

Virginia Tech – U.S. Forest Service

August 2015 Housing Commentary

Part D: Forecasts



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2015

Virginia Polytechnic Institute and State University

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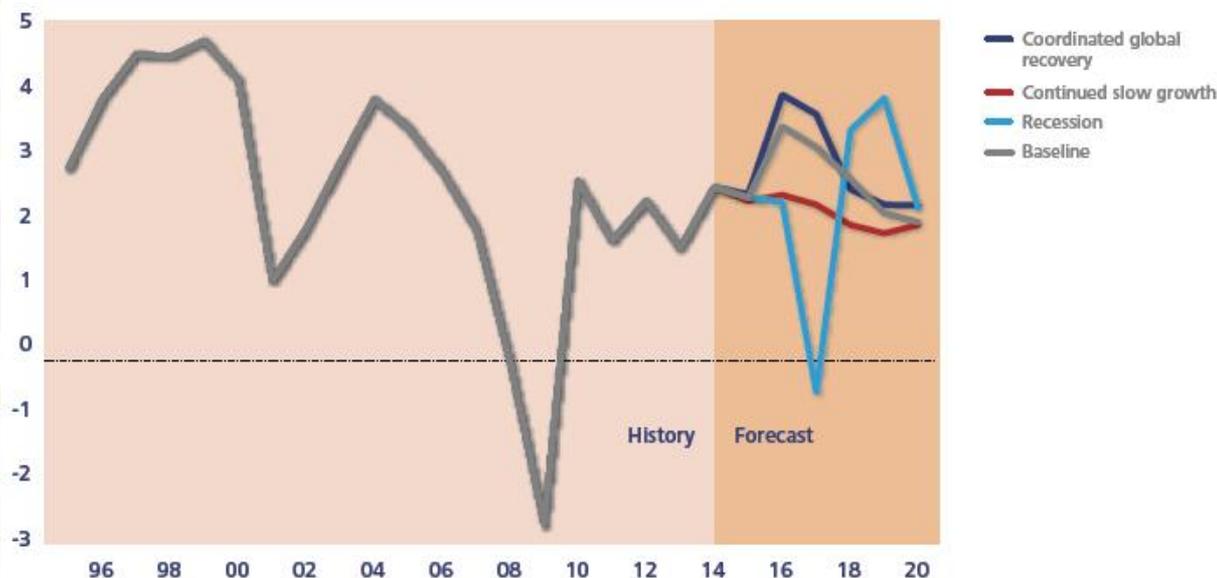
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Forecasts

Deloitte's United States Economic Forecast

Figure 1. Real GDP growth (percent)



Source: Deloitte/Oxford Economics; Graphic: Deloitte University Press; DUPress.com

Deloitte: Volume 3 Issue 3

“The US economy is relatively sheltered from the storms of the global economy. Exports accounted for just 14 percent of GDP in 2014, which is substantially less than most developed countries. But continued weakness abroad may have an impact on the United States.

We’ve therefore raised the probability of slower-than-expected growth (our “continued slow growth” scenario). Global conditions have created a challenging environment for the US economy. That challenge is increasing as China’s economic problems have become more evident in the past few months. The US economy – while less connected to global conditions than many observers realize – would certainly feel the impact of a Chinese slowdown.”

Deloitte's United States Economic Forecast



Source: Deloitte/Oxford Economics; Graphic: Deloitte University Press; DUPress.com

Deloitte's Scenarios

“The baseline (55 percent): The most likely outcome for the economy is a burst of mildly faster growth as risks from abroad and at home fade away.

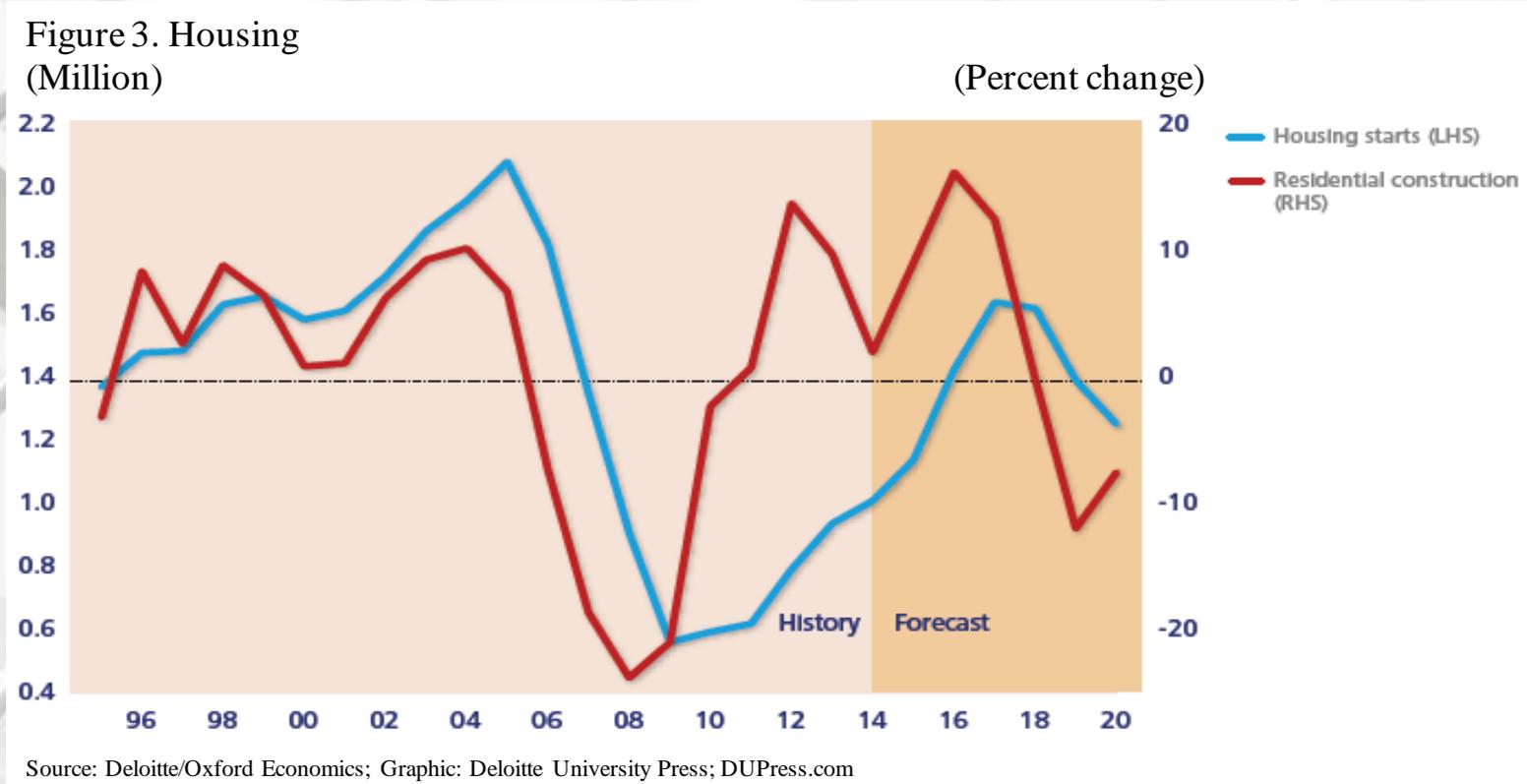
Recession (5 percent): China’s economy finally reflects financial problems that have been evident for several years. Volatility in Europe increases, and so does market valuation of the riskiness of euro assets, adding to the panic.

Continued slow growth (25 percent): Weak economic conditions abroad, incomplete fixes to the financial system, and a mismatch between labor needs and the skills of the labor force slow US economic growth to 2 percent for the foreseeable future.

Coordinated global boom (15 percent): European restructuring is successful, and Europe starts recovering quickly. Emerging markets also pick up momentum as financial problems are resolved in China, and India and Brazil start to adopt more reforms.”

Source: http://d2mtr37y39tpbu.cloudfront.net/wp-content/uploads/2015/09/DUP1437_USEF_MASTER_092215.pdf; 9/29/15

Deloitte's Housing Forecast



United States Housing

“...some positive fundamentals for housing construction in the short run.

The United States hasn't been building as many new housing units as the population would normally require for about seven years, since 2008. In fact, housing construction was hit so hard that the oversupply turned into an undersupply, so there's a hole that needs to be filled.”

Source: http://d2mtr37y39tpbu.cloudfront.net/wp-content/uploads/2015/09/DUP1437_USEF_MASTER_092215.pdf; 9/29/15

Deloitte's Housing Forecast

United States Housing

“Several factors offset each other:

1. If household size returns to the levels we experienced in the mid-2000s, we would need an additional 3.2 million units.
2. On the other hand, household vacancy rates are much higher than normal. If household vacancy returned to normal, an additional 2.5 million units would be available — which would fill 78 percent of the pent-up demand for housing units.
3. But are the existing vacant houses in the right place or condition, or are they the right type, for that pent-up demand? The future of housing may look very different than in the past. Growth in new housing construction has been concentrated in multifamily units. If that continues, we may find it is related to the fact that existing single-family units are not needed, despite strong demand for apartments.

We assumed that the demand for housing (in the form of a falling size of the average household) picks up in 2016, vacancy rates gradually drop, and household depreciation starts falling after about 2.5 million housing units are removed from the housing stock. Despite these relatively robust assumptions, slowing population growth suggests that we will have a short-lived housing boom in which starts hit the 1.5–1.6 million level, followed by a period of contraction until starts reach the level of long-run demand. We estimate this to be just 1.2 million units in the medium term. Housing will likely contribute to growth in 2016 but subtract from growth by 2018 as the pent-up demand goes away. In the long run, the slowing population suggests that housing will not be a growth sector (although specific segments, such as old-age housing, might well be very strong).”

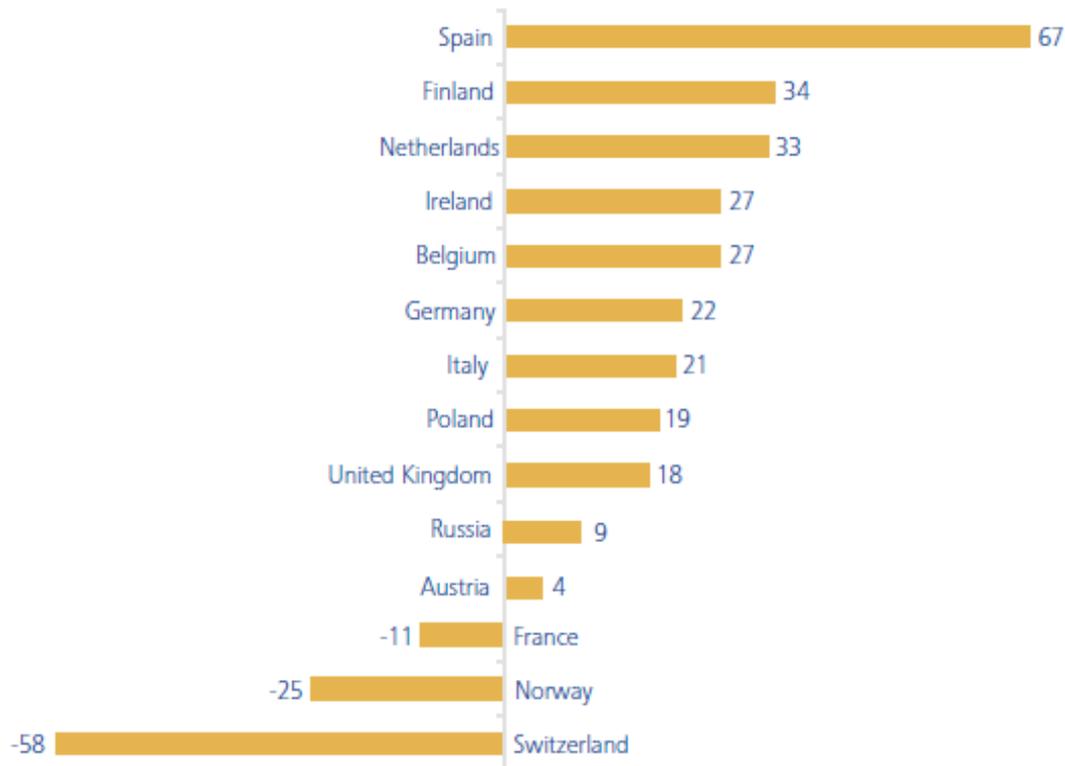
Source: http://d2mtr37y39tpbu.cloudfront.net/wp-content/uploads/2015/09/DUP1437_USEF_MASTER_092215.pdf; 9/29/15

Deloitte's Global Economic Forecast

Deloitte: Global Economic Outlook, 3rd Quarter 2015

Figure 1. Corporate sentiment in Europe

Question: Compared with three months ago, how do you feel about the financial prospects of your company?



Source: Deloitte European CFO Survey, Q1 2015, www.deloitteresearchemea.com.

Graphic: Deloitte University Press | DUPress.com

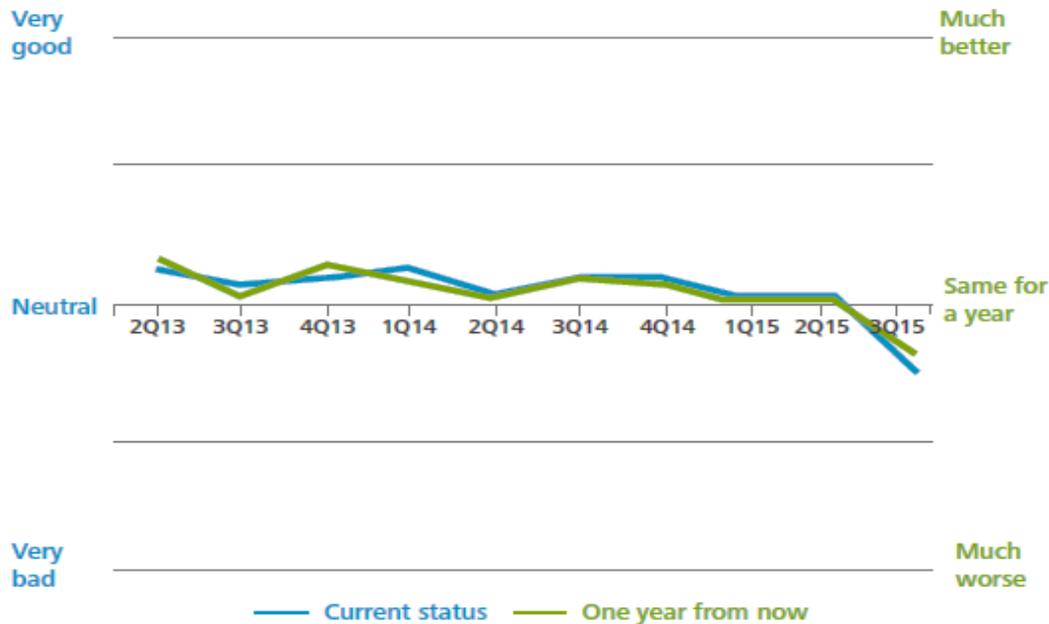
“Available data for the second quarter suggest that the recovery in the Eurozone continues. It does so in an unspectacular manner, in line with the trend of the last few months. From a positive viewpoint, the recovery has become more solid.

General corporate sentiment in Europe for the next 12 months is characterized by modest optimism (figure 1). According to the Deloitte European CFO Survey, which is conducted among CFOs in 14 European countries, the overall sentiment is positive, even if there are wide country-specific differences.”² -- Dr. Alexander Börsch, Director of Research, Deloitte Germany, Deloitte & Touche GmbH

Deloitte's China Analysis

Sinking views on China

CFO respondents' average rating based on five-point scales for current state ("very bad" to "very good") and expected state one year from now ("much worse" to "much better")



Source: CFO Signals, 3Q2015

CFO Insights

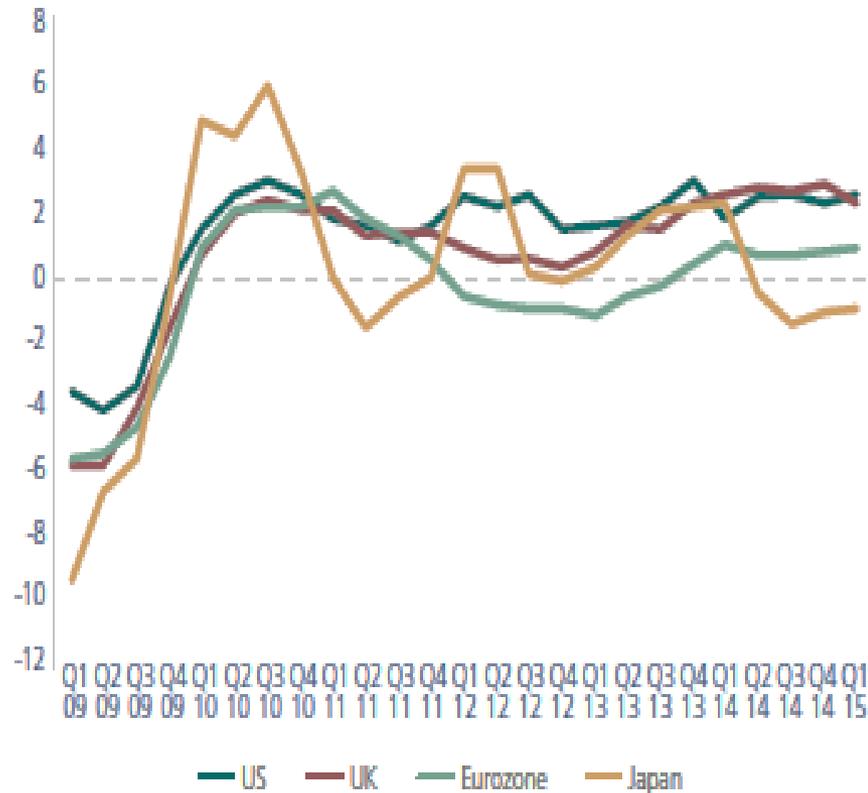
Eyeing China — and its currency — with caution

“Changing dynamics in China’s currency policy and market dynamics are adding to uncertainty in the direction of the renminbi (RMB). Moreover, the recent turbulence in China’s equity markets and the government led credit-expansion effort there are topics CFOs of multinational companies (MNCs) operating in China are watching closely — and worrying about.” -- George Warnock, Partner; Americas Leader, Chinese Services Group, Deloitte Services LP

“Even with slowing growth, China’s domestic market is still growing faster relative to other large markets, which, along with its sheer size, is a big reason companies are willing to take on the challenges and the learning curve required to succeed in that marketplace. Still, recent shifts in the RMB are important indicators of the potential size of changes that may lie ahead. ...” -- George Warnock, Partner; Americas Leader, Chinese Services Group, Deloitte Services LP

Deloitte's Economic Indices

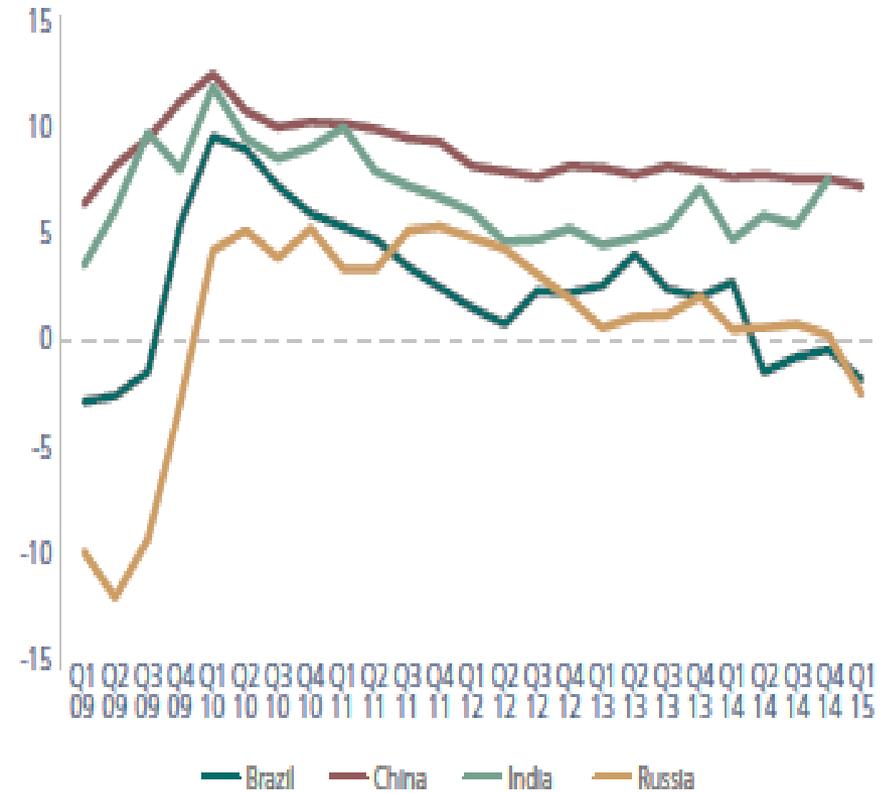
GDP growth rates (percentage, year over year)



Source: Bloomberg.

Graphic: Deloitte University Press | DUPress.com

GDP growth rates (percentage, year over year)

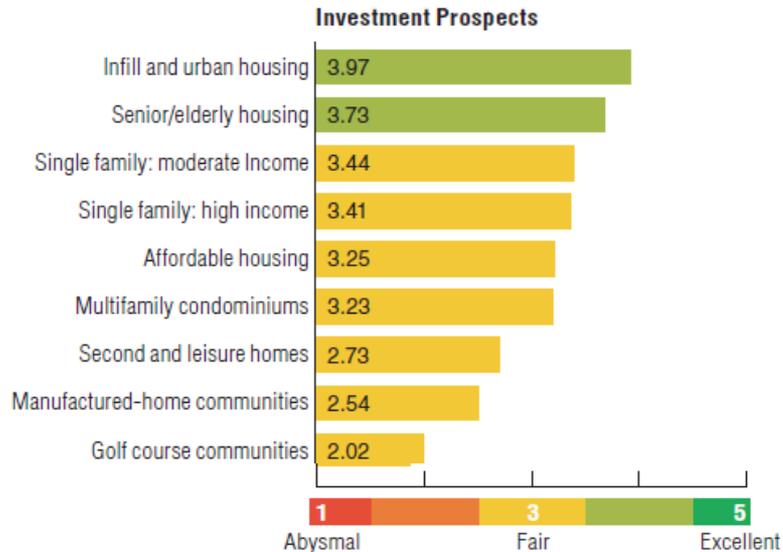


Source: Bloomberg.

Graphic: Deloitte University Press | DUPress.com

PwC: Emerging Trends in Real Estate® 2015

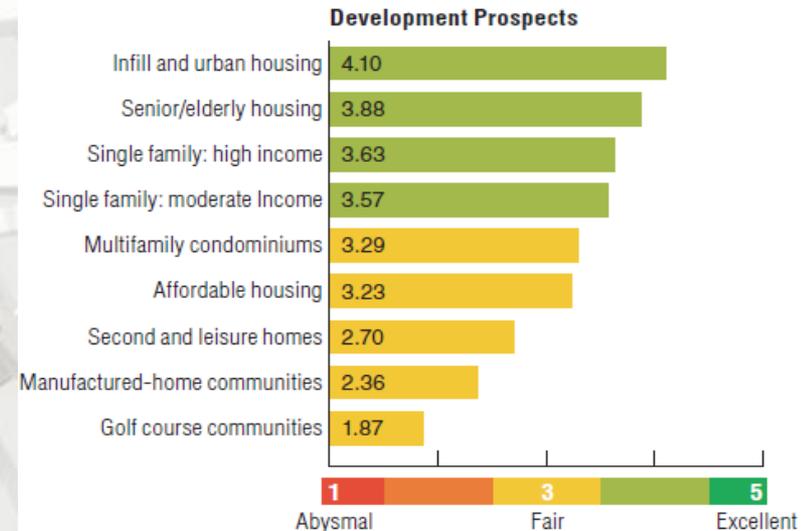
Exhibit 4-20 Prospects for Residential Property Types in 2015



Source: *Emerging Trends in Real Estate 2015* survey.

Note: Based on U.S. respondents only.

Exhibit 4-20 Prospects for Residential Property Types in 2015



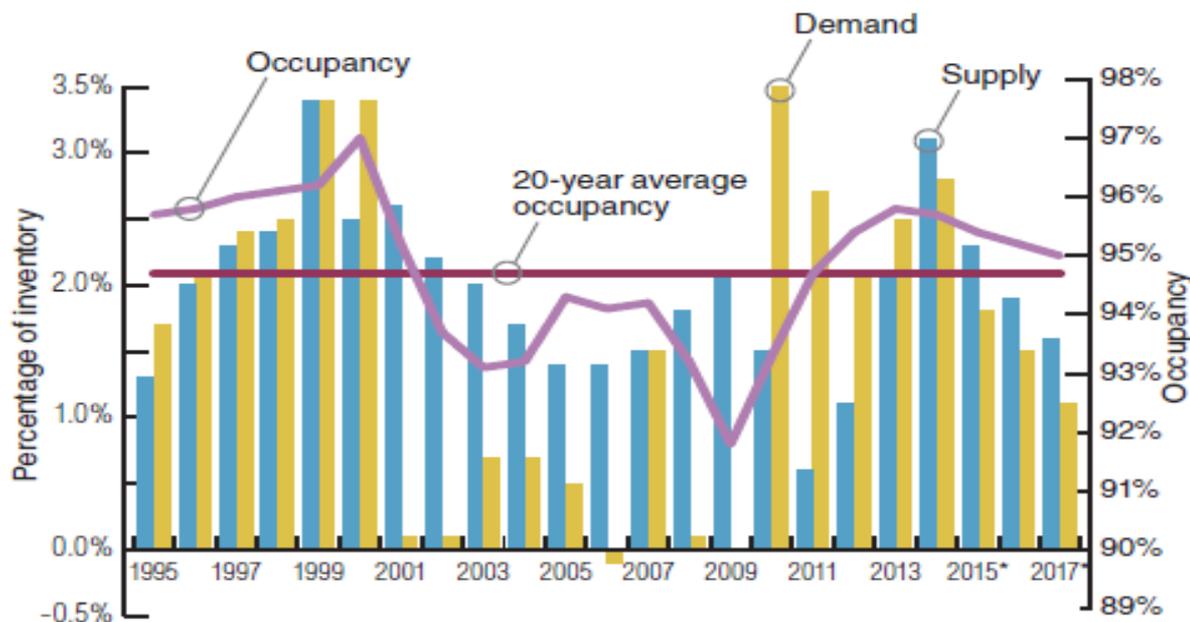
Source: *Emerging Trends in Real Estate 2015* survey.

Note: Based on U.S. respondents only.

“A minority opinion out there says, “The ‘back to the city’ trend is oversubscribed; not so many people care about walkability to a coffee shop; the majority of the U.S. is not on board with this. Don’t discount housing affordability as a factor for families, and this disadvantages gateway cities.” No doubt there’s a kernel of truth there, and one size does not fit all. But keep in mind Damon Runyon’s streetwise advice: “The battle is not always to the strong, nor the race to the swift — but that’s the way to bet!” Housing is well on the way back, say the *Emerging Trends* survey respondents, and they rank urban/infill as the top opportunity for 2015.” -- PwC

PwC: Emerging Trends in Real Estate® 2015

Exhibit 4-10 U.S. Multifamily: Change in Supply and Demand



Source: REIS Inc.

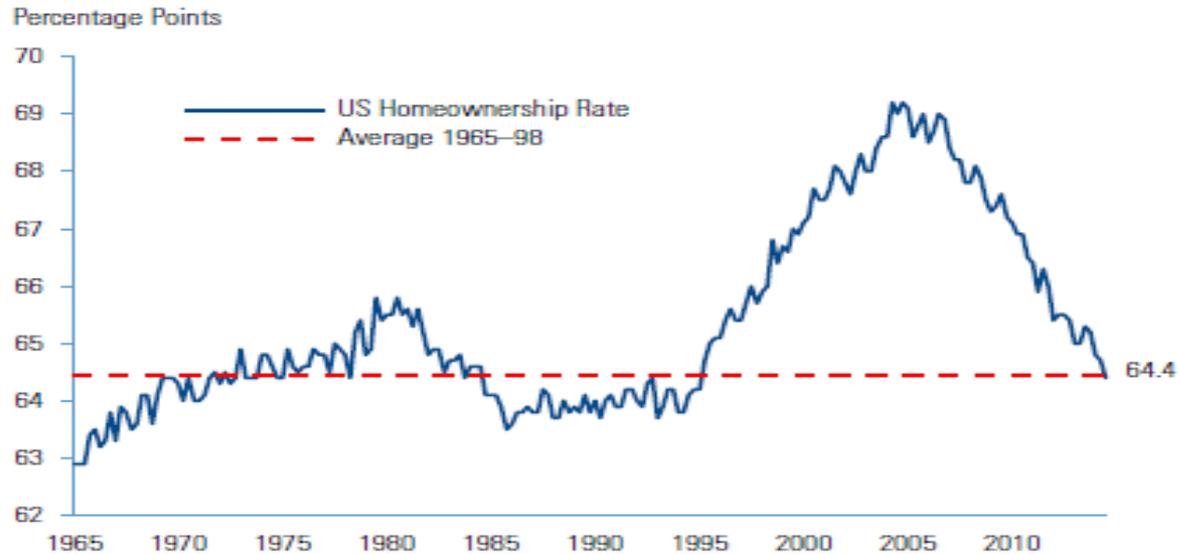
*Forecasts.

“Multifamily was unquestionably real estate’s trendsetter in the first years of recovery. Now that apartments have reached a more mature phase of their cycle, we get to a more interesting period. More interesting, in the first place, because the investment/development questions become more complex and nuanced. And more interesting because it is probable that issues and strategies that will be tested in 2015 in the multifamily sector will help shape the template for 2016–2018 in other property types. Keep your eye on apartments this year..” -- PwC

Goldman Sachs: *US Preeminence*

Exhibit 47: US Homeownership Rate

The bubble in homeownership has been completely reversed.



Data through Q3 2014.

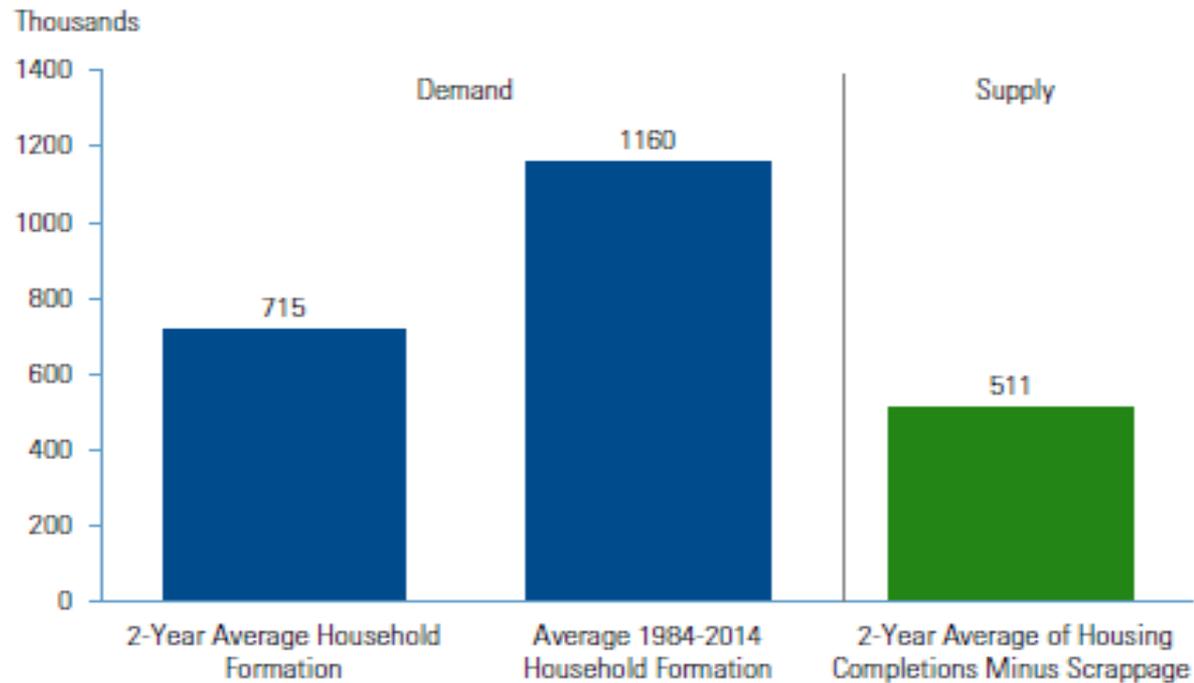
Source: Investment Strategy Group, US Census, Datastream.

“Exhibit 47 makes clear that falling homeownership is less likely to be a drag going forward, given the complete reversal of the housing bubble run-up. Moreover, improving labor markets should increase housing demand, as should recent efforts by the Federal Housing Finance Agency to expand credit to a wider range of borrowers. On this point, any incremental housing demand should disproportionately benefit new home construction, as the paucity of new construction in recent years has left the market with few excess housing units to absorb.” -- Goldman Sachs: *US Preeminence*

Goldman Sachs: *US Preeminence*

Exhibit 48: Housing Demand vs. Supply

Household formation has room to rise and boost housing starts.



Data through Q3 2014.

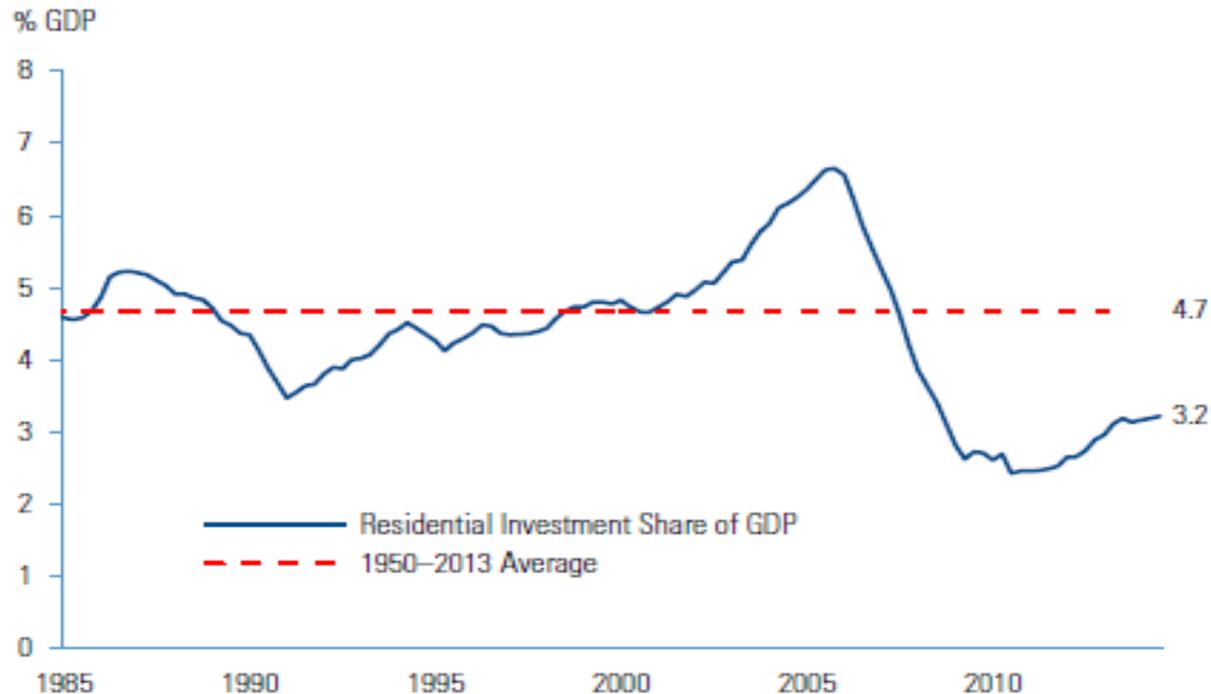
Source: Investment Strategy Group, Haver.

“Given how far household formation sits below its long-term average, this is a potentially powerful tailwind for US housing starts (see Exhibit 48).” -- Goldman Sachs: *US Preeminence*

Goldman Sachs: *US Preeminence*

Exhibit 49: Residential Investment in the US

Residential investment has ample scope for further upside.



Data through Q3 2014.

Source: Investment Strategy Group, Datastream.

“In short, today’s subdued level of residential investment provides ample scope for further upside (see Exhibit 49).” -- Goldman Sachs: *US Preeminence*

USGBC Green Building Forecast

FIGURE 3.1: NATIONAL GREEN CONSTRUCTION SPENDING (\$)

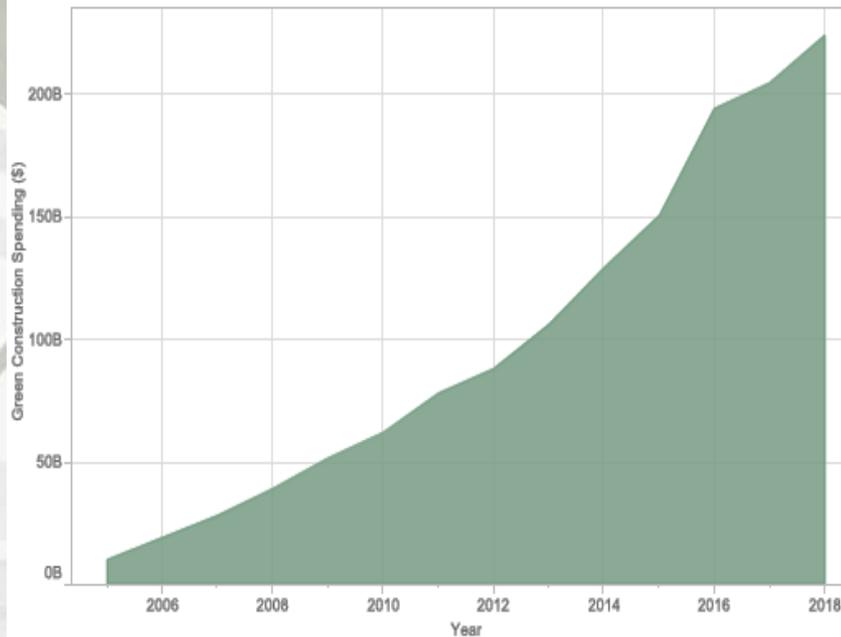


TABLE 3.1: NATIONAL GREEN CONSTRUCTION SPENDING

Year	National Green Construction Spending (\$Millions)
2005	10,000
2006	19,000
2007	28,000
2008	39,000
2009	51,500
2010	62,000
2011	78,000
2012	88,000
2013	106,000
2014	129,000
2015	151,000
2016	194,000
2017	205,000
2018	224,000

Note: Italics indicate that data is a projection

“Green construction contributed ... to the national GDP with a net direct economic impact of \$60.7 bil and an indirect impact of \$68.9 bil in 2015. It is expected to grow to \$85.4 bil and \$98.3 bil respectively by 2018. ... the green construction market’s impact on GDP is projected to increase by 41% from 2015 to 2018. It is estimated that in 2015, green construction will directly contribute 796 m jobs to the U.S. economy, while \$53.6 bil of all wages will be directly accounted for by the green construction industry. By 2018, these numbers will increase to 1.1 mil and \$75.6 bil respectively. According to predictions, by 2018, the green construction industry will be in some way responsible for 38% of all construction jobs.”

Mortgage Bankers Association Forecast

“Housing Demand: Demographics and the Numbers Behind the Coming Multi-Million Increase in Households”

Dr. Lynn Fisher, Vice President, Research & Economics
Jamie Woodwell, Vice President of Commercial/Multifamily Research
Mortgage Bankers Association

Census Bureau projects that compared to 2014, in 2024:

- 20 million more people age 60 and over than there are today (as Baby Boomers age),
- 4 million fewer people age 45 to 59 (as the large Baby Boomer cohorts are replaced by smaller Generation X cohorts) and
- 18 million more people age 18 to 44 (as smaller Generation X cohorts are replaced by larger Millennial cohorts).

Mortgage Bankers Association Forecast

Even if sex-, age- and race-specific household formation rates remain at low 2014 levels, over the next decade, these demographic changes alone should account for 13.9 million additional households in the United States.

- Household growth will be led by 5.5 million additional Hispanic households, 3.4 million additional non-Hispanic White households, 2.4 million additional Black households, 1.8 million additional Asian households and 730,000 additional other households.
- ++ Growth will be driven by Baby Boomers, with 12.3 million more households age 60 and over in 2024 than there are today.
- ++ Millennials will also be a key component of growth raising the ranks of households age 18 to 44 by 4.1 million.
- ++ Generation X's relatively small size means that — absent any change in headship rates (that is, the number of households per person) — there will be 2.5 million fewer households age 45 to 59 than there are today.
- ++ Adding Long-term Societal Trends and End of Recession

Mortgage Bankers Association Forecast

- The U.S. will see 15.9 million additional households over the next decade — two million more than if headship rates remained at their 2014 levels.
- Household growth will include:
 - ++ 5.7 million more Hispanic households in 2024 than in 2014,
 - ++ 5.0 million more non-Hispanic White households,
 - ++ 2.4 million more Black households,
 - ++ 1.9 million more Asian households and
 - ++ 890,000 more other households.
- Growth will be driven by Baby Boomers, with 12.9 million more households age 60 and over in 2024 than there are today. Millennials will also be a key component of growth raising the ranks of households age 18 to 44 by 5.1 million. Generation X's relatively small size means that there will be 2.1 million fewer households age 45 to 59 than there are today.
- Averaging 1.6 million additional households per year, housing market growth over the next decade would be among the strongest the U.S. has ever seen.

Mortgage Bankers Association Forecast

Home Ownership

If age- and race-specific home ownership rates remain at (low) 2014 levels:

- ++ The U.S. will see 10.3 million additional owner households and 5.6 million new renter households over the next ten years.
- ++ Both owner and renter household growth will be driven by the Baby Boomers, although Millennials will play a more significant role in renter growth.
- Home ownership rates have closely followed the ups and downs of the economy, mortgage markets and federal policies that promote and restrict home ownership. To the degree the housing market in 2024 is stronger than in 2014, home ownership rates should respond.
- If, with the end of the recession and a healing of the housing market, home ownership rates revert to their long term averages (which are neither the highs that were seen in 2005 and 2006, nor the lows of today.):
 - ++ The U.S. will see 12.7 million additional owner households and 3.1 million new renter households over the next ten years.

Mortgage Bankers Association Forecast

Home Ownership

++ As with the first scenario, both owner and renter household growth will be driven by the Baby Boomers. In this scenario Millennials play a far smaller role in renter demand as more are drawn into home ownership than in the other scenario.

++ Among home owners, the number of new minority owner households will be more than one-third higher than the number of new non-Hispanic White households. Among renters, the number of non-Hispanic White renters will decline.

++ Boosted by the aging of the population and rising headship rates, the aggregate home ownership rate will rebound to 66.5%.

Dr. Lynn Fisher, Vice President, Research & Economics
Jamie Woodwell, Vice President of Commercial/Multifamily Research
Mortgage Bankers Association

Mortgage Bankers Association Forecast

“Household formation has been depressed in recent years by a long, jobless recovery and by a lull in the growth of the working age population. Improving employment markets will build on major demographic trends -- including maturing of Baby Boomers, Hispanics and Millennials -- to create strong growth in both owner and rental housing markets over the next decade.” -- Lynn Fisher, Vice President, Research & Economics

“When it comes to starting new households, age 35 is the new 25, as younger Americans are spending a longer time in school and delaying major life events like getting married and having children. As Millennials age and create more housing demand, these long-term social trends will mix with demographic changes and the waning hang-over from the Great Recession with a net outcome of increased demand for housing.” -- Jamie Woodwell, Vice President of Commercial/Multifamily Research

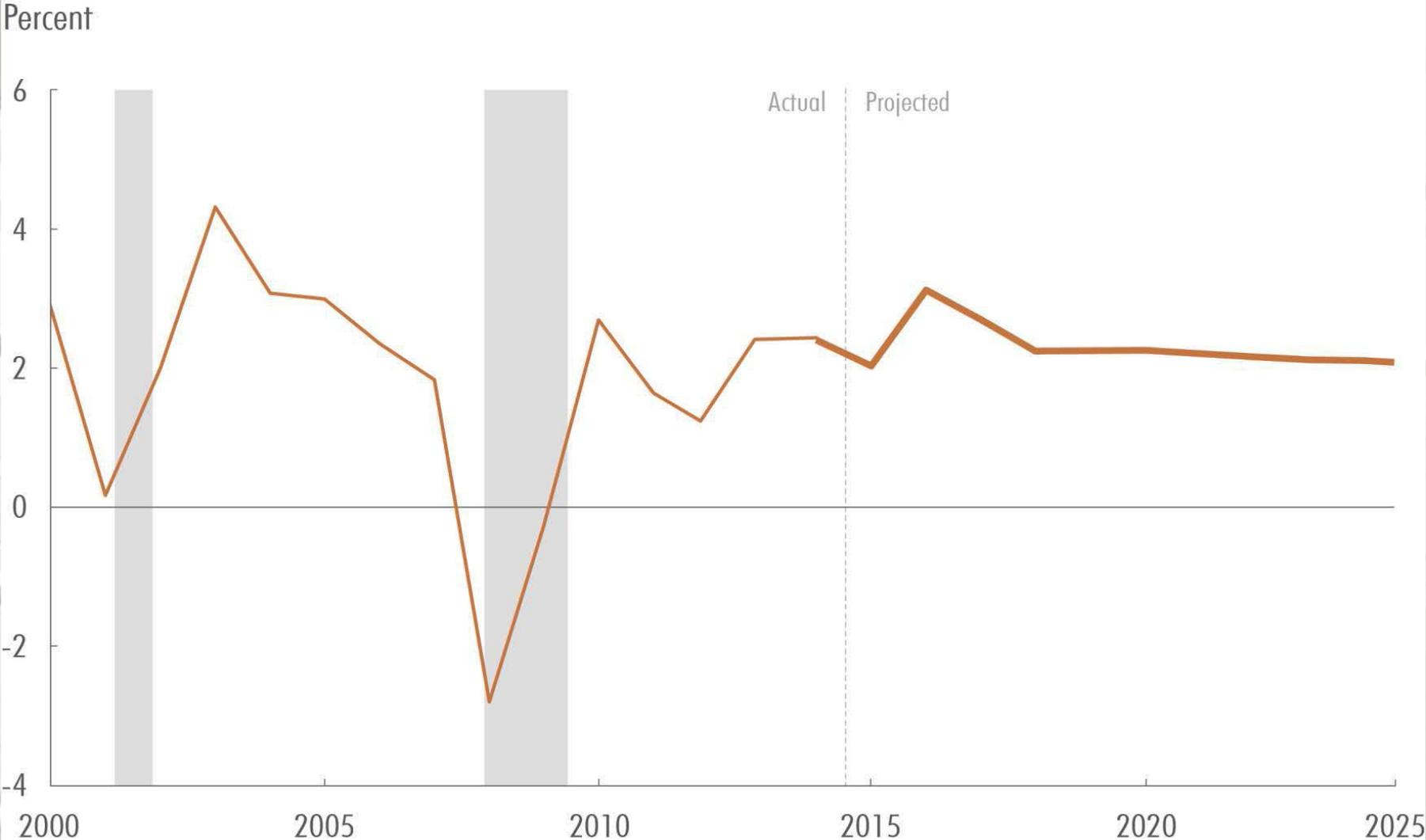
Mortgage Bankers Association

Congressional Budget Office Forecast

Under current law, CBO expects **economic activity** to expand modestly this year, to grow at a more solid pace in 2016 and 2017, and then to moderate in subsequent years.

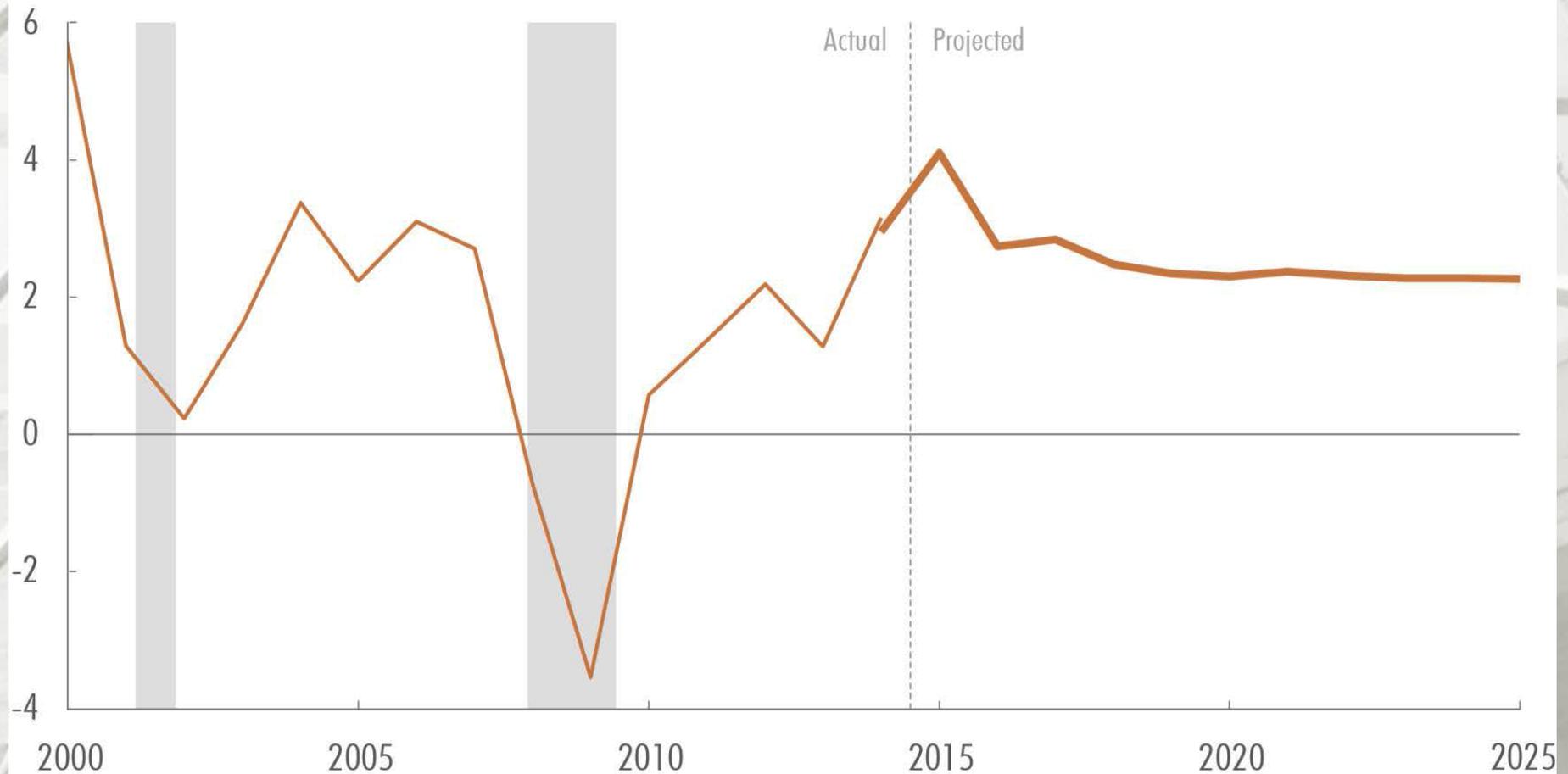
Wendy Edelberg, Assistant Director, Macroeconomic Analysis; Congressional Budget Office

Growth of Real GDP



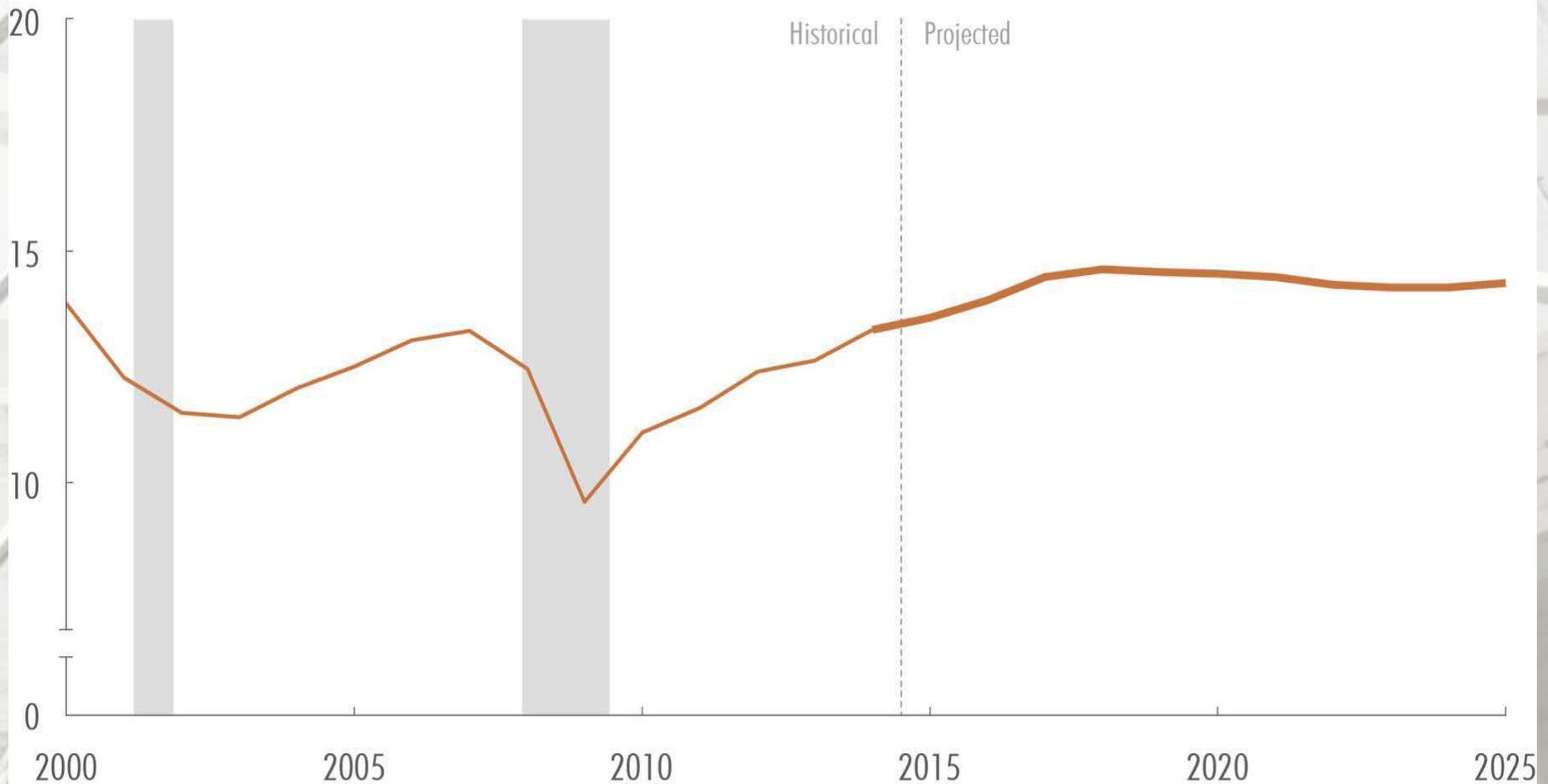
Real Total Compensation of Employees

Percentage Change



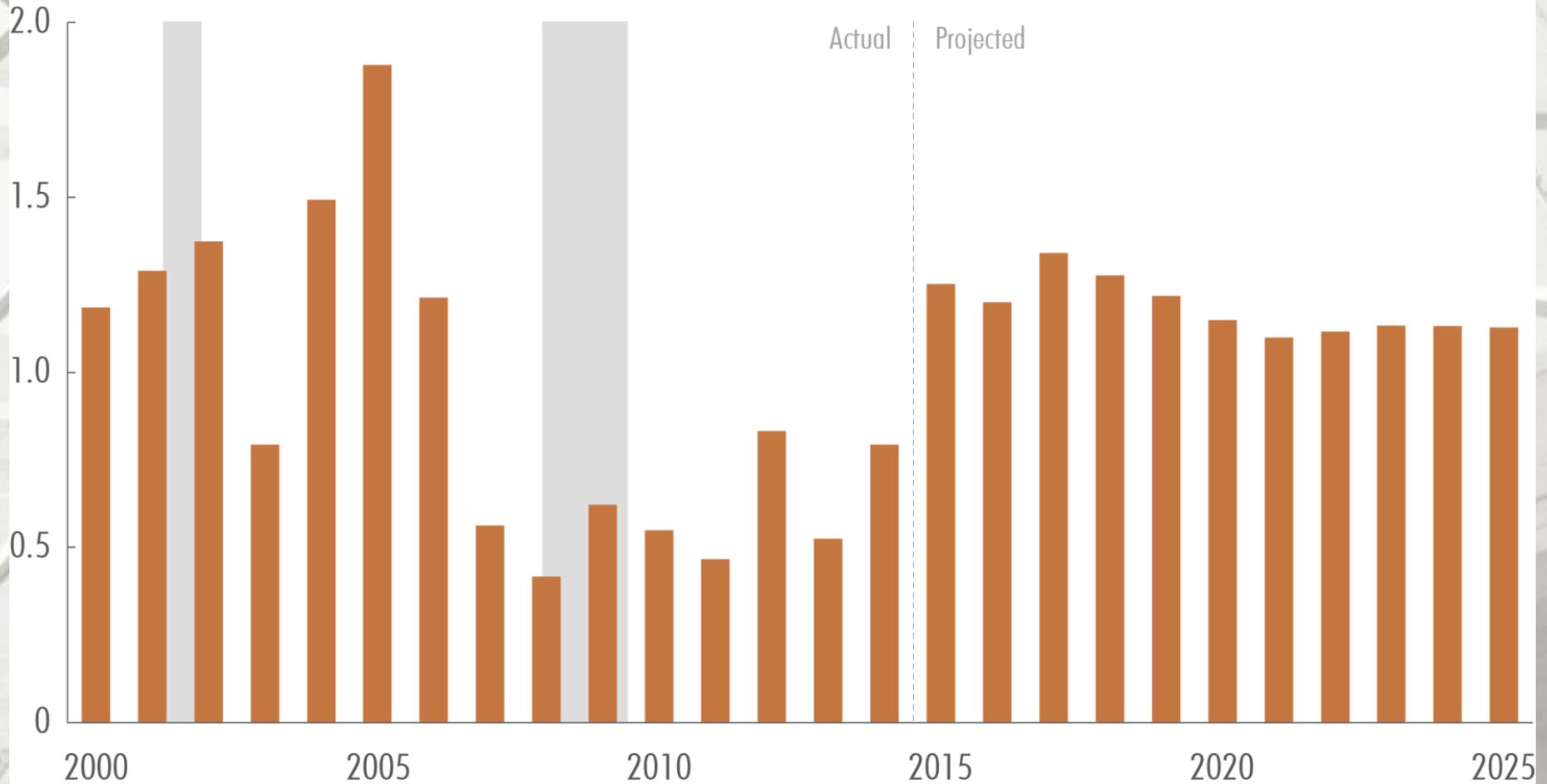
Business Investment

Percentage of Potential GDP



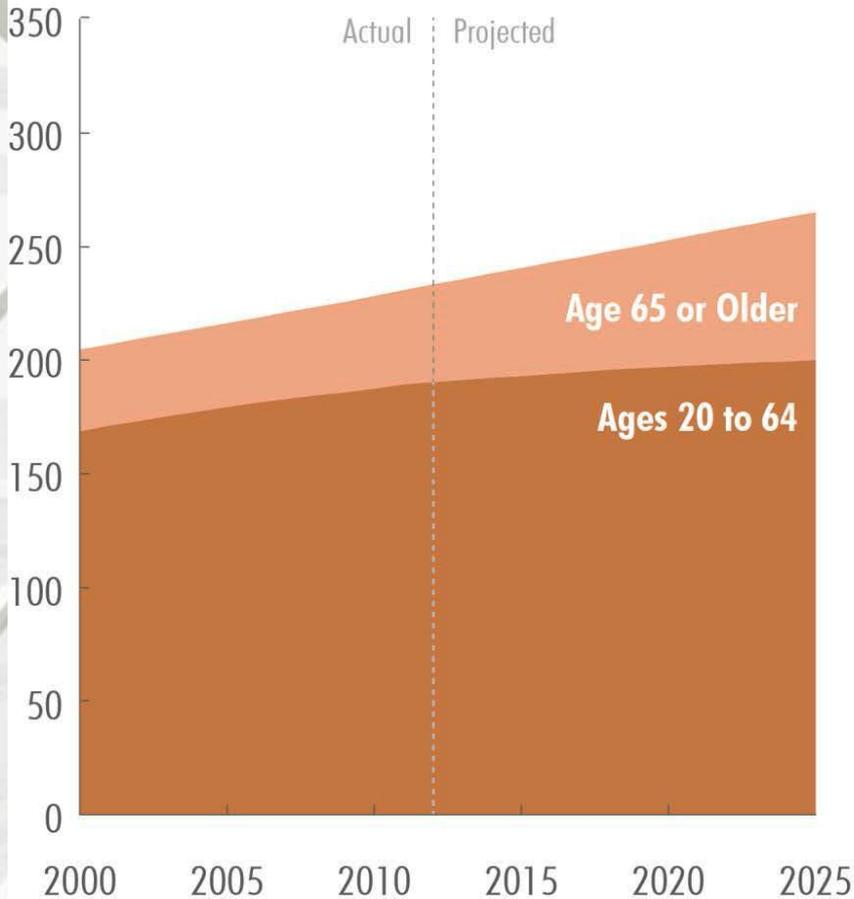
Household Formation

Annual Change in the Number of Households, in Millions

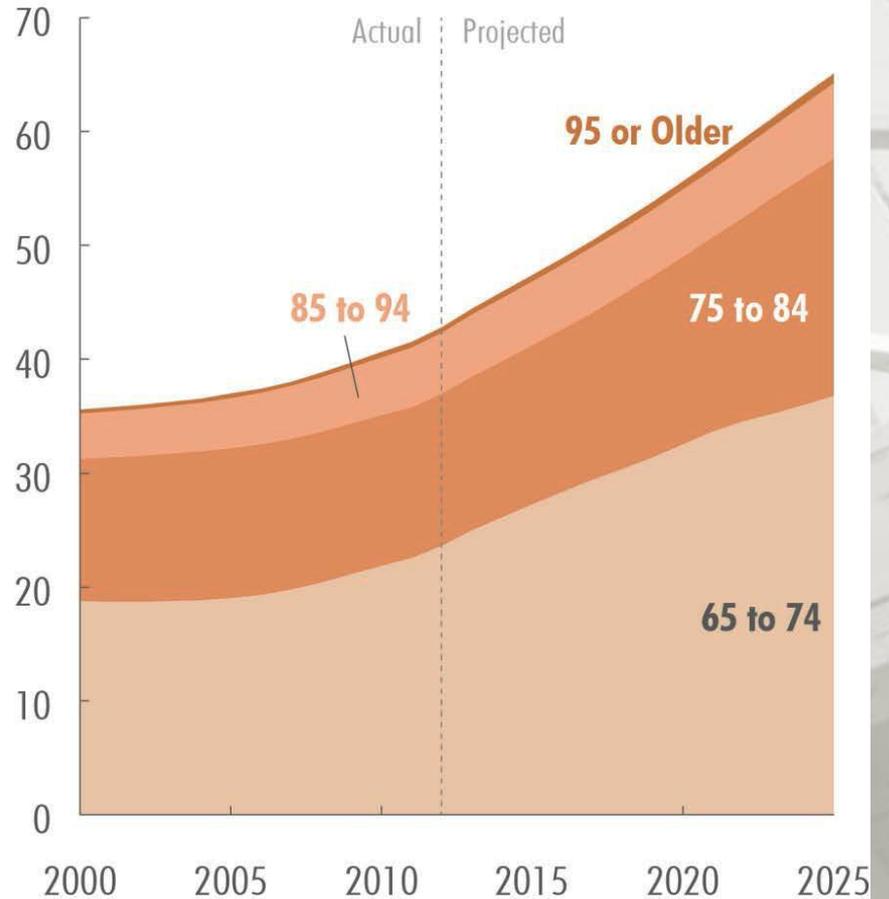


Population by Age Group

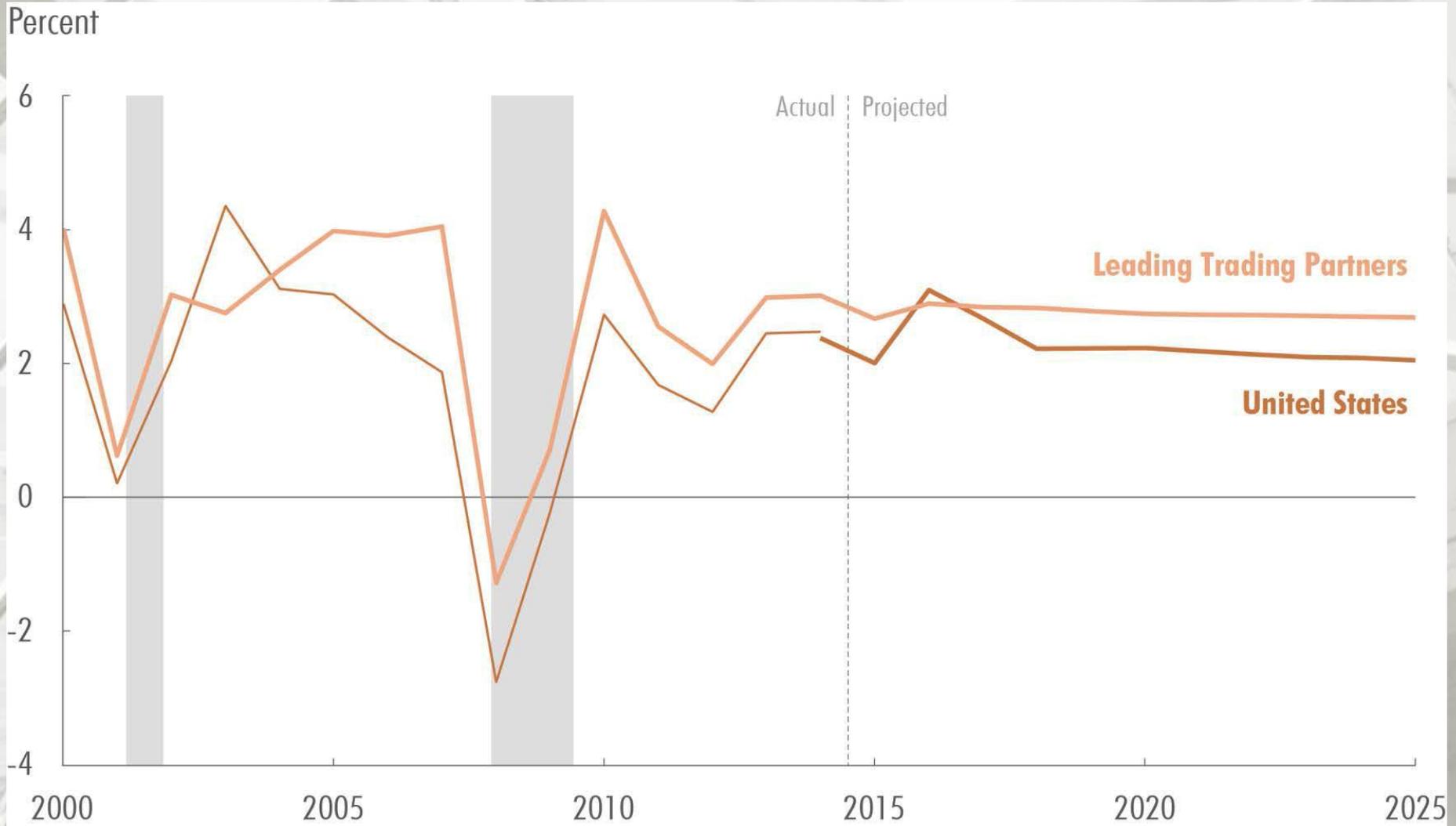
Millions of People



Millions of People



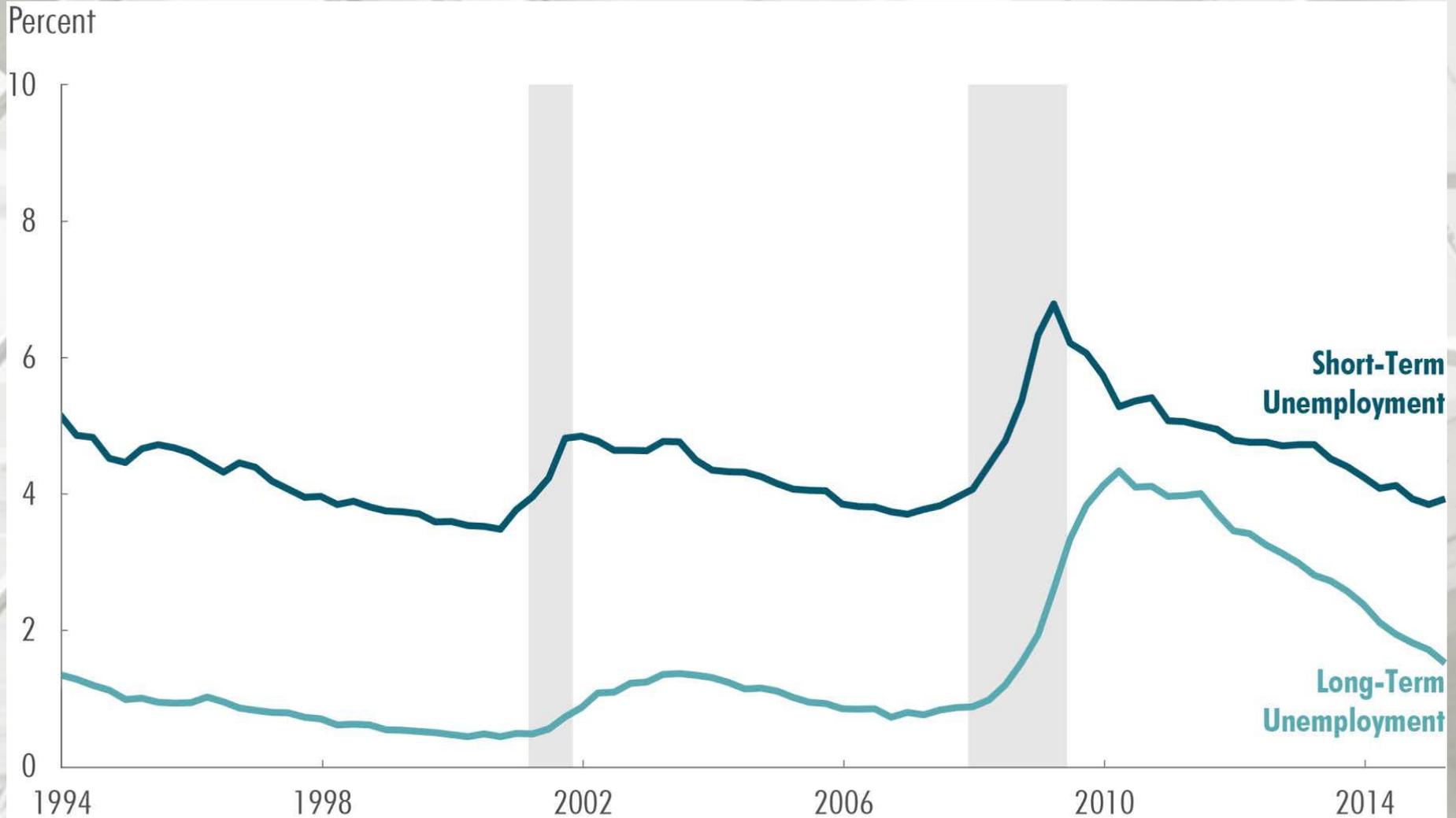
Growth of Trade



As the slack in the economy lessens over the next few years, slack in the labor market will also dissipate, CBO estimates.

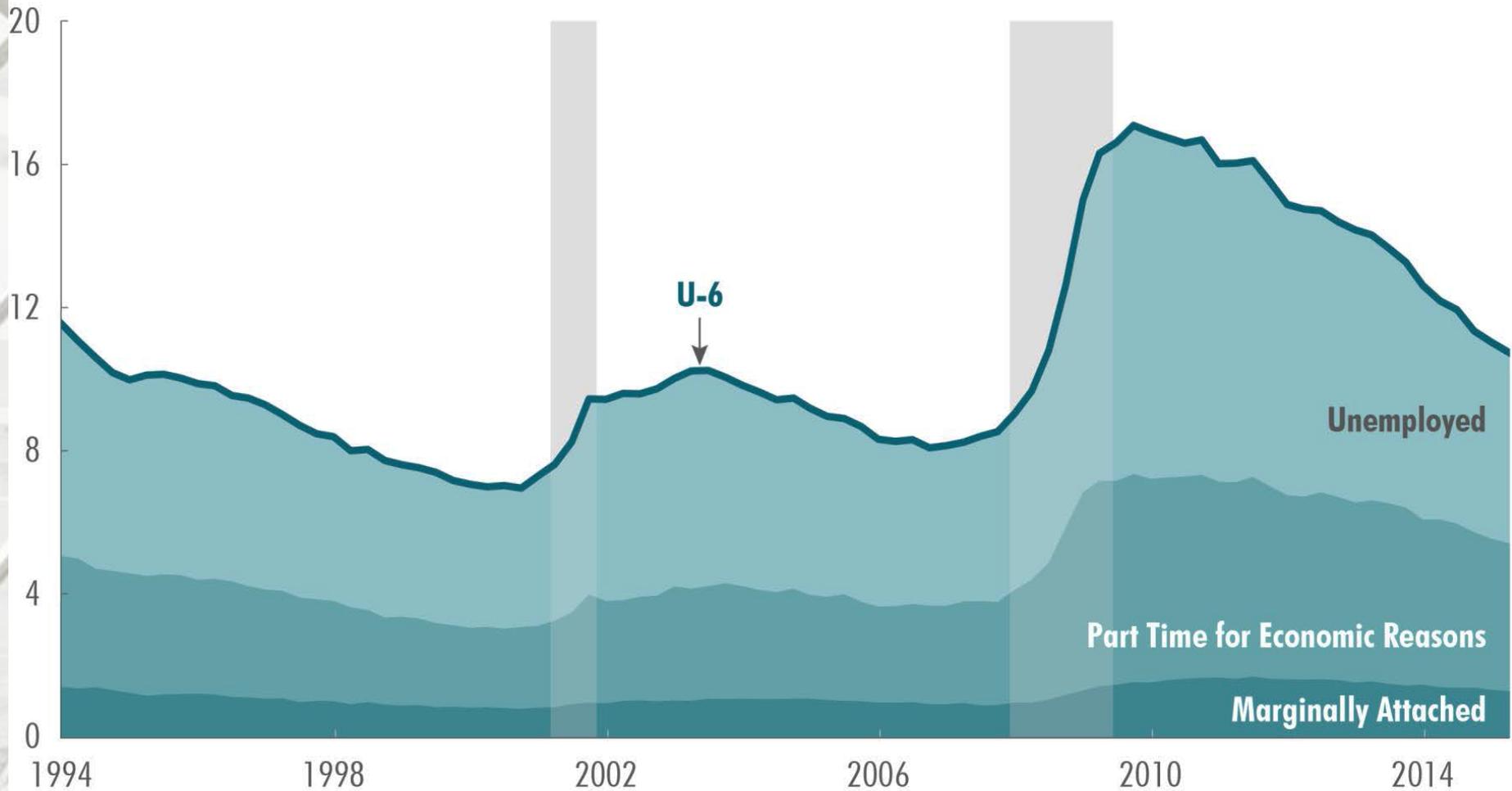
Wendy Edelberg, Assistant Director, Macroeconomic Analysis; Congressional Budget Office

Rates of Short- and Long-Term Unemployment



Underuse of Labor

Percentage of the Labor Force Plus Marginally Attached Workers



Employment Shortfall

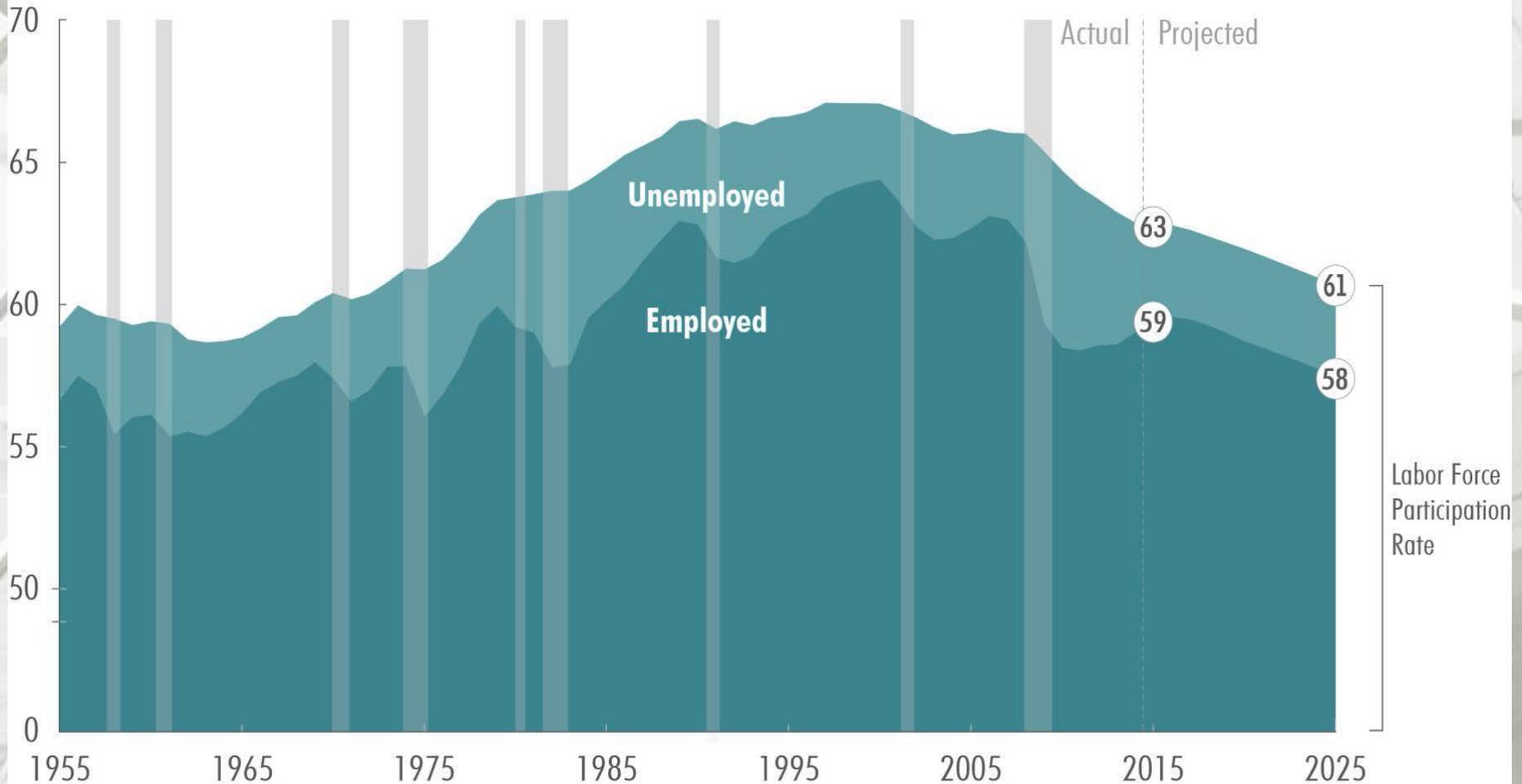
Millions of People



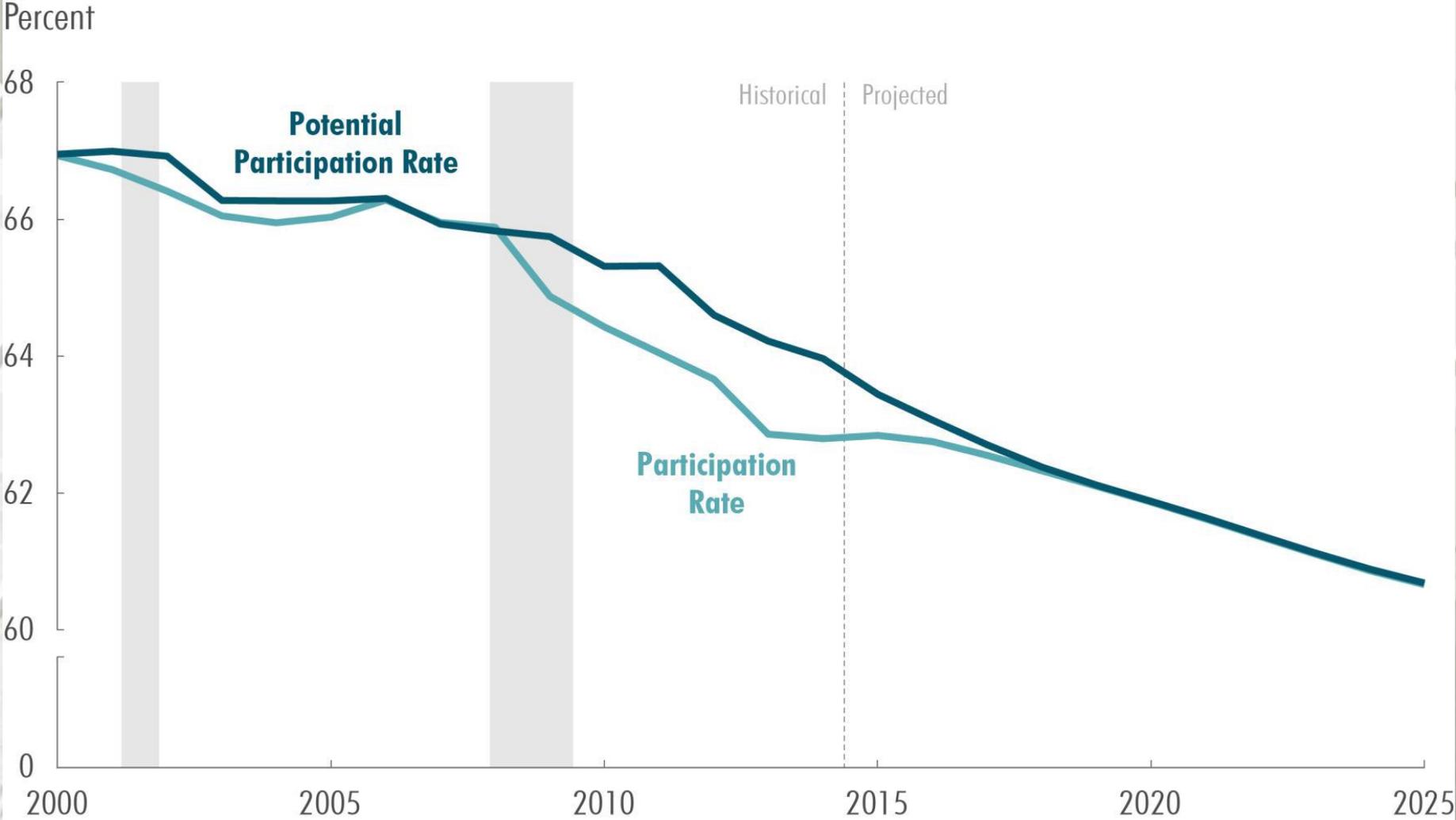
The employment shortfall is the number of people who would be employed if the unemployment rate equaled its rate in December 2007 (the light blue bars) and if the labor force participation rate equaled its potential rate (the dark blue bars).

The Labor Force, Employment, and Unemployment

Percentage of the Population

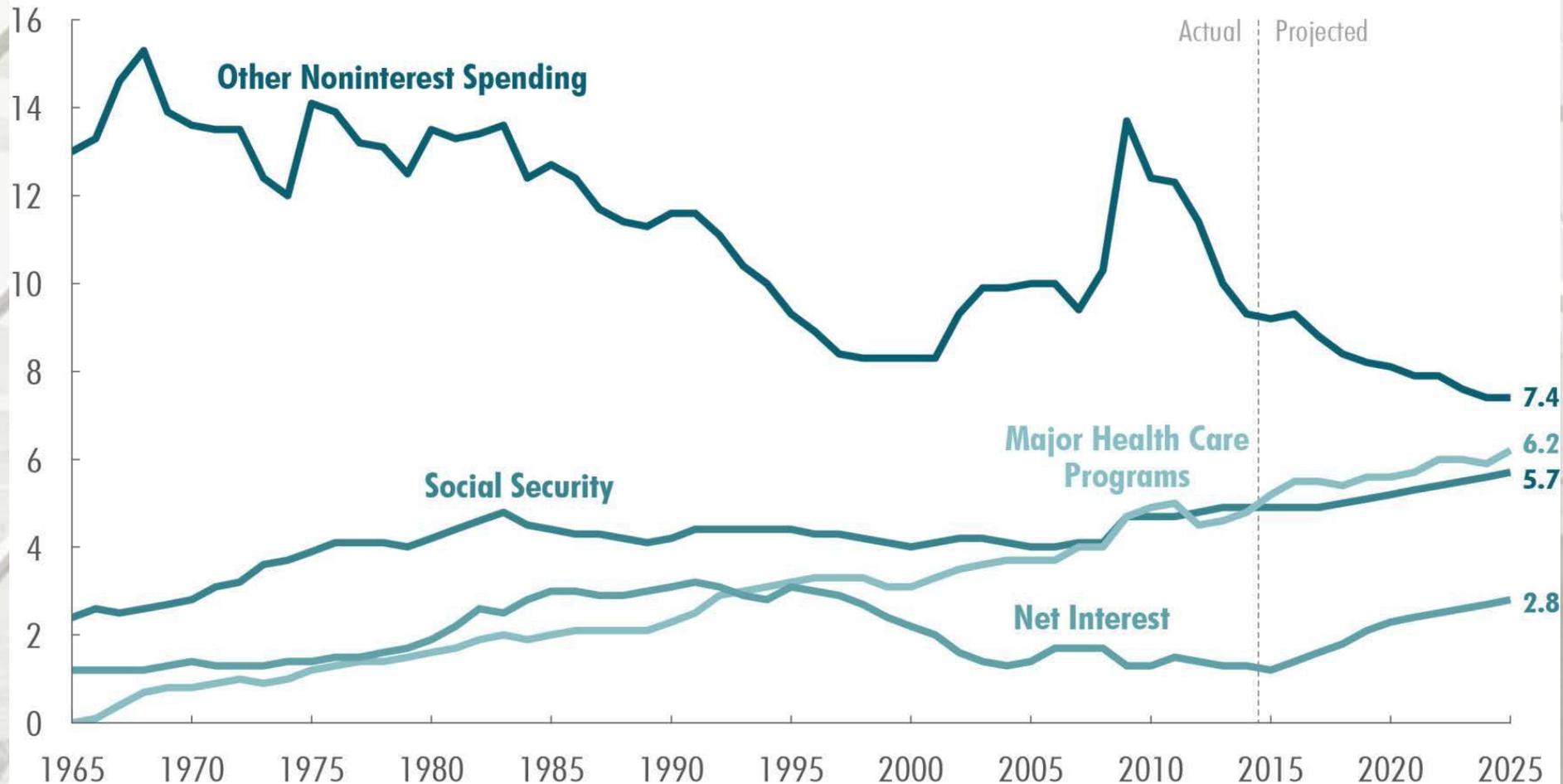


Labor Force Participation Rates



Projected Outlays in Major Budget Categories

Percentage of GDP

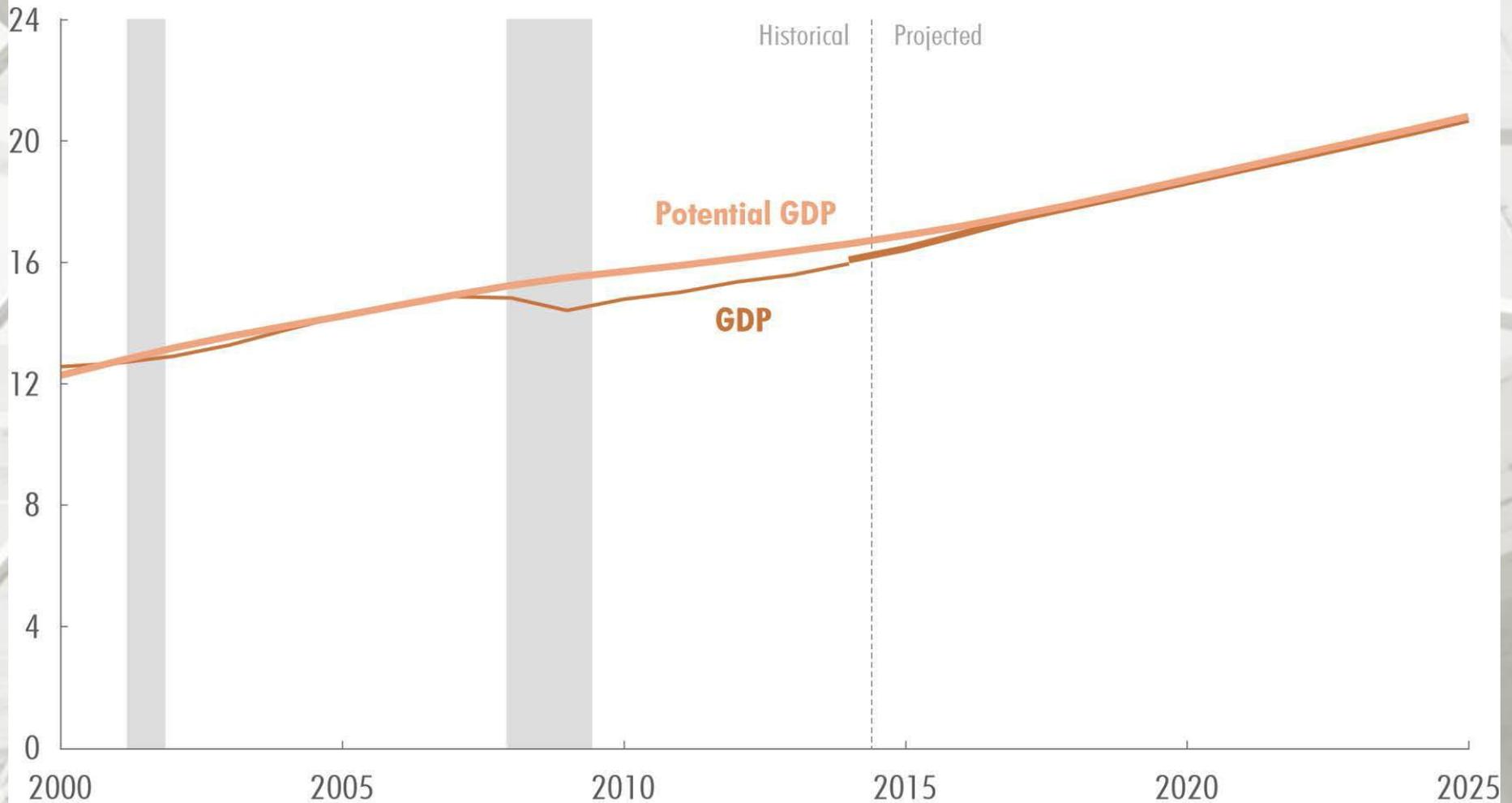


Over the next few years, reduced slack in the economy—as evidenced by the narrowing gap between GDP and potential GDP—will put upward pressure on inflation and interest rates.

Wendy Edelberg, Assistant Director, Macroeconomic Analysis; Congressional Budget Office

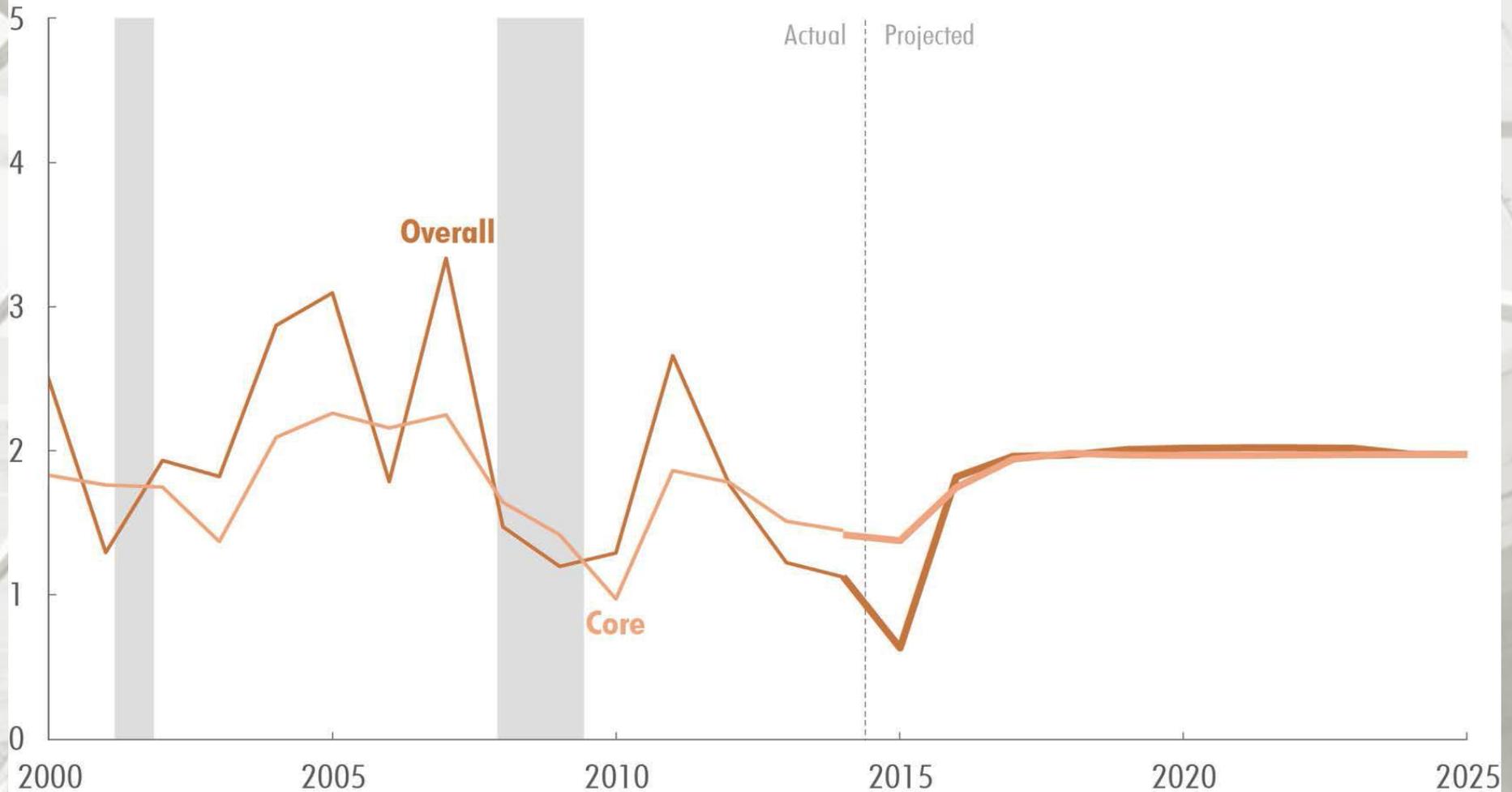
GDP and Potential GDP

Trillions of 2009 Dollars

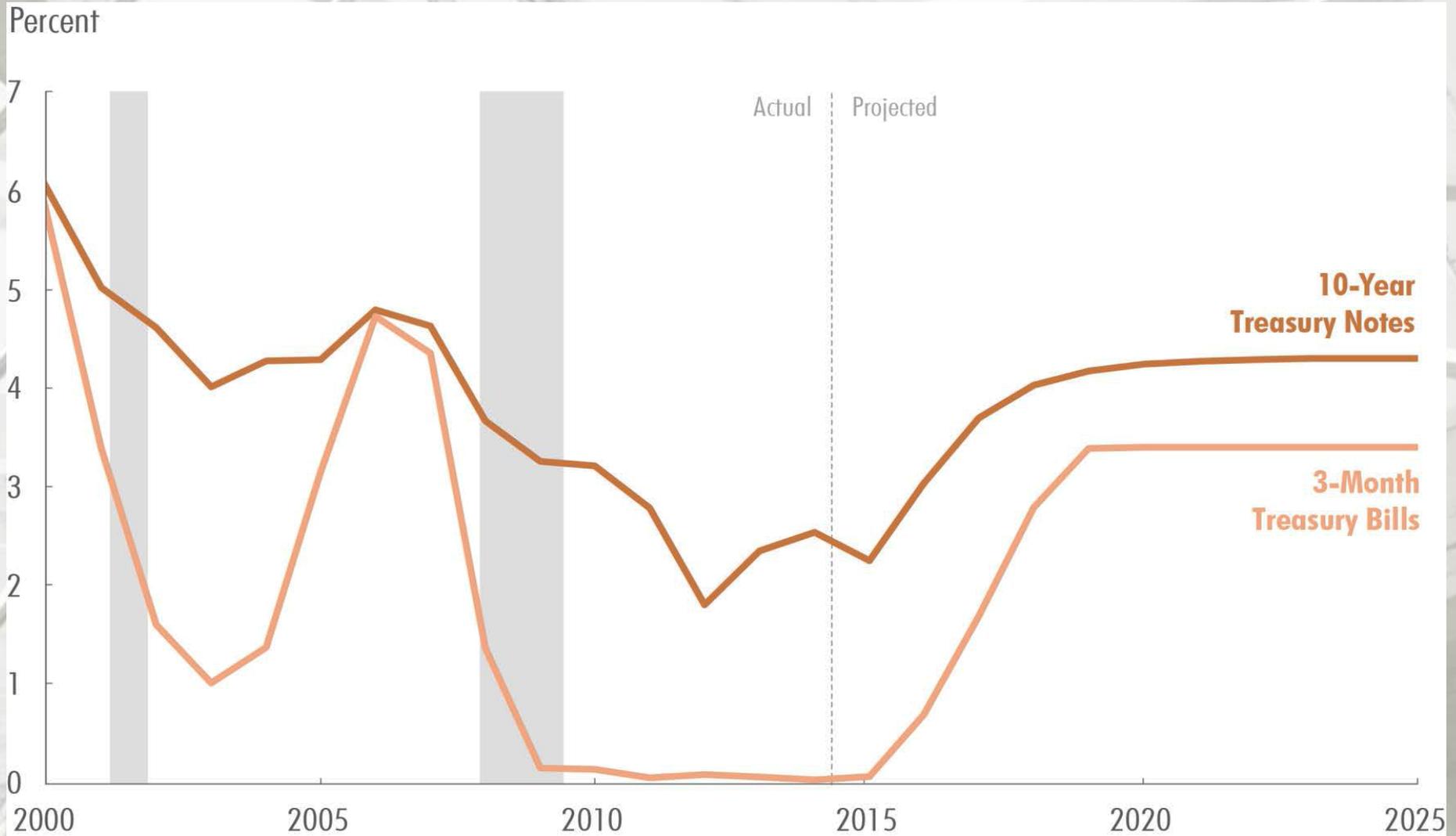


Inflation

Percentage Change in Prices for Personal Consumption Expenditures



Interest Rates



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