

**Crunching The Numbers: 10
minutes on what jobs will be
left in 10 years**

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Future of Work, I

- ◆ McKinsey believes as much as 45% of current jobs could be replaced using technology that already exists;
- ◆ Gartner predicts one in three jobs will be converted to software, robots and smart machines by 2025;
- ◆ According to an Oxford University Study, about 47 percent of total US employment is at risk;
- ◆ OECD: across the 21 OECD countries, only 9% of jobs are automatable.

Future of Work, II

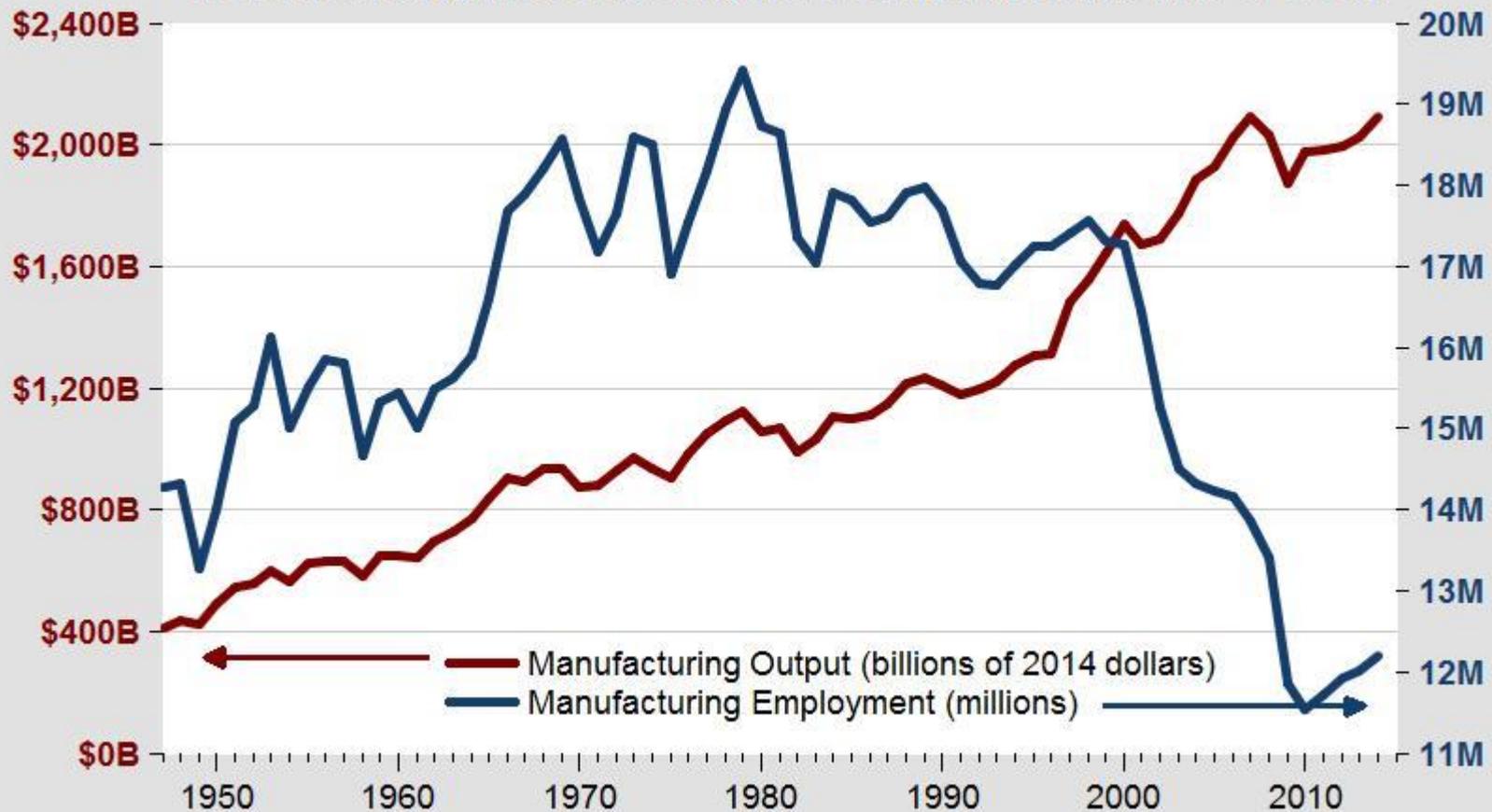
Why so many different predictions?

- ◆ “Predictions are easy, especially about the far future!”
 - Paraphrasing Albert Einstein, Nils Bohr, Mark Twain, or Yogi Berra

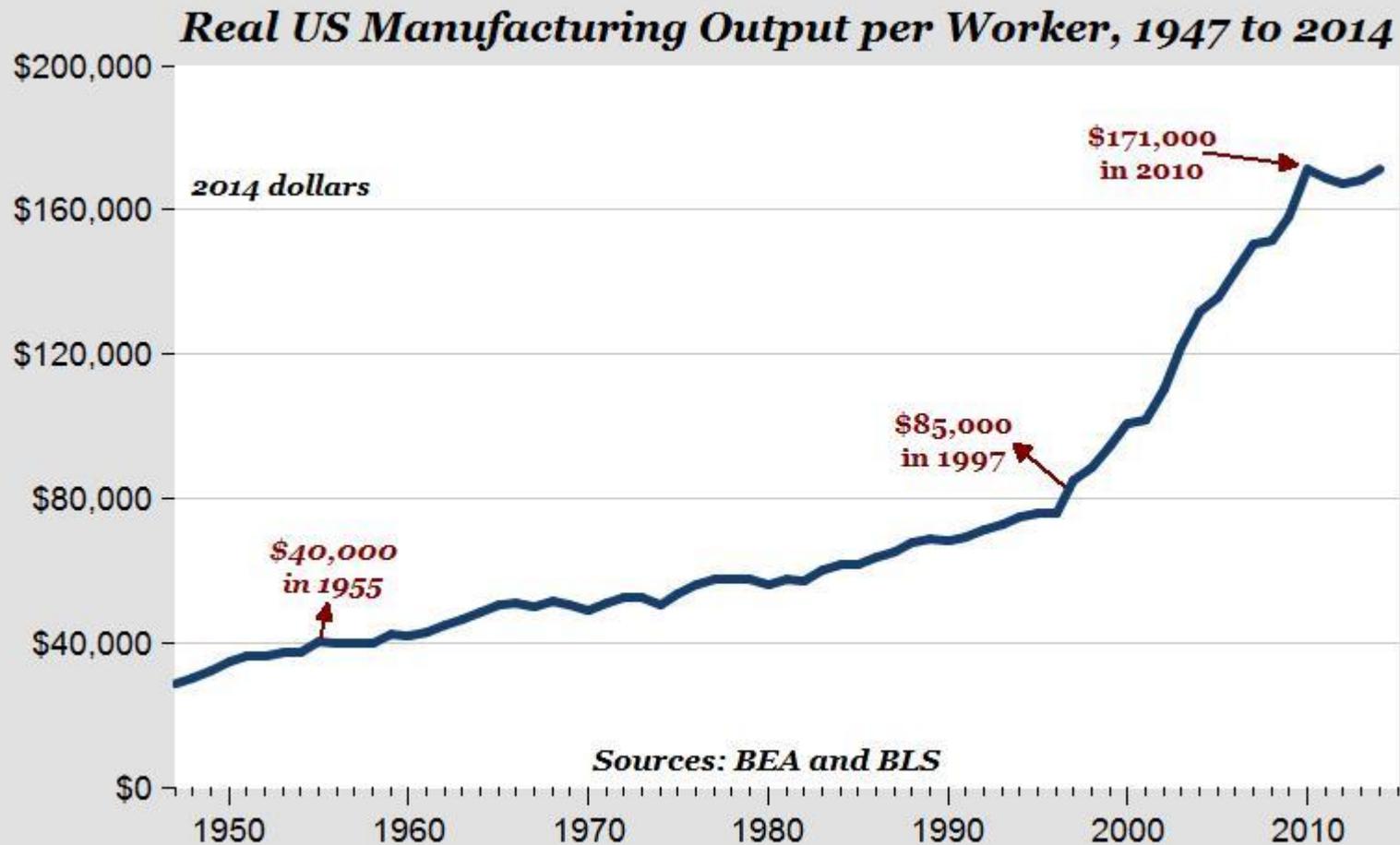
- ◆ Let's look at the past instead!

US Manufacturing

US Real Manufacturing Output vs. Employment, 1947 to 2014



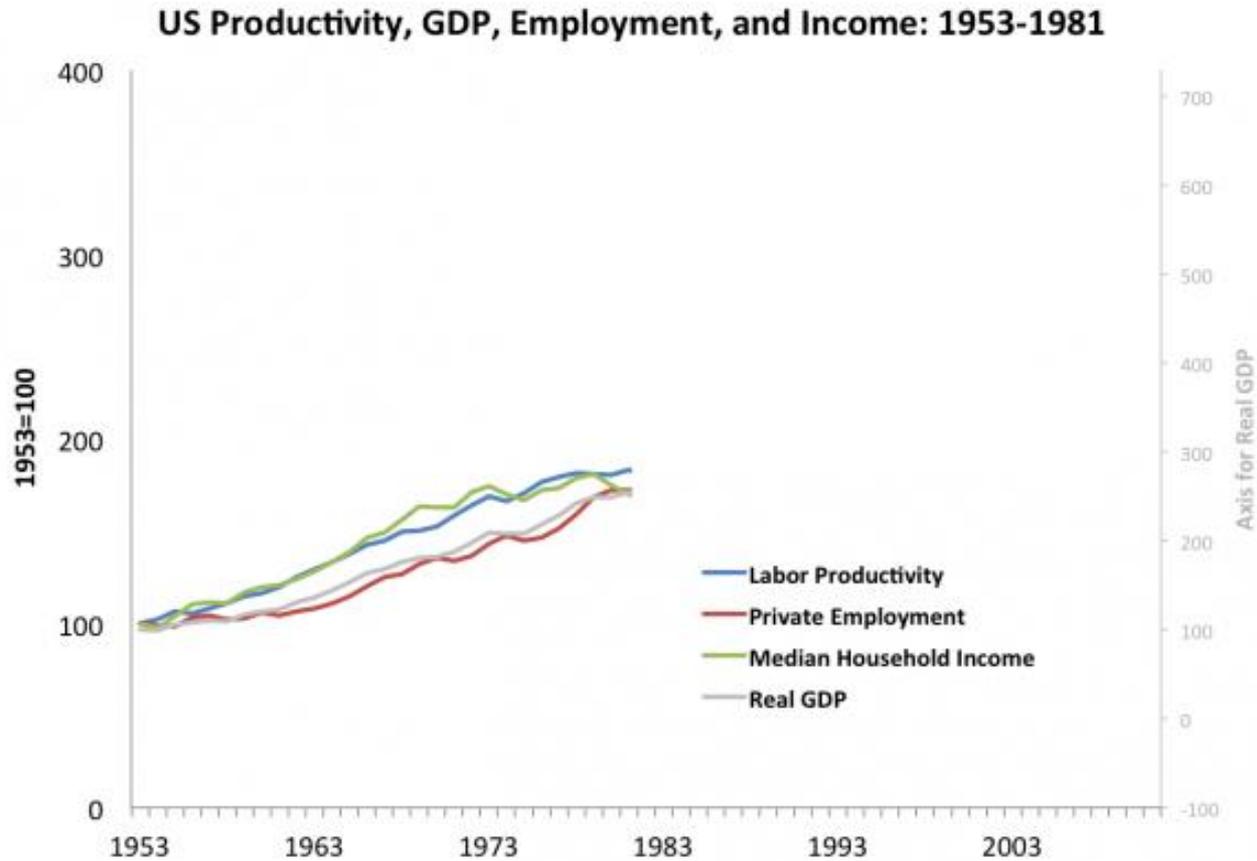
Driving Force: Automation



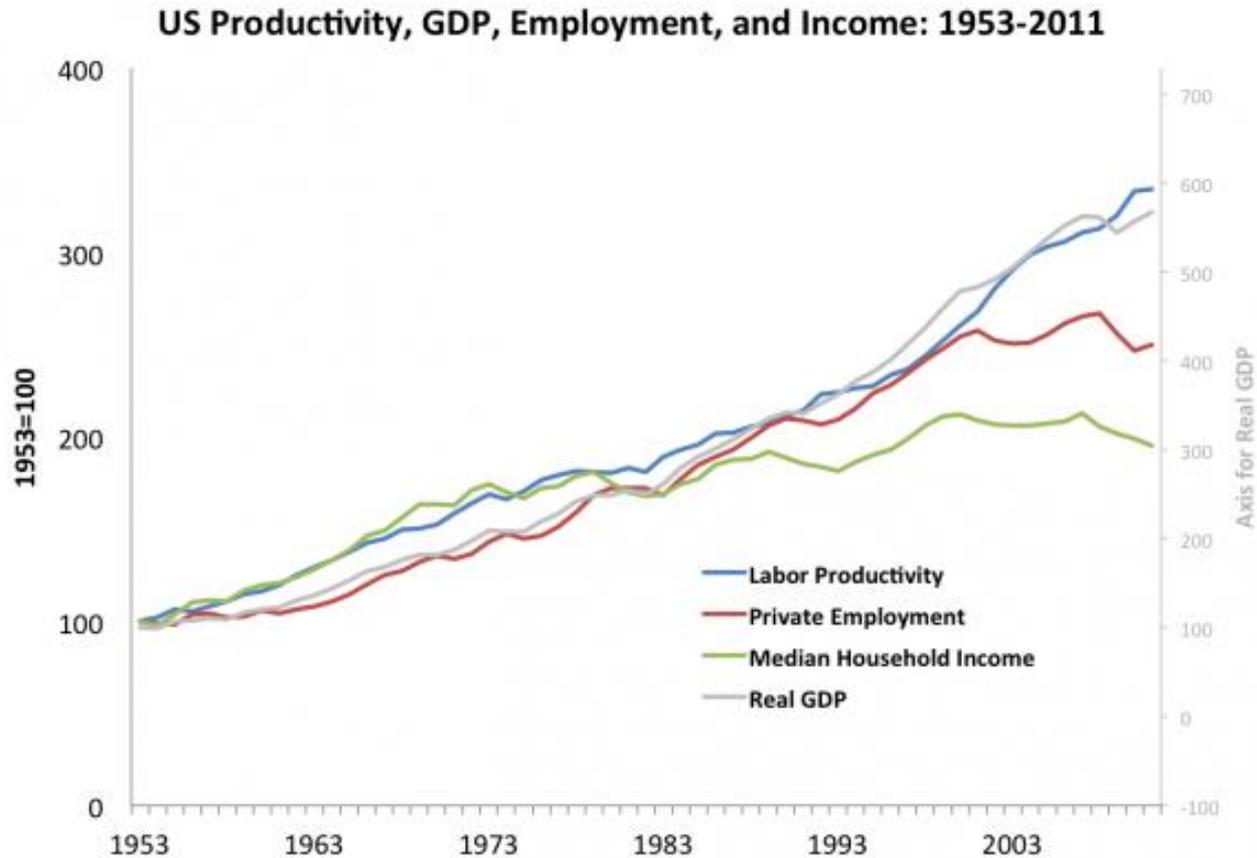
Tesla Model S Factory Floor



The Great Coupling



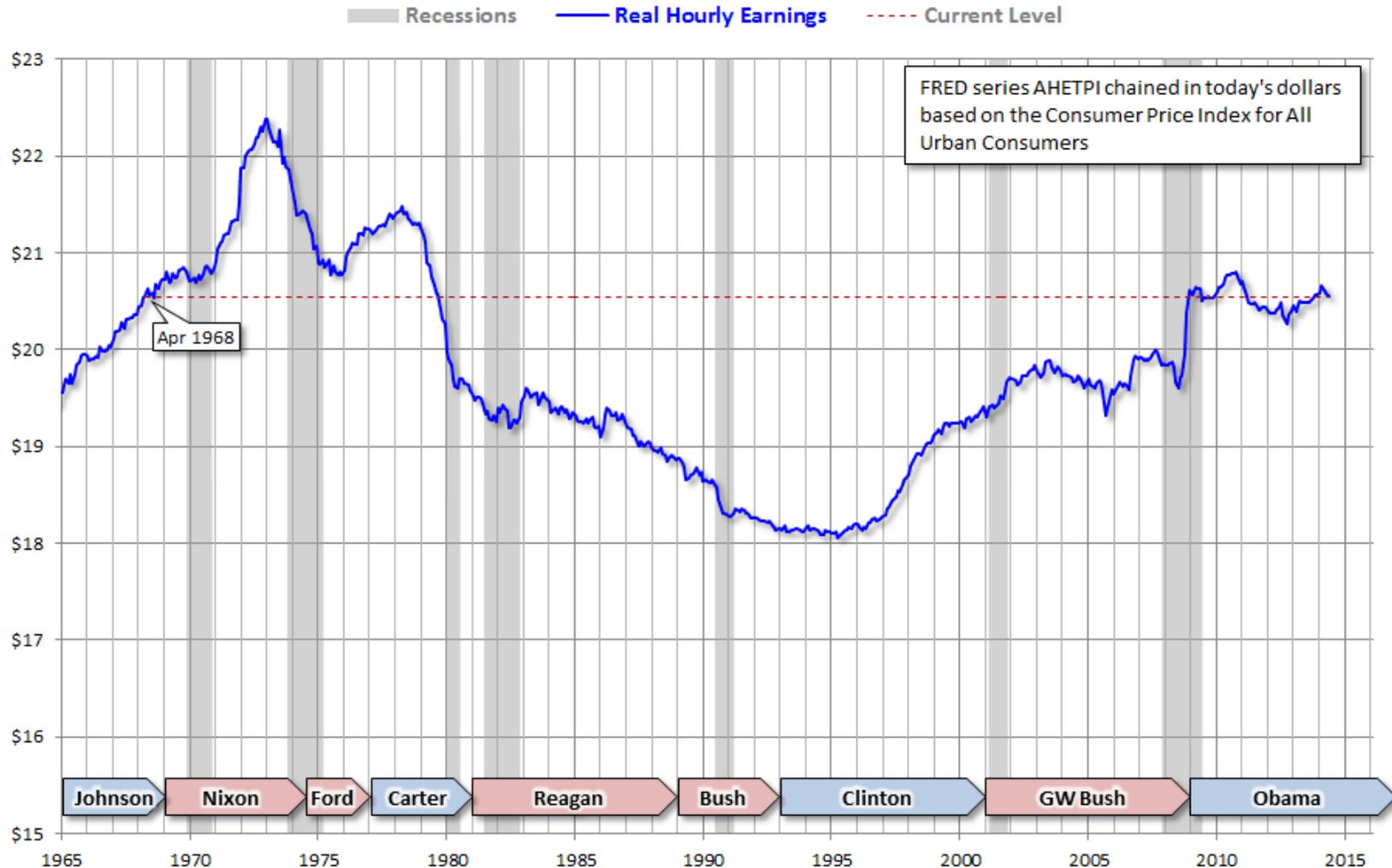
The Great Decoupling



Real Hourly Earnings

Real Average Hourly Earnings of Production and Nonsupervisory Employees: Total Private

dshort.com
June 2014
Data through May



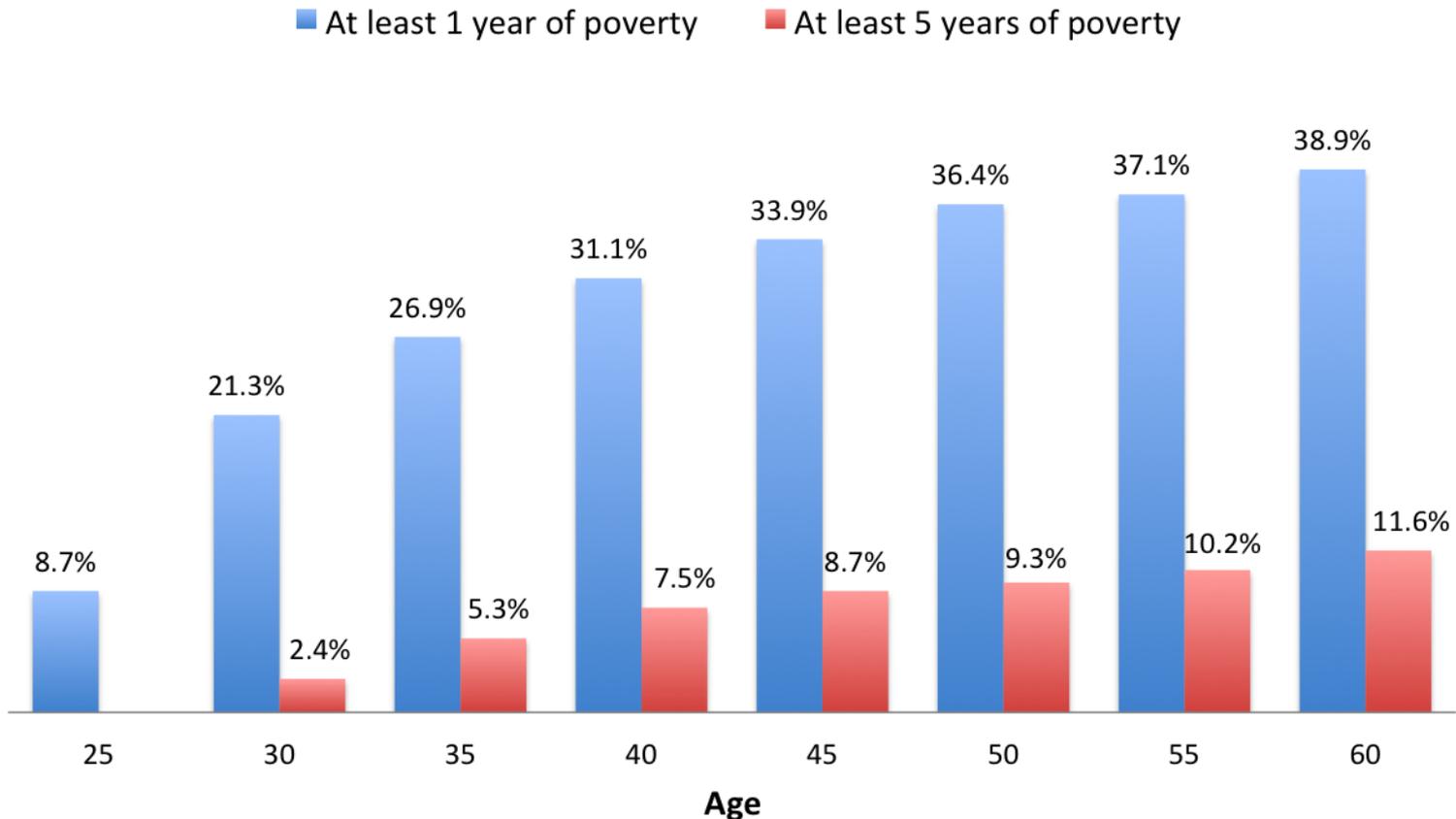
Poverty

How Common Is Poverty?

Percent of Americans who have experienced poverty after age 25

Based on Panel Study of Income Dynamics data from 1968 to 2009

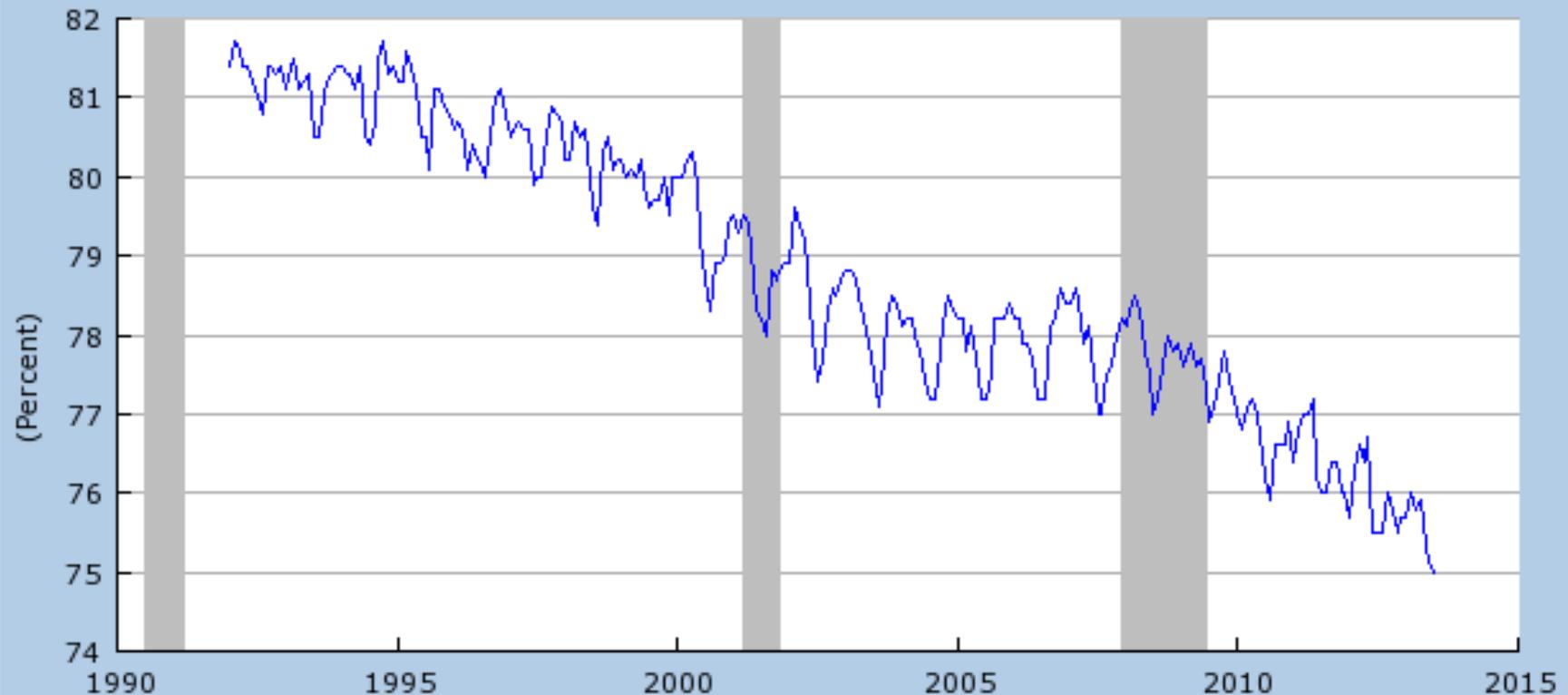
Mark Rank, Thomas Hirschl, and Kirk Foster, *Chasing the American Dream*, forthcoming



Labor Force Participation

Civilian Labor Force Participation Rate - Bachelor's degree and higher, 25 years and over (LNU01327662)

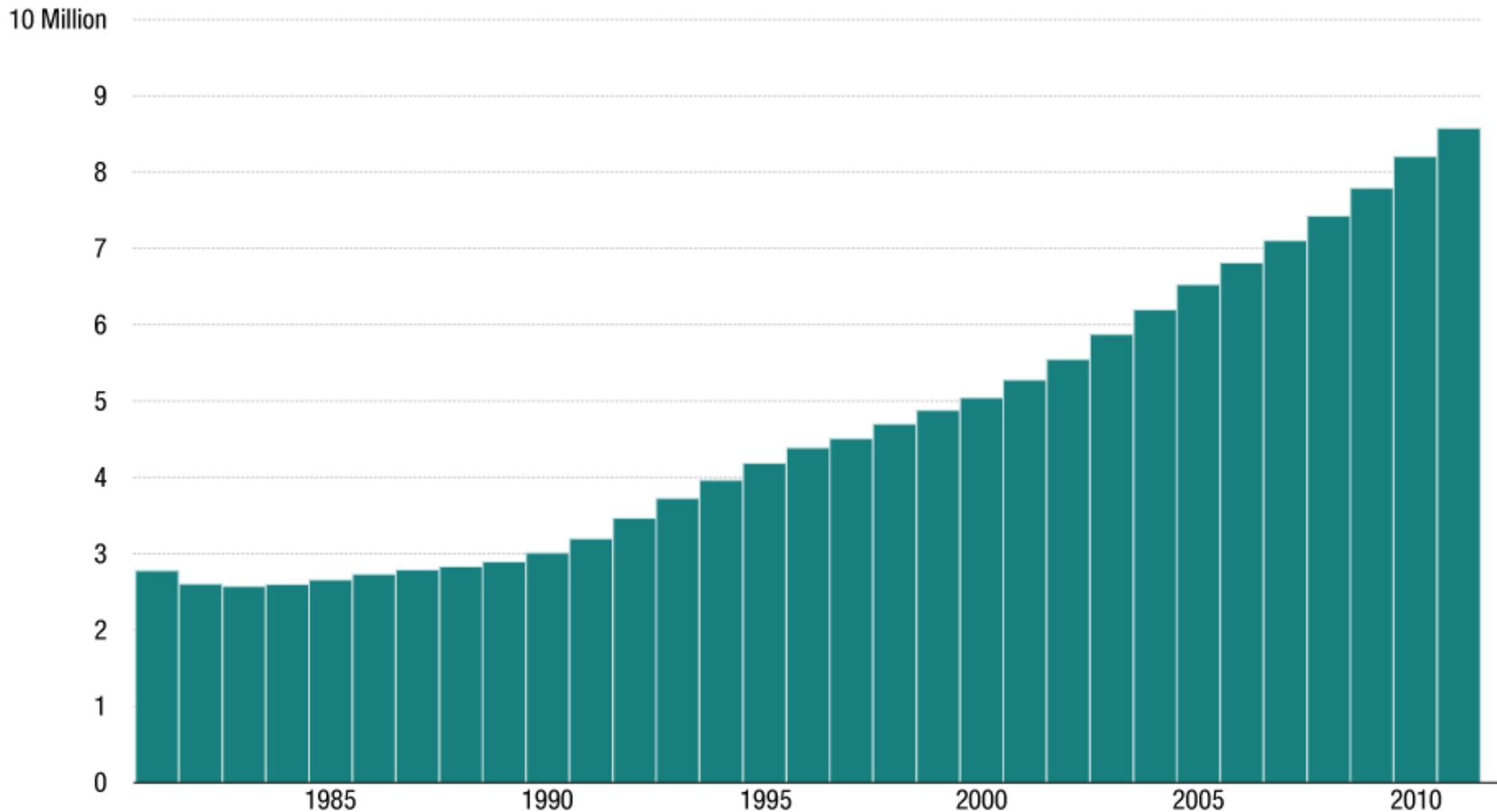
Source: U.S. Department of Labor: Bureau of Labor Statistics



Shaded areas indicate US recessions.
2013 research.stlouisfed.org

Former Workers on Disability

Number Of Former Workers On Disability



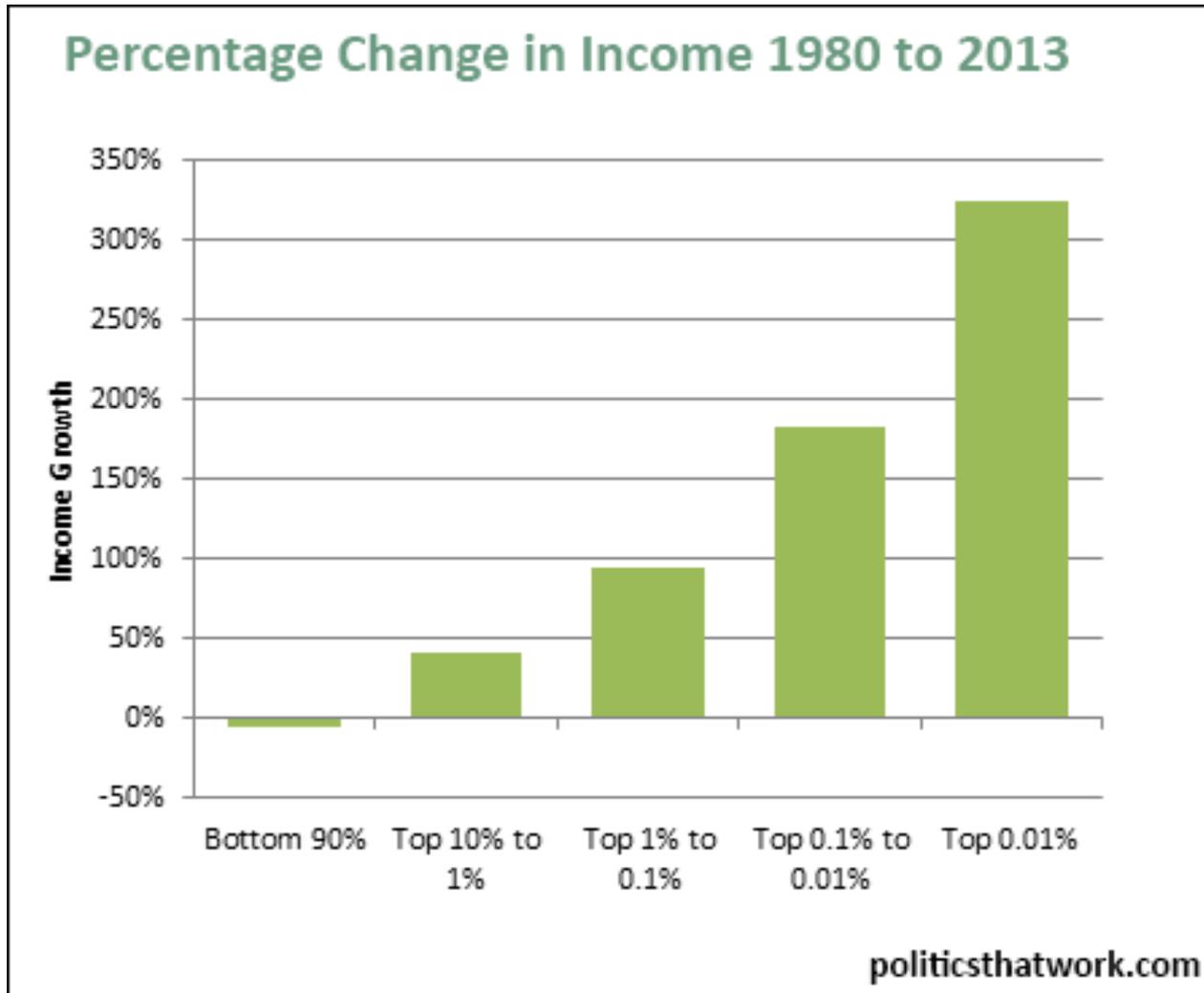
Labor Share of National Income

Labor's share of US national income

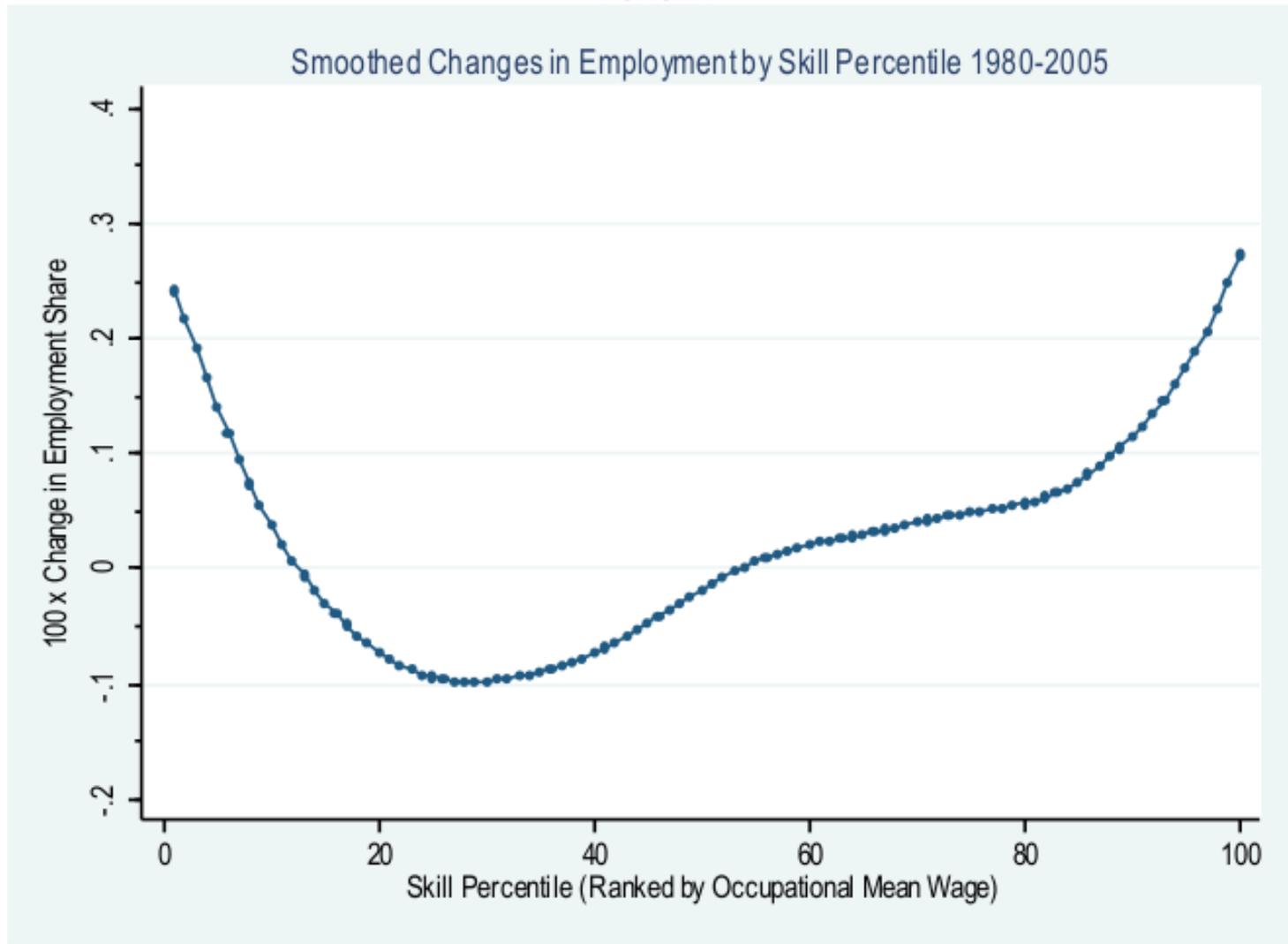
51% of GDI



Growing Inequality



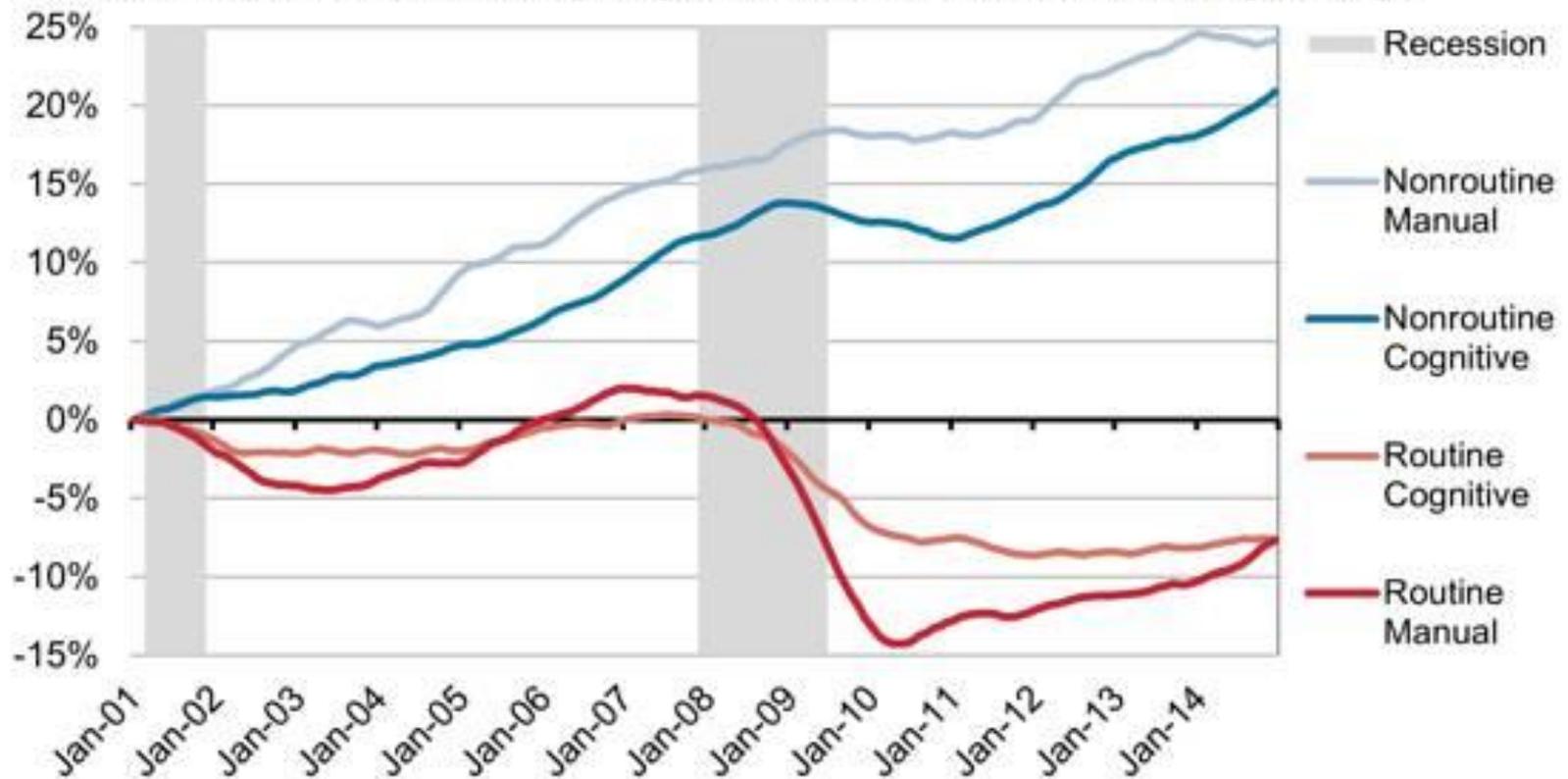
Job Polarization



Routine vs Non-routine Jobs

Break Your Routine

When jobs are sorted by whether the work is routine, all job growth since 2001 has been in nonroutine jobs. Percent change in jobs, since 2001, 12-month moving average.

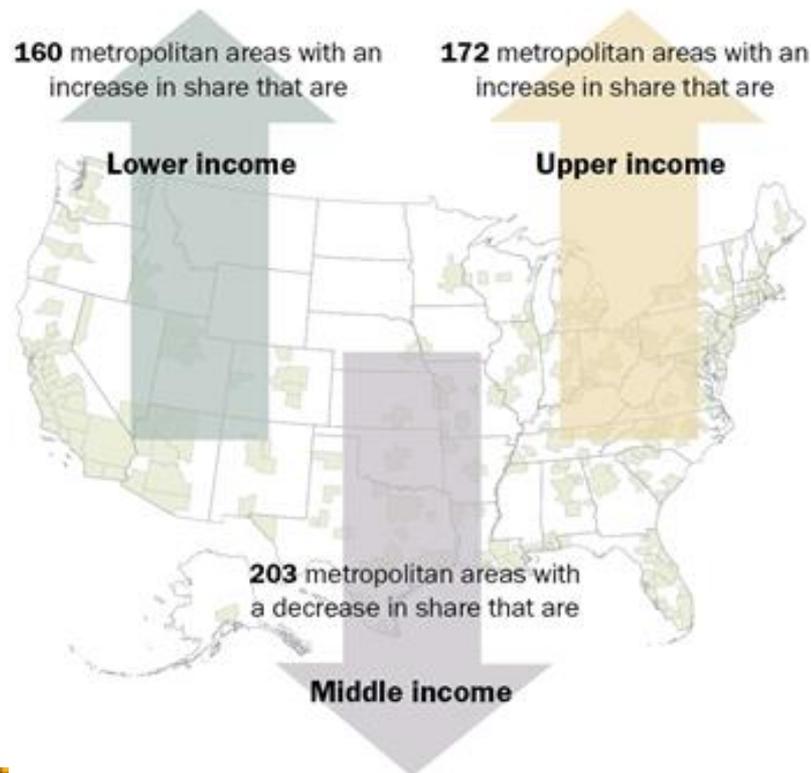


Source: Henry Siu and Nir Jaimovich for Third Way | WSJ.com

The middle class is shrinking

The middle class is shrinking in most U.S. metropolitan areas, and lower- and upper-income tiers are gaining share

How the share of adults in lower-, middle- and upper-income tiers changed in 229 metropolitan areas from 2000 to 2014



Automated Driving



The Automation of Driving

- ◆ 30 companies are now working on self-driving cars -- estimated market: \$2T over next decade
- ◆ Technical issues are expected to be resolved within a decade
- ◆ Many legal issues need to be resolved
- ◆ Profound business disruption!
- ◆ *Massive loss of jobs* (10% of US jobs involve operating a vehicle): automation of the *whole* supply chain is expected - more than 10M US jobs!

The Future is Now!

- ◆ Over the past 35 years, automation has had a very harsh impact on working-class Americans!
- ◆ We can expect impact over the coming 35 years to be equally harsh if not harsher!