau (2014e).

are potentially consumed, loan originations for SF housing increased year-over-year by 12.3%, rising from 2,663,162 (2012) to 3,037,748 (2013) (Conventional, FHA, VA, FSA/RHS loans; first plus second liens).

Tight lending conditions were a result of stringent lending standards enacted in the aftermath of the housing crash. In addition, the average FICO score required for purchase mortgages rose substantially as compared to the housing bubble period (Simmons 2014). In mid-2013, housing sales were rattled. This was attributed to the announcement by the Consumer Finance Protection Bureau's enactment of the qualified mortgage rule. In short, qualified loans are required to have a maximum back-end debt-to-income ratio of 43% and the mortgagee is vetted for their "ability to repay" the loan. Both these provisions arose from the Dodd–Frank Wall Street Reform and Consumer Protection Act, and came into effect on January 10, 2014 (Forlines 2013).

First-Time Home Buyers

In 2013 media attention focused, in part, on the dearth of first-time home buyers, with numerous articles lamenting the apparent reduction of home purchases by first-time buyers. This buyer segment is considered a key to the overall housing market as they typically purchase existing homes and their additional expenditures are typically concentrated on renovations, furniture, and other household goods (Dougherty and Wotapka 2013). Through October 2013, first-time buyers purchased an average of 38% of existing homes (NAR 2014c). Dougherty and Wotapka (2013) wrote that on average, in the past 30 years, 40% of existing house sales were by first-time home buyers.

However, two recent studies contradict present-day reporting regarding first-time house buyers. In the first study, economic analysts Dill and Terry (2013) report that they did not "...find there to be much in the way of a material decline in the share of first-time home buyers over the time periods and data series..." they researched. In the second study, Patrabansh et al. (2014) estimated that first-time home buyers purchased 56% of all homes in 2013; they also reported that the first-time share was 37% in 2003, 47% in 2007, 54% in 2009, and 63% in 2009. The dichotomy in the estimates is in part due to different calculation methods and sample populations. The NAR data is derived from existing sales data only, whereas the data used by Dill and Terry (2013) involved "...the mortgage data set comprised of loans that are guaranteed by either Fannie Mae or Freddie Mac and loans that are endorsed by the Federal Housing Administration" (Patrabansh et al. 2014).

Housing Age

The age of U.S. houses continues to increase. Slightly more than 70% of all U.S. houses were built from 1989 and earlier and more than 84% were built from 1999 and earlier (Table 12) (Census Bureau 2014i). Aging houses, at some point, may require repair and/or remodeling. Howard and McKeever (2014) estimated that repair and/or remodeling consumed 25% of all sawnwood, 26% of structural panels, and 16% of nonstructural panels in 2013 (Fig. 12).

Table 12. Housing categories by units of stock and percentage

Time period built	Units	Percentage
1939 or earlier	17,655,373	13.3
1940 to 1949	7,100,778	5.4
1950 to 1959	14,368,833	10.9
1960 to 1969	14,558,476	11.0
1970 to 1979	20,921,539	15.8
1980 to 1989	18,270,659	13.8
1990 to 1999	18,392,931	13.9
2000 to 2009	19,885,902	15.0
2010 or later	1,238,863	0.9
Total	132,393,354	

Data source: Census Bureau (2014i).

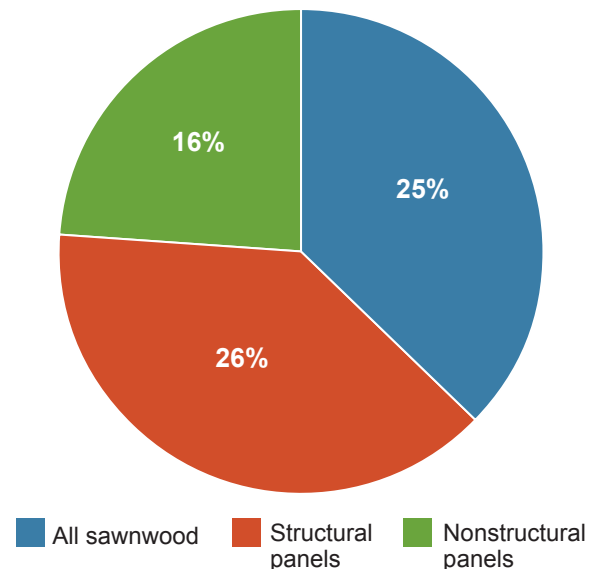


Figure 12. Repair and remodeling as percentage of wood products consumption. Data source: Howard and McKeever (2014).

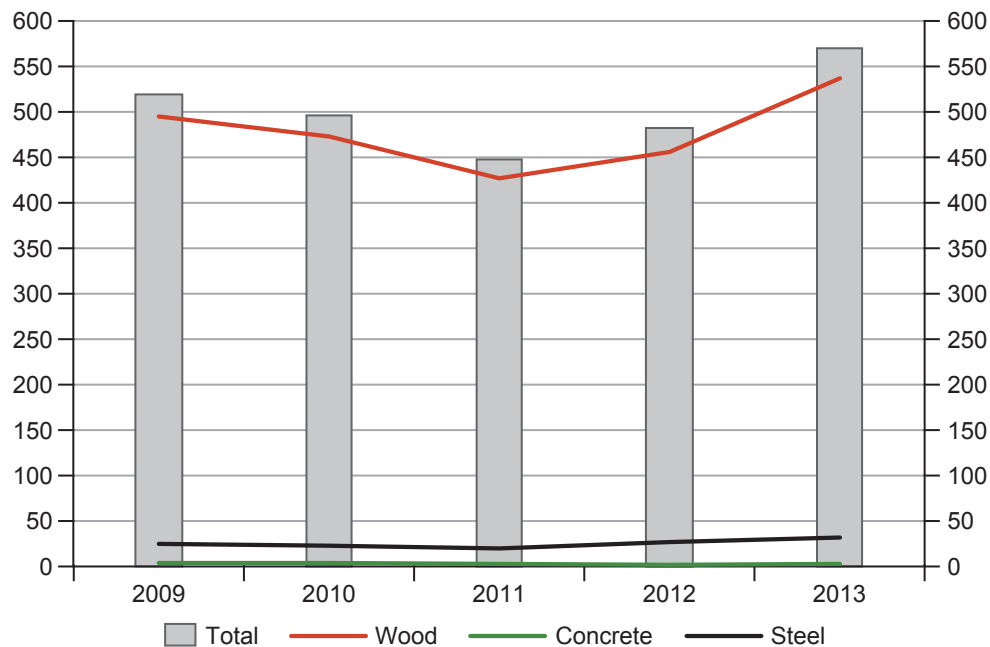


Figure 13. Completed single-family houses, type of framing, 2009–2013, in thousands. Data source: Census Bureau (2014j).

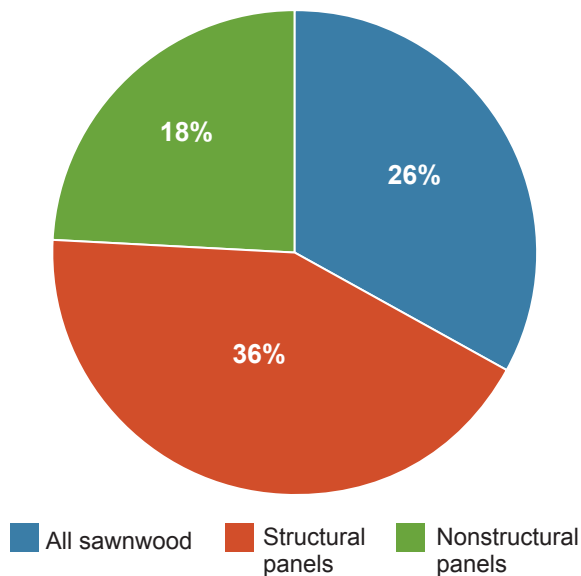


Figure 14. New single-family, multifamily, and manufactured housing construction as percentage of wood products consumption. Data source: Howard and McKeever (2014).

Housing Construction—Framing

Wood framing was used in 94.2% of completed new single-family homes in 2013. This is less than the 95.2% used in 2010 and 95.0% in 2009 (Fig. 13) (Census Bureau 2014l). According to Howard and McKeever (2014), new single-family attached and detached construction houses consumed 21% of all sawnwood, 30% of structural panels, and 13% of nonstructural panels in 2013; new multifamily apartment construction consumed 4% of all sawnwood, 4% of structural panels, and 4% of nonstructural panels in 2013; and manufactured housing consumed 1% of all sawnwood, 2% of structural panels, and 1% of nonstructural panels in 2013 (Fig. 14).

Housing Inventories

Housing inventories, new and existing homes, were considered as a detriment for an improvement in the housing market. This was due in large part to reduced housing inventory, which also was reasoned to be a factor for increasing home prices. From 1999 to 2008, an average of 2.669 million existing and 398,361 new houses were available for sale. In 2013, 2.058 million existing and 168,583 new houses were available for sale. Contrasting 2013 to the 1999 to 2008 time frame showed a 22.9% decrease in existing houses for sale and 57.7% decrease in new houses available for sale. Comparing 2013 to 2012, inventories did increase, as the differential in the numbers of existing houses for sale decreased to a level 9.5% below historical averages and new home inventory improved by 15.6% (Federal Reserve Bank of St. Louis 2014a,b).

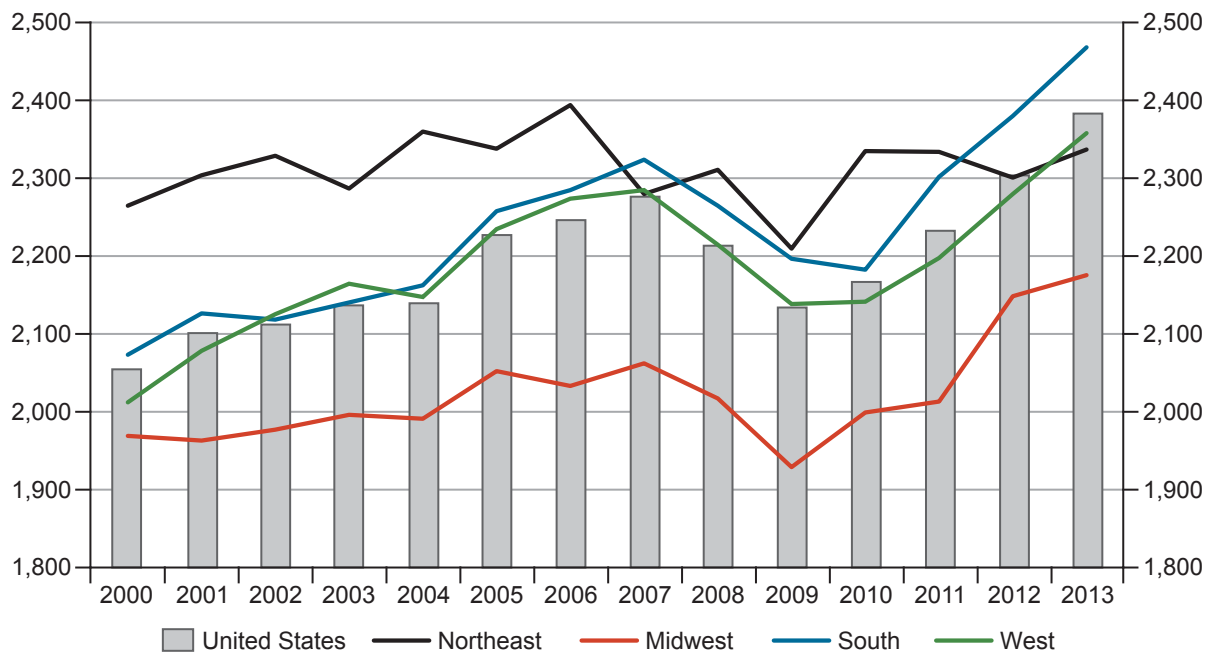


Figure 15. Housing size, 2000–2013, median square feet. Data source: Census Bureau (2014l).

Home Ownership

The year 2013 witnessed a relatively stable home ownership rate: the first quarter the rate was 65.2%; second quarter rate was 65.1%; third quarter rate increased slightly to 65.1%; and fourth quarter rate decrease somewhat to 65.1% (all SAAR basis).

Although home ownership rate was stable in 2013, there is concern over the rate decline from the fourth quarter 2005 level, when it was 69.2% (Census Bureau 2014j). According to Thompson (2014), one factor for the decreasing home ownership rate is that Americans aged 35 to 44 experienced the largest decrease in home ownership in the past 20 years, 9.0%. However, viewing the rate from the peak of home ownership (fourth quarter 2005) we see that four of five age classifications decreased, only the 65 plus age group realized an increase (0.1%). The remaining age classifications declined, the under 35 age group (–14.6%); 35 to 44 (–12.6%); 45 to 54 (–6.9%); and 55 to 64 (–5.1%). The overall home ownership rate declined by 5.5% from the fourth quarters of 2005 and 2013 (Census 2014j).

Housing Purchasers

Beginning in 2009, the typical purchaser of a house changed from first-time buyers and/or move-up purchasers to investors, also known as “institutional investors.” These investors primarily bought single-family houses to convert them into rental units. According to Daren Blomquist, “In 2011 institutional investors purchased...219,000 residential properties nationwide, representing 5.12% of all residential sales; 259,000, representing 5.82% of all residential sales in

2012; and 354,000, representing 7.40% of all sales in 2013” (Scotti 2014).

In 2013, numerous investor house purchases were “all cash” sales, where investors paid cash for houses. Preceding the housing crash and the Great Recession, cash sales averaged nearly 25% of all house sales, with the peak occurring in January 2011, when cash transactions comprised 46.2% of all house sales. In 2012 and 2013, cash sales rose precipitously to 40% of all house purchases (Boesel 2014). All cash sales coupled with less than average inventories in the lower priced housing category were limiting factors in the reduction of first-time home buyer purchases.

Housing Size

Several housing analysts in the 2009 to 2010 time period speculated that new construction house size might begin a downward trend due to economic conditions. This did occur for a short time period. Since then, the median new house size has increased from its 2009 nadir, escalating from 2,135 square feet to 2,384 square feet in 2013, an 11.67% increase (Fig. 15) (Census Bureau 2014m). Most likely, given that higher priced homes have sold on a volume and percentage basis better than lower priced homes, the increasing size is reflective of the purchaser class—persons who have the financial means and/or financing to purchase a larger home.

Student Debt

In the past few years, student debt has been noted by many analysts as a possible hindrance to home ownership. According to the Federal Reserve Bank of St. Louis (2014c), at the end of 2013, student debt was \$US 1.223 trillion. This

was a 140.1% increase from March 1, 2006. According to Brown et al. (2014), the average student debt loan balance increased from \$US 29,872 in 2012 to \$US 30,227 by the end of 2013.

The primary problems with student debt are not so much related to the average balance. Rather, it is the average loan balance combined with unremarkable employment opportunities, decreasing inventories or low-levels of entry-level homes, and increasing house prices. In many cases it has been reported that this combination reduces the capability of a potential home buyer to qualify for a home loan. In addition, if the buyer qualifies, then the purchase amount may be much less than in the past. For instance, Palacios et al. (2014) recently reported that 16.8 million households have student debt and that, "...5.9 million (or 35%) pay more than \$250 per month in student loans, which inhibits at least \$44,000 per year in mortgage capability for each of them... people...spend less on their homes." They further report that in 2102, "30-year-olds with no history of student debt are now more likely to own a home than those with a history of student debt."

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Glossary

Housing completions—A house is defined as completed when all finished flooring has been installed (or carpeting if used in place of finished flooring). If the building is occupied before all construction is finished, it is classified as completed at the time of occupancy. In privately owned buildings with two or more housing units, all the units in the buildings are counted as completed when 50% or more of the units are occupied or available for occupancy. Housing completions are estimated for all areas of the United States, regardless of whether permits are required.

Housing permits—The approval given by a local jurisdiction to proceed on a construction project. Note that not all areas of the country require a permit for construction.

Housing starts—Start of construction occurs when excavation begins for the footings or foundation of a building. All housing units in a multifamily building are defined as being started when this excavation begins. Beginning with data for September 1992, estimates of housing starts include units in structures being totally rebuilt on an existing foundation.

Housing under construction—Estimates of housing units started, but not yet completed, are estimated for all areas of the United States, regardless of whether permits are required.

Seasonally adjusted annual rate—Seasonal adjustment is the process of estimating and removing seasonal effects from a time series to better reveal certain nonseasonal features such as underlying trends and business cycles. Seasonal adjustment procedures estimate effects that occur in the same calendar month with similar magnitude and direction from year to year. In series whose seasonal effects come primarily from weather, the seasonal factors are estimates of average weather effects for each month.

Single-family housing—Dwellings that include fully detached, semi-detached (semi-attached, side-by-side), row houses, and townhouses.

