

Labor Market Dysfunctions: Trends, Cycles, and Policy Responses

Work in Progress

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Chairman, Council of Economic Advisers



EC 2415: Seminar on Macroeconomic Policy

Harvard University

March 29, 2016

Seven Talks I Won't Be Giving Today

1. Why has the United States recovered sooner and more strongly than other advanced economies?
2. Why have growth rates across the advanced economies, and especially across emerging economies, come in below expectations?
3. Why did productivity growth slow starting around 2004 and what is the outlook for the future?
4. Why has the real interest rate continued to fall across advanced economies? And how does this relate to the macroeconomic consequences of increased debt?
5. Why has the relationship between inflation and unemployment been so weak, with both missing disinflation in the recession and missing inflation in the recovery?
6. What is the role of the U.S. increase in oil/gas production and the U.S. decrease in oil consumption in price changes?
7. Why have U.S. health costs slowed so much?

Outline of Today's Talk

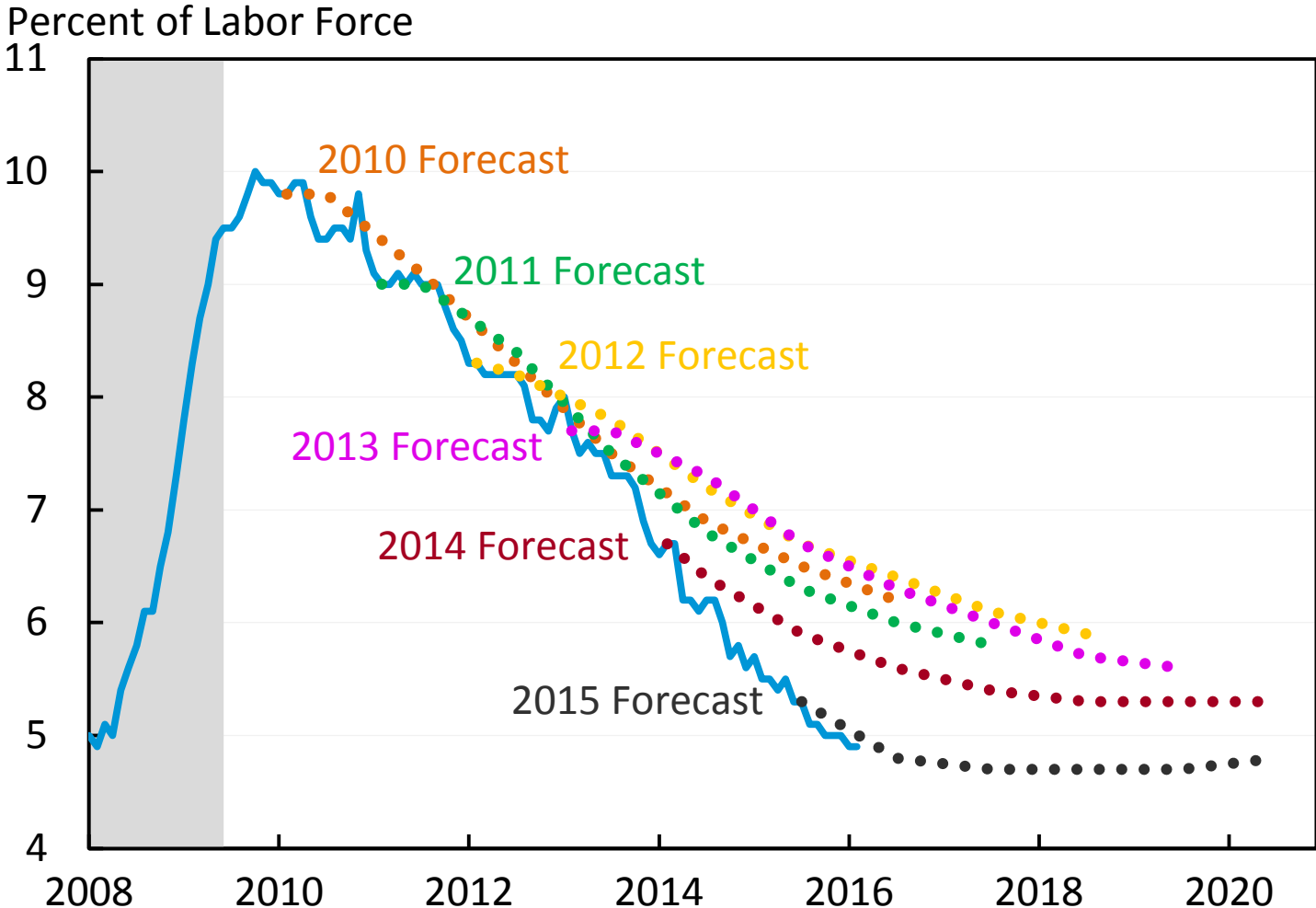
- 1. The Labor Market Recovery**
- 2. Long-Term Unemployment**
- 3. Part-Time for Economic Reasons**
- 4. Labor Force Participation**
- 5. Summary of Results, a Speculation, and Some (Brief) Policy Implications**

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The Unemployment Rate Has Consistently Fallen Below Expectations

Unemployment Rate and Consensus Forecasts



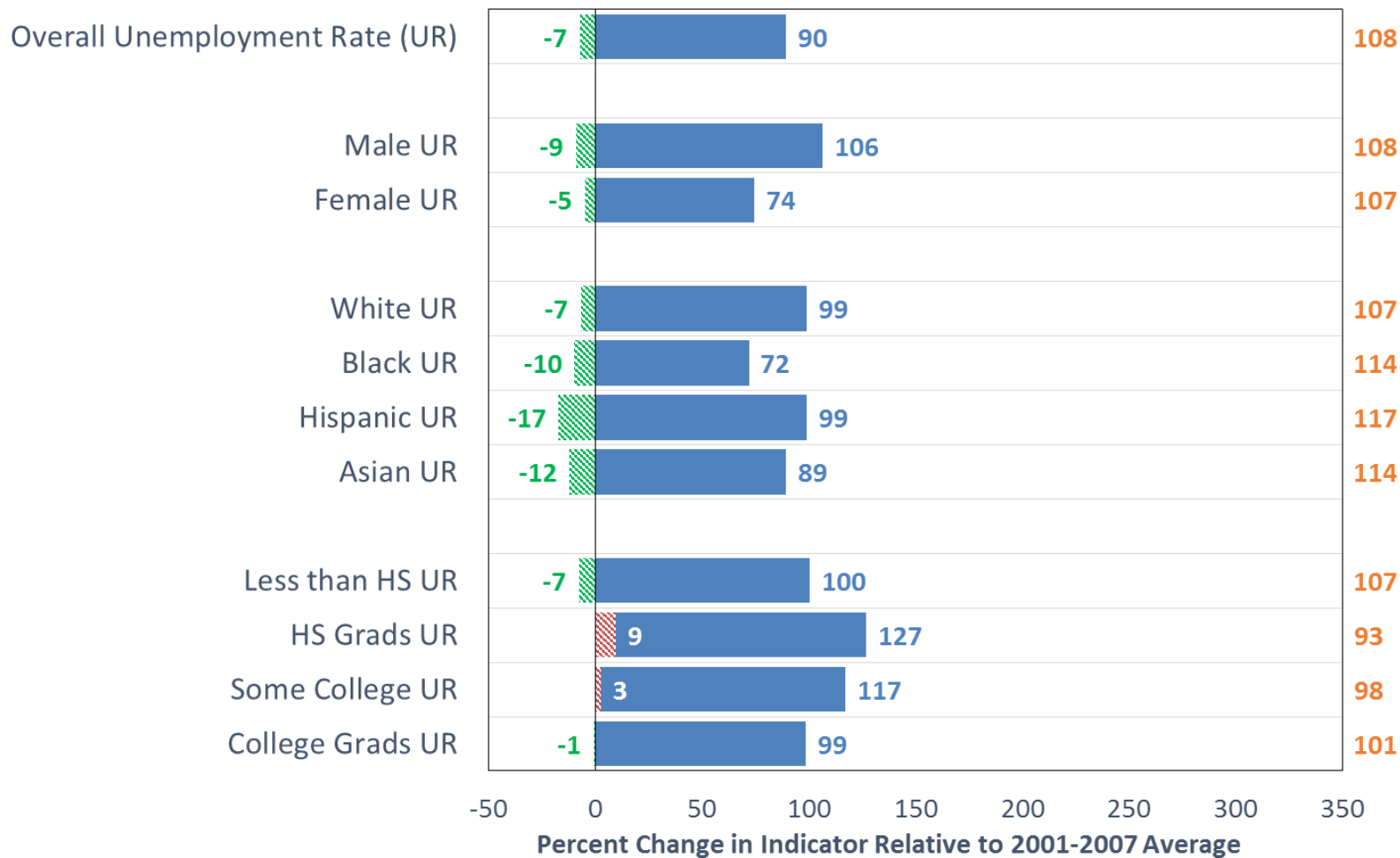
Note: Annual forecasts are current as of March of the stated year. Shading denotes recession.
Source: Blue Chip Economic Indicators; Bureau of Labor Statistics, Current Population Survey.

Recovery in the Labor Market is Broad-Based Across Demographic Groups...

Tracking the Recovery Across Labor Market Indicators

All Data as of February 2016

▨ Remaining Elevation as of February 2016 ■ Percent Increase to Great Recession Peak ■ Percent Recovered



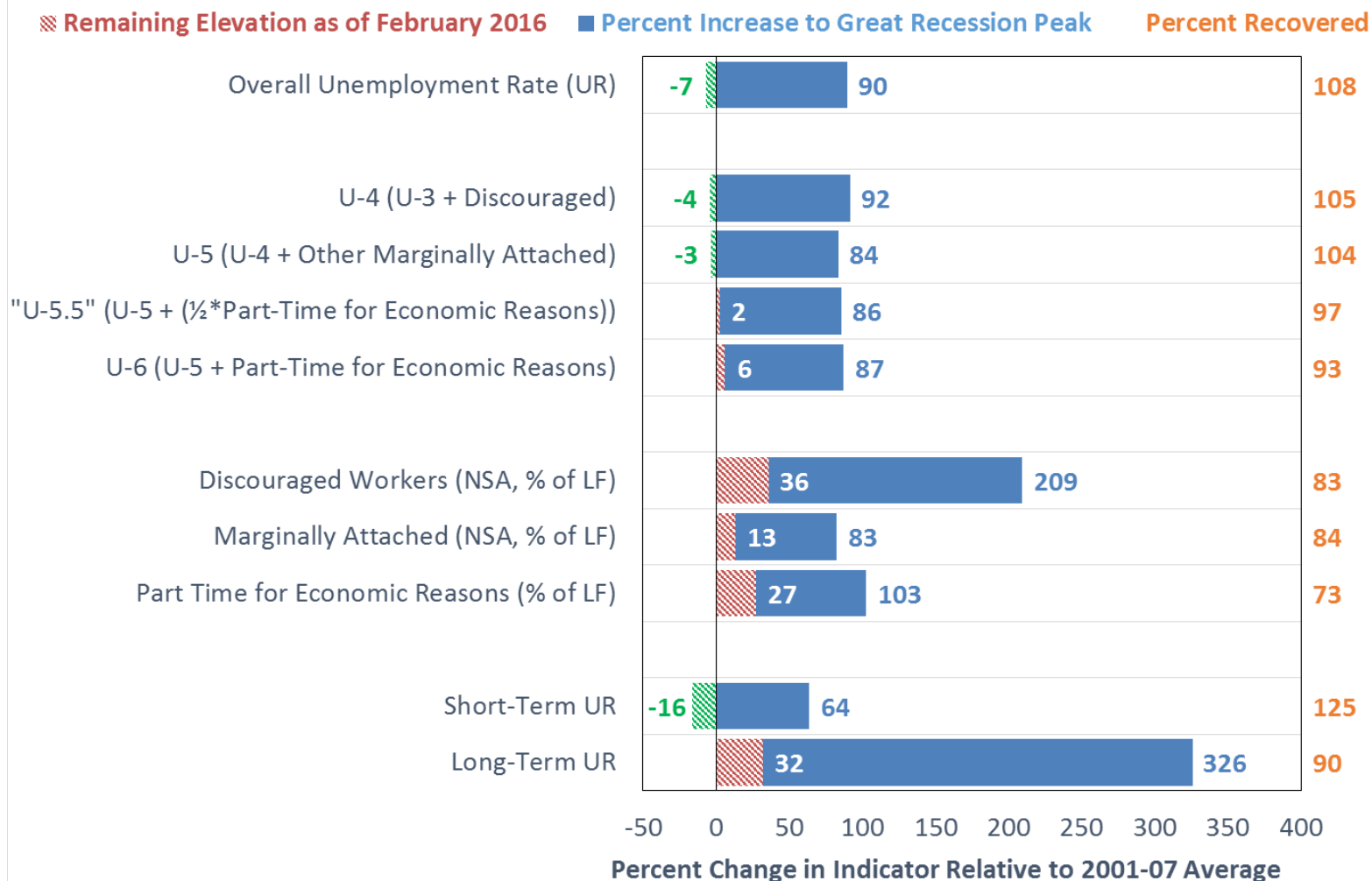
Note: Unemployment rates by education are for persons age 25+. All other rates for persons age 16+ unless noted.

Source: Bureau of Labor Statistics, Current Population Survey; CEA calculations.

...But Some Elevation Remains in Broader Measures of Slack and in Long-Term Unemployment

Tracking the Recovery Across Labor Market Indicators

All Data as of February 2016



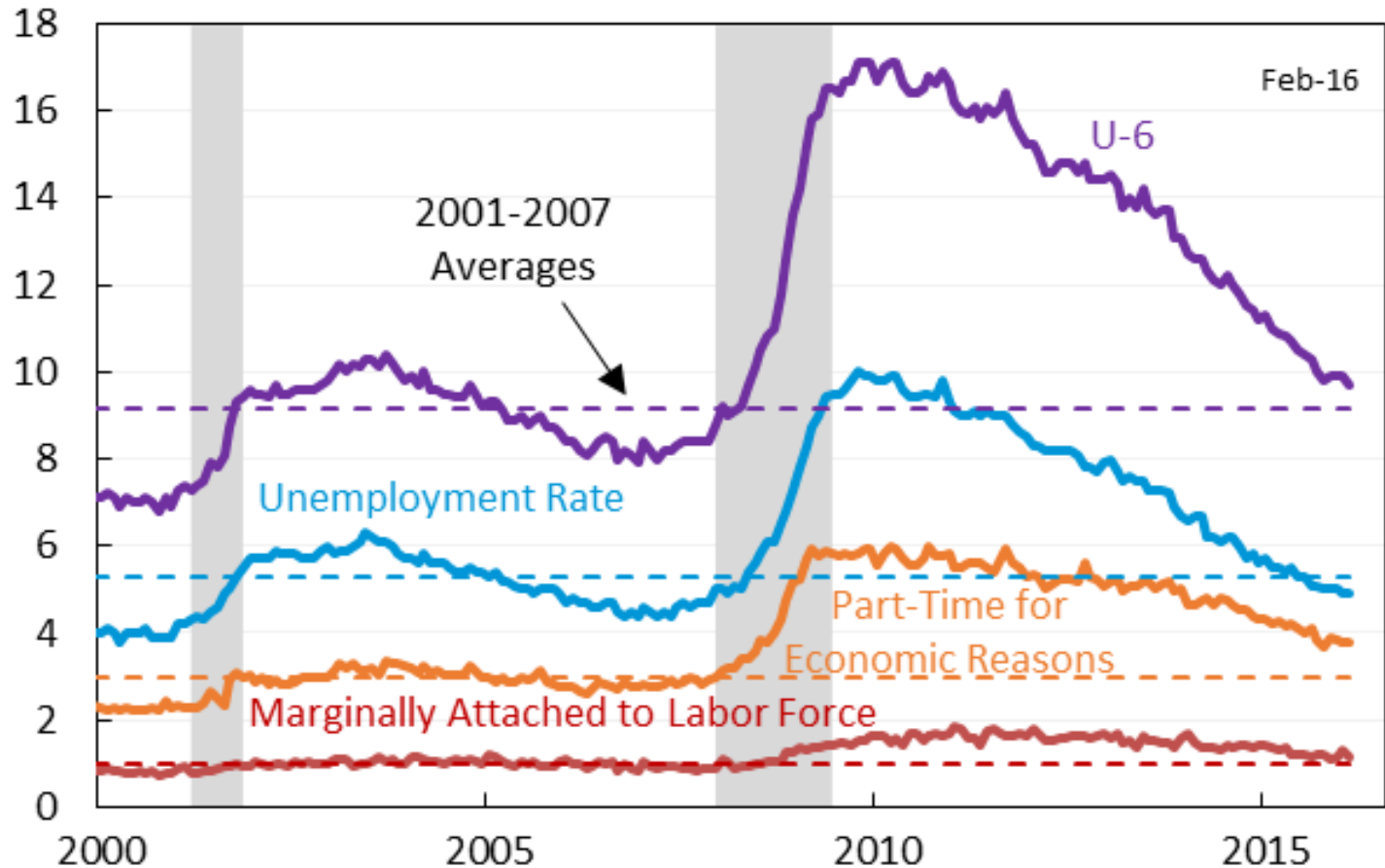
Note: Unemployment rates by education are for persons age 25+. All other rates for persons age 16+ unless noted.

Source: Bureau of Labor Statistics, Current Population Survey; CEA calculations.

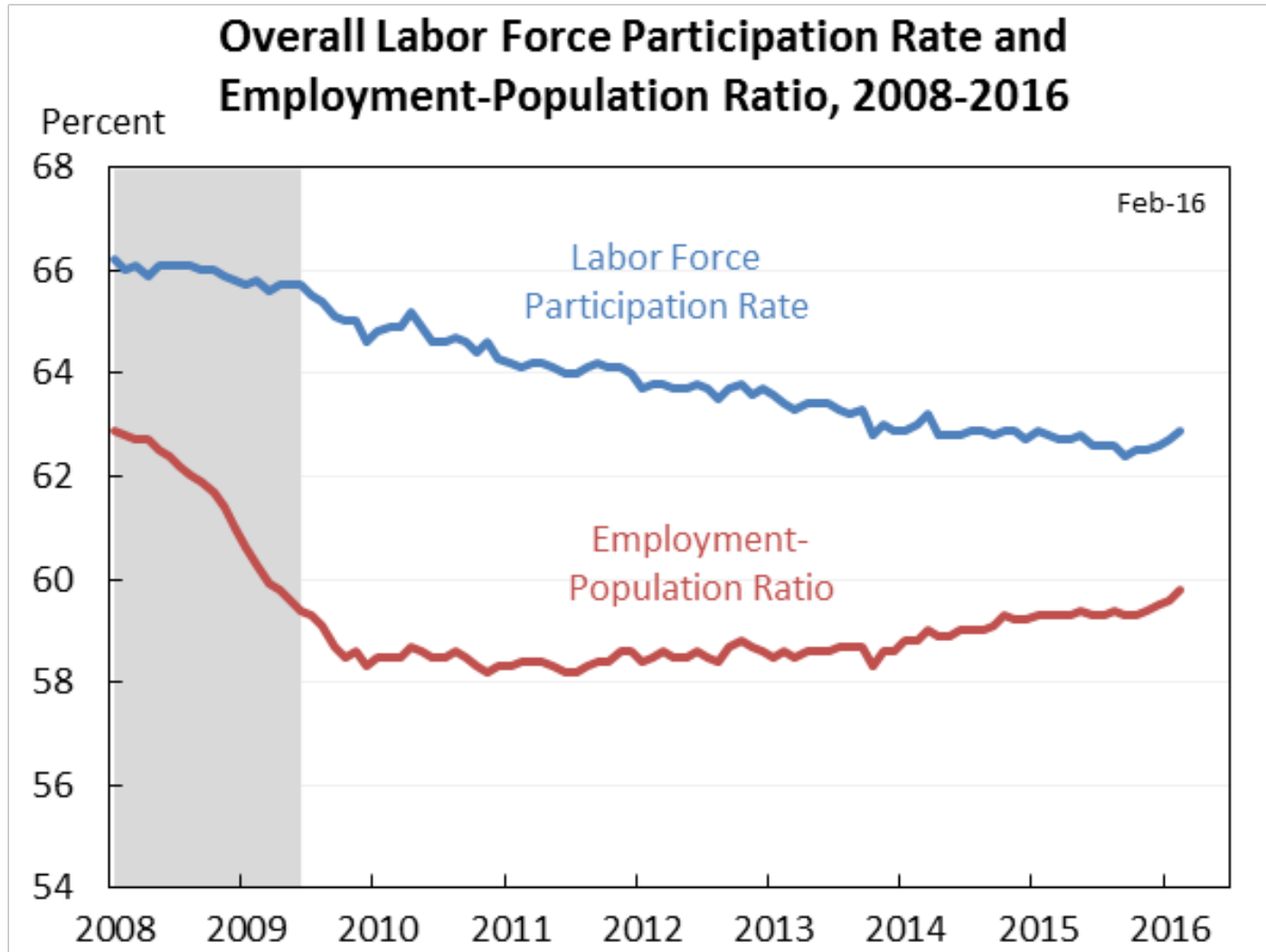
Sources of Remaining Elevation in U-6

Alternative Measures of Labor Market Slack, 2000–2016

Percent of Labor Force



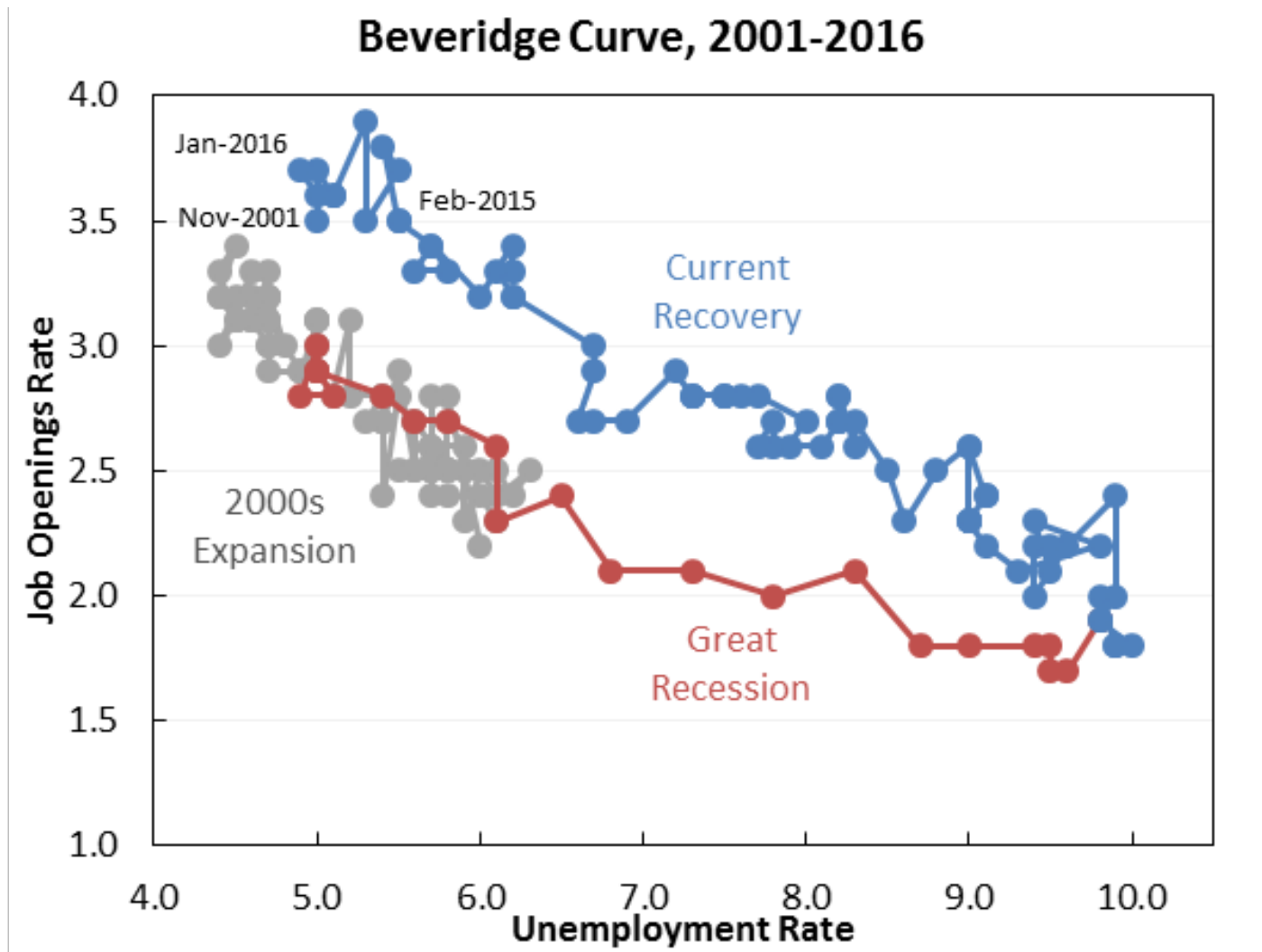
The Labor Force Participation Rate and the Employment-Population Ratio Are Well Below Pre-Recession Levels



Note: Shading denotes recession.

Source: Bureau of Labor Statistics, Current Population Survey; CEA calculations.

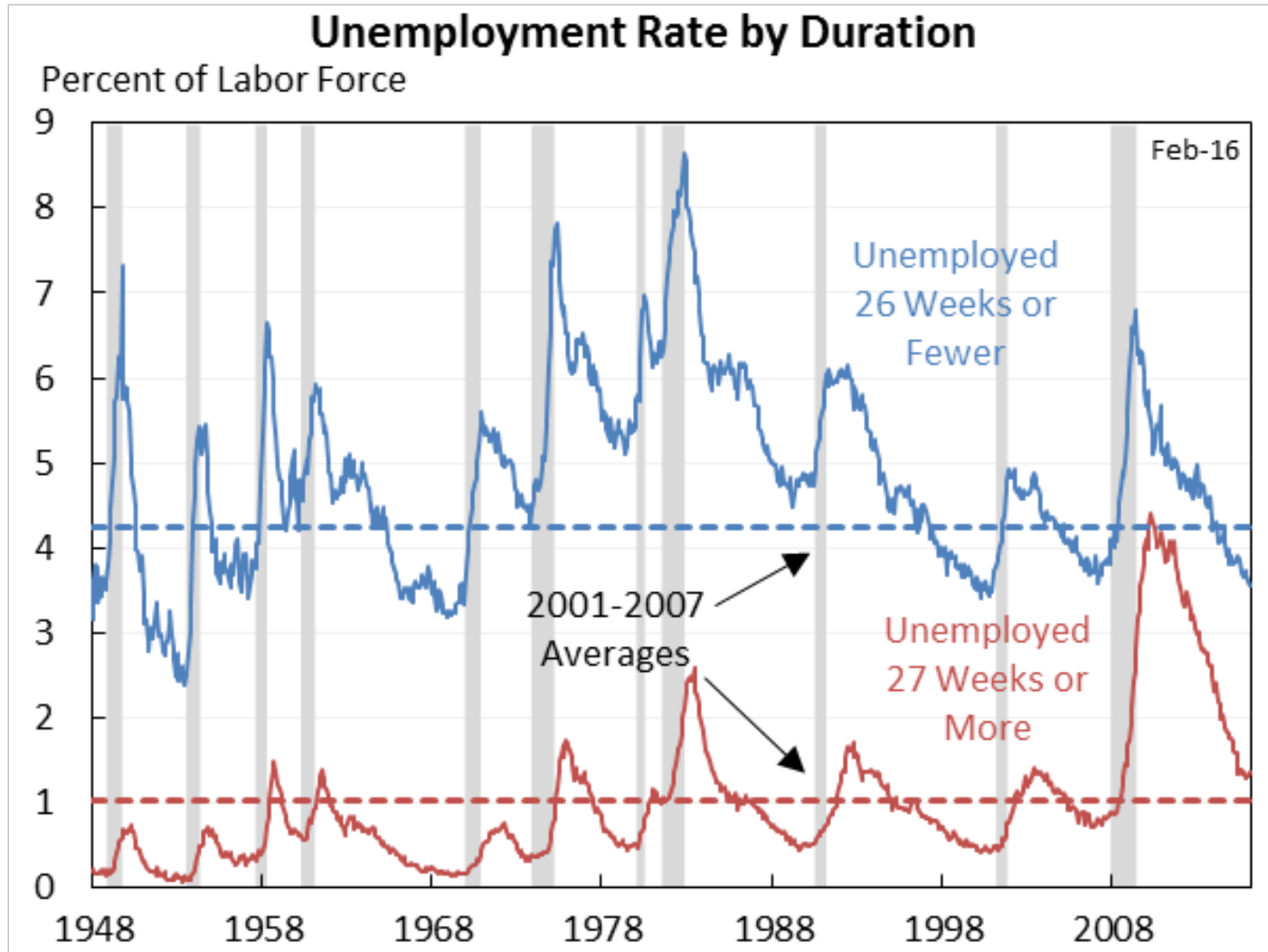
The Beveridge Curve Has Shifted Outward Relative to the 2000s Expansion But is Getting Closer



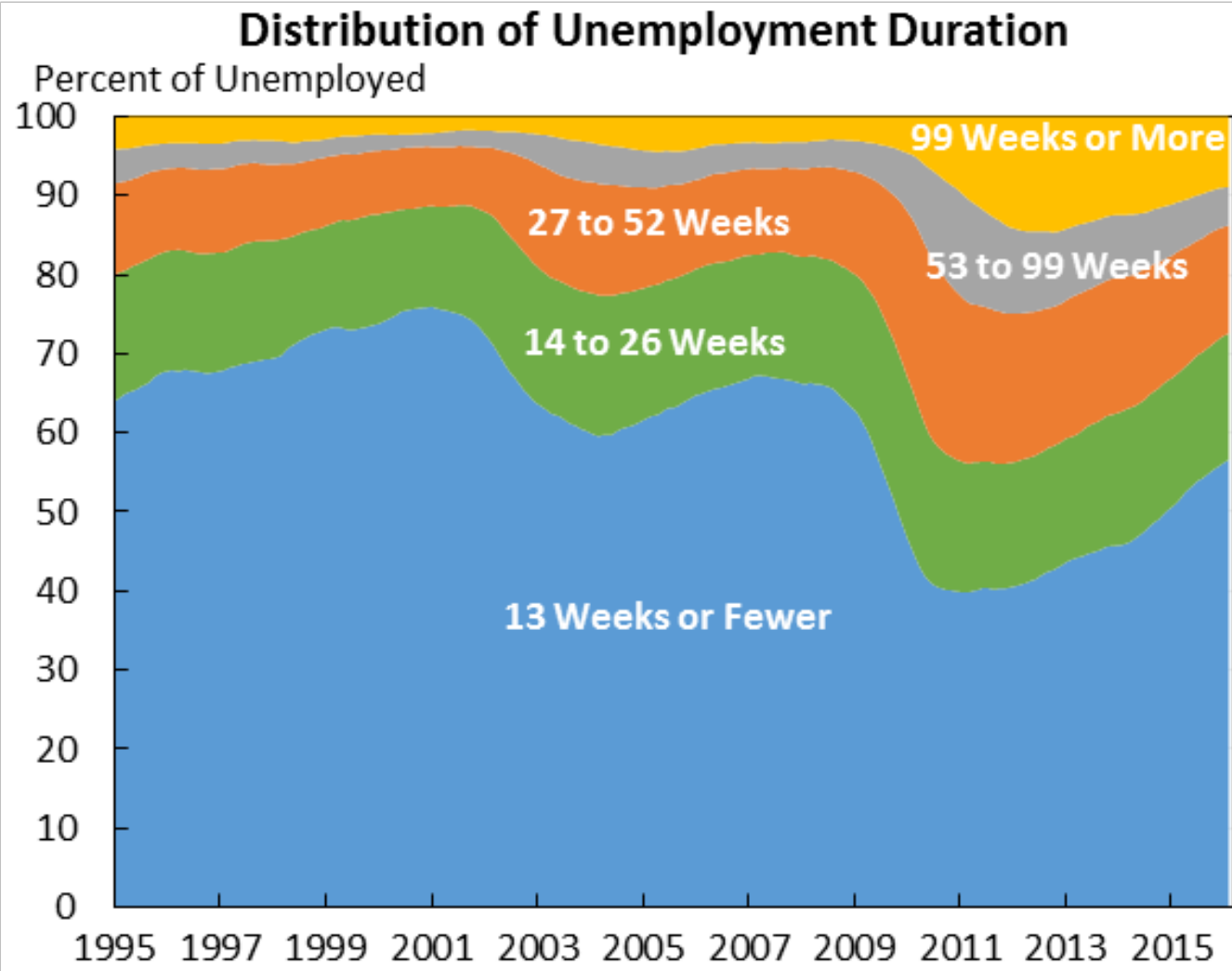
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Long-Term Unemployment Rose Extremely High In the Recession and Still Remains Slightly Elevated

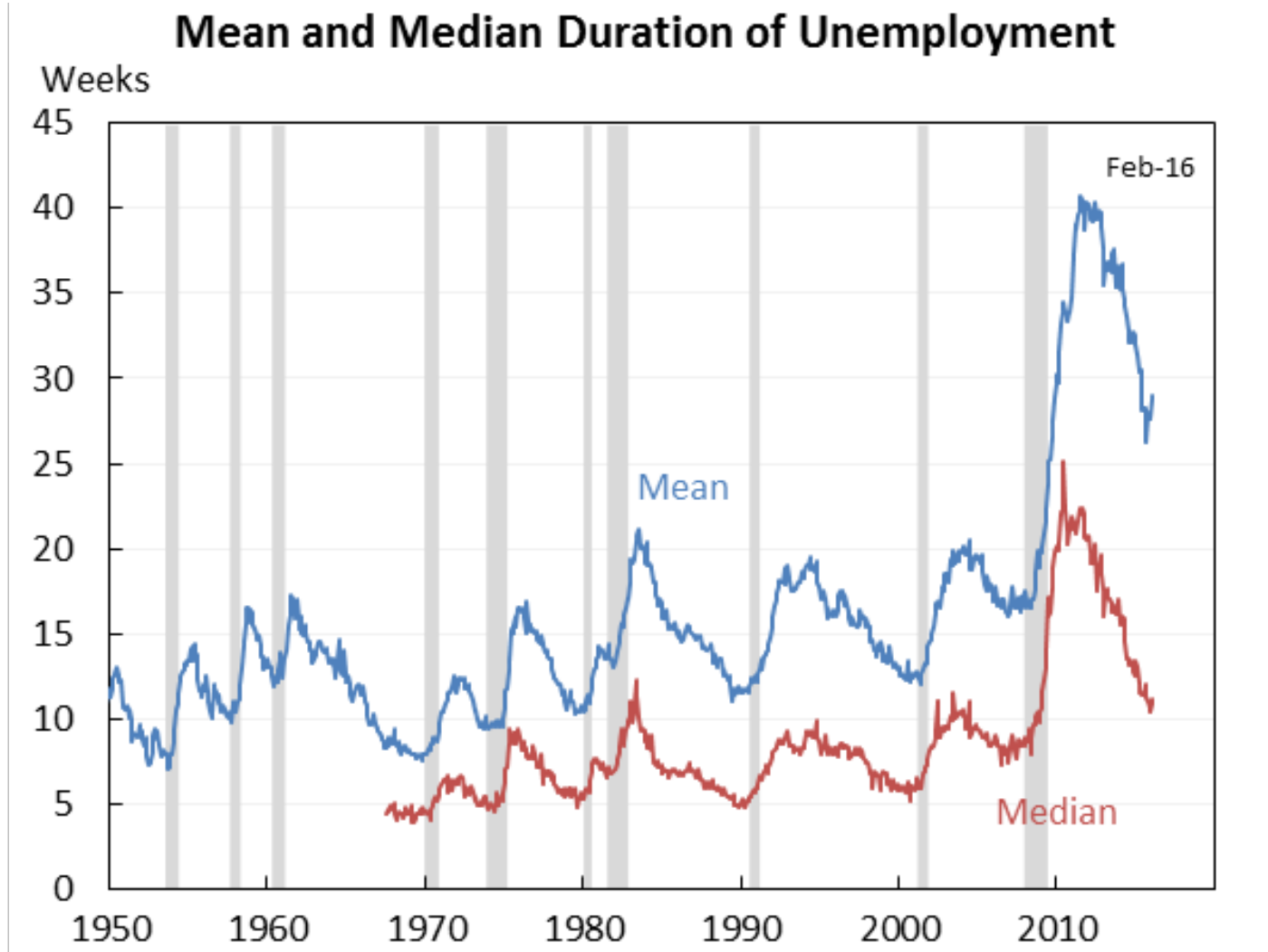


Duration of Unemployment Increased Sharply in the Great Recession



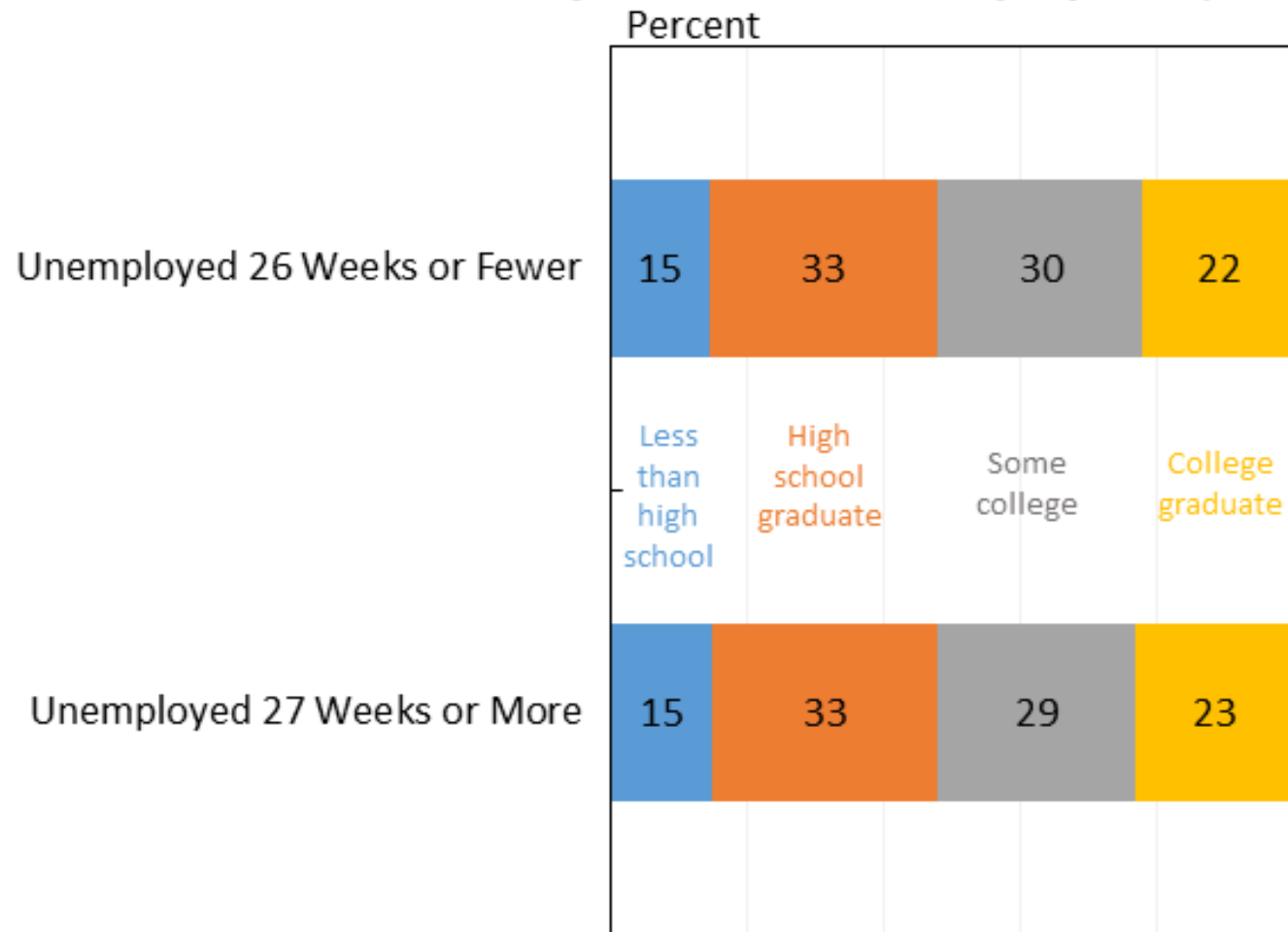
Note: Twelve-month moving averages of not seasonally adjusted data.
Source: Bureau of Labor Statistics, Current Population Survey; CEA calculations.

Unemployment Duration Increasingly Skewed, with Mean Remaining at Highest-Ever Level and Median Near Highest Ever



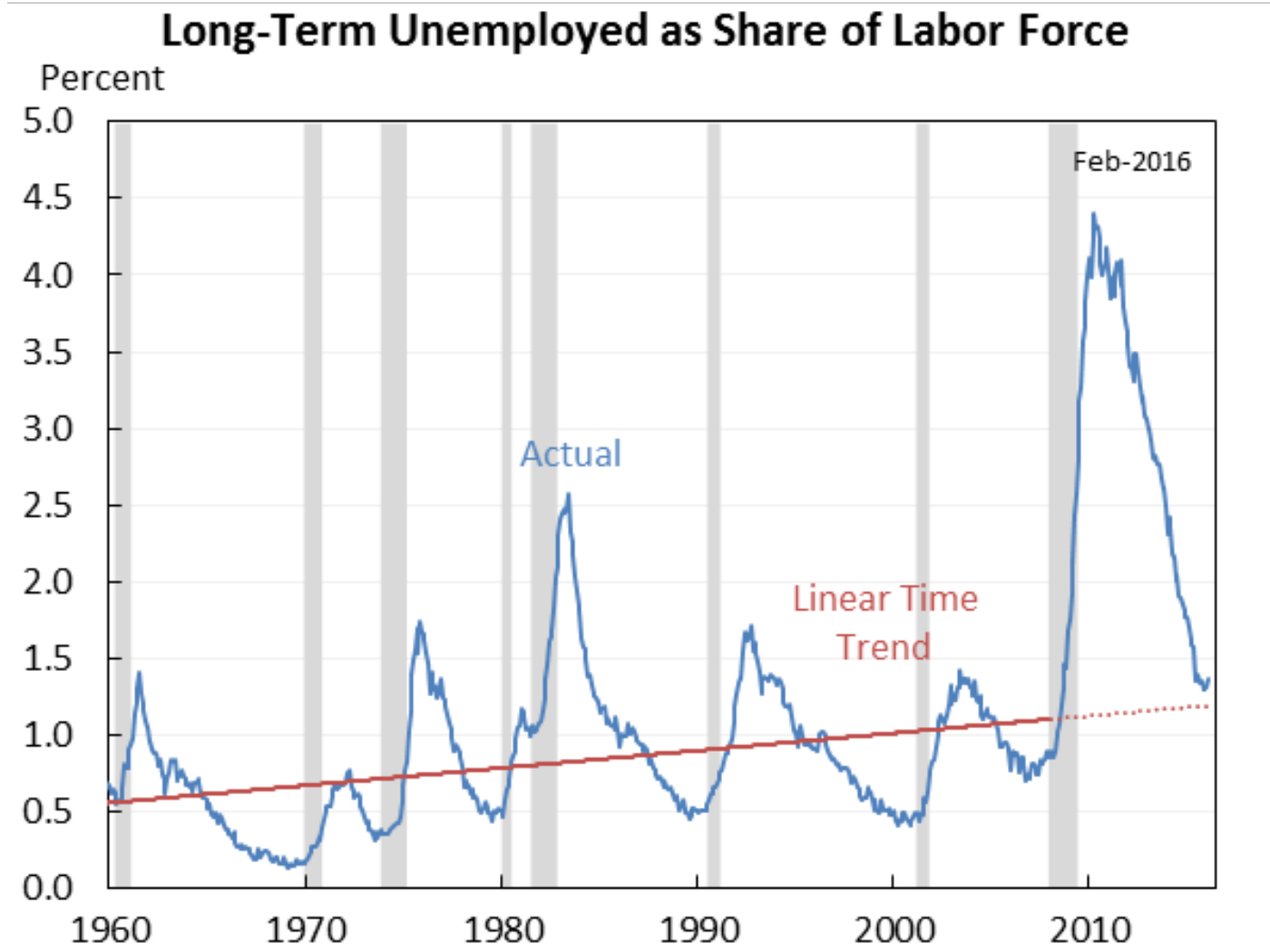
Long-Term Unemployed Look a Lot Like Short-Term Unemployed

Educational Attainment by Duration of Unemployment, 2015



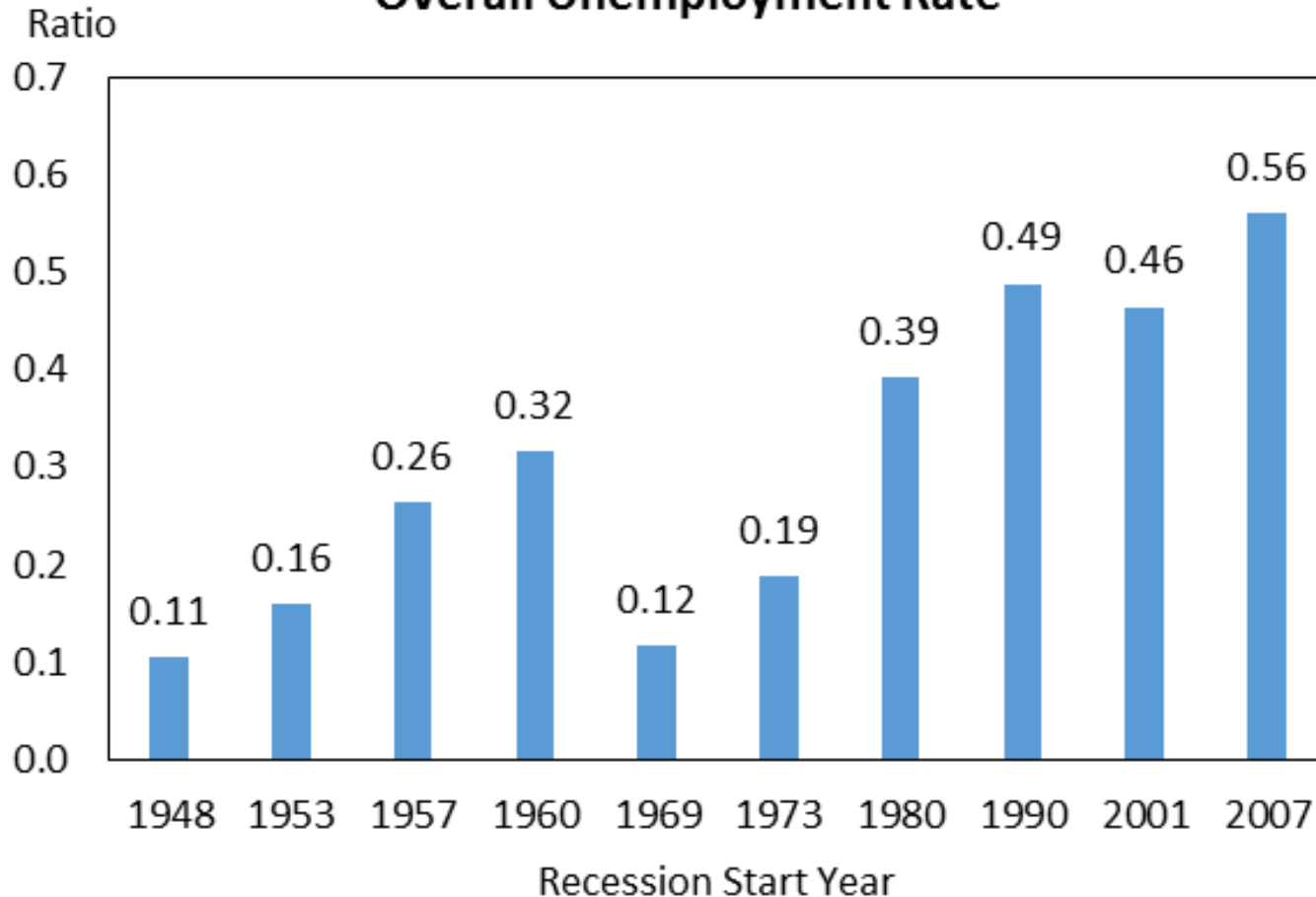
Note: Data for individuals 25 and older.
Source: Bureau of Labor Statistics, Current Population Survey.

Long-Run Trend of Increasing Long-Term Unemployment



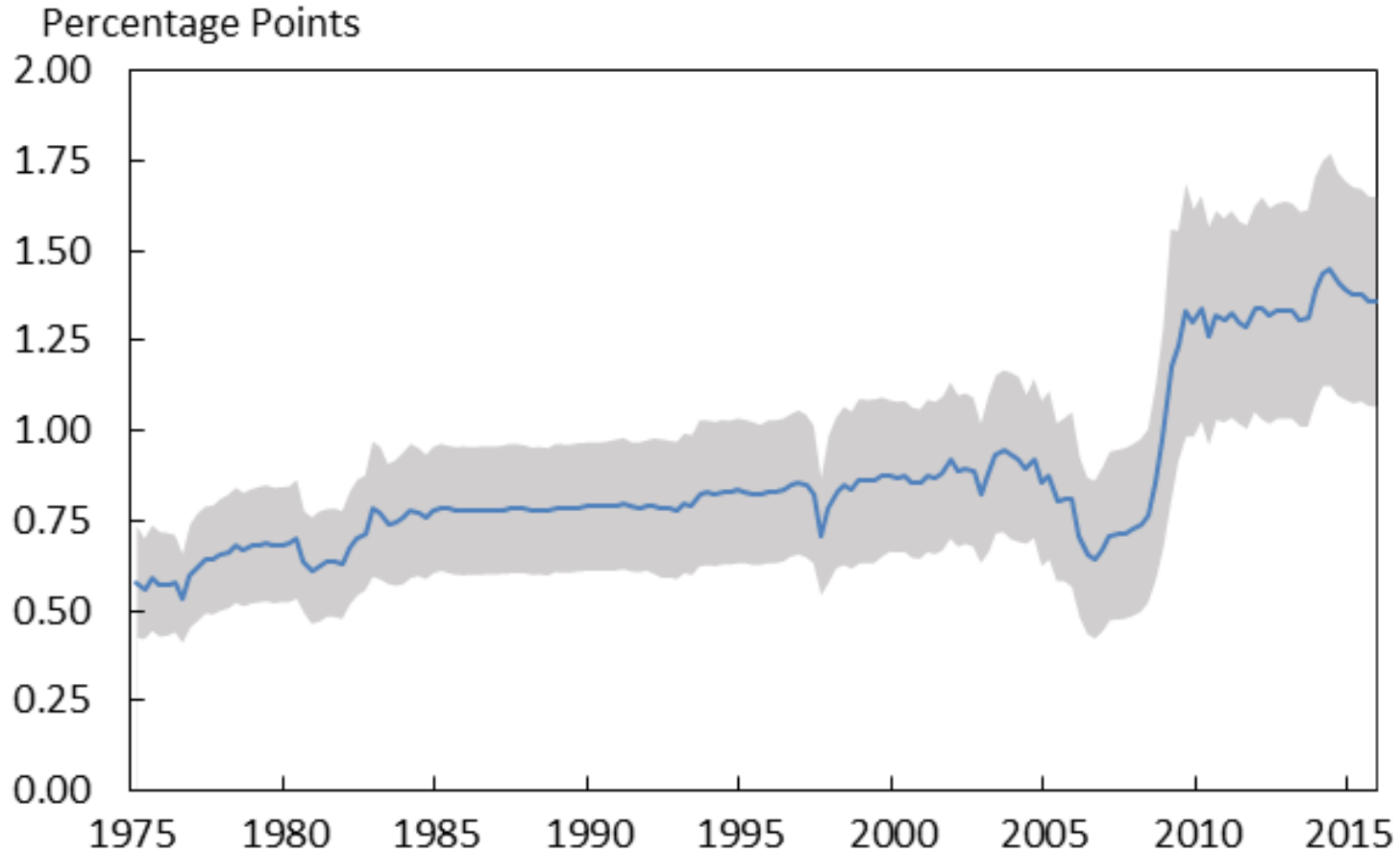
Increased Cyclical Sensitivity of Long-Term Unemployment (Ver. 1)

Ratio of Increase in Long-Term Unemployment to Increase in Overall Unemployment Rate



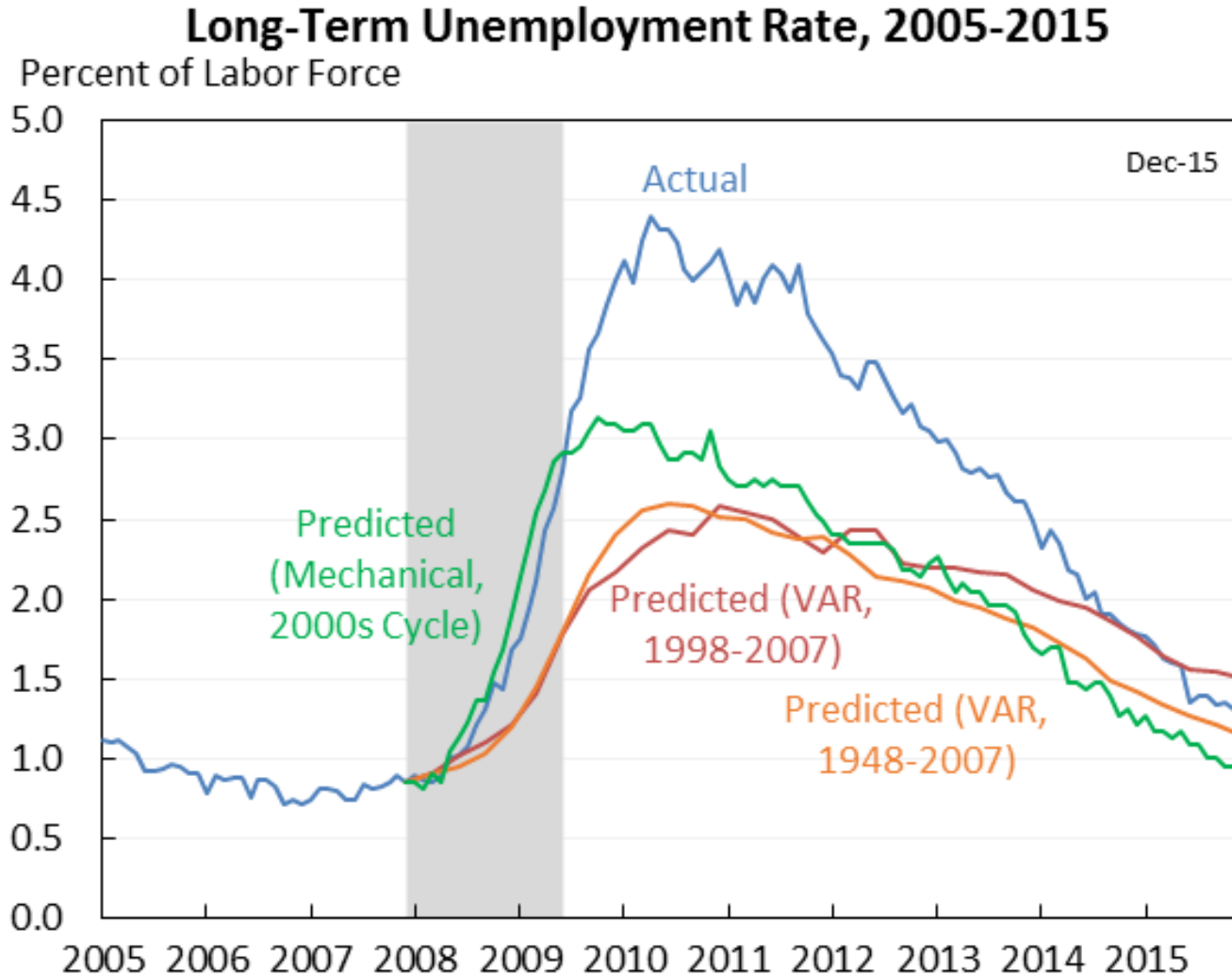
Increased Cyclical Sensitivity of Long-Term Unemployment (Ver. 2)

Long-Term Unemployment: Four-Quarter Cumulative Impulse-Response from 20-Year Rolling VARs



Note: Cumulative four-quarter response of long-term unemployment (as a share of the labor force) to an exogenous one-percentage-point increase in the unemployment rate. Results are derived from 20-year trailing VARs using three lags of quarter/quarter changes. Shading denotes 90 percent confidence interval.
Source: Bureau of Labor Statistics, Current Population Survey; CEA calculations.

But the Increase in the Long-term Unemployment Rate in the Great Recession Still Exceeds Previous Patterns



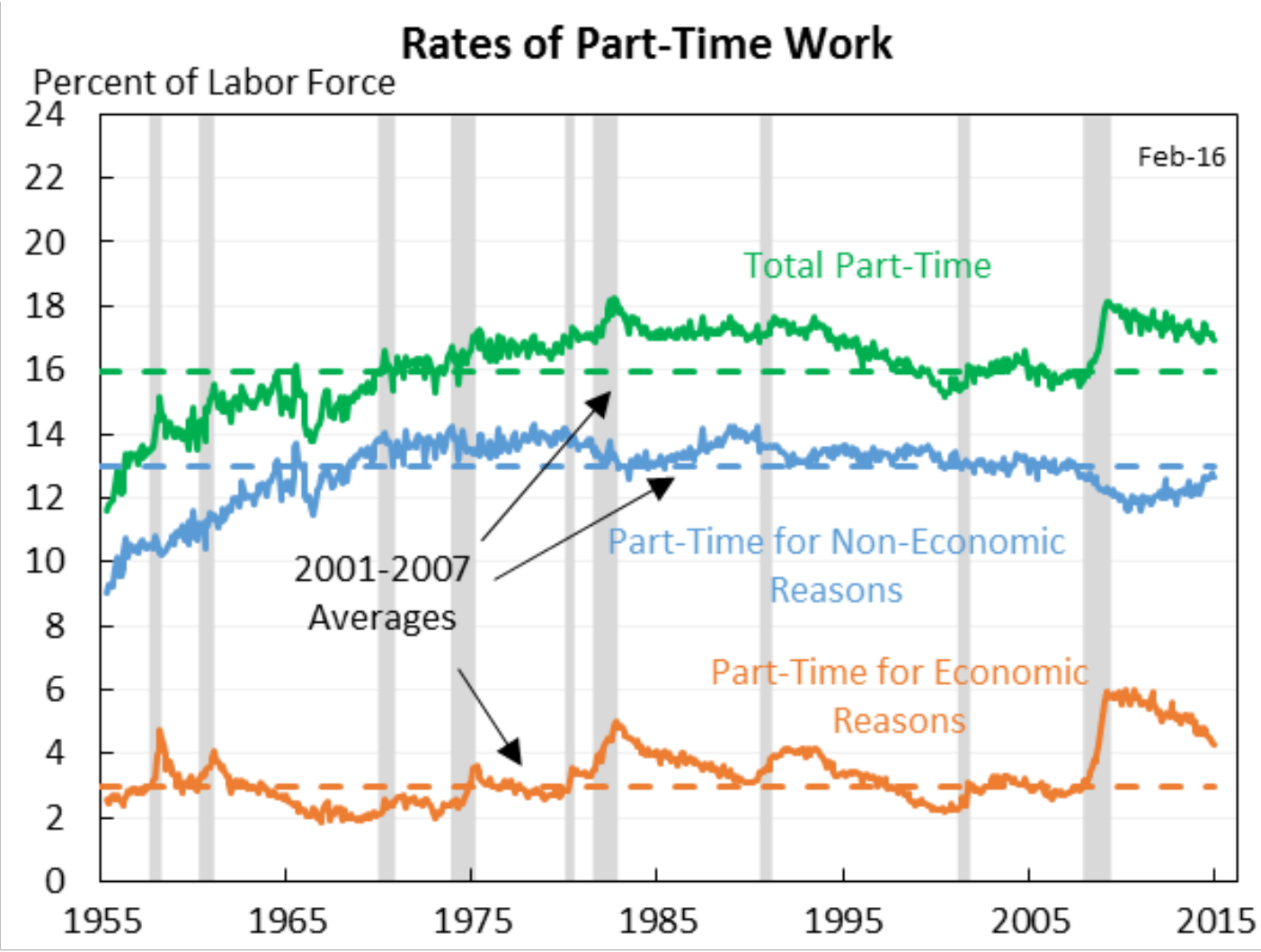
Note: Predicted long-term unemployment rate is derived either from a VAR using data from the period shown with three lags of quarter/quarter changes, or from the simple ratio of the change in the long-term unemployment rate to the change in the unemployment rate in the cycle shown (using different ratios for contraction and expansion periods).

Source: Bureau of Labor Statistics, Current Population Survey; CEA calculations.

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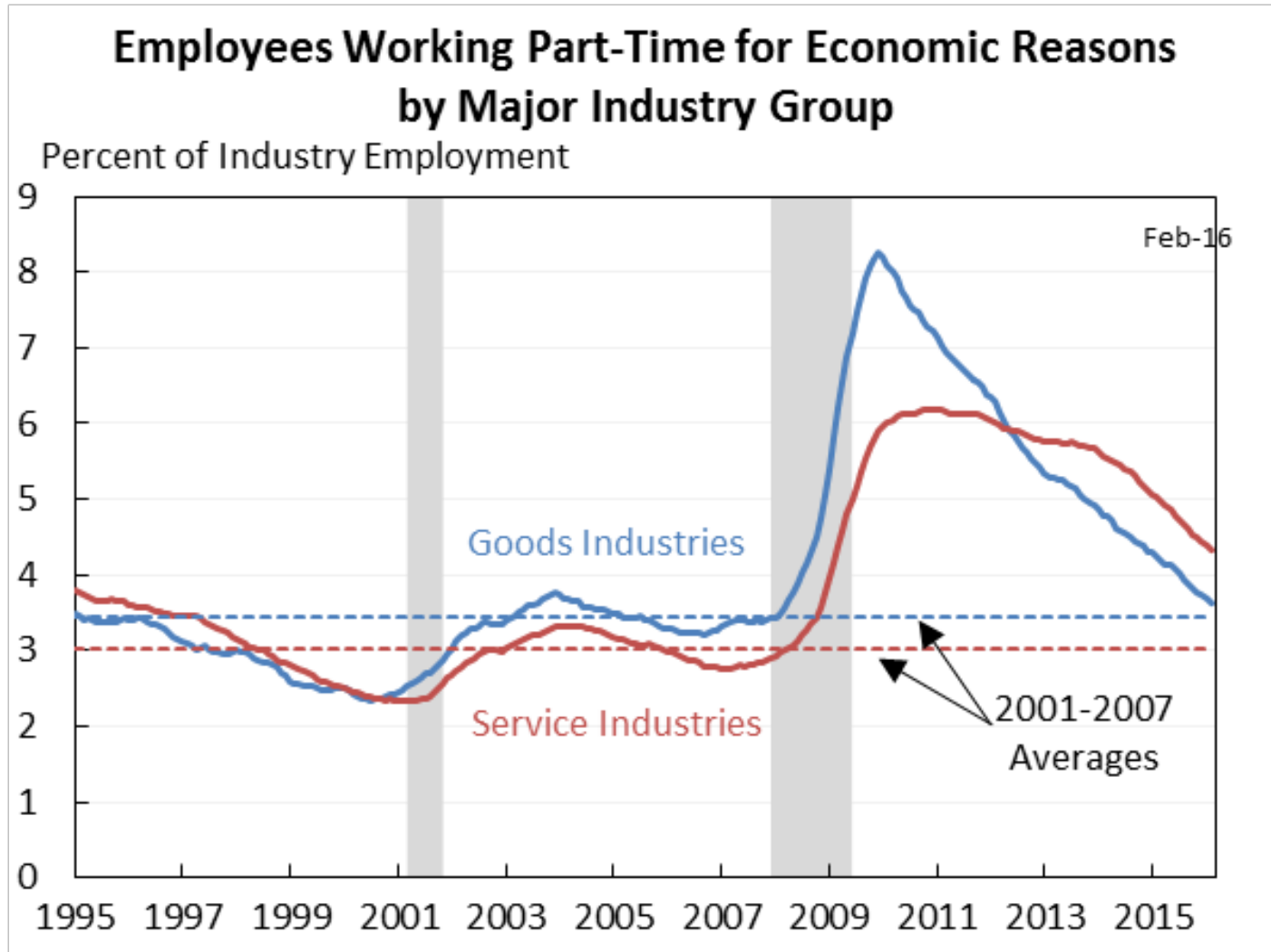
Part-Time for Economic Reasons Rose Sharply in the Recession and Has Come Down Gradually in the Recovery



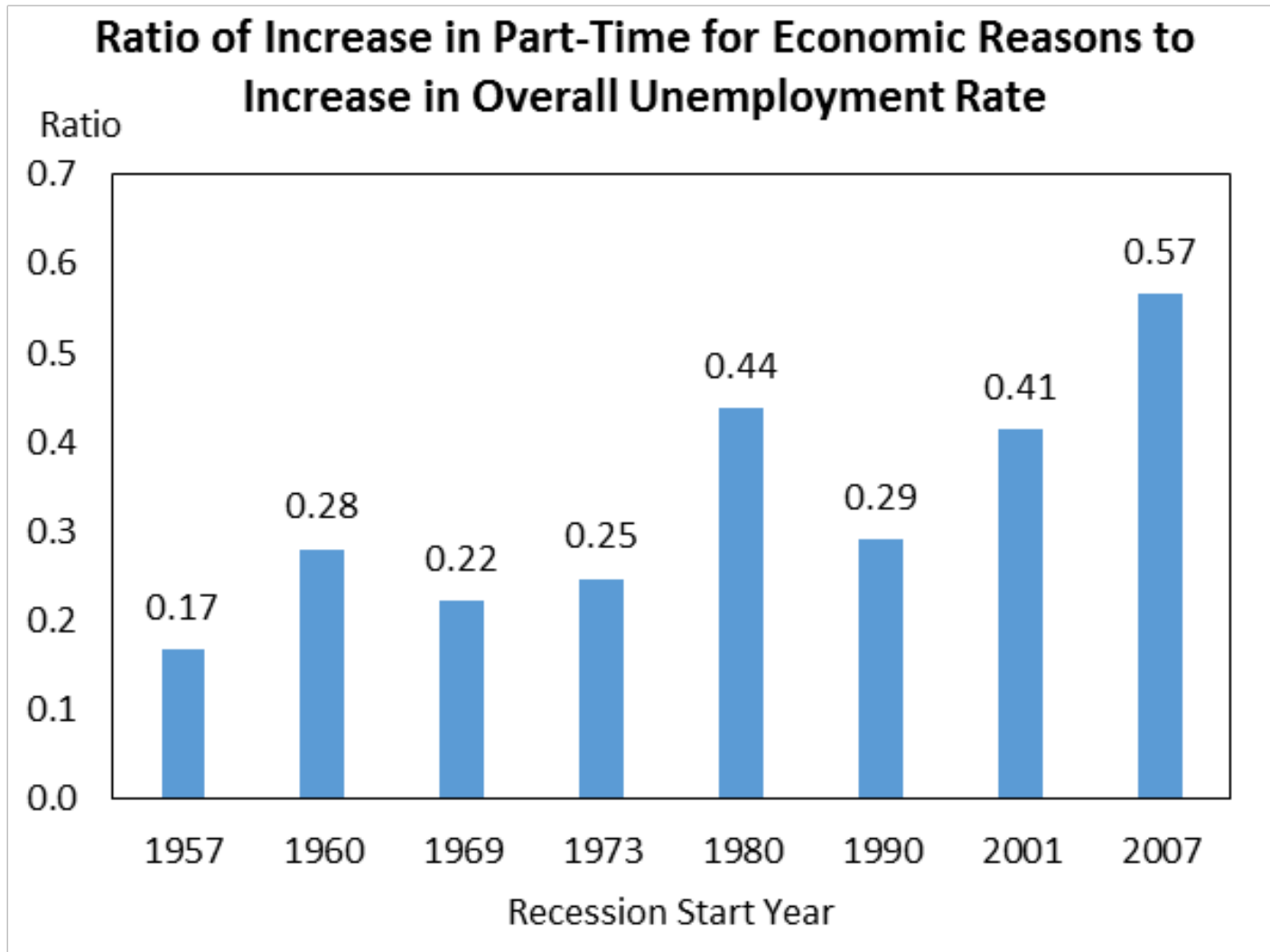
Note: Pre-1994 values for part-time for economic reasons are adjusted for the 1994 CPS redesign using the multiplicative adjustment factors reported in Polivka and Miller (1998). For part-time for non-economic reasons and for total part-time, pre-1994 values are adjusted by multiplying by the ratio of the January 1994 value to the December 1993 value. Shading denotes recession.

Source: Bureau of Labor Statistics, Current Population Survey; Polivka and Miller (1998); CEA calculations.

Most of Remaining Elevation in Part-Time for Economic Reasons is Concentrated in Service Industries



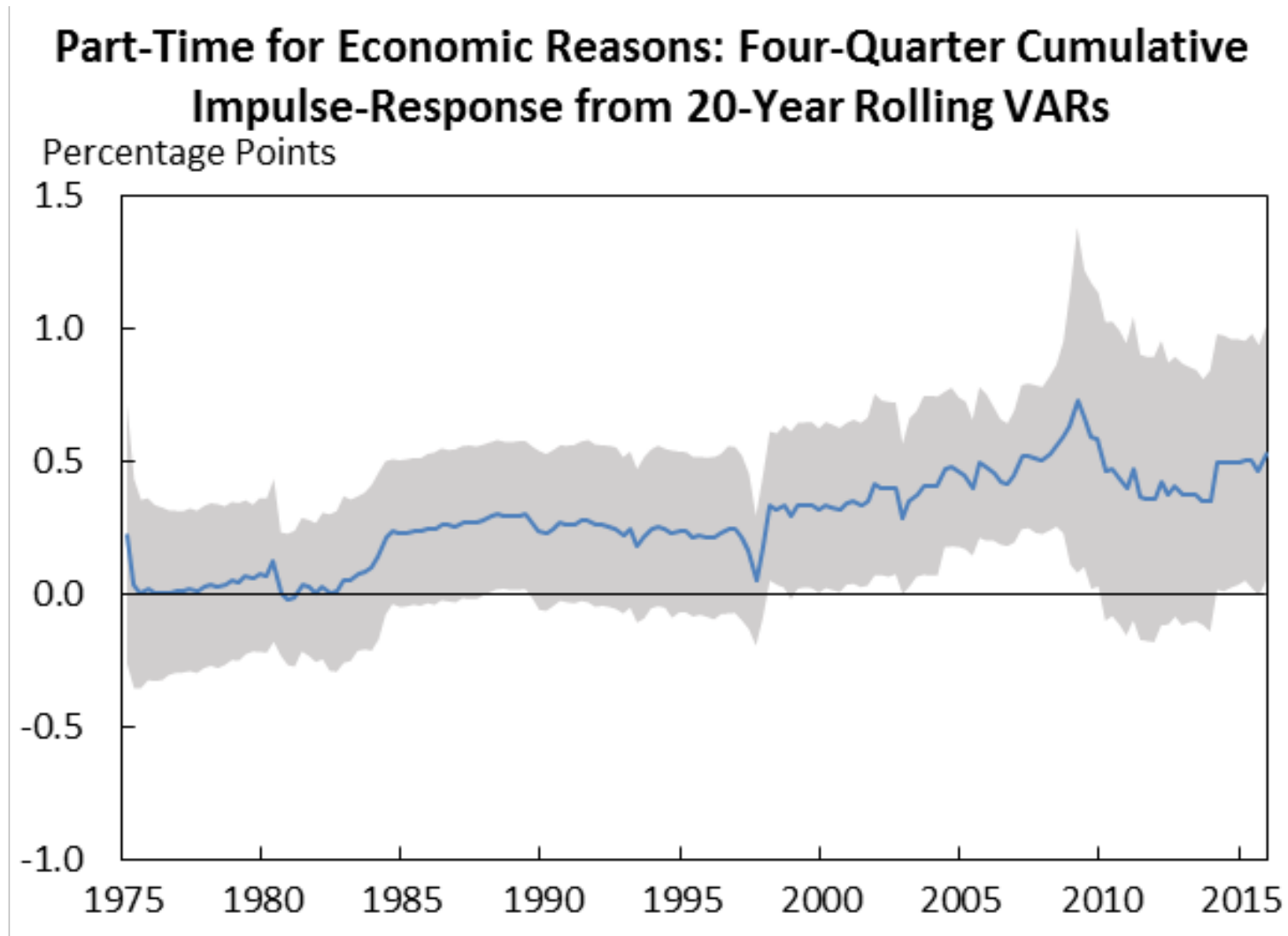
Increased Cyclicity of Part-time for Economic Reasons (Ver. 1)



Note: Increases are measured from the first month of the recession to the peak in the overall unemployment rate. The 1980s recessions are consolidated into a single cycle. Pre-1994 values for part-time for economic reasons are adjusted for the 1994 CPS redesign using the multiplicative adjustment factors reported in Polivka and Miller (1998).

Source: Bureau of Labor Statistics, Current Population Survey; CEA calculations.

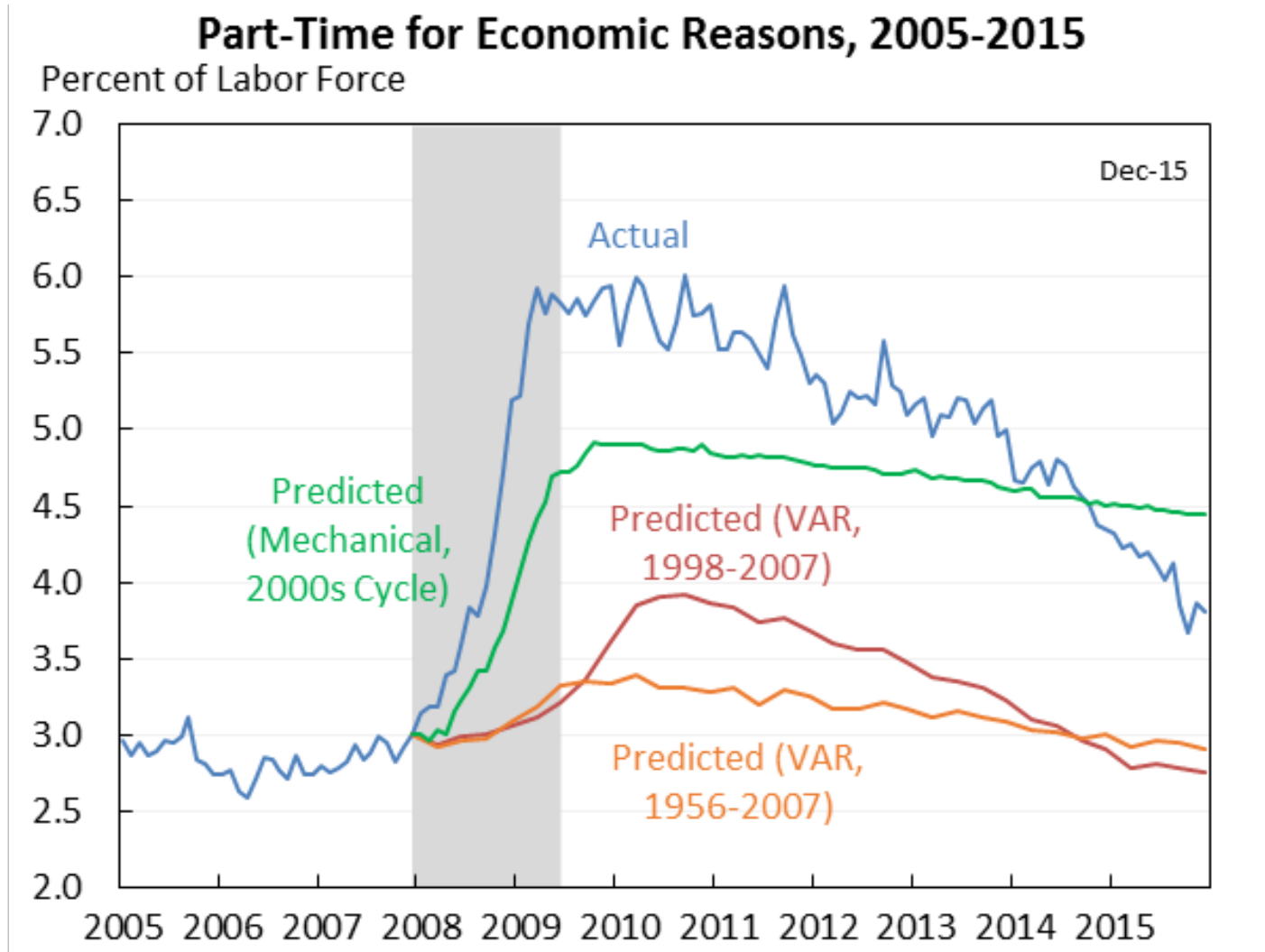
Increased Cyclicity of Part-time for Economic Reasons (Ver. 2)



Note: Pre-1994 values for part-time for economic reasons are adjusted for the 1994 CPS redesign using the multiplicative adjustment factors reported in Polivka and Miller (1998). Cumulative four-quarter response of part-time work for economic reasons (as a share of the labor force) to an exogenous one-percentage-point increase in the unemployment rate. Results are derived from 20-year trailing VARs using three lags of quarter/quarter changes. Shading denotes 90 percent confidence interval.

Source: Bureau of Labor Statistics, Current Population Survey; Polivka and Miller (1998); CEA calculations.

Elevated Part-Time Work for Economic Reasons: Cyclical or Structural?



Note: Predicted part-time for economic reasons rate is derived either from a VAR using data from the period shown with three lags of quarter/quarter changes, or from the simple ratio of the change in the part-time for economic reasons rate to the change in the unemployment rate in the cycle shown (using different ratios for contraction and expansion periods).

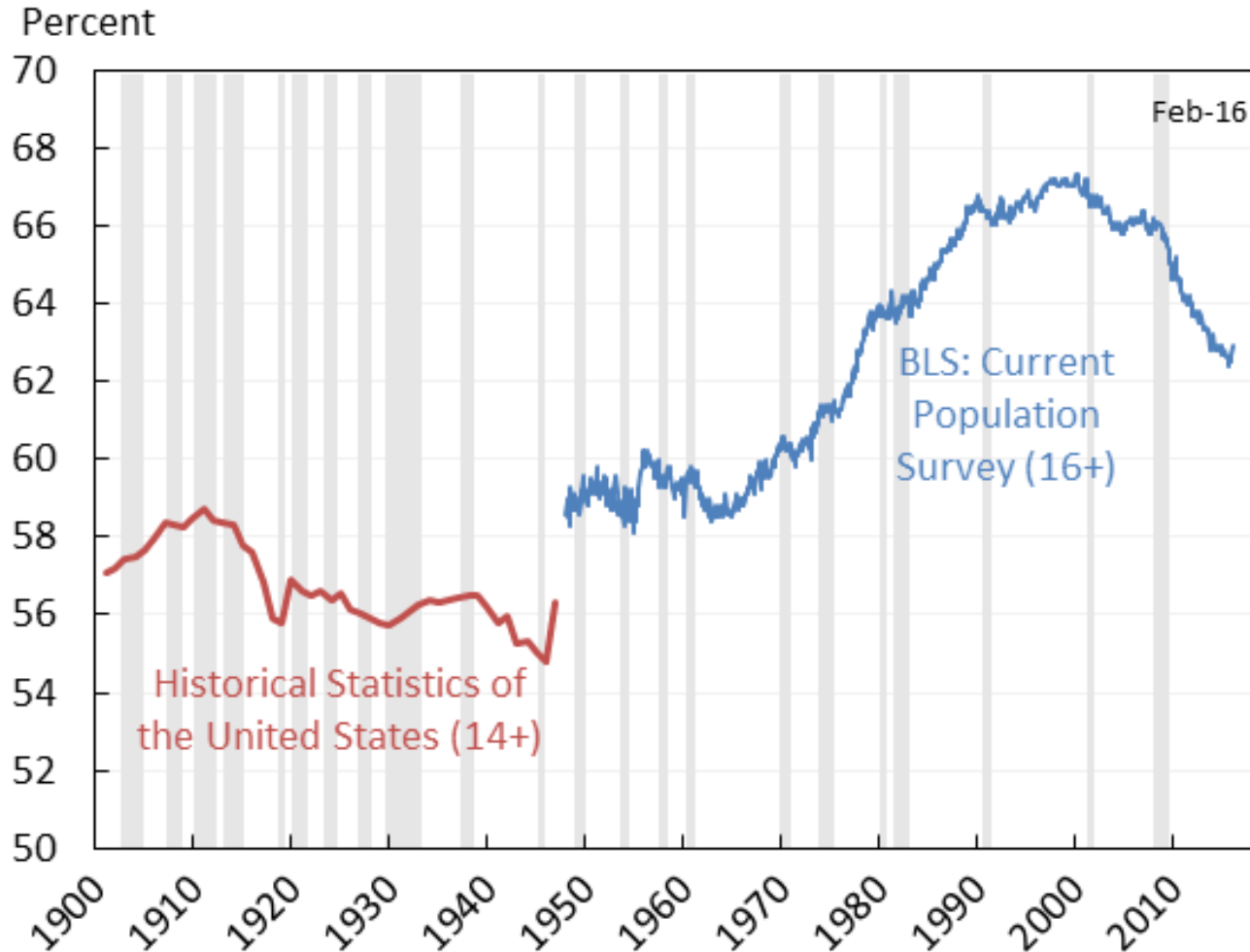
Source: Bureau of Labor Statistics, Current Population Survey; CEA calculations.

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The Long-Run Increase and Decline in the Labor Force Participation Rate

Labor Force Participation, 1901-2016



Note: Shading denotes recession.

Source: Bureau of Labor Statistics, Current Population Survey; Historical Statistics of the United States; Census Bureau; CEA calculations.

Explaining the Post-2007 Decline in the Labor Force Participation Rate

The labor force participation rate fell 3.4 percentage points from 2007-Q4 to 2015-Q4.

This can be attributed to:

Structural

1. Aging trend. This is the mechanical impact of, for example, having fewer 55-59 year olds (male LFPR = 77%) and more 70-74 year olds (male LFPR = 23%).
2. Non-aging trend (predictable based on history absent a recession). For example, male participation rates have been declining since the early 1950s and female participation rates have been declining since the late 1990s.

Cyclical

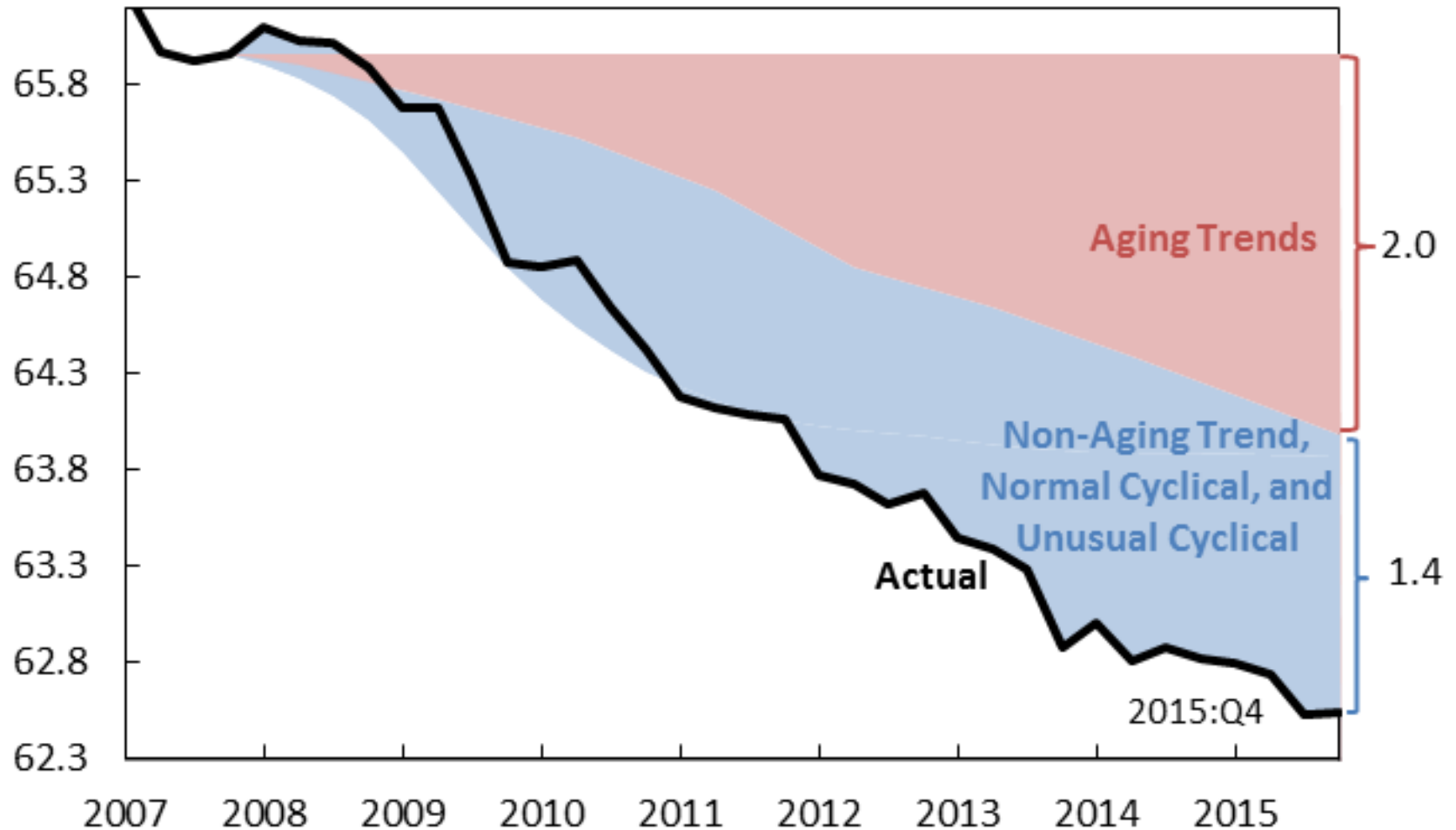
3. Normal cyclical (predictable based on history given the actual unemployment rate). Historically, for every 1 percentage point elevation in the unemployment rate, the participation rate is 0.1 to 0.2 percentage points lower.
4. Unusual cyclical. The Great Recession was unusually severe and hit a labor market that has undergone structural changes, making the cyclical impact different.

Note – CEA's statistical analysis combines 2 and 4 as a residual.

Ageing Trend Explains More Than Half of the Post-2007 Decline

Labor Force Participation Decomposition

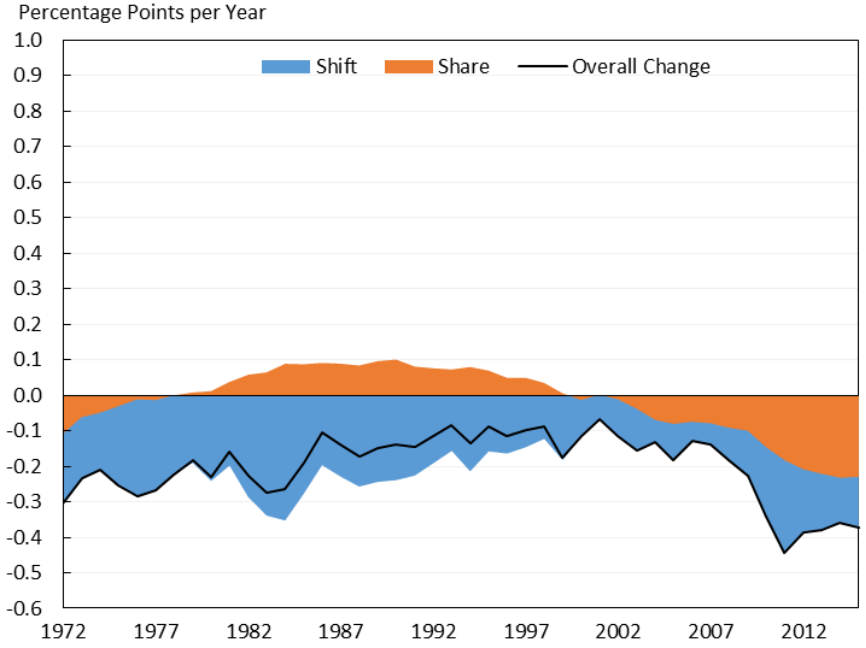
Percent of Civilian Noninstitutional Population Age 16+



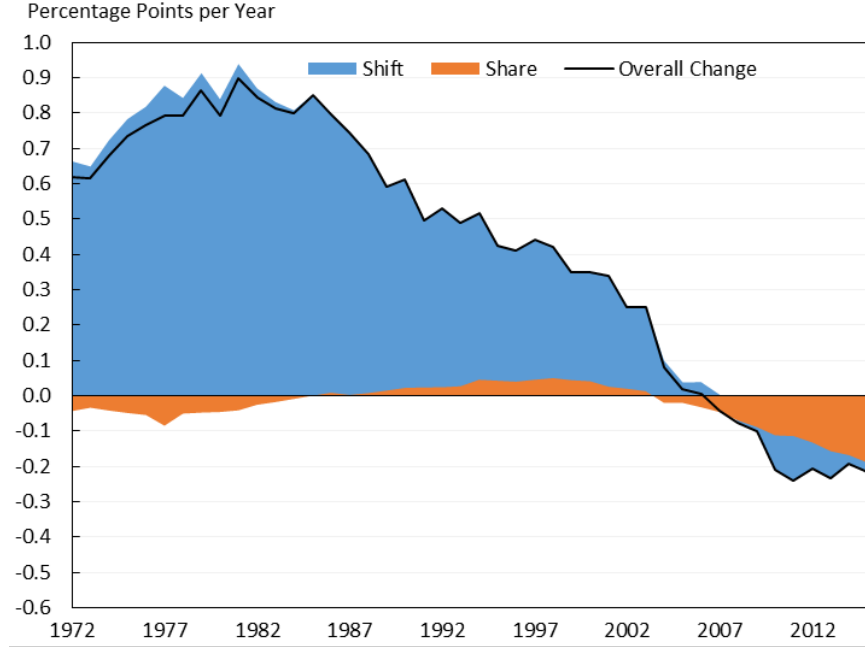
Note: Year axis denotes first quarter of year noted. See 2015 *Economic Report of the President* for methodological details. Components may not sum to total due to rounding.
Source: Social Security Administration; Bureau of Labor Statistics; CEA calculations.

Longstanding, Persistent Non-Aging Trends in Labor Force Participation

Decomposition of Ten-Year Changes in Labor Force Participation Rate by Age, All Men



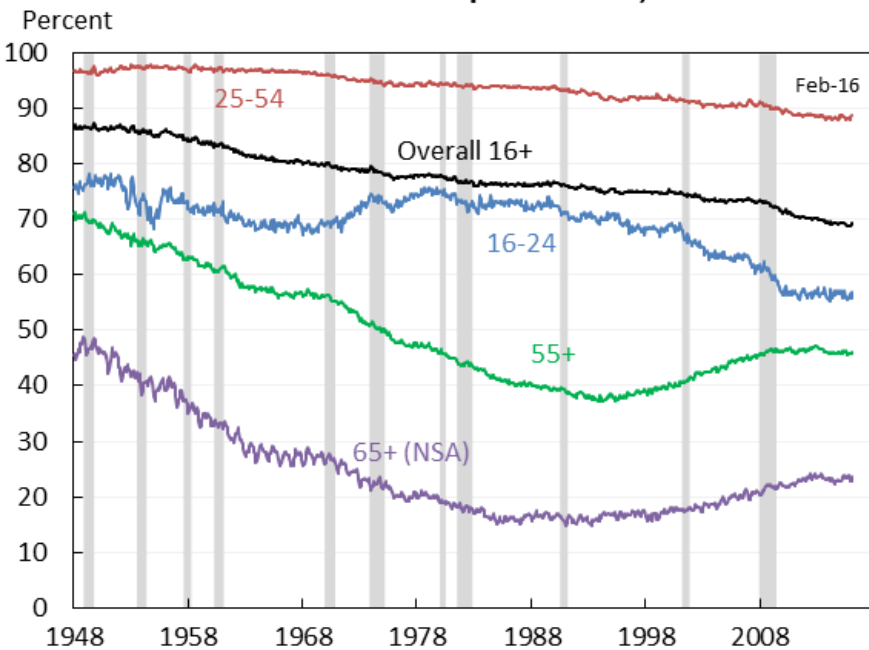
Decomposition of Ten-Year Changes in Labor Force Participation Rate by Age, All Women



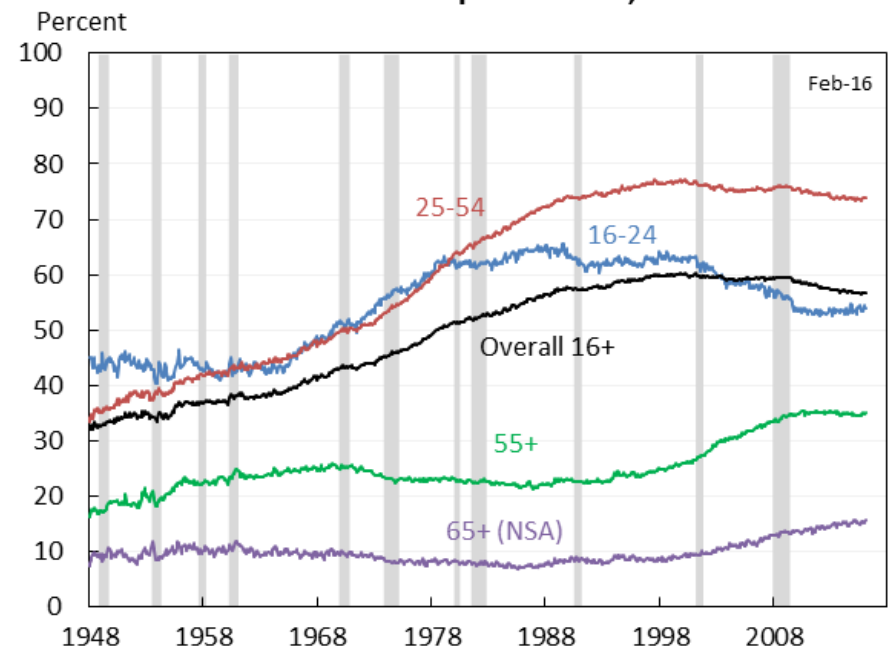
Source: Bureau of Labor Statistics, Current Population Survey; CEA calculations.

Evolution of Labor Force Participation by Gender and Age

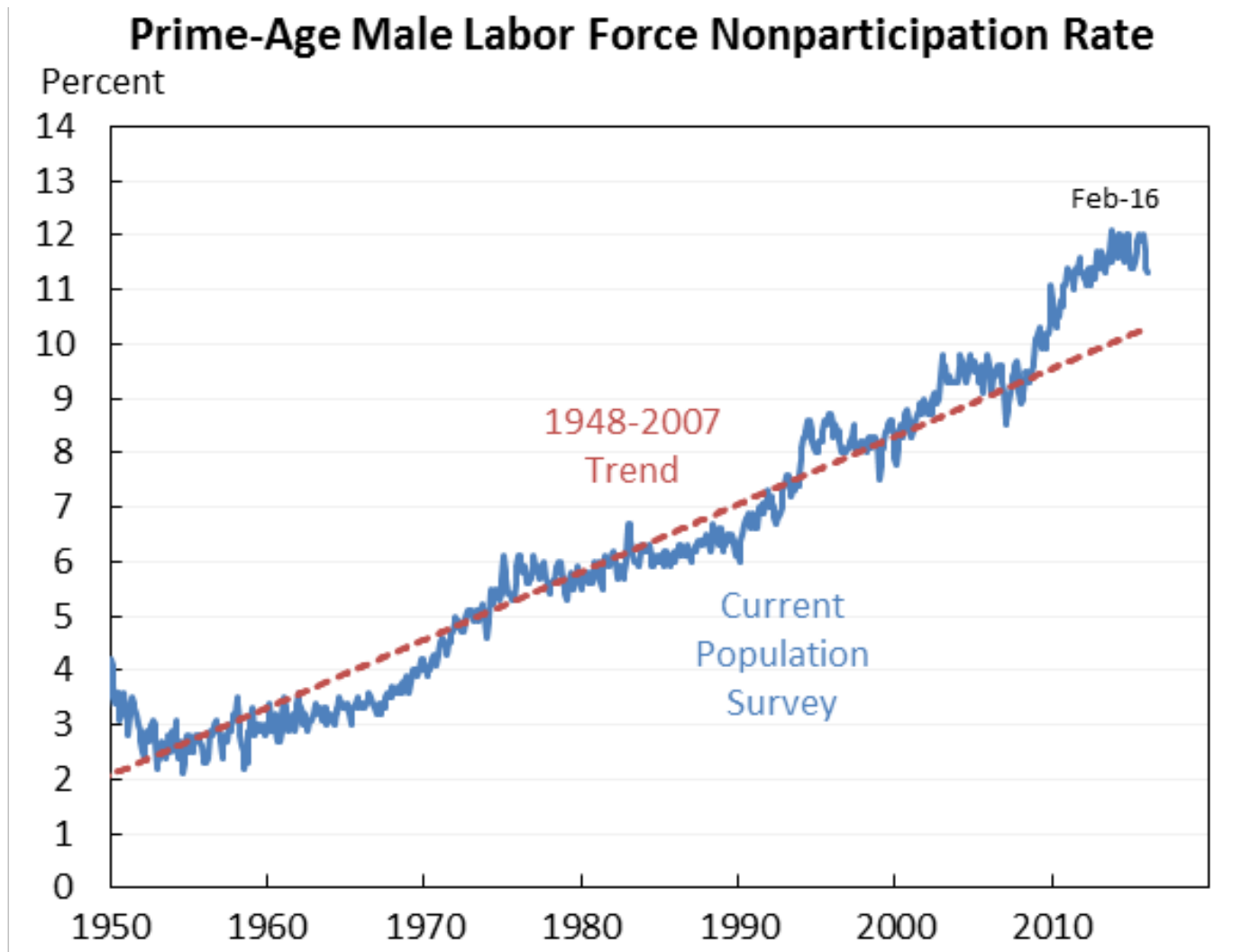
Labor Force Participation Rate, Men



Labor Force Participation Rate, Women

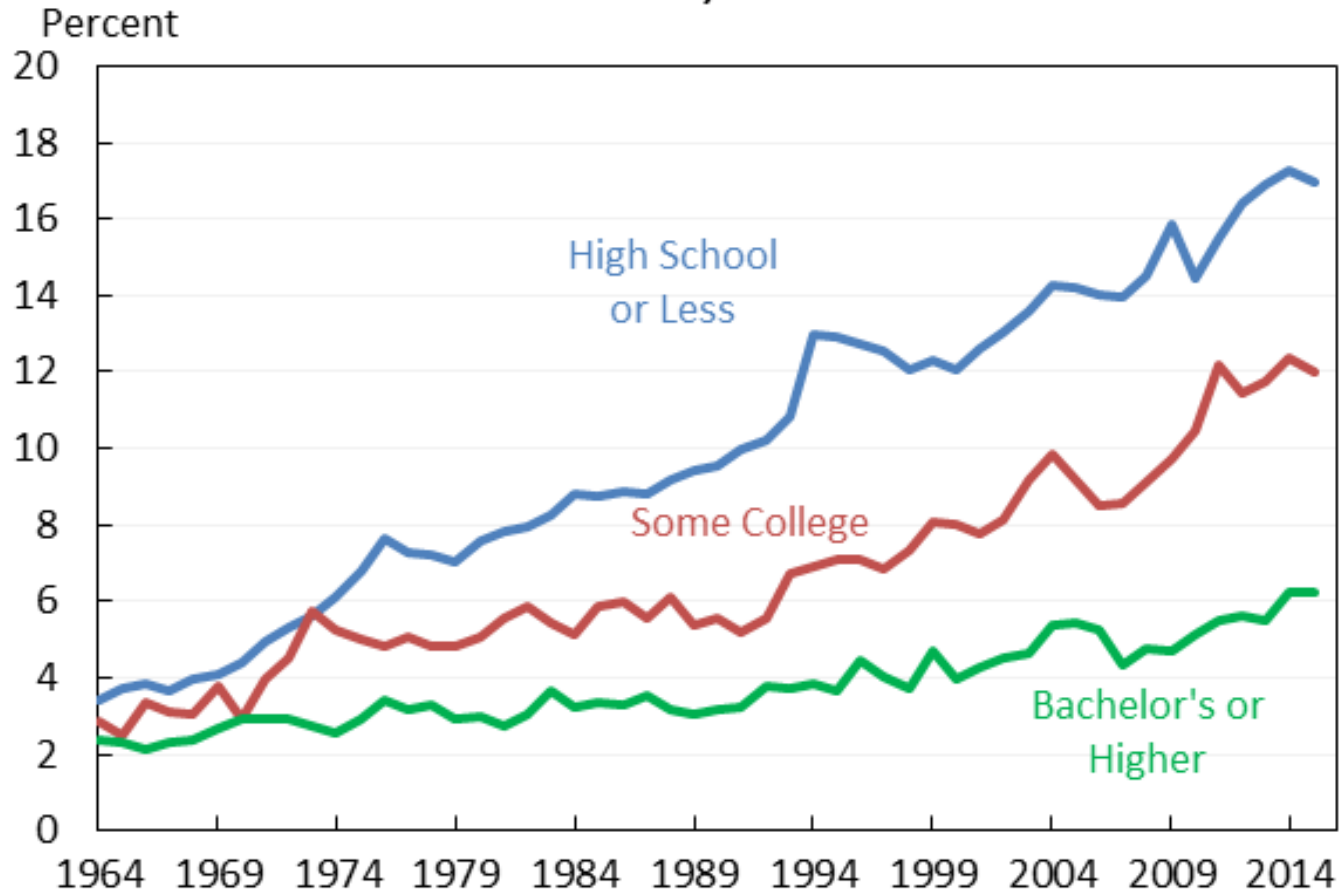


Prime-Age Men Not in the Labor Force Went from 3 Percent in 1953 to 5 Percent in 1972 to 12 Percent in 2015



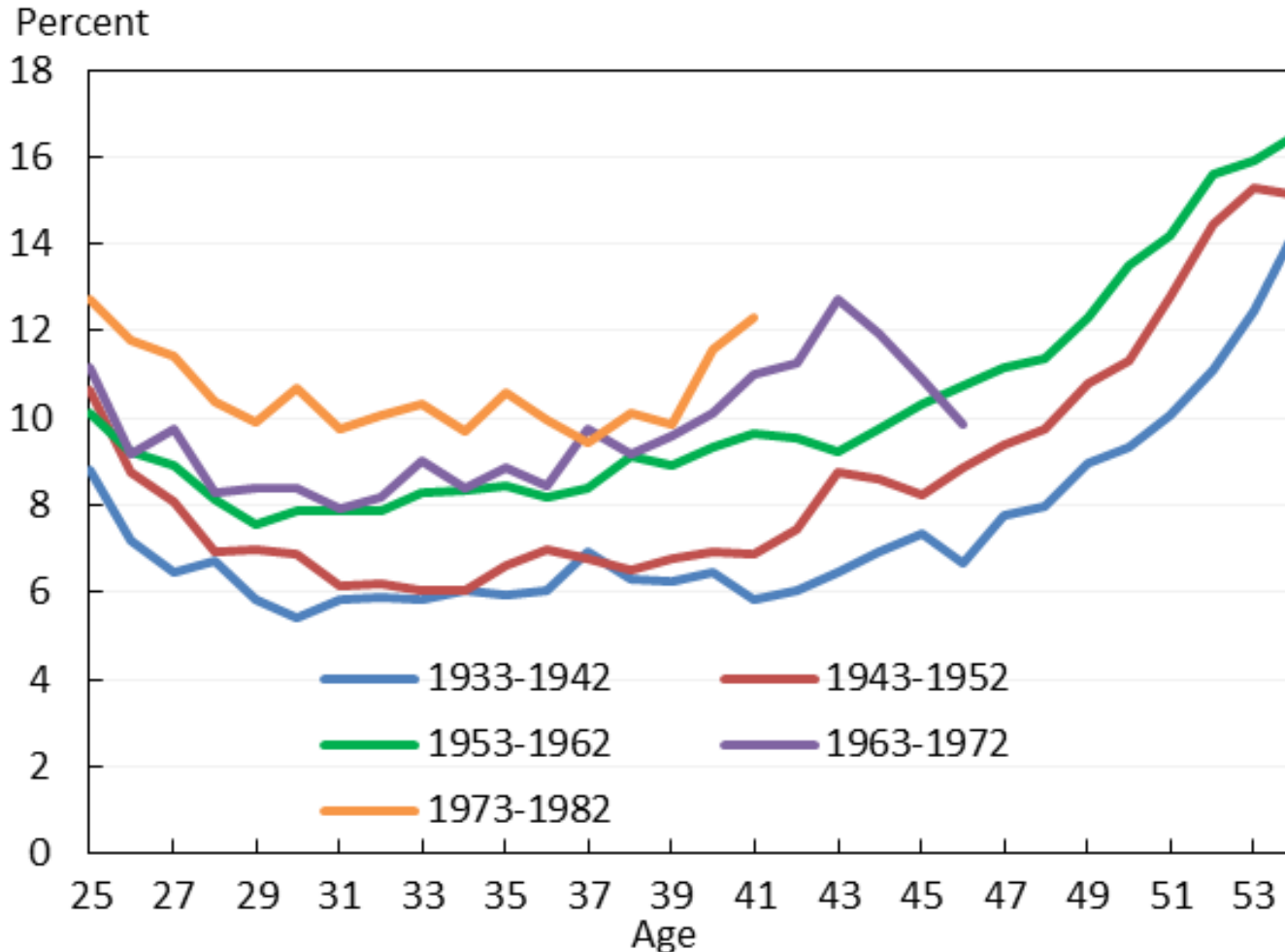
Increase In Prime Age Male Nonparticipation Is Driven by Less-Educated

Prime-Age Male Labor Force Nonparticipation by Educational Attainment, 1964-2015



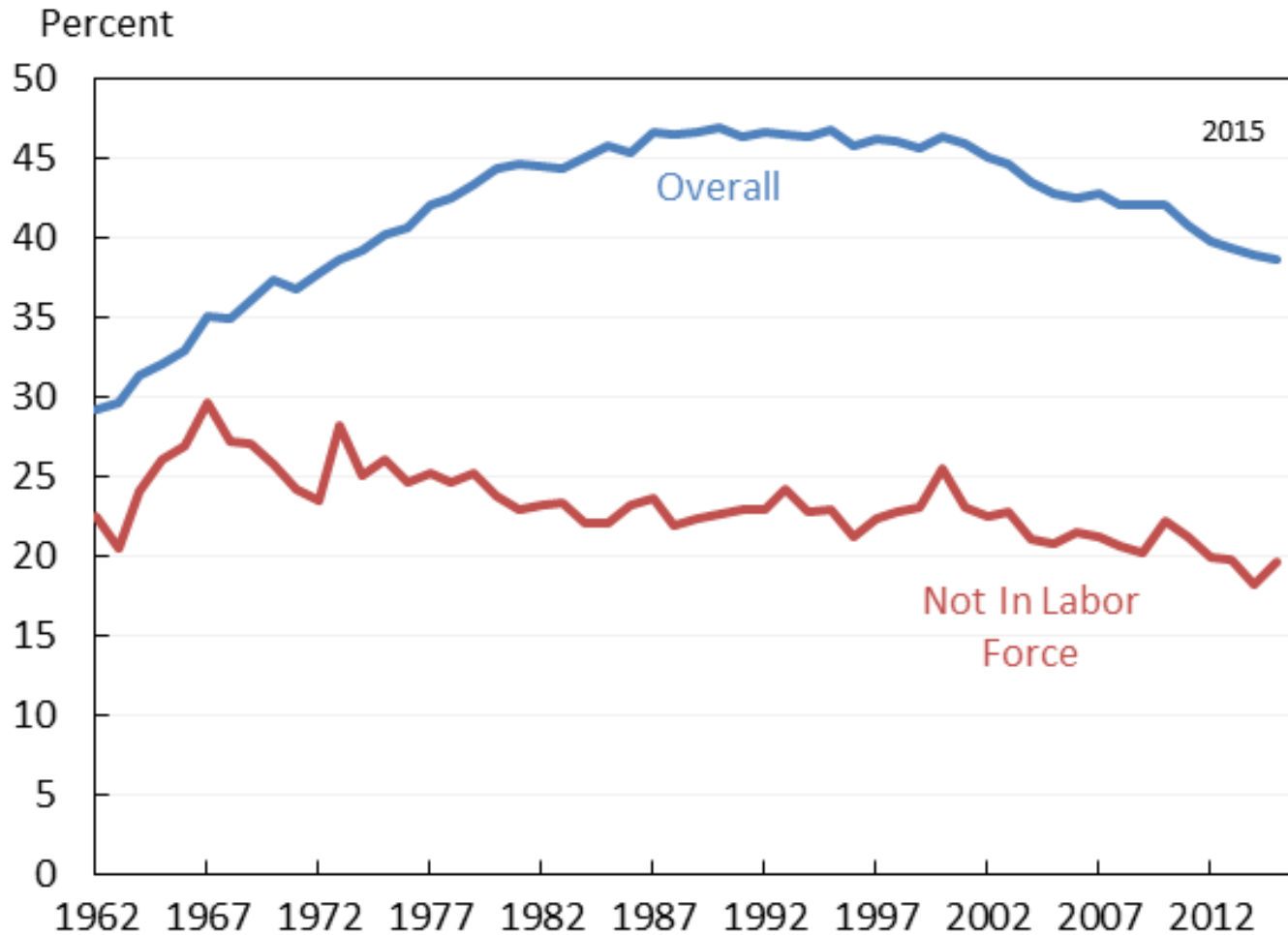
Increase in Prime Age Male Nonparticipation Roughly Similar at All Age Levels

Prime-Age Male Labor Force Nonparticipation by Birth Cohort

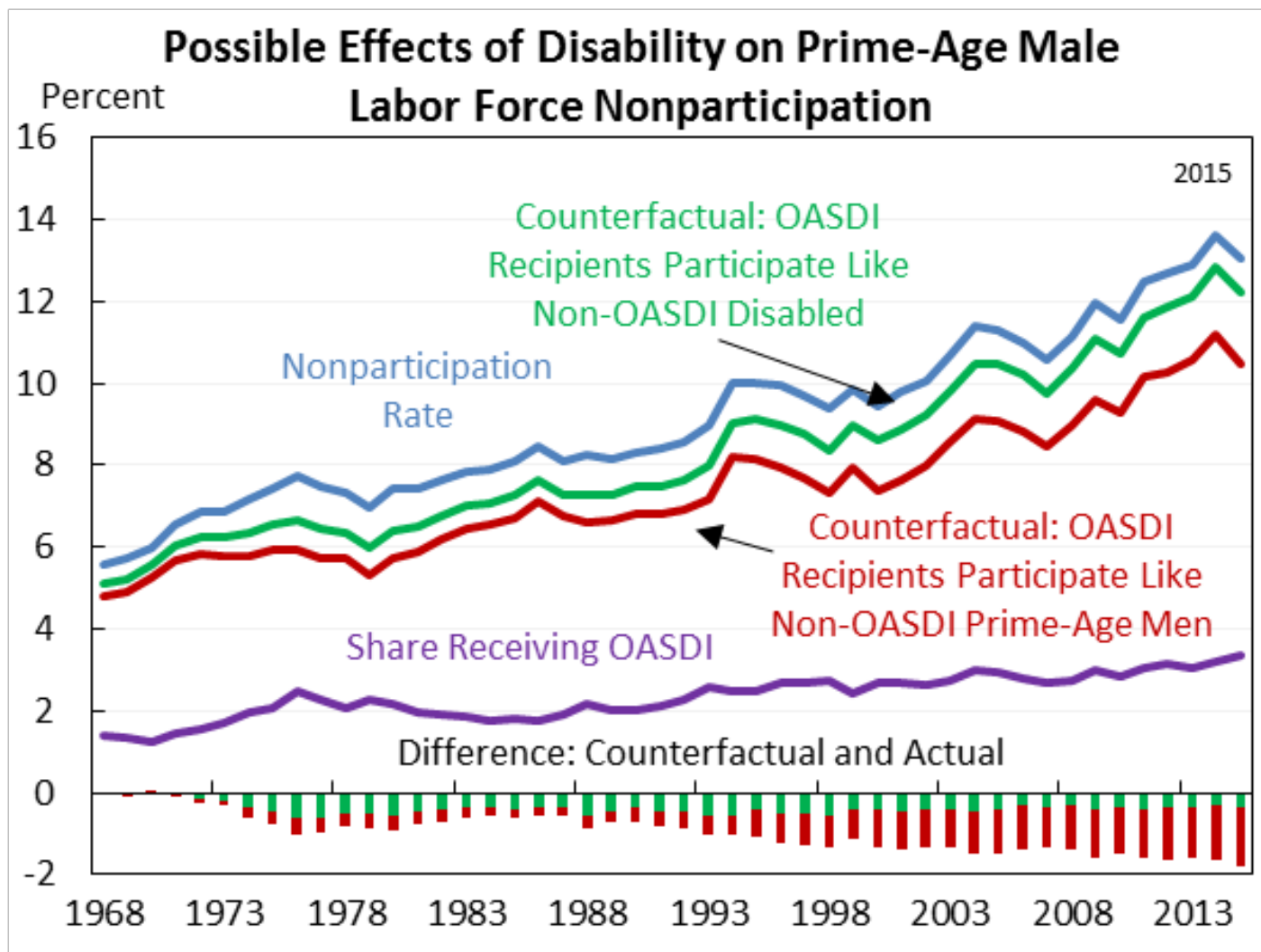


Increase in Prime Age Male Nonparticipation Not Explained By Increases in Working Spouses

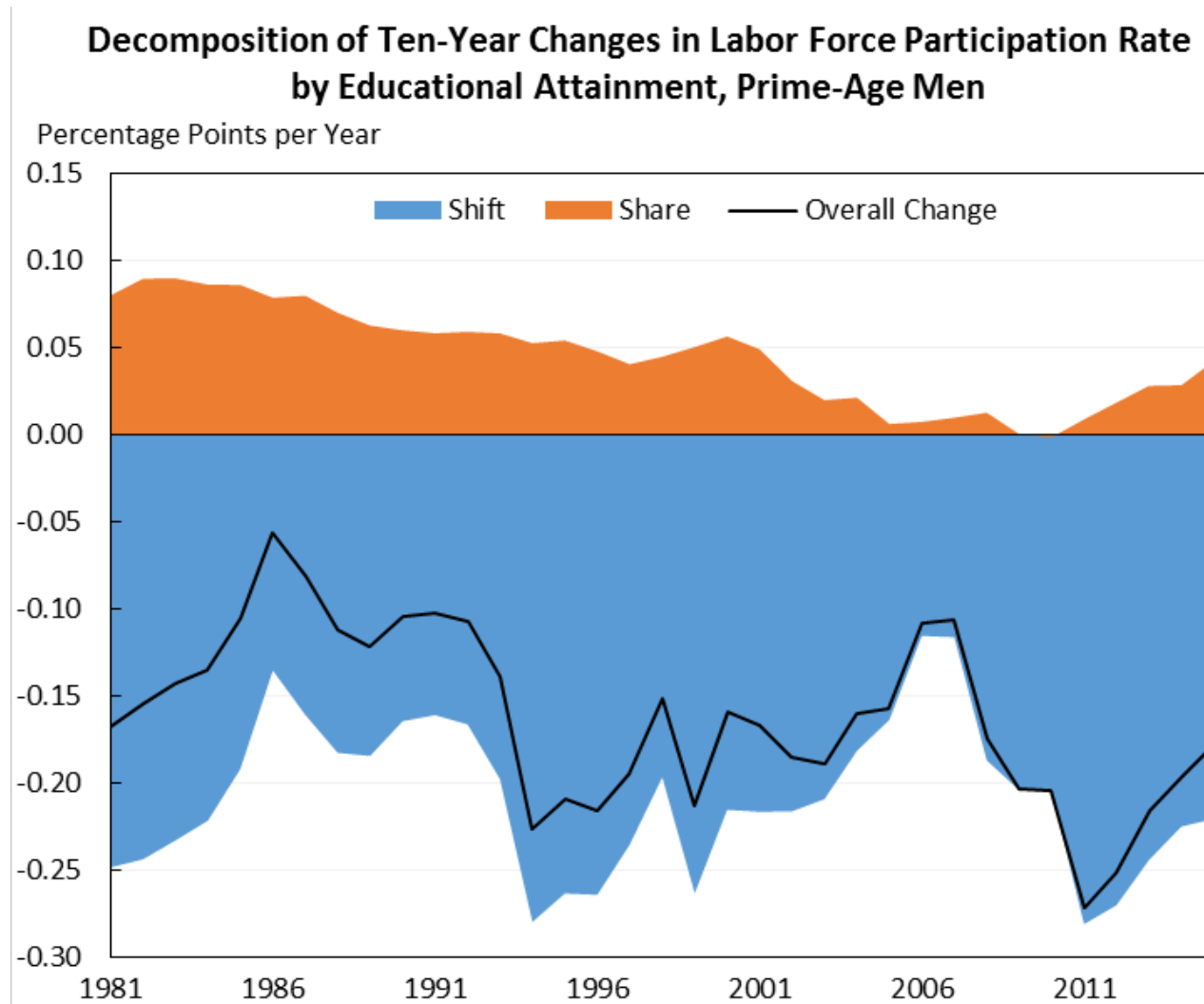
Percentage of Prime-Age Men With Spouse in the Labor Force



At Most a Portion of the Increase Explained by Disability Insurance Receipt



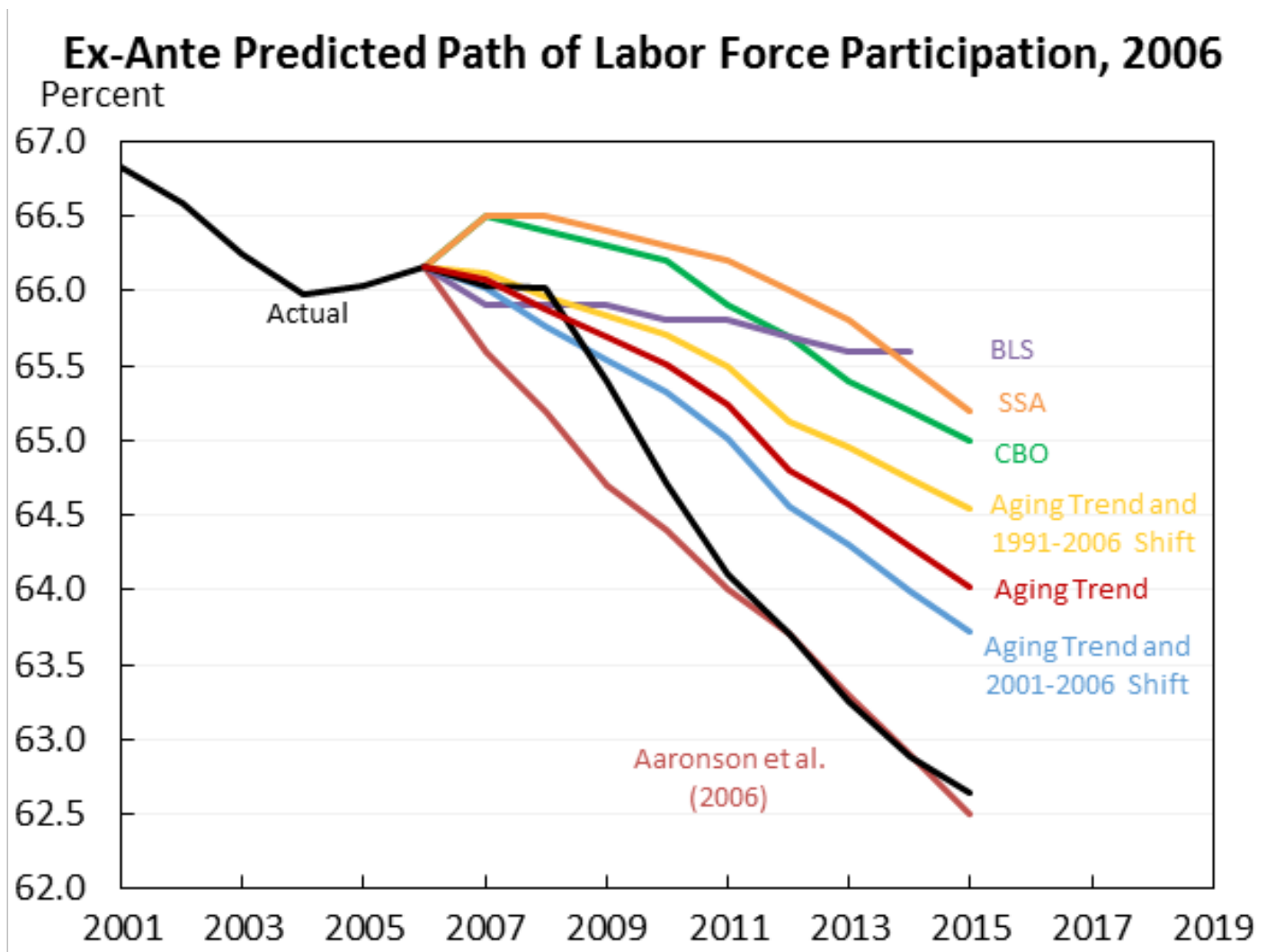
Increased Educational Attainment Goes the Other Way



Decomposition of Changes in Nonparticipation: Unexplained Within-Group Changes, Especially For Less-Educated, Drive the Change

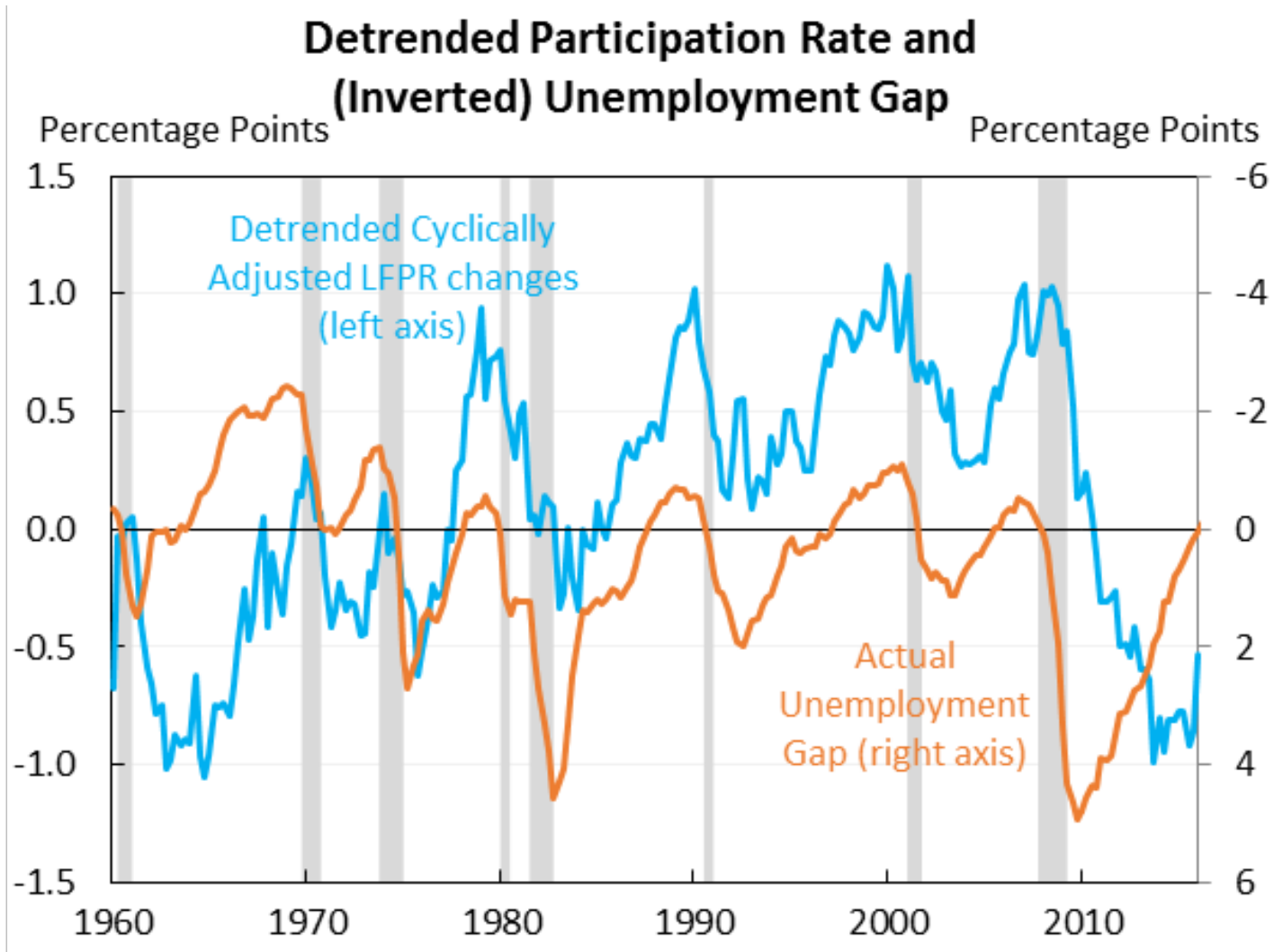
Table: Oaxaca Decomposition of Changes in the Prime-Age Male Labor Force Nonparticipation Rate			
Period	1968 to 1990	1990 to 2015	1968 to 2015
Overall Change (p.p.)	3.4	5.2	8.6
Endowments	0.2	2.2	2.4
<i>Age (with Quadratic)</i>	<i>-0.4</i>	<i>0.5</i>	<i>0.0</i>
<i>Child in Household</i>	<i>0.4</i>	<i>0.3</i>	<i>1.0</i>
<i>Single</i>	<i>0.5</i>	<i>0.5</i>	<i>1.0</i>
<i>Spouse in Labor Force</i>	<i>-0.4</i>	<i>0.3</i>	<i>-0.1</i>
<i>Educational Attainment</i>	<i>-0.4</i>	<i>-0.3</i>	<i>-0.9</i>
<i>Social Security Income</i>	<i>0.4</i>	<i>1.0</i>	<i>1.4</i>
Coefficients	2.4	3.2	5.9
Interaction	0.9	-0.2	0.3

How Predictable Was the Fall in the Labor Force Participation Rate From Aging and Non-Aging Trends Without Factoring In the Recession?



Source: Aaronson et al. (2006); Bureau of Labor Statistics, Current Population Survey; CEA calculations.

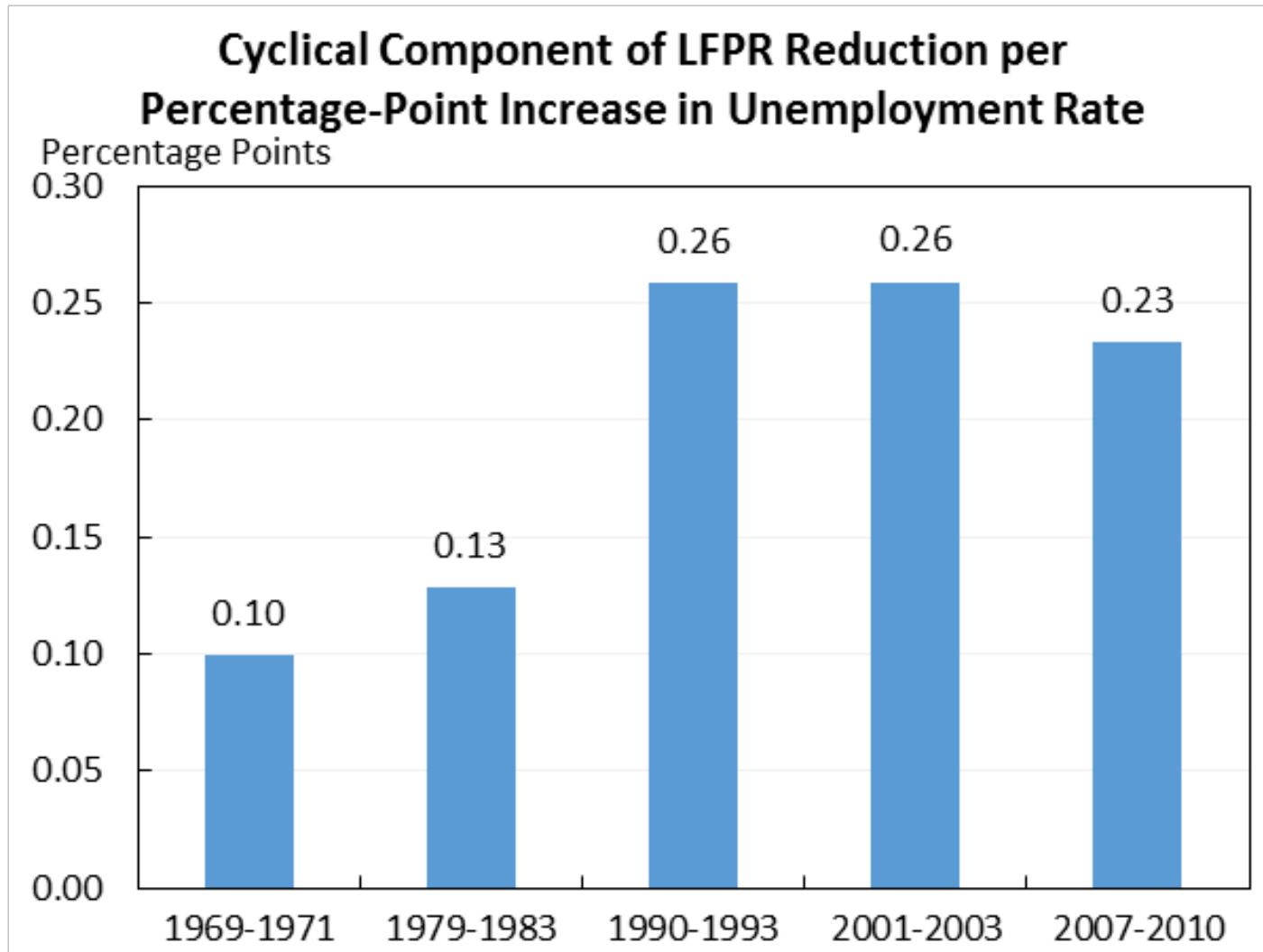
Labor Force Participation Is Somewhat Cyclical



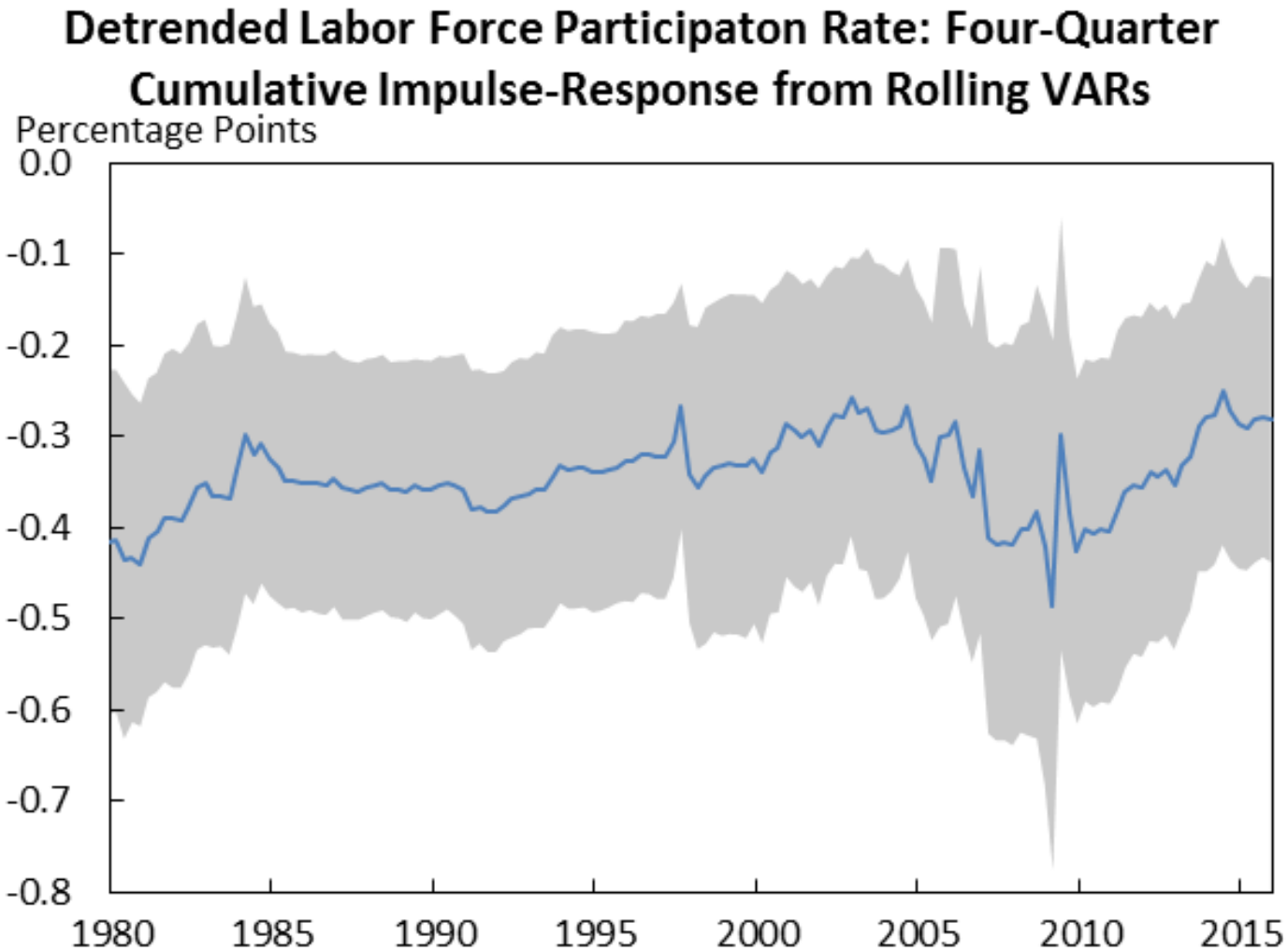
Note: Shading denotes recession.

Source: Bureau of Labor Statistics, Current Population Survey; Congressional Budget Office; CEA calculations.

Cyclical Sensitivity of the Labor Force Participation Rate Appears to Have Increased Over Time (Ver. 1)

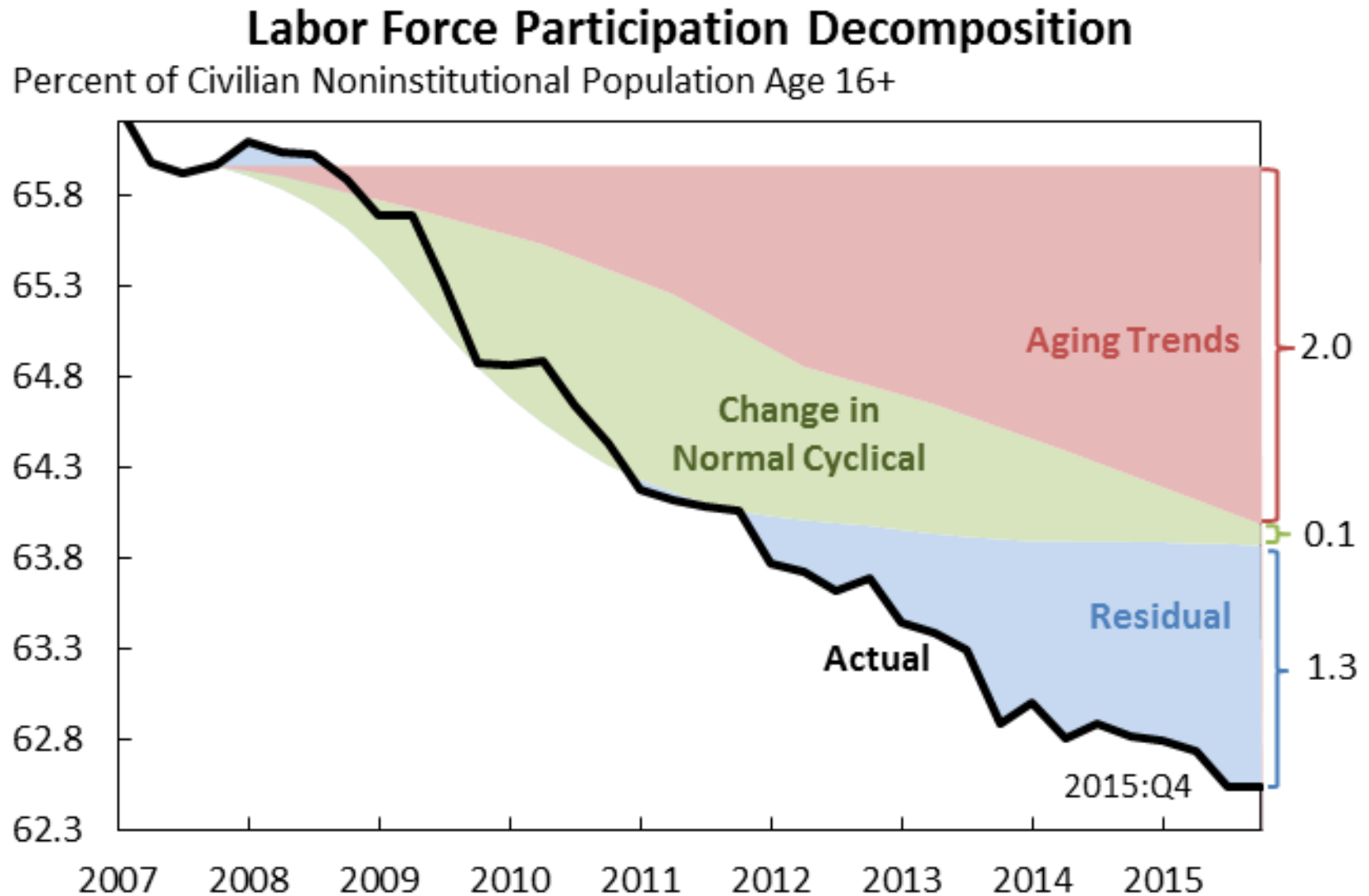


Cyclical Sensitivity of the Labor Force Participation Rate Less Clear Over Time (Ver. 2)



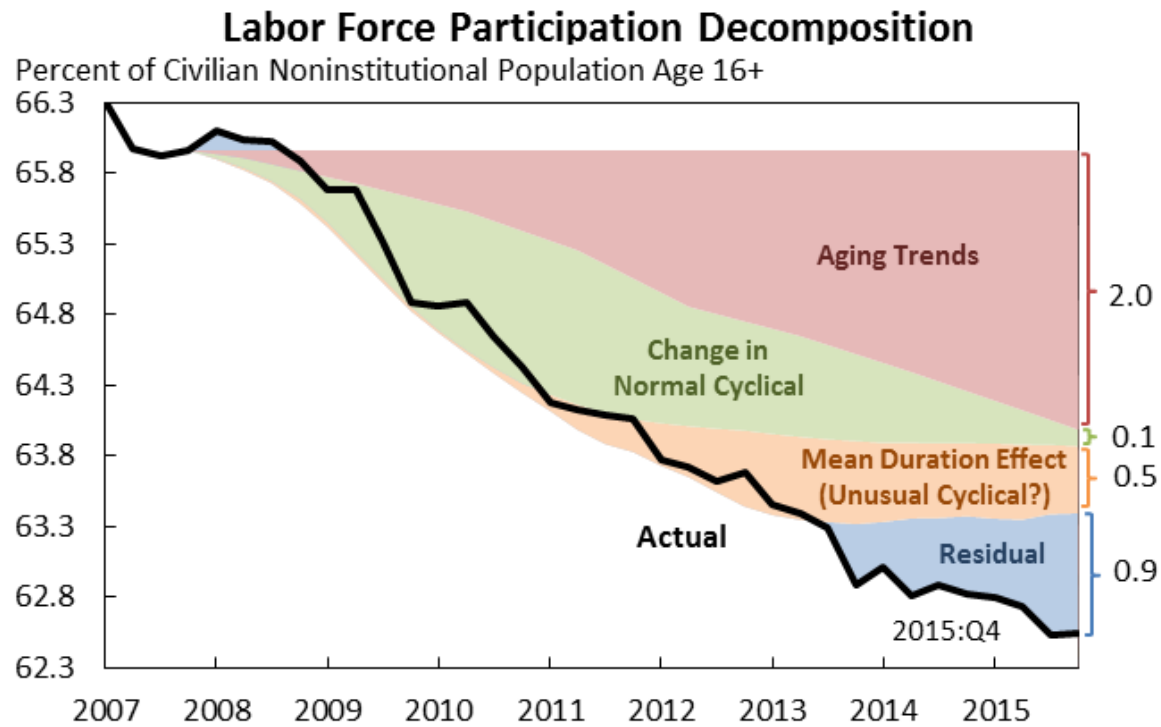
Note: Cumulative four-quarter response of detrended LFPR (using a biweight kernel) to an exogenous one-percentage-point increase in the unemployment rate. Results are derived from 20-year trailing VARs using three lags of quarter/quarter changes. Shading denotes 90 percent confidence interval.
Source: Bureau of Labor Statistics, Current Population Survey; CEA calculations.

Decomposition of the Decline in the Labor Force Participation Rate



Note: Year axis denotes first quarter of year noted. See 2015 *Economic Report of the President* for methodological details. Components may not sum to total due to rounding.
Source: Social Security Administration; Bureau of Labor Statistics; CEA calculations.

Evidence For Unusual Cyclical: Increased Mean Duration of Unemployment is Associated With Lower Participation



Regression of Quarterly Differences in Detrended Participation Rate

Independent Variables (Year-over-Year Differences)					
Unemp. Gap	Unemp. Gap (t-4)	Unemp. Gap (t-8)	Mean Duration	Mean Duration (t-4)	Mean Duration (t-8)
-0.0330*	0.00429	0.0151	-0.00406	-0.0142*	0.00222
(0.00914)	(0.0146)	(0.0114)	(0.00534)	(0.00524)	(0.00527)

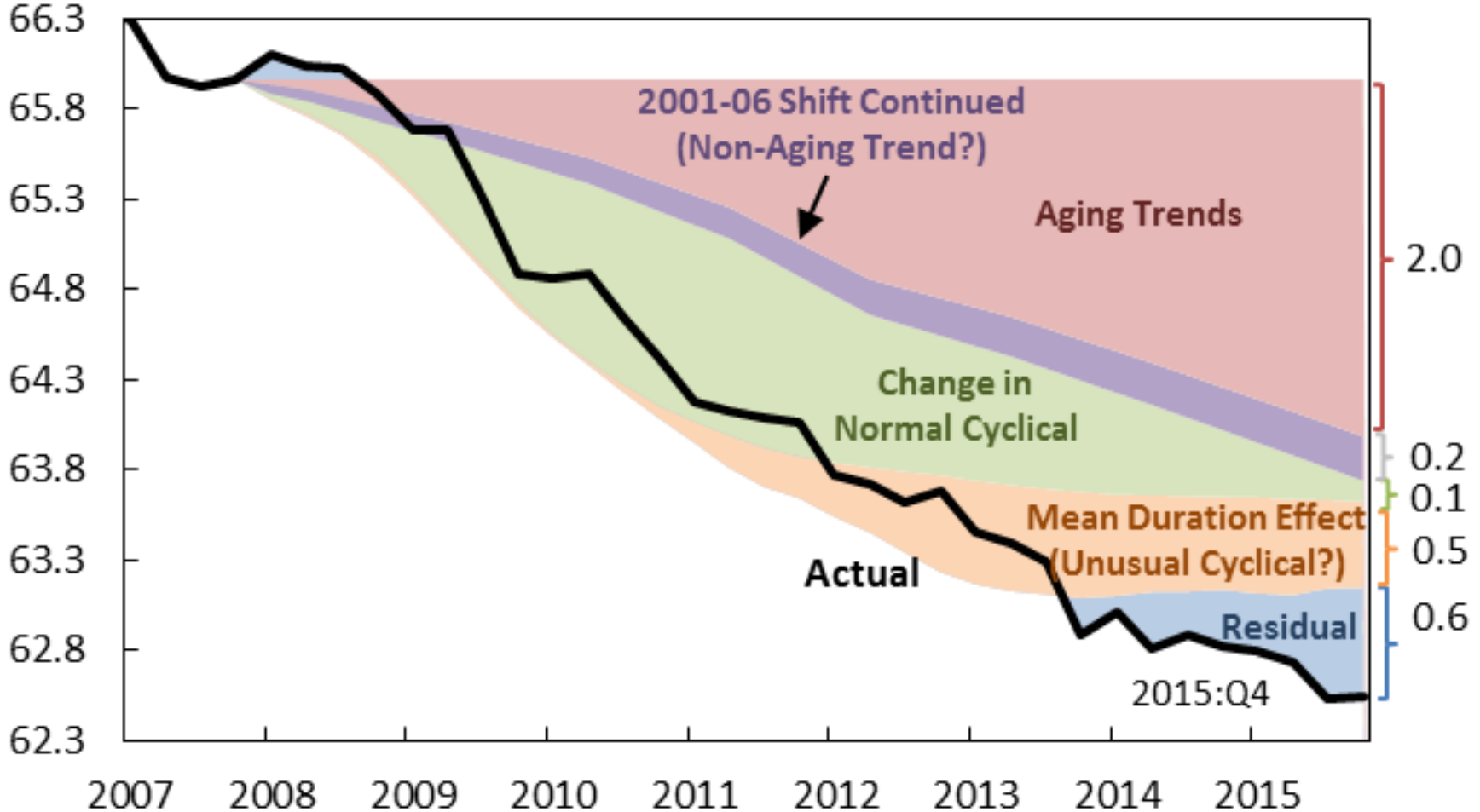
Note: Regression is estimated using data from 1960:Q1 to 2014:Q2. Newey-West standard errors using a maximum lag of 12 are reported in parentheses. Participation rate and unemployment gap are detrended using the procedure described in Appendix A. F-tests are joint significance tests of the disability insurance, mean duration, and schooling variables. * p<0.01..

Source: Social Security Administration; Bureau of Labor Statistics; CEA calculations.

Possible Summary of the Sources of the Post-Great Recession Decline in the Labor Force Participation Rate

Labor Force Participation Decomposition

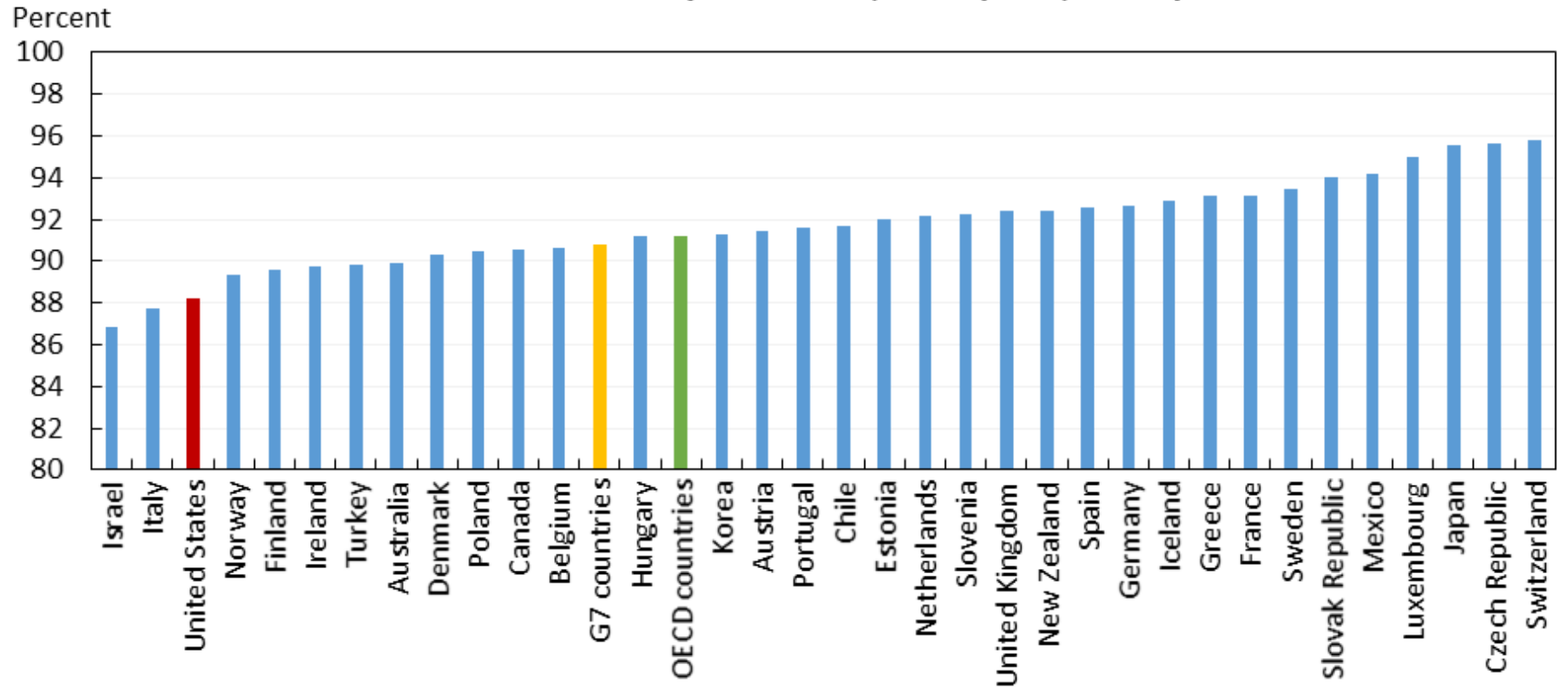
Percent of Civilian Noninstitutional Population Age 16+



Note: Year axis denotes first quarter of year noted. See 2015 *Economic Report of the President* for methodological details. Components may not sum to total due to rounding.
Source: Social Security Administration; Bureau of Labor Statistics; CEA calculations.

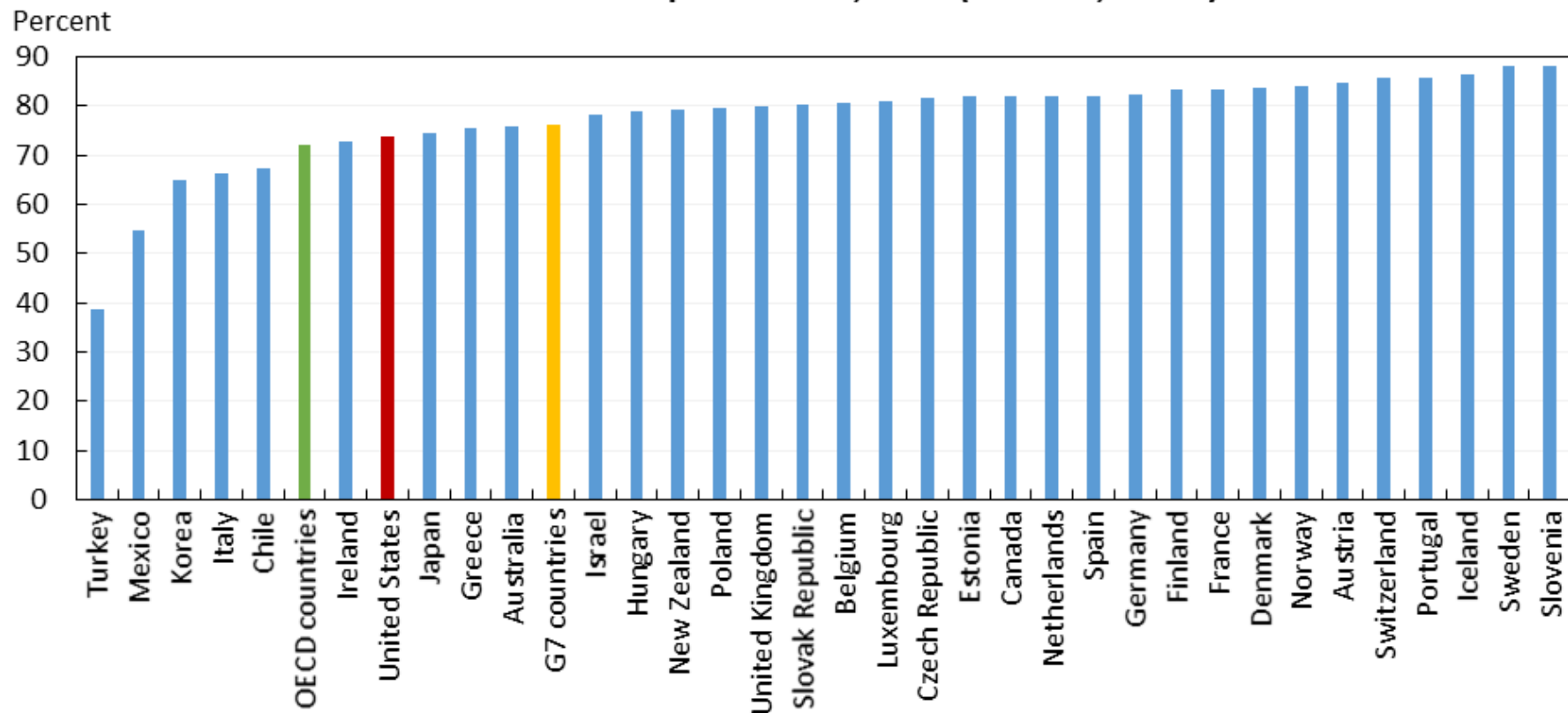
The United States Has Among the Lowest Participation Rates for Prime-Age Men in the OECD

Labor Force Participation Rate, 2014 (Men, 25-54)



The United States Has Among the Lowest Participation Rates for Prime-Age Women in the OECD

Labor Force Participation Rate, 2014 (Women, 25-54)



U.S. Labor Market Has High Flexibility But Low Supportiveness According to OECD's *Going for Growth* Indicators

OECD Measures of Labor Market Flexibility	U.S. Percentile Rank (100=Most Flexible)
Overall Labor Market Regulation	100
Employment Protection for Regular Employment	100
Scope of State Intervention	94
Minimum Cost of Labor	92
Coverage of Collective Bargaining Agreements	90
Labor Taxation	71
Barriers to Entrepreneurship	62

OECD Measures of Institutional Labor Market Support	U.S. Percentile Rank (100=Most Supportive)
Nationwide Paid Leave Policy	0
Expenditure on Active Labor Market Policies	3
Net Childcare Costs, Lone Parent	6
Implicit Tax on Returning to Work, Lone Parent	9
Unemployment Benefits (1 Year)	11
Unemployment Benefits (5 Years)	11
Number of Weeks Lost Due to Sick Leave	11
Net Childcare Costs, Couples	13
Implicit Tax on Returning to Work, Second Earner	13
Tax Wedge: Single Earner vs. Second-Earner Couples	25
Public Expenditure for Childcare	29

But the United States is Generally Better at Labor Force Participation for the Young and for the Old—a Tradeoff?

Labor Force Participation Rate, 2014 (Percent)				
Age	Sex	Unweighted OECD Mean	United States	SD from OECD Mean
All	Male	68.9	69.2	0.05
	Female	54.8	57.0	0.24
15-24	Male	48.3	56.4	0.60
	Female	43.4	53.6	0.64
25-54	Male	91.7	88.2	-1.62
	Female	77.9	73.9	-0.40
55-64	Male	68.1	69.9	0.15
	Female	51.4	58.8	0.50
65+	Male	16.9	23.0	0.50
	Female	8.2	15.1	1.01

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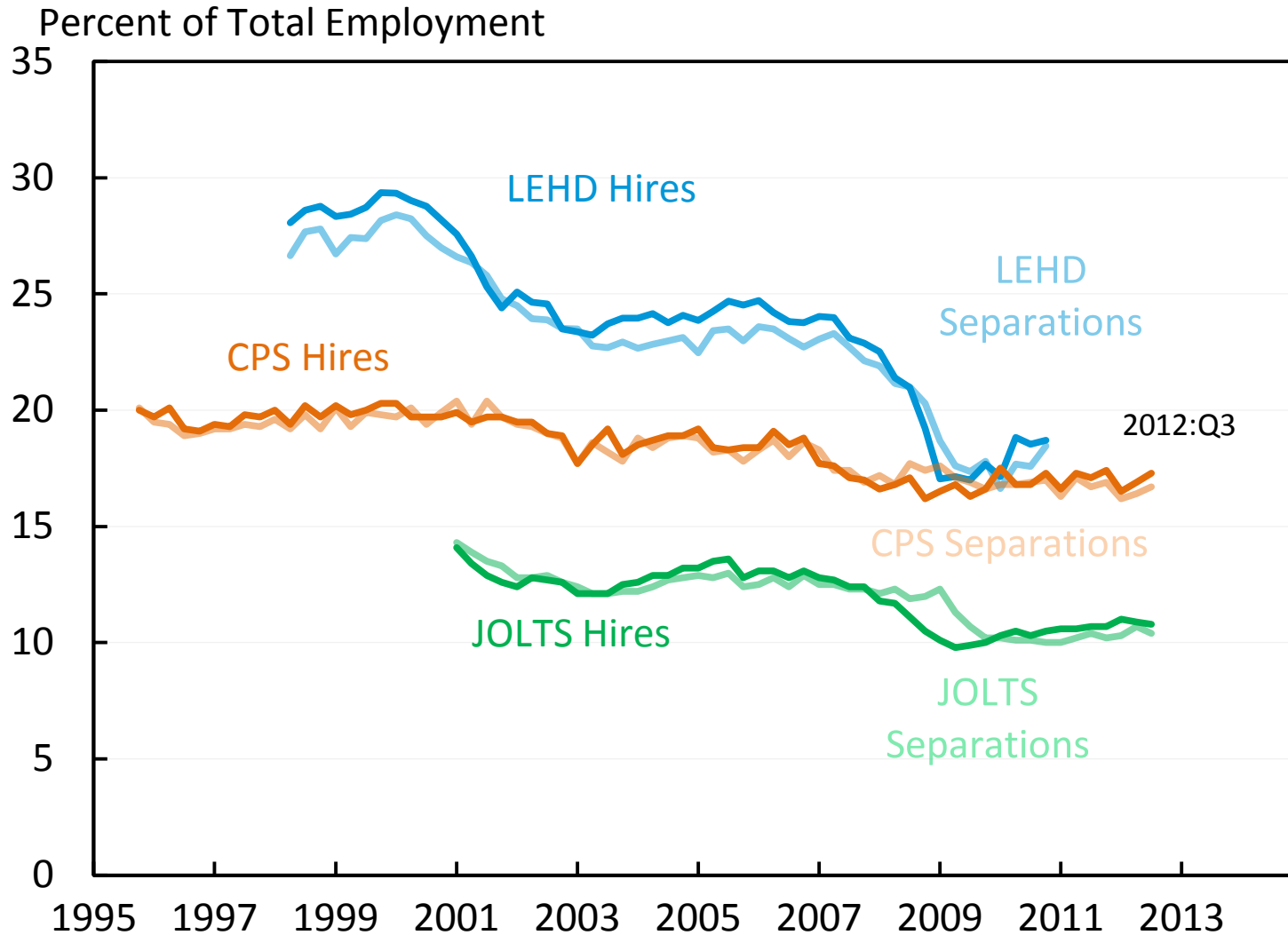
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5. **Summary of Stylized Facts, Some Speculations, and Some (Brief) Policy Implications**

Summary of Stylized Facts

- Strong recovery in labor market, but some slack remains in broader measures of underutilization
- The Great Recession resulted in unusually large adverse responses in long-term unemployment, part-time for economic reasons, and labor force participation relative to past recessions.
- There is some evidence that these three labor market issues are becoming more cyclically sensitive.
- There is also evidence for a longer-run trend deterioration in long-term unemployment and, especially, in labor force participation.
- The decline in prime-age male labor force participation is not readily explicable in terms of reduced labor supply or demographic factors; it is about worsening for less-educated men.

One Possible Explanation for Increased Cyclical Sensitivity of Labor Indicators: Declining Labor Market Fluidity

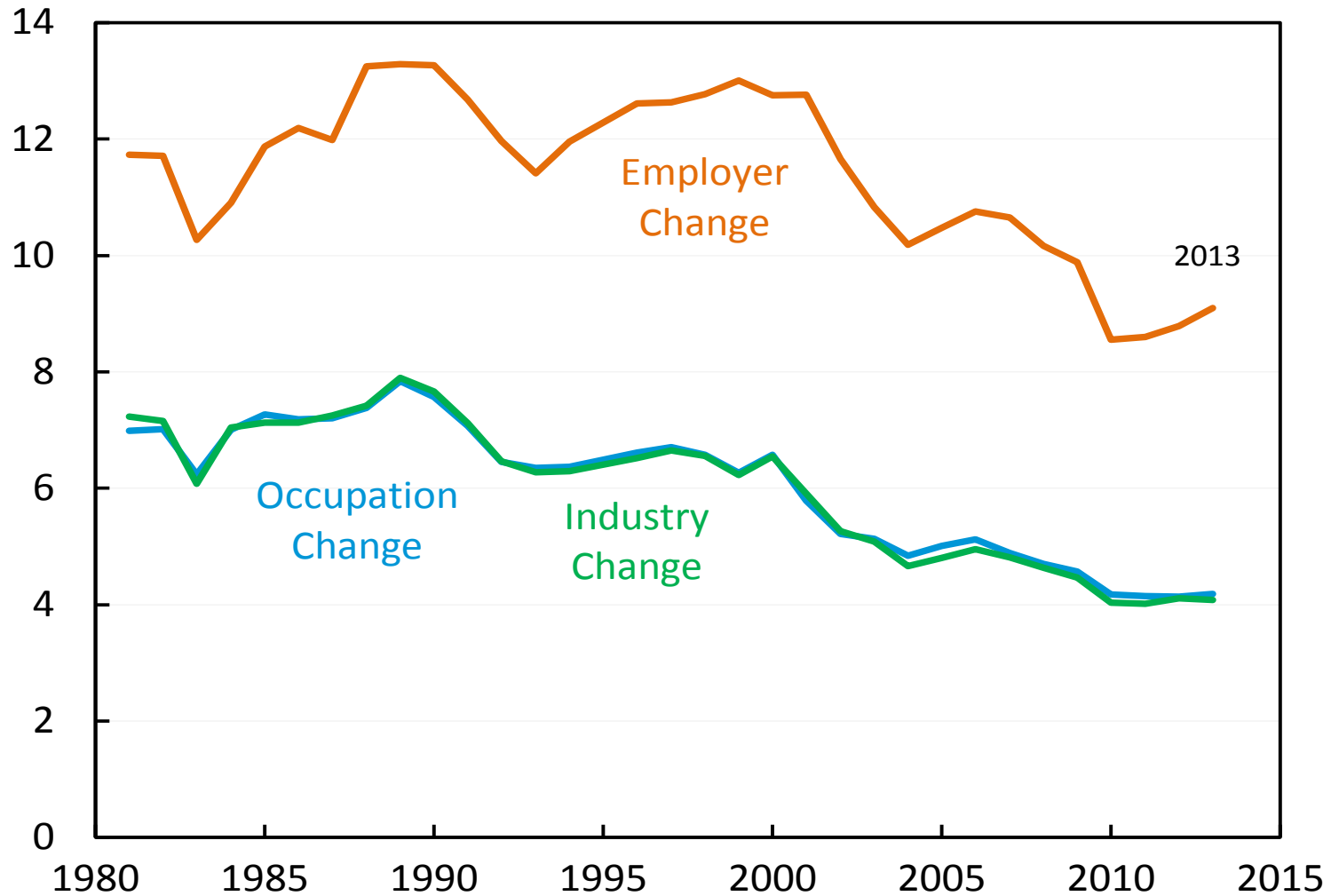
Trends in Hires and Separations, 1995-2012



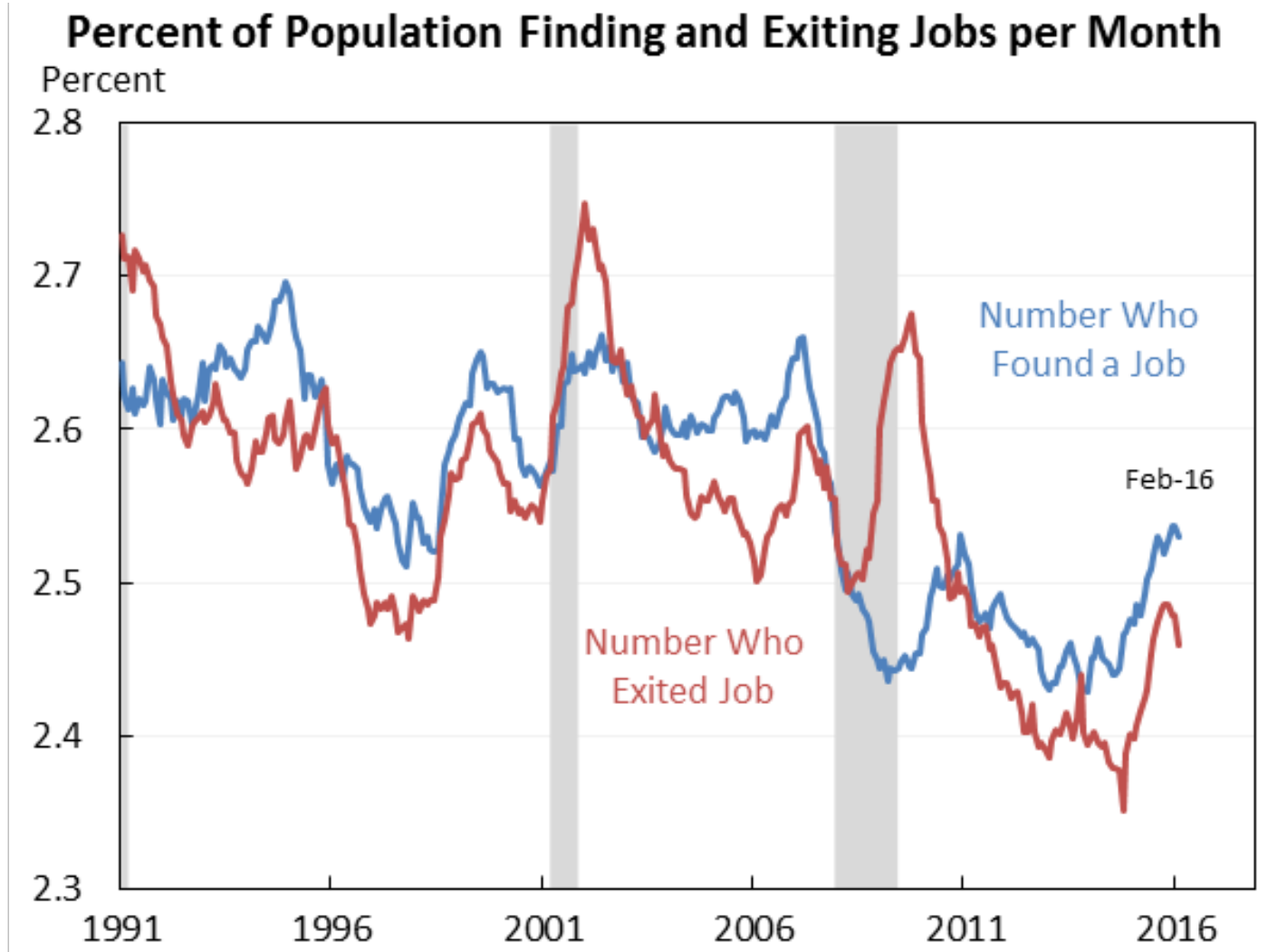
More Indicators of Declining Labor Market Fluidity

Employer, Occupation, and Industry Transitions

Percent of Total Population Age 16+

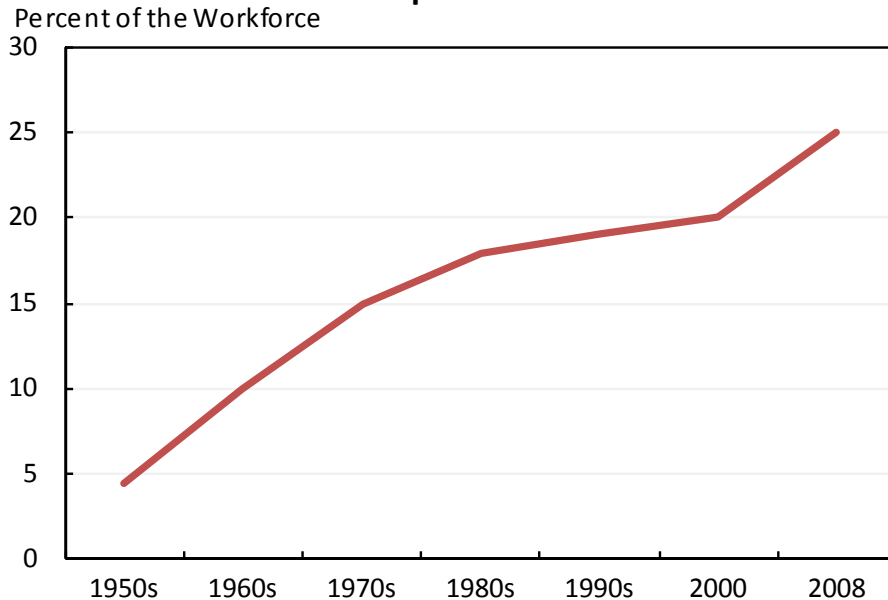


And More Indicators of Declining Fluidity

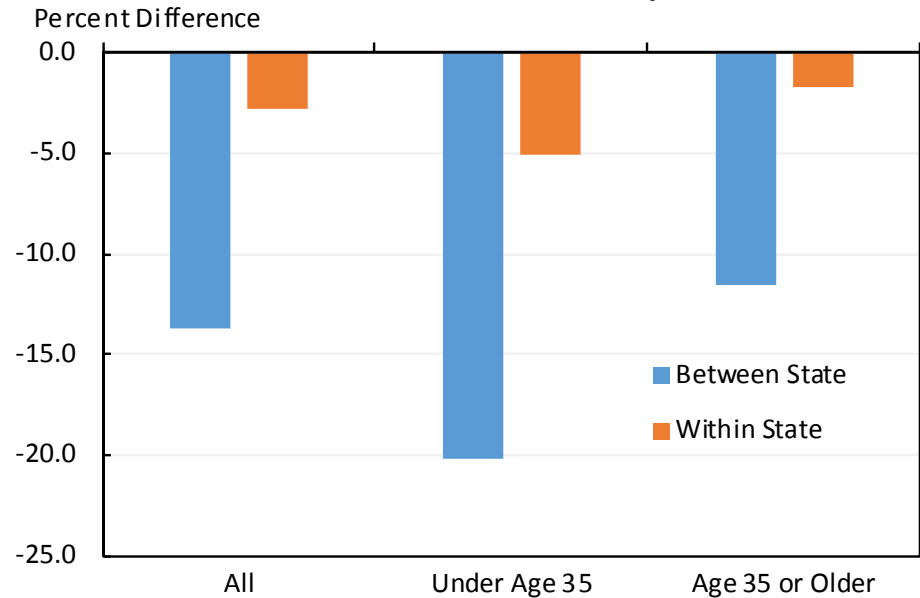


One (Possible, Partial) Explanation of Declining Fluidity: the Rise of Occupational Licensing

Share of Workers with a State Occupational License



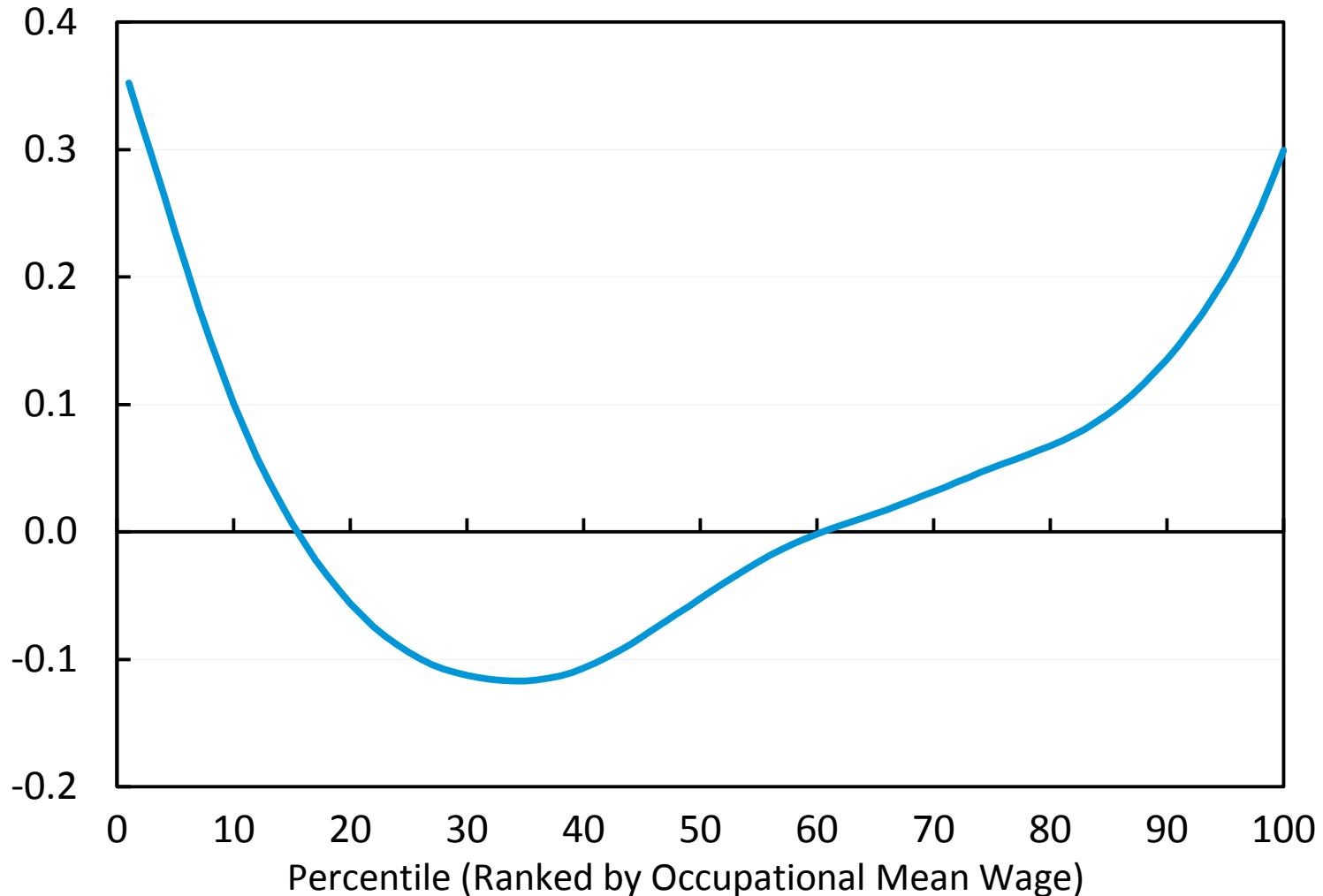
Difference in Migration Rates of Workers in Most vs. Least Licensed Occupations



A Possible Factor in the Longer-Run Trend: Increased Job Polarization, 1980-2012

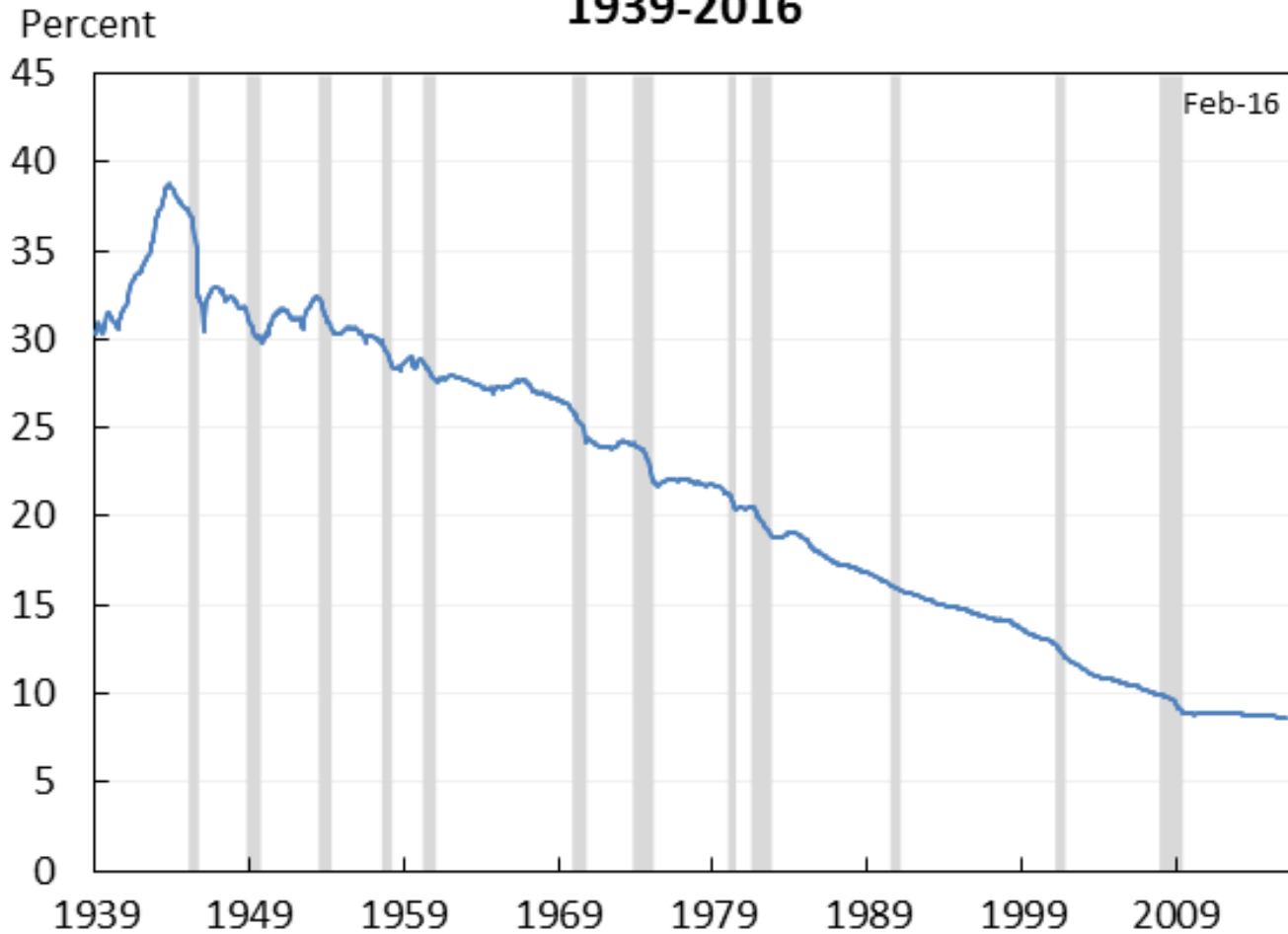
Changes in Employment by Occupational Wage Percentile

Change in Employment Share, Percentage Points



A Related Factor in the Long-run Trend: the Decline of Manufacturing Jobs

Manufacturing as Share of Total Nonfarm Employment, 1939-2016



Note: Shading denotes recession.

Source: Bureau of Labor Statistics, Current Employment Statistics; CEA calculations.

Some Policy Implications

1. Increase demand:

- Further strengthen aggregate demand
- Improve automatic stabilizers to limit the severity of future recessions
- Increase investment in infrastructure to help address the demand for labor

2. Improve education, including high school and college completion

3. Increase connective tissue in labor markets

- Training and apprenticeships
- Better job-search assistance in Unemployment Insurance
- Flexibility to use Unemployment Insurance for training/initial employment

4. Create flexibility for workers:

- Flexible workplace practices including access to paid leave, paid sick days
- Greater subsidies for high-quality child care and early learning
- Reduce occupational licensing
- Reform land-use restrictions

Some Policy Implications

5. Reform public programs to increase the incentives to work

- Reform tax treatment of secondary earners
- Expand EITC for people without qualifying children (including noncustodial parents)
- Reform Unemployment Insurance to level the playing field between layoffs and hours reductions
- Establish wage insurance

6. Criminal justice reform

7. Immigration reform

Labor Market Dysfunctions: Trends, Cycles, and Policy Responses

Work in Progress

Jason Furman

Chairman, Council of Economic Advisers



EC 2415: Seminar on Macroeconomic Policy

Harvard University

March 29, 2016