



The Construction Sector in the U.S. Economy

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Summary

The construction sector is a major component of the U.S. economy. During the past decade, construction was a prime beneficiary of low interest rates and the housing-led economic boom, but was also one of the largest casualties of the subsequent financial crisis. Construction spending comprised about 7%-8% of U.S. annual economic output from 1995 to mid-2000, reaching nearly 9% of gross domestic product at the peak of the housing run-up in 2006, before declining to about 5% in 2010. Likewise, construction employment ranged from a low of about 4.6 million during the early 1990s to a high of 7.7 million during the 2006 housing boom, and was about 5.5 million in early 2011.

There are three major segments of the construction sector: residential, commercial, and industrial/heavy construction. The segments have unique market characteristics and are subject to cyclical economic forces, though in somewhat differing ways. Commercial and residential construction have been hard hit by the severe contraction in private-sector financing and building activity that began in 2006. While public works spending has been steadier, it may come under pressure as state and local governments pare outlays to reduce budget deficits.

Public spending has accounted for an increasing share of U.S. construction activity since 2007, due to the slowdown in private-sector construction as well as a substantial increase in government infrastructure aid. Government-funded projects made up about 40% of U.S. construction activity in 2010, compared to about 20% in 2006. While state and local governments provided the bulk of these dollars, federal construction spending has risen to a record, due in part to the 2009 economic stimulus legislation, the American Recovery and Reinvestment Act (ARRA; P.L. 111-5). Faced with a downbeat outlook, and with stimulus funding winding down, representatives of the various construction segments have asked the 112th Congress to approve additional initiatives to bolster the industry, including an infrastructure bank to finance long-term projects and financial incentives to make commercial buildings more energy-efficient.

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Introduction

The construction sector is a major component of the U.S. economy. During the past decade, construction was a prime beneficiary of low interest rates and the housing-led economic boom, but was also one of the largest casualties of the subsequent financial crisis. Construction spending comprised about 7%-8% of U.S. annual economic output from 1995 to mid-2000, reaching a perhaps unsustainable peak of nearly 9% of gross domestic product during the housing run-up in 2006, before declining to about 5% in 2010. Likewise, construction employment ranged from about 4.6 million during the 1991 recession to a high of 7.7 million in 2006, and fell to about 5.5 million in early 2011.¹

There are three major segments of the construction sector: residential, commercial, and industrial/heavy construction. The segments have unique market characteristics and are subject to cyclical economic forces, though in somewhat differing ways. Commercial and residential construction have been hard hit by the severe contraction in private-sector financing and building activity since 2006. Public works spending has been steadier, and has accounted for an increasing share of U.S. construction activity since 2007. Government-funded projects made up about 40% of U.S. construction activity in 2010, compared to about 20% in 2006.² While state and local governments provided the bulk of these dollars, federal construction spending has risen to a record, due in part to the 2009 economic stimulus legislation, the American Recovery and Reinvestment Act (ARRA; P.L. 111-5).³

In addition, the Department of Housing and Urban Development (HUD) in early 2011 was backstopping a quarter of all funding for the development of multifamily housing.⁴ Along with direct public works spending, federally sponsored entities such as the Federal Housing Administration, Fannie Mae, and Freddie Mac were insuring or guaranteeing about 90% of new home mortgages.⁵

Even with the increased federal activity, much of the construction industry—made up of hundreds of thousands of companies, from mom-and-pop homebuilders to huge, international firms—remains mired in a deep downturn. The jobless rate for construction workers was 20% in March

¹ In addition to direct employment figures, the Labor Department estimates that another 1.9 million people work in construction as sole proprietors or work for family members. That brings total construction employment to about 7.5 million in 2010, for example.

² Census Bureau, Construction Spending, Total Construction 1993-2007, <http://www.census.gov/const/www/previousseries.html>.

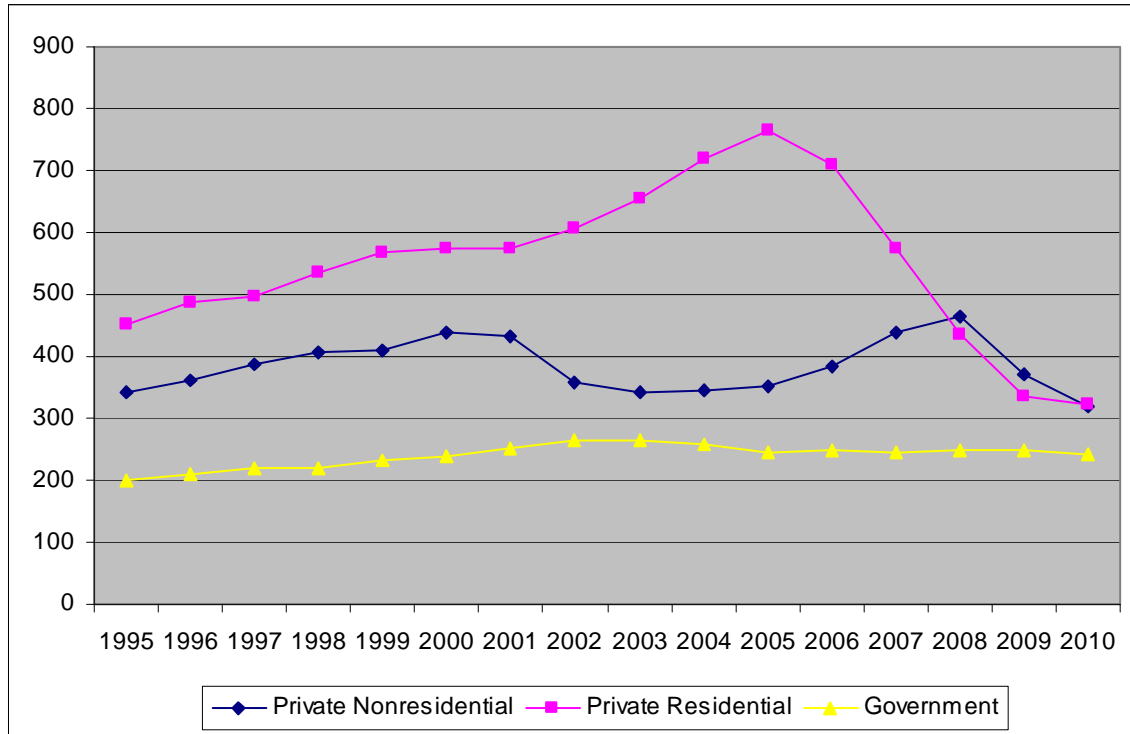
³ CRS Report R40537, *American Recovery and Reinvestment Act of 2009 (P.L. 111-5): Summary and Legislative History*, by Clinton T. Brass et al.; and CRS Report R40412, *Energy Provisions in the American Recovery and Reinvestment Act of 2009 (P.L. 111-5)*, coordinated by Fred Sissine.

⁴ Prepared Remarks of Housing and Urban Development Secretary Shaun Donovan, Real Estate Roundtable State of the Industry Meeting, January 26, 2011, http://portal.hud.gov/hudportal/HUD?src=/press/speeches_remarks_statements/2011/Speech_01262011.

⁵ Testimony of Susan Wachter, Worley Professor of Financial Management, the Wharton School, Senate Banking Committee, March 9, 2011, http://banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=1bee20b8-d47f-40bc-bdc9-fc0c46f043ee; CRS Report RL34661, *Fannie Mae's and Freddie Mac's Financial Problems*, by N. Eric Weiss. Fannie Mae and Freddie Mac were placed under federal conservatorship in September 2008; U.S. Department of the Treasury and Department of Housing and Urban Development, "Reforming America's Housing Finance Market: A Report to Congress, February 2011, p. 12, <http://www.treasury.gov/initiatives/Documents/Reforming%20America%27s%20Housing%20Finance%20Market.pdf>.

2011.⁶ Housing starts in 2009 and 2010 were the lowest in 50 years.⁷ Commercial building plunged 40% between 2006 and 2010. In total, the contraction in construction, both residential and nonresidential, accounted for 16% of the decline in U.S. economic activity in 2009.⁸

Figure I. U.S. Construction Investment
Measured in Billions of Chained 2005 Dollars



Source: Bureau of Economic Analysis.

While the spike in construction in the early 2000s may not have been sustainable, forecasters generally do not expect construction to begin to recover to more normal, long-run levels until 2012, and it may remain at a lower-than-average pace for some time. Faced with a downbeat outlook, and with stimulus funding winding down, representatives of the various construction segments have asked the 112th Congress to approve additional initiatives to bolster the industry, including an infrastructure bank to finance long-term projects and financial incentives to make commercial buildings more energy-efficient. The requests come as Congress embarks on a far-reaching debate about the appropriate level of federal spending, and is examining the effectiveness of previous initiatives that affect construction and real estate-related sectors. For

⁶ Department of Labor, Bureau of Labor Statistics, “The Employment Situation—March, 2011,” <http://bls.gov/news.release/pdf/empstat.pdf>.

⁷ Census Bureau, “New Residential Construction: Historic Data,” http://www.census.gov/const/www/newresconstindex_excel.html.

⁸ Tameka R. L. Harris, William A. Jolliff, Amanda S. Lyndaker, and Matthew B. Schroeder, *Annual Industry Accounts Revised Statistics for 2007–2009*, U.S. Department of Commerce, Bureau of Economic Analysis, January 2011, http://www.bea.gov/scb/pdf/2011/01January/0111_indy_accts.pdf.

example, lawmakers are considering how to fund transportation programs, whether to continue foreclosure forbearance programs, and how to restructure Fannie Mae and Freddie Mac.

A bipartisan panel appointed by President Obama, the National Commission on Fiscal Responsibility and Reform, issued a wide-ranging report in December 2010 that proposed limiting the mortgage interest deduction⁹ as part of an overhaul of the tax code, which could alter housing demand and prices. It also suggested setting up an infrastructure fund, coupled with changes to transportation spending. These proposals parallel a broader debate about whether U.S. consumers and businesses have been overinvesting in certain areas of real estate, such as housing, thereby distorting investment and hindering the economy,¹⁰ while underfunding other sectors, such as roads, bridges, and other infrastructure. Such proposals, if adopted, would reorder federal support for construction.

This report will outline the structure of the construction industry, and briefly describe congressional initiatives that affect the sector.

The Shape of the Industry

The construction industry is geographically dispersed and largely composed of small businesses. About 90% of U.S. construction companies have 20 or fewer employees, and 80% have 10 or fewer, according to the Census Bureau.¹¹ However, most construction employees work for the 10% of builders with 20 or more employees. Overall, about a quarter of construction jobs are in residential and commercial construction, with the bulk in the heavy and public works segment.¹² In general, barriers to entry in the construction field are low, though materials and land costs can be volatile; zoning, land use regulations and unique plans needed for individual structures can make projects complex; and financing and bonding are currently tougher to secure. Licensing requirements for specialty and general contractors vary from state to state.¹³

There were about 5.5 million construction wage and salary workers in March 2011, along with about 1.9 million self-employed and family workers. The number of wage and salary employees is nearly 30% below the recent high of 7.7 million in mid-2006 (see **Figure 2**). Roughly 13% of construction workers belong to labor unions, compared to 6.9% of private-sector workers and 11.9% of all U.S. workers.¹⁴ The percentage of construction workers in unions has declined from 17.5% in 2000.

⁹ The National Commission on Fiscal Responsibility and Reform, *The Moment of Truth*, December 3, 2010, p. 31, http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/TheMomentofTruth12_1_2010.pdf.

¹⁰ CRS Report R41596, *Select Tax Benefits for Homeowners: Analysis and Options*, by Mark P. Keightley.

¹¹ Census Bureau, *2007 Economic Census: Construction Summary Series*, http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=D&-ds_name=EC0723SG02&-_lang=en.

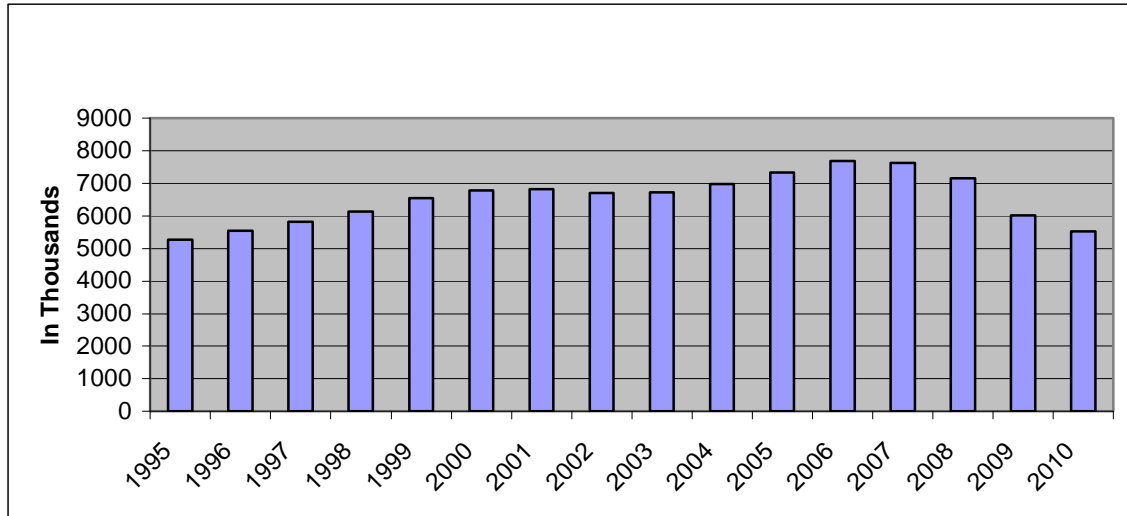
¹² U.S. Department of Labor, *Career Guide to Industries, 2010-11 Edition*, <http://www.bls.gov/oco/cg/cgs003.htm>.

¹³ National Contractor License Service, http://www.clsi.com/contractor_license.htm; Associated General Contractors of America, State-by-State Listing of Continuing Education License Requirements, https://www.agc.org/cs/continuing_education_license_requirements.

¹⁴ Department of Labor, Bureau of Labor Statistics, *Union Members Summary*, January 21, 2011, <http://www.bls.gov/news.release/pdf/union2.pdf>. The total unionization rate for public-sector workers was more than 36%, while the rate for workers in private industry was 6.9%. Most construction workers are in the private sector.

Most construction workers are specialty contractors, meaning that they work in a specific area such as carpentry or plumbing and heating.¹⁵ Construction companies rely on managers or general contractors to oversee projects, subletting work to contractors in areas such as drywall, electrical, painting, steel, plumbing, masonry, and roofing.

Figure 2. Construction Industry Employment



Source: Department of Labor, Bureau of Labor Statistics.

Note: Data are annual averages for private-sector construction workers, age 16 and older.

Construction contracts are generally awarded through a competitive bidding process—which is often required for government projects. Even homeowners doing comparatively small renovations often seek a price from more than one bidder. There is evidence that bidding has become more competitive since the 2007 downturn. A 2010 survey of nearly 1,300 U.S. contractors found that 81% had adjusted bids to leave themselves a smaller profit margin, and 7% had cut bids to the point that they were working at a loss.¹⁶ Labor costs in construction have been rising more slowly than in other industries during the past year,¹⁷ while prices for some materials declined during the recession. But prices for key construction materials in heavy demand globally—including diesel fuel, copper, and lumber—have risen.¹⁸

¹⁵ Department of Labor, Bureau of Labor Statistics, *Career Guide to Industries, 2010-11 Edition: Construction*, <http://www.bls.gov/oco/cg/cgs003.htm>.

¹⁶ Associated General Contractors, “The 2011 Construction Hiring and Business Outlook,” <http://news.agc.org/wp-content/uploads/2011/01/Outlook-Report.pdf>.

¹⁷ Department of Labor, Bureau of Labor Statistics, *Employment Cost Index*, December 2010, <http://www.bls.gov/news.release/eci.t01.htm>.

¹⁸ Department of Labor, Bureau of Labor Statistics, “Producer Price Indexes—January, 2011,” February 16, 2011, <http://bls.gov/news.release/pdf/ppi.pdf>; Alex Carrick, “RSMeans detects a speed-up in construction material prices,” *Reed Construction Data*, March 7, 2011, <http://www.reedconstructiondata.com/construction-forecast/news/2011/03/rsmeans-detects-a-speed-up-in-construction-material-prices/>.

Construction firms are trying to bolster their bottom lines by increasing productivity, a measure of output per person. Some large homebuilders, for example, have reduced the number of house plans they offer and introduced new software to improve efficiency.¹⁹ Advances in construction productivity, in general, appear to have lagged many other industries for a number of reasons, however, including the dispersed nature of the sector and the complexity of individual projects—which require financing, design, site preparation, and compliance with zoning, environmental, and other regulations. A 2009 study by the National Research Council (established by the National Academy of Sciences) listed a range of proposals for improving efficiency in the industry.

Studies focusing on construction efficiency, in contrast to productivity, have documented 25 to 50 percent waste in coordinating labor and in managing, moving, and installing materials ... The sheer number of construction firms ... make[s] it difficult to deploy new technologies, best practices, or other innovations effectively across a critical mass of owners, contractors, and subcontractors.²⁰

Homebuilding

Homebuilding is a cyclical sector of the economy, vulnerable to changes in consumer spending, demographics, job growth, and interest rates. Nearly all U.S. recessions since World War II have been preceded by a housing market decline.²¹ While housing has tended to lead the economy into downturns, it has also been a key sector aiding in recovery, with housing generally resuming growth six to nine months into recessions.²² According to the National Association of Home Builders (NAHB), home construction has increased by an average of 28% in the first year of all post-World War II economic recoveries, except for the current cycle, in which it rose by less than 5%.²³ The housing market is hampered by high unemployment in the overall economy, difficulty in securing financing, and a glut of foreclosed and recently built houses currently on the market.

¹⁹ John Caulfield, “Heroic Effort,” *Builder*, May 2010, <http://www.builderonline.com/business/heroic-effort.aspx?page=3>.

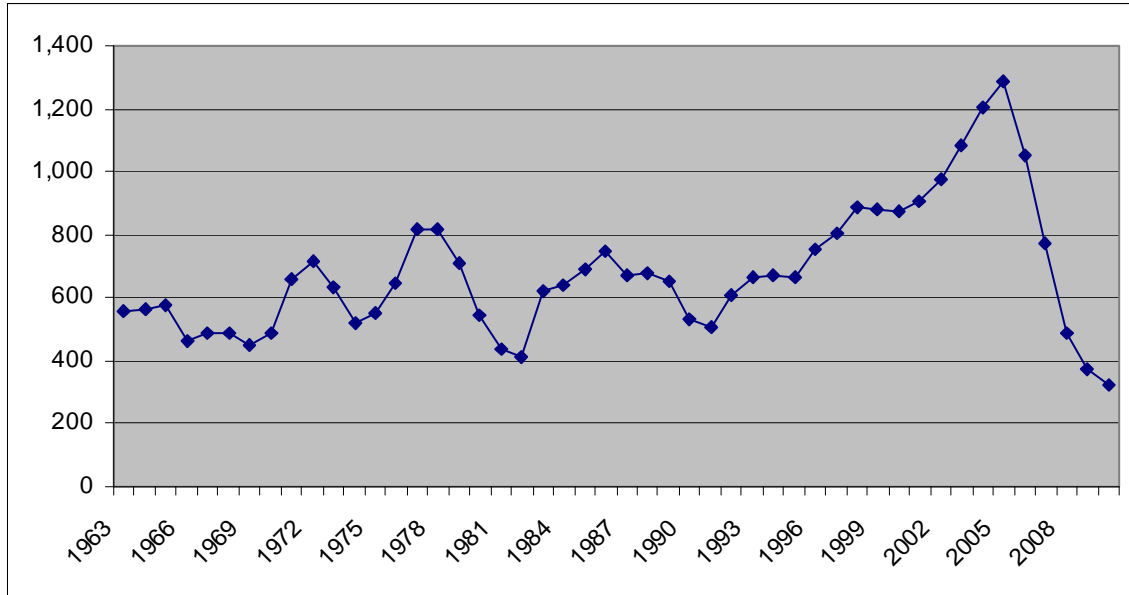
²⁰ National Research Council, *Advancing the Competitiveness and Efficiency of the U.S. Construction Industry*, The National Academies Press, 2009, International Standard Book Number-13: 978-0-309-14191-8, p. 2. The National Institute of Standards and Technology (NIST) in 2008 asked the National Research Council (NRC) to appoint a committee of experts to identify ways to improve productivity in the U.S. construction industry. The report arose from that project.

²¹ Edward Leamer, *Housing Is the Business Cycle*, National Bureau of Economic Research, Working Paper 13428, September 2007, http://www.nber.org/papers/w13428.pdf?new_window=1.

²² *Ibid.*

²³ Testimony of David Crowe, Chief Economist of the National Association of Home Builders, Senate Banking Committee, March 9, 2010, http://banking.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=abfc976f-f14f-46a9-807f-f1b0cd1b718e.

Figure 3. Single-Family New Home Sales
Number of Home Sales in Thousands



Source: U.S. Census Bureau.

Note: Annual data.

Residential building, which includes detached houses, townhouses, condominiums, and apartments, accounted for about \$255 billion of the \$792 billion annual value of construction put in place in March 2011.²⁴ The largest share of homebuilding activity is in the South, followed by the West, Midwest, and Northeast. Geographic differences arise from factors including population growth and availability of land. Homebuilding is subject to seasonal as well as geographic variations. New home construction generally decreases in the winter in the Northeast due to cold and storms. Government agencies and private forecasters adjust their data for such seasonal fluctuations—defined as changes that occur in the same month with similar magnitude and direction each year.

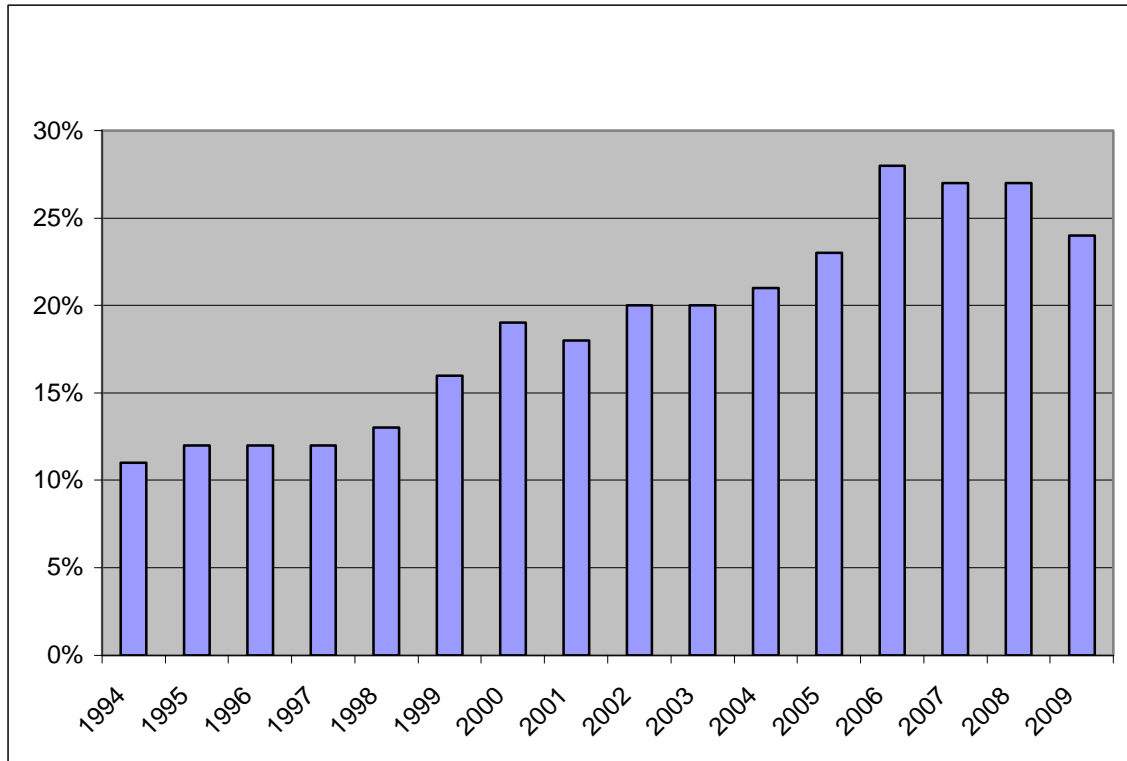
U.S. housing starts averaged about 1.5 million units annually from 1959-2010. Housing starts rose to more than 2 million in 2006, before declining to a historically low 587,000 in 2010.²⁵ Similarly, U.S. new single-family home sales rose to 1.28 million units in 2005, then fell to 323,000 in 2010—the lowest level since 1963 (see **Figure 3**). Analysts estimate that under more normal economic conditions, builders would erect and renovate 1.5 million housing units annually to meet the needs of a growing population and to replace aging housing stock. Even if the economy enters a period of sustained expansion, it could take two to three years to absorb the excess supply of foreclosed and vacant homes now on the market.²⁶

²⁴ Monthly figures at a seasonally adjusted annual rate.

²⁵ Census Bureau, New Residential Construction, Historic Data, http://www.census.gov/const/www/newresconstindex_excel.html. Housing starts figures include dwellings with up to four units. Single family housing starts, which make up the bulk of housing starts, rose to 1.7 million in 2006, before declining to 471,000 units in 2010.

²⁶ Testimony of Susan Wachter, Worley Professor of Financial Management, the Wharton School, Senate Banking Committee, March 9, 2011, http://banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id= (continued...)

Figure 4. Top 10 Homebuilders' Share of Single-Family New Home Sales



Source: *Builder*, National Association of Home Builders, *Structure of the Homebuilding Industry*.

Most homebuilders are small businesses. The NAHB²⁷ has estimated that more than 65% of homebuilders have annual receipts of less than \$1 million, 31% have \$1 million to \$10 million, and 4.1% bring in more than \$10 million. Homebuilding has more startups, and shutdowns, than all other industries.²⁸ A number of homebuilders have gone out of business or filed for bankruptcy since the peak of the market in 2006. Others have consolidated. Many remaining builders have taken steps to reposition themselves, including laying off workers and halting projects. Some builders and developers have sold land, or have chosen not to exercise options to purchase land at a set price. At the same time, builders in better financial shape have been buying land or partially completed projects from banks and struggling developers, often paying a fraction of the prices that would have been commanded several years ago.²⁹ Among the largest homebuilders are D.R.

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²⁷ National Association of Home Builders, “NAHB Report Finds Small Builders are the Mainstay of the Nation’s Housing Industry,” December 21, 2010.

²⁸ Stephen Melman, *Structure of the Home Building Industry*, National Association of Home Builders, December 1, 2010, <http://webcache.googleusercontent.com/search?q=cache:dZ4beV5CCI4J:www.nahb.org/generic.aspx%3FgenericContentID%3D148743+homebuilding+industry+consolidation+U.S.+federal+policy&cd=1&hl=en&ct=clnk&gl=us&source=www.google.com>.

²⁹ Prashant Gopal and John Gittelsohn, “Homebuilders Revive Stalled U.S. Projects as Banks Unload Lots,” *Bloomberg*, September 8, 2010, <http://noir.bloomberg.com/apps/news?pid=newsarchive&sid=awfdI1fLGMJs>; Teresa Burney, “WCI Sells Developments, Pays Off Debt; Toll Brothers purchases WCI community in Florida for \$27 million and one in Connecticut for \$23.5 million,” *Builder*, November 22, 2010, <http://www.builderonline.com/land-acquisition/wci-sells-developments-pays-off-debt.aspx>.

Horton, Pulte Homes, Lennar Corp., NVR, KB Home, Hovnanian Enterprises, and the Ryland Group. Publicly traded homebuilders were gaining market share prior to the 2007 recession, but took a financial beating in the past several years (see **Figure 4**).

While results vary from firm to firm, a number of homebuilders in recent years found themselves carrying land and unsold inventory, and having a tough time finding homebuyers able to qualify for mortgages. Some firms focused on products geared toward first-time buyers, who were eligible for federal tax credits.³⁰ In a new twist, large builder Beazer Homes has started a pre-owned homes division, debuting in Arizona, that will rent houses built since 2004 that have come back on the market via distress sales. The company expects to capitalize on the low prices of homes and the fact that rental properties are at a premium in Phoenix, as would-be buyers cannot secure financing.³¹

Analysts have predicted that large builders could regain market share as the economy improves.³² Some publicly traded homebuilders are in a better position to weather the downturn than their smaller competitors because of their ability to sell stock and to tap into long-term bank lines of credit. According to Standard & Poor's, large builders have "cash equivalents and unused bank lines of credit facilities that approach \$2 billion, with no major debt outstanding maturing before 2011 (or as late as 2013, in some cases)."³³ However, some large firms concentrated their activity in areas such as Phoenix, Las Vegas, and Miami, which are now extremely distressed in terms of foreclosures and excess inventory. That could make it harder for them to expand aggressively as the market recovers.³⁴

So far there are few signs that the housing market as a whole is recovering. U.S. housing starts were at a seasonally adjusted annual rate of 549,000 in March 2011. That is 13% below the March 2010 rate of 634,000.³⁵ Single-family new home sales were running at a seasonally adjusted annual rate of 300,000 during the month, 21.9% below March 2010.³⁶

³⁰ John Caufield, "Heroic Effort," *Builder*, May 2010, <http://www.builderonline.com/business/heroic-effort.aspx?page=1>.

³¹ Beazer Homes, "Beazer Homes Introduces Its Pre-Owned Homes Division," *Business Wire*, April 4, 2011, <http://ir.beazer.com/phoenix.zhtml?c=98372&p=irol-newsArticle&ID=1526115&highlight=>.

³² John Gittelsohn, "Biggest Builders to Gain Market Share as Demand Rises," *Bloomberg*, January 19, 2011, <http://noir.bloomberg.com/apps/news?pid=newsarchive&sid=aNZKo75DJP.k>.

³³ Kenneth Leon, *Industry Surveys: Homebuilding*, Standard & Poor's, January 6, 2011, pp. 2-3.

³⁴ Stephen Melman, *Structure of the Home Building Industry*, National Association of Home Builders, December 1, 2010.

³⁵ Census Bureau, "New Residential Construction in March 2011," April 19, 2011, <http://www.census.gov/const/newresconst.pdf>.

³⁶ Census Bureau, "New Residential Sales in March 2011," April 25, 2011, <http://www.census.gov/const/newressales.pdf>.

Commercial Construction

Commercial construction generally refers to buildings used to facilitate financial activities or produce income, such as shopping malls, hotels, or office buildings, although the definition can include residential facilities, including apartment buildings and senior living developments. Firms in this segment tend to be larger, with an average of 16 employees, versus four in the homebuilding sector. Some large commercial builders include Fluor Corporation and Foster Wheeler.

Commercial building, like housing, has been subject to periods of boom and bust. Increased demand after World War I, and innovations in financing, gave rise to a commercial real estate boom that produced more skyscrapers from 1922 to 1931 than any 10-year period since—and led to a collapse that contributed to the Great Depression.³⁷ The United States experienced major commercial real estate contractions in the 1980s and 1990s after developers financed so-called “see-through” office buildings—speculative structures without pre-leased tenants—prompted in part by changes in federal tax law and policies that allowed savings and loans to concentrate more in commercial real estate lending.³⁸ More recently, commercial building expanded from the late 1990s through much of the 2000s, with demand arising in concert with ready credit and the housing boom. Firms built shopping malls and other retail and office buildings near new subdivisions. Different areas of the country may have a higher concentration of some types of commercial construction (see **Table 1** and **Figure 1**.)

Table 1. Ten States with the Largest Commercial Construction Value in 2009

Ranking	Office	Industrial	Warehouse	Retail	All Categories
1	New York	Illinois	Texas	Texas	New York
2	Virginia	Ohio	California	Florida	Texas
3	California	Texas	Florida	California	California
4	Texas	New York	New York	Illinois	Virginia
5	Florida	Arizona	Pennsylvania	New York	Florida
6	N. Carolina	Pennsylvania	Arizona	Georgia	Illinois
7	Washington	California	Georgia	N. Carolina	Ohio
8	Maryland	New Mexico	Ohio	Pennsylvania	Pennsylvania
9	Oklahoma	Louisiana	Washington	Ohio	N. Carolina
10	Washington, DC	Colorado	N. Carolina	Washington	Arizona

Source: NAIOP (the Commercial Real Estate Development Association), McGraw-Hill Construction Analytics, George Mason University Center for Regional Analysis.

Note: The 10 states with the largest construction values accounted for 56% of the construction outlays in the United States, and the top 20 states for 80%.

³⁷ William N. Goetzmann and Frank Newman, *Securitization in the 1920's*, National Bureau of Economic Research, Working Paper 15650, p. 3, <http://www.nber.org/papers/w15650>.

³⁸ Federal Deposit Insurance Corp., *The S&L Crisis: A Chrono-Bibliography*, <http://www.fdic.gov/bank/historical/s%26l/index.html>.

Like housing, the commercial market is now under stress. The value of privately financed retail, hotel, and office construction declined by more than half from 2008 to 2010. Building of hotels and other lodging plunged by two-thirds during that period.³⁹ A recent analysis by Morgan Stanley found commercial real estate vacancy rates in 2010 exceeded previous records set during the previous, severe downturn in 1991-1993.⁴⁰

Along with lack of demand due to the slow employment market, problems with financing have been an issue for the commercial sector, particularly for commercial mortgage-backed securities.⁴¹ Losses in commercial mortgage-backed securities are forecast by some analysts to be as high as 9%-12%. By comparison, during the early 1990s, the worst performing groups of mortgages had losses of around 10%.⁴² The problems have affected banks, savings institutions, life insurance companies, government-sponsored enterprises, and issuers of commercial mortgage-backed securities, dampening the amount of available capital. The Small Business Administration in February 2011 announced a program, authorized by Congress, to help small companies meet commercial real estate loan payments.⁴³

Commercial buildings can be managed and financed through Real Estate Investment Trusts (REITs). In the United States, REITs own approximately \$500 billion of commercial real estate assets, or 10%-15% of total U.S. commercial real estate owned by institutions such as pension funds, banks, or insurers.⁴⁴ REITs, which were created as a way to allow small investors to venture into commercial real estate, saw share prices decline during the recession, though they have been rebounding as apartment and retail leasing have begun to improve.⁴⁵ Demand for rental apartments has increased due to the poor economy and the decline in homebuilding and sales.

There are some signs the market is beginning to revive, with recent sales of high-profile properties in cities including Washington, DC, Boston, New York, and Chicago. But “construction financing is effectively non-existent,” according to Morgan Stanley.⁴⁶ Though some banks have announced new efforts in the commercial real estate field, Federal Reserve data show the value of commercial banks’ real estate loan portfolios continuing to deteriorate into 2011.⁴⁷

³⁹ Census Bureau, “Annual Value of Construction Put in Place, 2002-2010.” The Census Bureau value of construction is a measure of the value of construction installed or erected on a site during the measurement period, including cost of materials, labor, contractor profit, architectural and engineering work, taxes, and other miscellaneous costs. For definition see “Definitions of Construction,” <http://www.census.gov/const/C30/definitions.pdf>.

⁴⁰ Richard Parkus and Andy Bernard, *CMBS Market Insights*, Morgan Stanley, December 6, 2010, p. 14, <http://cop.senate.gov/documents/testimony-020411-parkus.pdf>.

⁴¹ CRS Report R41046, *Commercial and Residential Mortgages*, by N. Eric Weiss.

⁴² *Ibid.*

⁴³ Small Business Administration, “SBA Launches Temporary Program for Commercial Real Estate Refinancing,” February 17, 2011, <http://www.sba.gov/content/sba-launches-temporary-program-commercial-real-estate-refinancing>.

⁴⁴ *Reit.com, Reitwatch*, January 2011, <http://returns.reit.com/reitwatch/rw1101.pdf>. REITs are required to, among other things, invest at least 75% of total assets in real estate and distribute at least 90% of taxable income to shareholders as dividends each year.

⁴⁵ Robert McMillan and Royal Shepard, *Industry Surveys: Real Estate Investment Trusts*, Standard & Poor’s, December 16, 2010.

⁴⁶ Richard Parkus and Andy Bernard, “CMBS Market Insights CRE Debt Markets: Challenges and Opportunities,” Morgan Stanley, December 6, 2010, <http://cop.senate.gov/documents/testimony-020411-parkus.pdf>.

⁴⁷ Federal Reserve Board, “Assets and Liabilities of Commercial Banks in the United States,” April 8, 2011, <http://federalreserve.gov/releases/h8/current/h8.pdf>.

Forecasters generally do not see commercial construction recovering for another several years. In California, for example, one analyst predicts a commercial real estate turnaround in 2013.⁴⁸

Industrial/Heavy Construction

The industrial and heavy construction sector builds very large, even multi-billion-dollar projects, including municipal facilities, roads, and energy plants. The segment includes significant national and international general contracting, design, engineering, and management firms.

This is the slice of the construction industry where federal spending plays the most direct role. In addition to privately financed projects, such as power plants, states, cities, and the federal government issue or backstop bonds for public works improvements. Government dollars have recently accounted for a larger share of overall construction spending. Public roads, schools, wastewater treatment plants, and other structures accounted for 40% of the value of ongoing construction activity in 2010, compared to about 20% in the early 2000s.⁴⁹ State and local government projects made up most of the public spending, though federal spending grew by about 50% from 2007 to 2010, hitting a historic high in dollar terms in October 2010.

Many private companies contract with the federal and state governments for construction work. A number of large construction companies are among the top 200 federal contractors, as compiled by *Government Executive* magazine.⁵⁰

Overall, public works spending has held up better than other construction sectors during the past several years, due in part to federal stimulus funding. The 2009 ARRA included special federal bond programs, including Qualified School Construction Bonds, Build America Bonds, and Recovery Zone Economic Development Bonds.⁵¹ While many state and local governments have faced severe budget problems since 2008, their spending on major construction is typically financed by long-term bonds and is often not directly affected by stresses on current operating budgets. The largest public works spending categories are highway and street work and other transportation, educational facilities, and sewage and water projects.

One big question is whether public spending will decline as states and the federal government grapple with budget deficits. A National League of Cities survey of 338 city officials in October 2010 found that 69% of those responding were delaying or canceling capital spending to save money.⁵² A survey of 13 state transportation departments found a 2% reduction on average in

⁴⁸ Allen Matkins/UCLA Anderson Forecast, "California Commercial Real Estate Survey, February 3, 2011, http://www.uclaforecast.com/allenmatkinsCRES/2011/amcres_surveyresults_jan11.pdf.

⁴⁹ Census Bureau, Value of Construction Put in Place, Annual Data, <http://www.census.gov/const/C30/ototal.pdf>. The Census Bureau data are a measure of the value of construction installed or erected on a site during the measurement period, including cost of materials, labor, contractor profit, architectural and engineering work, taxes, and other miscellaneous costs.

⁵⁰ *Government Executive*, "Top 200 Federal Contractors," August 15, 2010, <http://www.govexec.com/features/0810-15/0810-15s1s1.htm>.

⁵¹ CRS Report R40523, *Tax Credit Bonds: Overview and Analysis*, by Steven Maguire.

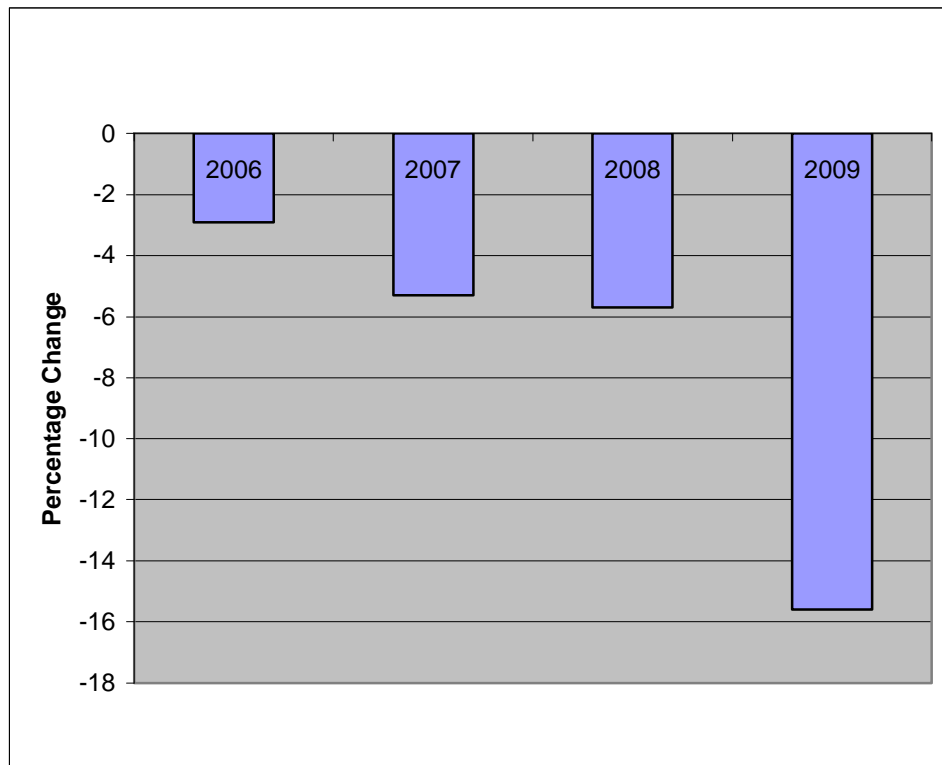
⁵² Christopher Hoene and Michael Pagano, *City Fiscal Conditions in 2010*, National League of Cities Research Brief on America's Cities, October 2010, http://www.nlc.org/ASSETS/AE26793318A645C795C9CD11DAB3B39B/RB_CityFiscalConditions2010.pdf. 1. Cuts in infrastructure were second only to reductions in personnel, used by 79% of surveyed cities to close budget deficits.

transportation spending for 2011-2012 from 2010-2011 levels, according to the Thompson Research Group. At the same time, the National Governors Association found that at least 10 governors have made transportation a priority for the coming year, suggesting there is some prospect of increased construction activity in that sector.⁵³

Construction Sector and the Economy

Construction historically has experienced wide swings from the top to the bottom of an economic cycle.⁵⁴ Still, the current construction downturn is one of the worst on record. U.S. construction spending ended 2010 at the lowest level in a decade.⁵⁵ Construction value-added, which measures the industry's contribution to gross domestic product, has been declining since 2006 (Figure 5.)

Figure 5. Construction's Contribution to U.S. Economic Growth
Annual Change in Real Value Added in Construction



Source: Survey of Current Business, January 2011.

Note: Value-added is a measure of the economic value of construction activity on top of inputs manufactured or produced for the construction sector.

⁵³ National Governors Association, *Interim Analysis: 2011 State of the State Addresses*, <http://www.nga.org/Files/pdf/SOTSINTERIMANALYSIS2011.PDF>.

⁵⁴ Alex Carrick, RCD Chief Economist, *A New Version of Cyclical Instability in Construction*, <http://www.reedconstructiondata.com/alex-carrick/post/a-new-version-of-cyclical-instability-in-construction/>.

⁵⁵ Ibid.

Though the recession that began in December 2007 ended in June 2009, according to the National Bureau of Economic Research (NBER),⁵⁶ construction, including housing, has continued to experience job loss and declining investment. That is in contrast to many past recessions, when the housing sector helped lead the U.S. recovery.

The construction slowdown is national in scope, but some areas have been more affected than others. California, Florida, Nevada, Michigan, and Illinois, along with the mountain states, have experienced some of the sharpest declines in building employment and activity. In 2009, the construction drop-off subtracted more than a percentage point of growth from the economies of Nevada, Arizona, and Idaho, and nearly as much in Florida.⁵⁷ Global Insight, an economic forecasting firm, says the west coast construction sector is “still a liability, as the housing market refuses to improve.”⁵⁸

Construction employment plummeted by 21.4% between December 2007 and August 2009, compared to only 1.1% during the 2001 recession and 7.5% during the 1990-1991 recession.⁵⁹ The situation varies by state, but is generally most severe in states that experienced a sharp housing market run-up and steep decline. In Nevada, construction employment plunged from 147,000 in mid-2006 to 57,000 in December 2010. The picture is similar in Florida, where the number of construction workers fell from 686,000 in mid-2006 to 343,000 in December 2010.⁶⁰

Along with construction-specific employment, the Labor Department estimates that the number of workers at architectural firms declined from 220,500 in July 2008 to 150,900 in February 2011.⁶¹ The downturn has had a large impact on Hispanic workers and managers, who constitute a quarter of construction workers—a proportion expected to keep increasing.⁶² About 15% of the more than 2 million U.S. firms owned by Hispanics were in the construction field.⁶³

⁵⁶ National Bureau of Economic Research, “U.S. Business Cycle Expansions and Contractions,” http://www.reedconstructiondata.com/alex-carrick/post/a-new-version-of-cyclical-instability-in-construction/http://www.nber.org/cycles/US_Business_Cycle_Expansions_and_Contractions_20100920.pdf. The NBER defines a recession as “a period of falling economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales. The trough marks the end of the declining phase and the start of the rising phase of the business cycle. Economic activity is typically below normal in the early stages of an expansion, and it sometimes remains so well into the expansion.”

⁵⁷ Department of Commerce, Bureau of Labor Statistics, “Economic Downturn Widespread Among States in 2009,” New Release, November 18, 2010, http://www.bea.gov/newsreleases/regional/gdp_state/2010/gsp1110.htm.

⁵⁸ Global Insight, *Pacific Region Executive Summary*, March 10, 2011.

⁵⁹ CRS Report R41179, *Long-Term Unemployment and Recessions*, by Gerald Mayer and Linda Levine.

⁶⁰ Department of Labor, Bureau of Labor Statistics, *State and Local Employment*. Figures are not seasonally adjusted. The Bureau of Labor Statistics tracks construction employment using a classification system based on construction-of-building contractors, heavy-and-civil engineering construction contractors, and specialty trade contractors. Construction-of-building contractors build residential, industrial, and commercial buildings. Heavy-and-civil engineering construction contractors are involved in building sewers, roads, highways, bridges, tunnels, and other types of heavy-construction projects. Specialty trade contractors are activities such as carpentry, painting, plumbing, and electrical work.

⁶¹ Department of Labor, Bureau of Labor Statistics, *Current Population Survey, Employment, Earnings and Hours, Architectural Services*.

⁶² Department of Labor, Bureau of Labor Statistics, *Current Population Survey, Household Data, Annual Averages*, <http://www.bls.gov/cps/cpsaat18.pdf>; Silver Lake Media Group, *Constru-Guía al Día*, 2011 Media Kit, http://www.cgaldia.com/pdf/CPF_0085_CGAD_2010MediaKitAlt_Online.pdf.

⁶³ Census Bureau, *Survey of Business Owners: Hispanic-Owned Firms: 2007*, <http://www.census.gov/econ/sbo/get07sof.html?11>.

There are some bright spots. One area of construction that has increased during the downturn is “green building,” integrated building practices that significantly reduce the environmental footprint of a building in comparison to standard practices.⁶⁴ The value of green building starts, while still a small share of the overall market, rose 50% from 2008 to 2010 and made up 25% of new construction.⁶⁵

A variety of factors suggest that the construction industry’s recovery will be gradual. For example, the number of new households formed declined to about 350,000 in 2009 and 2010, below the 1.3 million average of the previous decade and the lowest level since World War II.⁶⁶ That decline, probably related to the poor economy, is muting demand for new homes. Employment is still more than 7 million below the 2007 peak, implying that there may be little need for new office space for the next few years. Some Members of Congress have indicated that, for budgetary reasons, federal highway spending is unlikely to increase, which could lead to a decline in the amount of highway construction, given rising construction costs. The problems with nuclear reactors in Japan following that country’s recent earthquake and tsunami may lead to the deferral of planned nuclear plants in the United States.

Legislative Initiatives

Congress has taken a number of actions to spur activity in the various segments of the construction industry. The ARRA included funding for transportation,⁶⁷ environment, and energy public works projects; tax changes such as renewable energy credits; money to improve and upgrade federal buildings and defense-related structures;⁶⁸ and special construction-related bonds. Congress has enacted three different versions of a homebuyer tax credit since the summer of 2008 to try to make houses more affordable and clear out inventories.⁶⁹

The federal government has bolstered some programs that benefit the construction sector. For example, Housing and Urban Development (HUD) Secretary Shaun Donovan, in a January 2011 speech, noted that the Federal Housing Administration backstopped the development of nearly 150,000 housing units, about 25% of the rental construction market in FY2010, three times as many units as in FY2008.⁷⁰

Homebuilders, construction contractors, and property developers have requested additional federal assistance. Among proposals put forward:

⁶⁴ CRS Report R40147, *Issues in Green Building and the Federal Response: An Introduction*, by Eric A. Fischer.

⁶⁵ McGraw-Hill, “Green Building Market Grows 50% in Two Years Despite Recession, Says McGraw Hill Construction Report, November 12, 2010, <http://www.facebook.com/topic.php?uid=178850338793522&topic=383>.

⁶⁶ IHS Global Insight, “U.S. Household Formation is at a Record Low,” October 7, 2010.

⁶⁷ CRS Report R40214, *Transportation and Transportation Security Related Provisions of House and Senate Stimulus Legislation (H.R. 1)*, by John W. Fischer et al.

⁶⁸ CRS Report R40216, *Water Infrastructure Funding in the American Recovery and Reinvestment Act of 2009*, by Claudia Copeland, Megan Stubbs, and Charles V. Stern.

⁶⁹ CRS Report R40955, *An Economic Analysis of the Homebuyer Tax Credit*, by Mark P. Keightley.

⁷⁰ Prepared Remarks of Secretary Shaun Donovan, Real Estate Roundtable State of the Industry Meeting, January 26, 2011, http://portal.hud.gov/hudportal/HUD?src=/press/speeches_statements/2011/Speech_01262011.

- The Associated General Contractors, which represents a number of larger builders, in March 2011 asked Congress to approve pending trade agreements to boost demand for manufacturing and shipping facilities and to offer tax credits to encourage commercial activity and help contractors invest in equipment.
- The NAHB wants to help homebuilders secure financing for land acquisition, development, and residential construction.⁷¹
- The U.S. Chamber of Commerce and AFL-CIO have jointly urged lawmakers to pass a transportation bill and invest in infrastructure spending. The current authorization of federal surface transportation programs expired at the end of FY2009, and since then the programs have operated under extensions. The highway trust fund and the revenue sources that feed it have been a reliable mechanism for financing highway and transit programs for five decades, but this is no longer the case. Fuel taxes, which provide most of the money for surface transportation, are unlikely to provide a solid long-term foundation for this desired growth, even if Congress were to raise them modestly.⁷²
- On the commercial real estate front, the NAIOP (the Commercial Real Estate Development Organization) wants Congress to make permanent current legislation allowing deductibility of certain building improvements over a 15-year period.⁷³ The International Council of Shopping Centers is backing legislation to provide federal tax deductions for certain commercial real estate debt payments, and an incentive for investors to purchase underwater properties.⁷⁴

Other issues that could arise relative to construction include long-standing federal Davis-Bacon requirements that employers pay workers at least the locally prevailing wage and fringe benefits on federal construction projects of more than \$2,000.⁷⁵ Some in the construction sector are urging Congress to nullify Executive Order 13502, signed by President Barack Obama in 2009, which encourages federal agencies “to consider requiring” Project Labor Agreements involving unions on large construction jobs. Whether such changes would increase the overall amount of construction activity is uncertain.

Over the long run, the health of the construction sector depends mainly on the pace of economic growth and job creation, the path of interest rates, the health of the finance sector, and demographics, including immigration and new household formation. In the near term, however, federal action may play a role in determining how quickly construction activity recovers from its depressed state.

⁷¹ National Association of Home Builders, “Housing Production Credit Crisis,” http://www.nahb.org/fileUpload_details.aspx?contentTypeID=3&contentID=136393&subContentID=328744.

⁷² CRS Report R41512, *Surface Transportation Program Reauthorization Issues for the 112th Congress*, coordinated by Robert S. Kirk.

⁷³ Chris McAdams, “Stimulus spending on highways isn’t delivering on job promises,” *McClatchy Newspapers*, September 26, 2010, <http://www.mcclatchydc.com/2010/09/26/101055/stimulus-spending-on-highways.html>.

⁷⁴ International Council of Shopping Centers, “ICSC Supports CRE Act, Tax Legislation to Jumpstart Commercial Real Estate,” March 17, 2011, http://www.icsc.org/apps/news_item.php?id=2746.

⁷⁵ CRS Report R40663, *The Davis-Bacon Act and Changes in Prevailing Wage Rates, 2000 to 2008*, by Gerald Mayer.

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