



United States Department of Agriculture

United States Housing, Third Quarter 2013

Delton Alderman



© Sascha Burkard / Fotolia



Forest
Service

Forest Products
Laboratory

Research Note
FPL–RN–0344

May
2017

Abstract

The U.S. housing construction market's third quarter was subdued, as all sectors moderated or declined. Once again, consensus expectations were for aggregate housing market gains, and these expectations were not realized. Overall starts, housing under construction, and completion data indicated quarterly improvement. Viewed from a recent historical context, all housing construction subsectors exceeded the record lows observed in the 2008 to 2011 time period.

Keywords: housing permits, starts, under construction, completions, construction spending, quarterly and annual construction averages, nominal and inflation adjusted construction spending, housing and gross domestic product.

Contents

| | |
|--|----|
| Overview..... | 1 |
| Housing Permits..... | 2 |
| Housing Starts..... | 2 |
| Housing under Construction..... | 2 |
| Housing Completions..... | 2 |
| Single-Family Housing..... | 4 |
| Multifamily Housing..... | 6 |
| House Sales..... | 8 |
| Residential Construction Spending..... | 10 |
| Housing as a Component of GDP..... | 12 |
| Literature Cited..... | 15 |
| Glossary..... | 15 |

May 2017

Alderman, Delton. 2017. United States Housing, Third Quarter 2013. Research Note FPL-RN-0344. Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory. 15 p.

A limited number of free copies of this publication are available to the public from the Forest Products Laboratory, One Gifford Pinchot Drive, Madison, WI 53726-2398. This publication is also available online at www.fpl.fs.fed.us. Laboratory publications are sent to hundreds of libraries in the United States and elsewhere.

The Forest Products Laboratory is maintained in cooperation with the University of Wisconsin.

The use of trade or firm names in this publication is for reader information and does not imply endorsement by the United States Department of Agriculture (USDA) of any product or service.

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at http://www.ascr.usda.gov/complaint_filing_cust.html and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.

United States Housing, Third Quarter 2013

Delton Alderman, Research Forest Products Technologist
Forest Products Laboratory, Madison, Wisconsin, and
Northern Research Station, Princeton, West Virginia

Overview

The U.S. housing construction market's third quarter was subdued, as all sectors moderated or declined. Starts, housing under construction, and completions recorded quarterly gains. All sectors spending data indicated quarterly improvement. Viewed from a recent historical context, all housing construction subsectors exceeded the record lows recorded in the 2008 to 2011 time period. With this stated, there are still several hindrances for a return to a robust housing industry, including a tepid economy, stricter lending standards, and declining real incomes. If these hindrances can be overcome, we should expect additional improvement in the U.S. housing construction market.

Housing Permits

Housing permits (see glossary for definitions of terms) are a leading indicator for gauging the current status and the future housing construction market. In the third quarter, seasonally adjusted annual rate (SAAR) issued permits were mixed, yet permits increased from July to September (Table 1, Fig. 1). Analysts also contrast quarterly data to assess the housing construction market. Issued permits declined slightly quarter-over-quarter (Q/Q) and increased moderately year-over-year (Y/Y) (Table 2). For a supplementary contrast, quarter three's permit average was 71.0% of the historical quarter three average (Table 11). Historical quarterly averages for the construction sectors reviewed in this brief are presented in Table 12. According to the U.S. Bureau of Census, a "seasonal adjustment" estimates and subtracts seasonal effects from a particular time series to reveal discrete nonseasonal features, such as underlying trends and business cycles.

Housing Starts

Housing starts also are a leading indicator of the housing construction market, because starts are generally regarded as integral in the production of economic activity. In quarter three of 2013, housing starts declined from July to September, indicative of the overall choppy 2013 housing market to date (Table 1, Fig. 1). A quarterly contrast resulted in a moderate Y/Y increase and a minimal Q/Q rise in total housing starts (Table 2). For an additional comparison, quarter three's start average was 60.9% of the third quarter's long-term average (Table 11).

Housing under Construction

Housing under construction is generally considered as a lagging indicator of the housing market. These data also can be used to assess current construction employment and building material demand. Housing under construction increased steadily throughout the quarter (Table 1, Fig. 1). This yielded a sizable Y/Y and modest Q/Q increase (Table 2). For further comparison, quarter three's housing under construction average was 68.9% of the long-term average for the third quarter (Table 11).

Housing Completions

Housing completions indicate the quantity of homes finished and available for sale or rent. Analysts also may develop estimates for consumer-based products such as furniture and home appliances using these data. Generally, completions lag starts by about 5 to 6 months. Housing completions declined throughout quarter three (Table 1, Fig. 1), and on a Y/Y and Q/Q basis, completions increased (Table 2). For an additional comparison, quarter three's start average was 53.7% of its long-term average (Table 11).

Table 1. Housing permits, starts, under construction, and completions, by year (annual rate) and by month (seasonally adjusted annual rate) (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 | 906 | 780.9 | 1,119.7 |
| 2009 | 583.0 | 554 | 495.4 | 794.4 |
| 2010 | 604.6 | 587 | 411.0 | 651.7 |
| 2011 | 624.1 | 609 | 417.7 | 585.2 |
| 2012 | 829.7 | 781 | 532.5 | 649.2 |
| | | | 2013 ^c | |
| Jan | 928 | 888 | 561 | 732 |
| Feb | 971 | 970 | 582 | 730 |
| Mar | 932 | 999 | 595 | 839 |
| Apr | 1,015 | 826 | 607 | 690 |
| May | 1,016 | 920 | 620 | 714 |
| Jun | 951 | 852 | 629 | 759 |
| Jul | 986 | 891 | 636 | 786 |
| Aug | 947 | 898 | 651 | 761 |
| Sep | 1,015 | 860 | 661 | 752 |

^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 (2015a).



Figure 1. Total housing permits, starts, under construction, and completions, 2000–2013, in thousands. Seasonally adjusted annual rates for quarter three (Q3), 2013 data.
 Data source: Census Bureau (2015a).

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

| | 2013 3-month running average | Change quarter-over-quarter (%) | 2012 3-month running average | Change year-over-year (%) |
|--------------------|------------------------------------|---------------------------------------|------------------------------------|---------------------------------|
| Permits | 982.7 | -1.1 | 864.3 | 13.7 |
| Starts | 883.0 | 2.0 | 780.3 | 13.2 |
| Under construction | 649.3 | 5.0 | 498.7 | 30.2 |
| Completions | 766.3 | 6.3 | 670.7 | 14.3 |

^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 (2015a).

Single-Family Housing

Single-family (SF) housing construction generally consumes more softwood, hardwood, and wood composite products than in any other type of building construction (Wood Products Council 2006). Historically, SF construction has contributed about 2.25% of the U.S. gross domestic product (GDP); however, since 2009, the SF portion has been about 1%. Thus, SF housing starts remain a valuable data subset for assessing the current status of the housing market and are used by many in the forest products industry, and several other industries, to gauge current and future housing activity. Also, SF completions normally lag starts by 6 months to 1 year.

SF permits, starts, and completions were mixed from July through September. SF houses under construction improved gradually in this time period (Table 3, Fig. 2). The third quarter contrasts resulted in SF permits declining slightly from the second quarter and registering a substantial Y/Y increase. Starts, housing under construction, and completions yielded minimal to moderate Q/Q and modest to substantial Y/Y increases (Table 4). For additional long-term comparisons, the average of SF permits issued was 69.4%; SF starts, 57.9%; SF houses under construction, 56.9%; and SF completions, 55.6% of average historical quarter three data (Table 11).

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

| | SF permits | SF starts | SF under construction | SF completions |
|------|------------|-------------------|-----------------------|----------------|
| 2000 | 1,198.1 | 1,230.9 | 623.4 | 1,241.8 |
| 2001 | 1,235.6 | 1,273.3 | 638.3 | 1,255.9 |
| 2002 | 1,332.6 | 1,358.6 | 668.8 | 1,325.1 |
| 2003 | 1,460.9 | 1,499.0 | 772.9 | 1,386.3 |
| 2004 | 1,613.4 | 1,610.5 | 850.3 | 1,531.5 |
| 2005 | 1,682.0 | 1,715.8 | 929.1 | 1,635.9 |
| 2006 | 1,378.2 | 1,465.4 | 764.7 | 1,654.5 |
| 2007 | 979.9 | 1,046.0 | 579.1 | 1,218.4 |
| 2008 | 575.6 | 622.0 | 377.3 | 818.8 |
| 2009 | 441.1 | 445.1 | 283.1 | 520.1 |
| 2010 | 447.3 | 471.2 | 247.3 | 496.3 |
| 2011 | 418.5 | 430.6 | 221.6 | 446.6 |
| 2012 | 518.7 | 535.3 | 267.7 | 483.0 |
| | | 2013 ^c | | |
| Jan | 590 | 612 | 287 | 563 |
| Feb | 612 | 663 | 293 | 577 |
| Mar | 609 | 621 | 294 | 613 |
| Apr | 623 | 578 | 302 | 520 |
| May | 624 | 602 | 305 | 555 |
| Jun | 628 | 605 | 314 | 535 |
| Jul | 615 | 598 | 316 | 579 |
| Aug | 631 | 624 | 320 | 571 |
| Sep | 618 | 582 | 323 | 563 |

^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 (2015a).

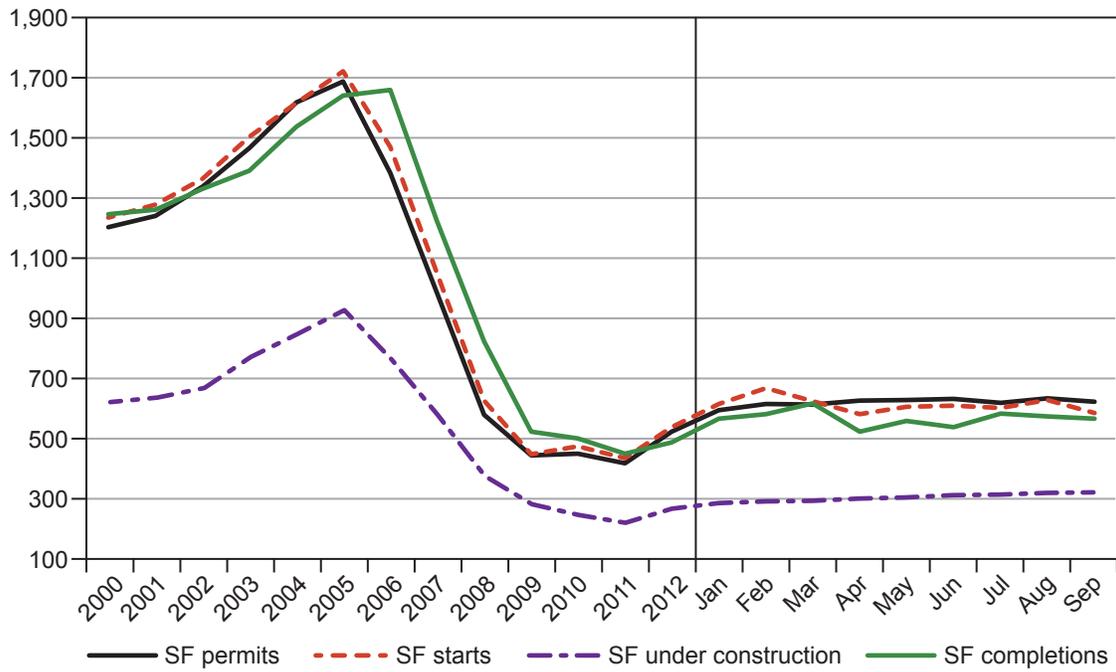


Figure 2. Total single-family housing permits, starts, under construction, and completions, 2000–2012, in thousands. Seasonally adjusted annual rate for Q3, 2013. Data source: Census Bureau (2015a).

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

| | 2013 3-month running average | Change quarter-over-quarter (%) | 2012 3-month running average | Change year-over-year (%) |
|-----------------------|------------------------------------|---------------------------------------|------------------------------------|---------------------------------|
| SF permits | 621.3 | -0.6 | 530.7 | 17.1 |
| SF starts | 601.3 | 1.1 | 549.0 | 9.5 |
| SF under construction | 319.7 | 4.1 | 266.0 | 20.2 |
| SF completions | 571.0 | 6.4 | 492.7 | 15.9 |

^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 (2015a).

Multifamily Housing

Multifamily (MF) housing continued to be an essential component of the 2013 housing market, though the overall numbers of units built in quarter three of 2013 were considerably less than numbers recorded in the early and mid-1970s; the 1970s MF starts were the greatest recorded in U.S. history. In a historical and typical MF fashion, July through September MF housing permits, starts, and completions were mixed on a SAAR basis. MF units under construction increased from July to September (Table 5, Fig. 3).

The third quarter comparisons indicated MF permits increasing moderately on a Y/Y basis and decreasing modestly on Q/Q basis. MF starts and housing under construction both improved substantially Y/Y and modestly Q/Q. MF completed units improved moderately Q/Q and Y/Y in the third quarter (Table 6). For a long-term comparison, average MF permits issued were 74.1%; MF starts, 75.6%; MF houses under construction, 92.9%; and MF completions, 57.1% of quarter three long-term data (Table 11). Note that MF data are considered to be volatile, on a monthly and quarterly basis.

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

| | MF permits | MF starts | MF under construction | MF completions |
|------|------------|-------------------|-----------------------|----------------|
| 2000 | 394 | 338 | 310 | 332 |
| 2001 | 401 | 329 | 321 | 315 |
| 2002 | 415 | 346 | 332 | 323 |
| 2003 | 428 | 349 | 369 | 292 |
| 2004 | 457 | 345 | 387 | 310 |
| 2005 | 473 | 353 | 427 | 296 |
| 2006 | 461 | 336 | 440 | 325 |
| 2007 | 419 | 309 | 446 | 284 |
| 2008 | 330 | 284 | 404 | 301 |
| 2009 | 142 | 109 | 212 | 274 |
| 2010 | 157 | 116 | 164 | 155 |
| 2011 | 206 | 178 | 196 | 138 |
| 2012 | 311 | 245 | 265 | 166 |
| | | 2013 ^c | | |
| Jan | 338 | 276 | 274 | 169 |
| Feb | 359 | 307 | 289 | 153 |
| Mar | 323 | 378 | 301 | 226 |
| Apr | 392 | 248 | 305 | 170 |
| May | 392 | 318 | 315 | 159 |
| Jun | 323 | 247 | 315 | 224 |
| Jul | 371 | 293 | 320 | 207 |
| Aug | 316 | 274 | 331 | 190 |
| Sep | 397 | 278 | 338 | 189 |

^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 (2015a).

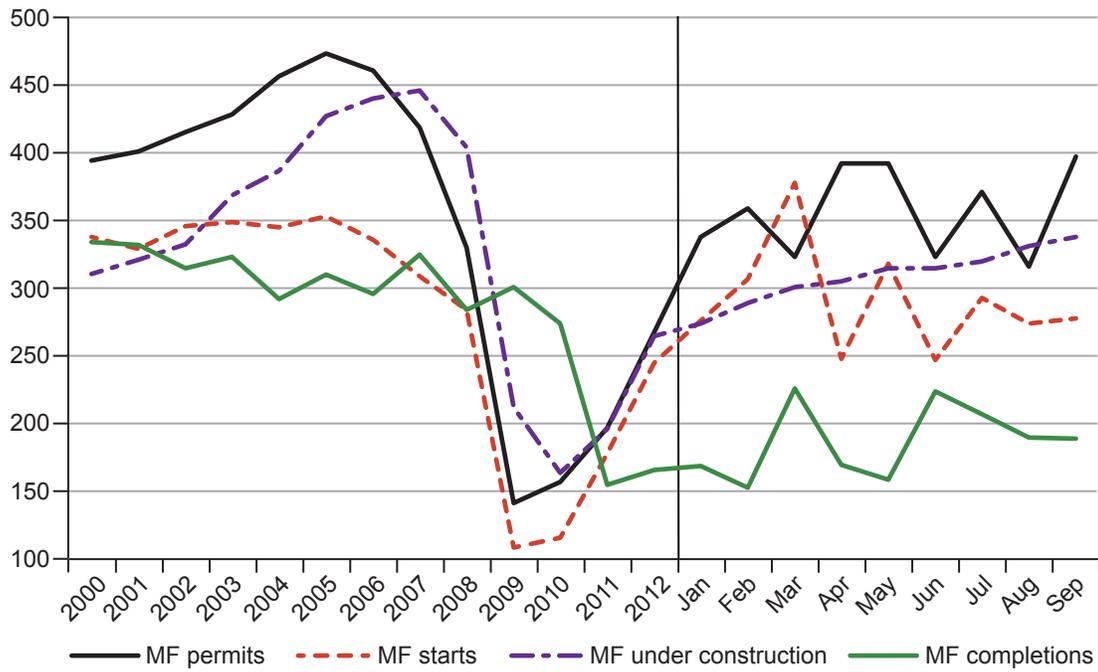


Figure 3. Multifamily housing permits, starts, under construction, and completions, 2000–2012, in thousands. Seasonally adjusted annual rate for Q3, 2013 data.
 Data source: Census Bureau (2015a).

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

| | 2013 3-month running average | Change quarter-over-quarter (%) | 2012 3-month running average | Change year-over-year (%) |
|-----------------------|------------------------------------|---------------------------------------|------------------------------------|---------------------------------|
| MF permits | 361.3 | -2.1 | 333.7 | 8.3 |
| MF starts | 281.7 | 3.9 | 231.3 | 21.8 |
| MF under construction | 329.7 | 5.8 | 232.7 | 41.7 |
| MF completions | 195.3 | 6.0 | 178.0 | 9.7 |

^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 (2015a).

House Sales

New and existing house sales, in addition to other housing indicators, are important for the entirety of the forest products industry and U.S. economy, and they provide an indirect metric for assessing the overall U.S. economy.

Typically, new housing is an essential market for the forest products industry, because new houses utilize substantially more softwoods and wood composites (in the framing structure and subfloor), and hardwoods (in flooring, cabinets, and mouldings) than the residential renovation and multifamily subsectors.

New house sales increased nicely throughout quarter three (Table 7, Fig. 4). The quarterly comparisons resulted in a slight Y/Y sales gain and a large Q/Q decrease (Table 8). The third quarter new house sales average was 60.5% of the long-term average (Table 11).

Existing home sales also provide insight for the home improvement industry and, by extension, for the forest products industry. Existing house sales also may be used to predict future remodeling demand and sales of associated items (such as furniture). From July to September of 2013, existing house sales experienced a minimal decline (Table 7, Fig. 4). On a Q/Q and Y/Y basis, existing sales increased moderately (Table 8). For additional comparison, third quarter existing house sales were 0.48% greater than quarter three's long-term average (Table 11).

Table 7. New and existing house sales, by year (annual rate) and by month (seasonally adjusted annual rate) (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 ^c |
| Jan | 442 | 4,870 |
| Feb | 439 | 4,950 |
| Mar | 449 | 4,960 |
| Apr | 451 | 4,990 |
| May | 430 | 5,150 |
| Jun | 463 | 5,160 |
| Jul | 376 | 5,380 |
| Aug | 380 | 5,330 |
| Sep | 399 | 5,260 |

^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 (2015b), National Association of Realtors (2014).

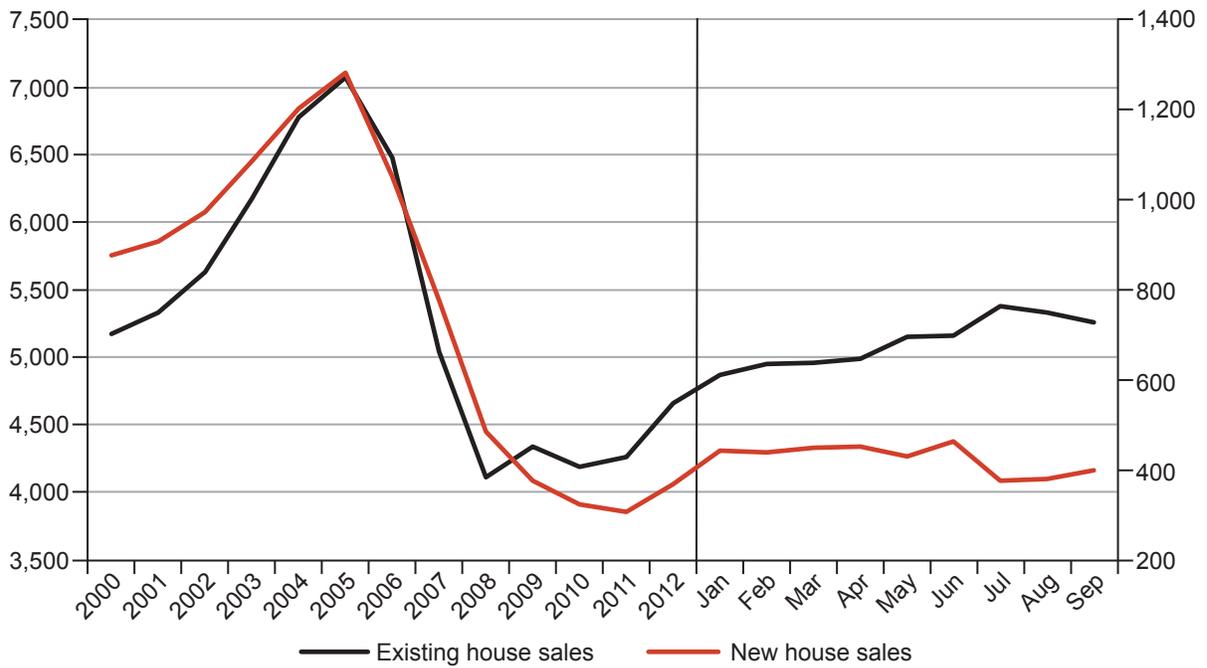


Figure 4. New and existing house sales, 2000–2012, in thousands. Seasonally adjusted annual rate for Q3, 2013 data. Existing house sales (left-hand scale) and new house sales (right-hand scale). Data sources: Census Bureau (2015b), National Association of Realtors (2014).

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

| | 2013 3-month running average | Change quarter-over-quarter (%) | 2012 3-month running average | Change year-over-year (%) |
|----------------|------------------------------------|---------------------------------------|------------------------------------|---------------------------------|
| New sales | 385.0 | -14.1 | 376.3 | 2.3 |
| Existing sales | 5,323.3 | 4.4 | 4,716.7 | 12.9 |

^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 (2015ab), National Association of Realtors (2014).

Residential Construction Spending

Private residential construction (PRC) spending also is an important statistic for the overall condition of the housing market and is used in the computation of the U.S. GDP. In the third quarter of 2013, PRC, SF, MF, and improvement or remodeling spending exhibited minimal to moderate increases; SF expenditures slightly decreased (Table 9, Fig. 5). The quarterly comparisons resulted in PRC, SF, and MF all recording substantial Y/Y and moderate Q/Q

increases. Improvement expenditures improved modestly on the same comparisons (Table 10). For additional comparisons, PRC was 97.1% and SF spending was 78.6% of their respective historical third quarter averages. MF and improvement spending were 11.5% and 41.2% greater than their respective third quarter long-term averages (Table 11). It should be noted that the U.S. Census Bureau does not report remodeling spending directly and these expenditures are interpolated.

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

| | Private residential spending ^c | | SF spending | | MF spending | | Improvement spending | |
|------|---|-----------------------|-------------------|----------|-------------|----------|----------------------|----------|
| | Reported ^d | Adjusted ^e | Reported | Adjusted | Reported | Adjusted | Reported | Adjusted |
| 2000 | 346.1 | 506.8 | 236.8 | 332.7 | 28.3 | 41.4 | 81.1 | 118.7 |
| 2001 | 364.4 | 509.4 | 249.1 | 334.1 | 30.3 | 42.4 | 85.0 | 118.9 |
| 2002 | 396.7 | 541.2 | 265.9 | 348.0 | 33.0 | 45.0 | 97.9 | 133.5 |
| 2003 | 446.0 | 580.9 | 310.6 | 388.1 | 35.1 | 45.7 | 100.3 | 130.7 |
| 2004 | 532.9 | 648.6 | 377.6 | 440.6 | 39.9 | 48.6 | 115.4 | 140.5 |
| 2005 | 611.9 | 695.0 | 433.5 | 472.4 | 47.3 | 53.7 | 131.1 | 148.9 |
| 2006 | 613.7 | 658.7 | 416.0 | 428.4 | 52.8 | 56.7 | 144.9 | 155.5 |
| 2007 | 493.2 | 522.5 | 305.2 | 310.2 | 49.0 | 51.9 | 139.1 | 147.4 |
| 2008 | 350.3 | 376.5 | 185.8 | 191.6 | 44.3 | 47.7 | 120.1 | 129.2 |
| 2009 | 245.9 | 264.4 | 105.3 | 108.6 | 28.5 | 30.7 | 112.0 | 120.4 |
| 2010 | 238.8 | 266.1 | 112.6 | 120.3 | 14.7 | 16.4 | 111.6 | 124.3 |
| 2011 | 244.1 | 273.0 | 108.2 | 116.1 | 15.0 | 16.8 | 120.9 | 135.2 |
| 2012 | 280.6 | 311.4 | 132.0 | 140.6 | 22.5 | 25.0 | 126.1 | 139.9 |
| | | | 2013 ^f | | | | | |
| Jan | 314.5 | | 153.0 | | 28.6 | | 132.8 | |
| Feb | 321.9 | | 161.8 | | 28.3 | | 131.8 | |
| Mar | 324.6 | | 166.4 | | 28.9 | | 129.3 | |
| Apr | 327.3 | | 168.1 | | 29.8 | | 129.3 | |
| May | 328.5 | | 170.4 | | 29.9 | | 128.2 | |
| Jun | 331.2 | | 171.3 | | 30.6 | | 129.2 | |
| Jul | 336.5 | | 172.5 | | 30.3 | | 133.6 | |
| Aug | 342.2 | | 175.1 | | 31.9 | | 135.3 | |
| Sep | 346.1 | | 174.7 | | 33.3 | | 138.1 | |

^aIn millions 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.

^dAs provided by the Census Bureau's Survey of Construction.

^eAnnual spending estimates, adjusted for the third quarter of 2013. Bureau of Economic Analysis (BEA), table 1.1.9.

Implicit price deflators for gross private domestic investment, residential fixed investment [index numbers, 2009 = 100, seasonally adjusted]; revised June 24, 2015.

^fSeasonally adjusted annual rate.

Data sources: Census Bureau (2015a,c); Bureau of Economic Analysis (2015a).

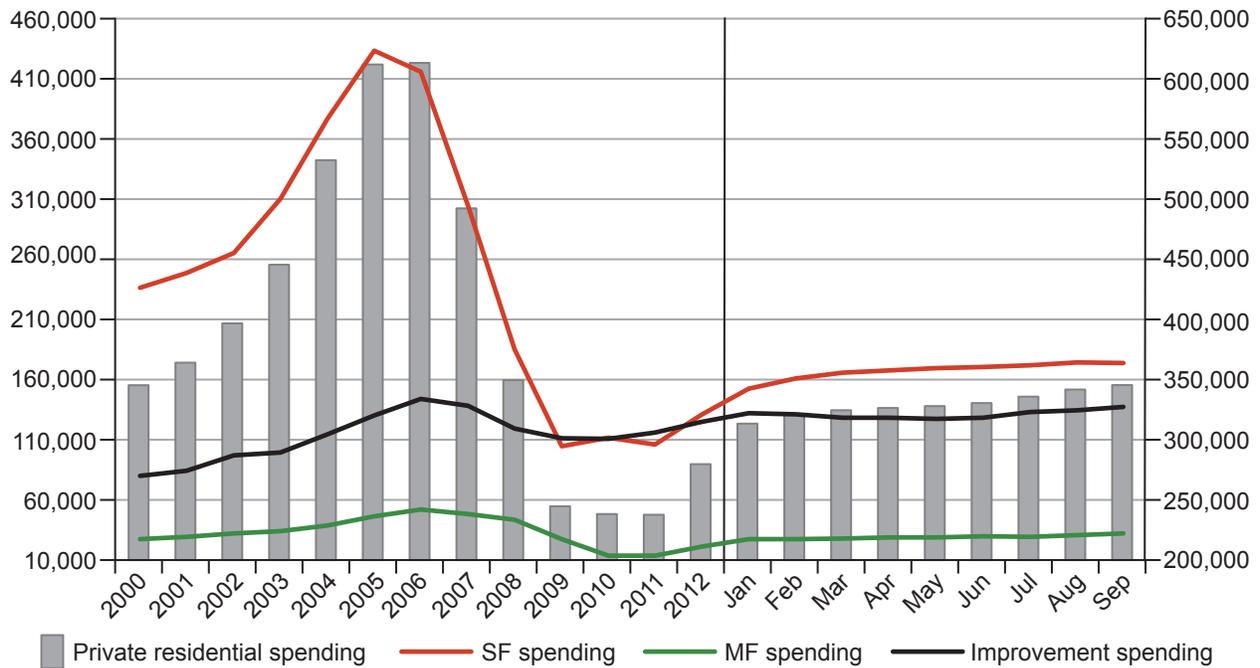


Figure 5. Construction spending, in thousands of dollars, for total private residential, single-family, multifamily, and improvement spending, 2000–2012. Seasonally adjusted annual rate for Q3, 2013 data. Private residential spending (right-hand scale) and SF, MF, and IS (left-hand scale). Data sources: Census Bureau (2015c,d).

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

| | 2013 3-month running average | Change quarter-over-quarter (%) | 2012 3-month running average | Change year-over-year (%) |
|----------------------------------|------------------------------------|---------------------------------------|------------------------------------|---------------------------------|
| Private residential ^d | 341.6 | 3.8 | 284.8 | 19.9 |
| Single-family | 174.1 | 2.4 | 134.4 | 29.6 |
| Multifamily | 31.8 | 5.6 | 23.6 | 34.8 |
| Improvement | 135.7 | 5.3 | 126.8 | 7.0 |

^aIn millions of dollars, annual and monthly data.

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

^cSeasonally adjusted annual rate.

^dPrivate residential spending = Single-family + Multifamily + Improvement.

Data source: Census Bureau (2015a).

Housing as a Component of GDP

Housing is a critical component of the U.S. GDP and the overall economy. The National Association of Homebuilders states that “Historically, residential investment has averaged approximately 5% of GDP, and housing services have averaged between 12% and 13%, for a combined 17% to 19% of the GDP—at times slightly more. These proportions have a tendency to fluctuate during business cycles. Housing contributions to GDP are valued in two discrete ways: (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” (National Association of Homebuilders 2014).

Housing construction’s aggregate share of U.S. GDP remains less than the historical average, and quarter three data indicate a slight to minimal share increase. In quarter three of 2013, housing was estimated to be 15.5% of the U.S. GDP (residential fixed investment was 3.2% and housing services was 12.3%) (Fig. 6) (National Association of Homebuilders 2015).

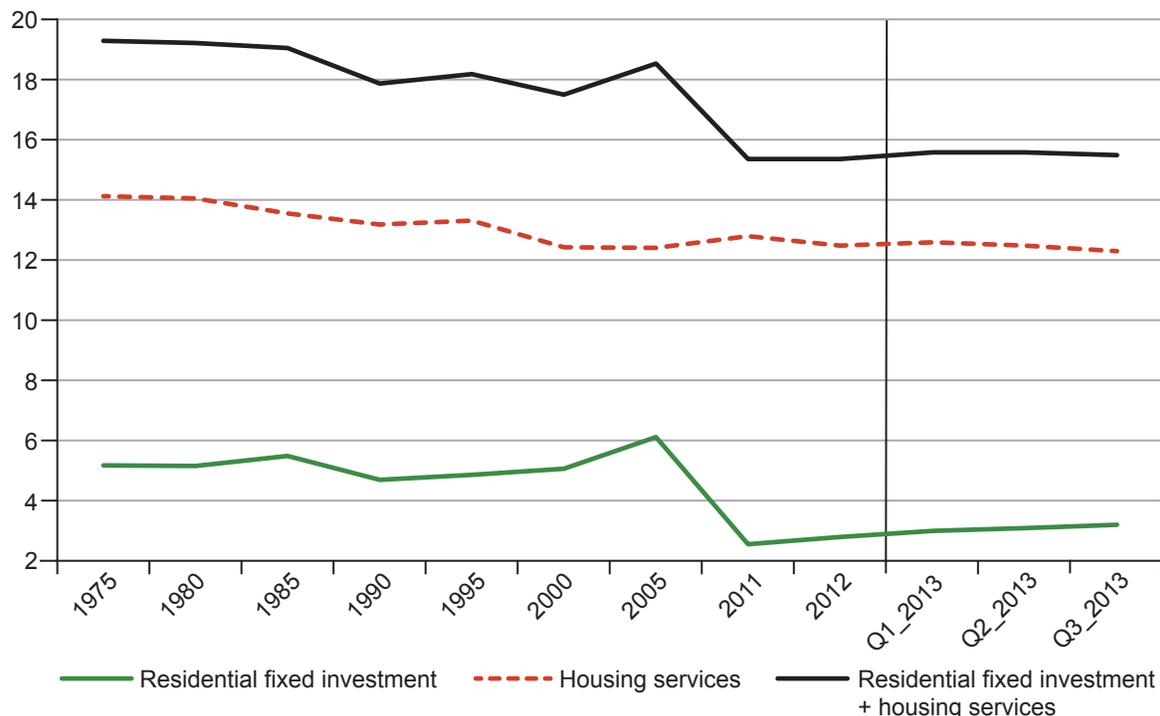


Figure 6. Contribution of housing markets to GDP, in percentage of total GDP, 1976–2012, seasonally adjusted annual rate for Q3, 2013 data. Data sources: Bureau of Economic Analysis (2015b), National Association of Homebuilders (2014).

Table 11. Third quarter construction averages^{a,b,c,d}

| | Time period | Quarter 3 | Quarter 3 2013 | Time period | Quarter 3 |
|-----------------------------------|-------------|-----------|----------------|-------------|-----------|
| Total permits | 1960–2007 | 1,446.5 | 982.7 | 1960–2012 | 1,376.6 |
| Total starts | 1959–2007 | 1,546.6 | 883.0 | 1959–2012 | 1,466.9 |
| Total under construction | 1970–2008 | 1,008.2 | 649.3 | 1970–2012 | 959.8 |
| Total completions | 1968–2008 | 1,532.7 | 766.3 | 1968–2012 | 1,455.4 |
| SF permits | 1960–2007 | 944.3 | 621.3 | 1960–2012 | 900.3 |
| SF starts | 1959–2007 | 1,102.7 | 601.3 | 1959–2012 | 1,046.7 |
| SF under construction | 1970–2008 | 601.3 | 319.7 | 1970–2012 | 570.8 |
| SF completions | 1968–2008 | 1,097.7 | 571.0 | 1968–2012 | 1,043.0 |
| MF permits | 1960–2007 | 502.2 | 361.3 | 1960–2012 | 476.3 |
| MF starts | 1959–2007 | 444.0 | 281.7 | 1959–2012 | 420.2 |
| MF under construction | 1970–2008 | 406.9 | 329.7 | 1970–2012 | 389.0 |
| MF completions | 1968–2010 | 435.0 | 195.3 | 1968–2012 | 412.4 |
| New house sales | 1963–2007 | 698.1 | 385.0 | 1963–2012 | 664.8 |
| Existing house sales ^c | 1999–2007 | 5,862.2 | 5,323.3 | 1999–2012 | 5,295.7 |

| | Time period | Reported | Adjusted ^g | Time period | Reported | Adjusted ^g |
|---|-------------|----------|-----------------------|-------------|----------|-----------------------|
| Private residential spending ^f | 1993–2007 | 376.7 | 492.2 | 2008–2012 | 268.8 | 284.7 |
| SF spending | 1993–2006 | 252.3 | 335.7 | 2007–2012 | 105.7 | 111.9 |
| MF spending | 1993–2009 | 31.0 | 39.1 | 2010–2012 | 17.8 | 18.9 |
| Improvement spending | 1993–2008 | 92.7 | 119.5 | 2009–2012 | 116.3 | 124.1 |

| | Time period | Reported | Adjusted ^g | Quarter 3 2013 |
|---|-------------|----------|-----------------------|----------------|
| Private residential spending ^f | 1993–2012 | 349.7 | 440.3 | 341.6 |
| SF spending | | 223.3 | 283.8 | 174.1 |
| MF spending | | 29.0 | 36.1 | 31.8 |
| Improvement spending | | 97.4 | 120.5 | 135.7 |

^aThe time periods selected begin with initiation of modern data collection and end with the year generally recognized as the start of the housing crash.

^bAnnualized monthly data.

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

^dAverage of quarter 3 monthly data.

^eNational Association of Realtors (2014).

^fPrivate residential spending = Single-family + Multifamily + Improvement; in millions.

^gAnnual spending estimates, adjusted for the third quarter of 2013. BEA, table 1.1.9. Implicit price deflators for gross private domestic investment, residential fixed investment [index numbers, 2009 = 100, seasonally adjusted]; revised June 24, 2015.

Data source: Census Bureau (2015a); Bureau of Economic Analysis (2015a).

Table 12. 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 | | | 1,532.0 | | |
| | 1959–2012 | 1969–2012 | 1968–2012 | | |
| Total permits | 1,373.0 | | | | |
| Total starts | 1,467.3 | | | | |
| Total under construction | | 929.2 | | | |
| Total completions | | | 1,455.3 | | |
| | 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 | | |
| | 1959–2012 | 1969–2012 | 1968–2012 | | |
| SF permits | 903.6 | | | | |
| SF starts | 1,046.1 | | | | |
| SF under construction | | 540.6 | | | |
| SF completions | | | 1,047.1 | | |
| | 1959–2008 | 1964–2008 | 1969–2008 | 1968–2008 | |
| MF permits | 490.6 | | | | |
| MF starts | | 447.8 | | | |
| MF under construction | | | 406.6 | | |
| MF completions | | | | 430.1 | |
| | 1959–2012 | 1963–2012 | 1969–2012 | 1968–2012 | |
| MF permits | 469.4 | | | | |
| MF starts | | 481.6 | | | |
| MF under construction | | | 388.6 | | |
| MF completions | | | | 408.2 | |
| | 1963–2007 | 1963–2012 | 1999–2007 | 1999–2012 | |
| New house sales | 697.1 | 664.5 | | | |
| Existing house sales ^d | | | 5,873.6 | 5,315.9 | |
| | 1993–2007 | Adjusted ^f | 1993–2012 | Adjusted ^f | Quarter 3 2013 |
| Private residential spending ^e | 375.1 | 466.1 | 349.3 | 417.4 | 341.6 |
| SF spending | 254.7 | 316.3 | 223.2 | 269.3 | 174.1 |
| Improvement spending | 90.3 | 112.7 | 97.2 | 114.0 | 135.7 |
| | 1993–2008 | Adjusted | 1993–2012 | Adjusted | Quarter 3 2013 |
| MF spending | 30.5 | 36.1 | 20.2 | 36.6 | 31.8 |

^aThe time periods selected begin with initiation of modern data collection and end with the year generally recognized as the start of the housing crash.

^bIn thousands and in millions of dollars, annual data.

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

^dNational Association of Realtors (2014), not seasonally adjusted.

^ePrivate residential spending = Single-family + Multifamily + Improvement.

^fAnnual spending estimates, adjusted for the third quarter of 2013. BEA, table 1.1.9. Implicit price deflators for gross private domestic investment, residential fixed investment [index numbers, 2009 = 100, seasonally adjusted]; revised June 24, 2015.

Data sources: Census Bureau (2015b,c); Bureau of Economic Analysis (2015a).

Literature Cited

Bureau of Economic Analysis. 2015a. Table 1.1.9. Implicit price deflators for gross domestic product. Washington, DC: U.S. Department of Commerce, BEA. www.bea.gov/iTable/iTable.cfm. (Accessed June 25, 2015).

Bureau of Economic Analysis. 2015b. Gross domestic product (GDP). Washington, DC: U.S. Department of Commerce, Bureau of Economic Analysis. <http://www.bea.gov/national/index.htm#gdp>. (Accessed June 25, 2015).

Census Bureau. 2015a. New residential construction. Washington, DC: U.S. Department of Commerce, Census Bureau. www.census.gov/construction/c30/c30index.html. (Accessed June 4, 2015).

Census Bureau. 2015b. New residential sales. Washington, DC: U.S. Department of Commerce, Census Bureau. www.census.gov/construction/c30/historical_data.html. (Accessed June 4, 2015).

Census Bureau. 2015c. Value of construction put in place at a glance. Washington, DC: U.S. Department of Commerce, Census Bureau. www.census.gov/construction/nrc/. (Accessed June 4, 2015).

Census Bureau. 2015d. Historical value put in place. Washington, DC: U.S. Department of Commerce, Census Bureau. www.census.gov/construction/nrc/. (Accessed June 4, 2015).

National Association of Homebuilders. 2015. Housing's contribution to gross domestic product. Washington, DC: National Association of Homebuilders. www.nahb.org/generic.aspx?sectionID=784&genericContentID=66226. (Accessed June 6, 2015).

National Association of Realtors. 2014. Existing-home sales data. Washington, DC: National Association of Realtors. <http://www.realtor.org/topics/existing-home-sales/data>. (Accessed September 21, 2014).

Wood Products Council. 2006. Wood used in new residential construction U.S. and Canada, with comparison to 1995, 1998, and 2003. Tacoma, WA: APA – The Engineered Wood Association. 169 p.

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, semidetached (semi-attached, side-by-side), row houses, and townhouses.

