Unemployment

Barometers of the Labor Market

Outline

1. Unemployment and Labor Force Participation

2. Types of Unemployment

3. Explaining Unemployment

- Textbook Readings: Ch. 9

Labor Market

- How well an economy uses its resources?

- An economy's **workers** are its **chief resource**

- Keeping workers employed is a key concern of policymakers

- **Employment trends** are a critical macroeconomic issue

Assessing Labor Market Conditions

- First Friday of every month, the Bureau of Labor and Statistics (BLS) provides a detailed look at the labor market

- BLS performs two separate surveys:
  - The **Household Survey**, an interview of 60,000 individuals

  - The Establishment (**Payroll**) **Survey**, a review of 300,000 firms' payrolls

- These two surveys give **complimentary** –though sometimes contradictory– information about the state of US employment

The Household Survey

- Each adult (16+) in the household is placed in 1 of 3 categories:

  - **Employed**: Currently has a job (paid, own, family) or is temporarily away from his/her job

  - **Unemployed**: Not employed, available for work **and** has actively looked for work <u>during the previous month</u>

  - **Inactive/Not in the Labor Force**:
    - ❖ Available for work but not currently looking: discouraged workers
    - ❖ Not available for work (majority): full-time students, homemakers, retirees, patients, military service, prison

The Unemployment Rate

Labor Force = Number of Employed + Number of Unemployed

- Percentage of the labor force that is unemployed:

$$Unemployment\ Rate = \frac{Number\ of\ Unemployed}{Labor\ Force} \times 100$$

The Labor-Force Participation Rate

Working-Age or Adult Population = Labor Force + Inactive

- Percentage of the adult population that is in the labor force:

$$Labor\ Force\ Participation\ Rate = \frac{Labor\ Force}{Adult\ Population} \times 100$$

- A higher LFPR means that more labor is available

Employment Status of Adult Population in April 2019

Employed	156.6 million
Unemployed	5.8 million
Inactive	96.2 million

Labor Force = 156.6 + 5.8 = 162.4 million

Unemployment Rate = (5.8/162.4) x 100 = 3.6%

Labor-Force Participation Rate = (162.4 /258.6) x 100 = 62.8 %

"Don't believe these phony numbers when you hear 4.9% and 5% unemployment," Mr. Trump said in his victory speech after the New Hampshire primary Tuesday night. "The number's probably 28, 29, as high as 35. In fact, I even heard recently 42% ." (from NY Times, 2016)

- What percentage of US population is not working?

    Population = 258.6   Employed = 156.6

Ergo, not working = 258.6 − 156.6 = 102

$$\frac{102}{258.6} = 39.4\%$$

- Is this correct?

From Population Estimates to Measures of Employment

- **How does the household survey build into an unemployment rate?**
- (A) Population estimate (extrapolation from census data)
- (B) Labor force participation rate (% of the survey labeling themselves employed or jobless but looking for work)
- (C) Labor force level: (B) X (A)
- (D) Household employment (percent of phone survey labeled employed times "A").
- (E) Household unemployment (percent of tally labeled unemployed times "A").
- (F) Unemployment rate: (E/C) X 100

Example: BLS Estimates of Employed and Unemployed

- BLS asks: *"Are you employed or jobless but looking for job?"*
- In August 2016, **62.8%** said "Yes."
- BLS extrapolation for the **working age population** is **254 million**
- BLS estimate for the **labor force**: 0.628 x 254 million = **159 million**
- BLS asks: *"Are you out of work but looking for work?"*
- In August 2016, **3.1%** said "Yes."
- BLS estimate for **number of unemployed**: 0.031 x 254 million = **7.85 million**
- BLS estimate for **U3 rate** = 7.85/159 = **4.9%**

The Unemployment Rate in the US
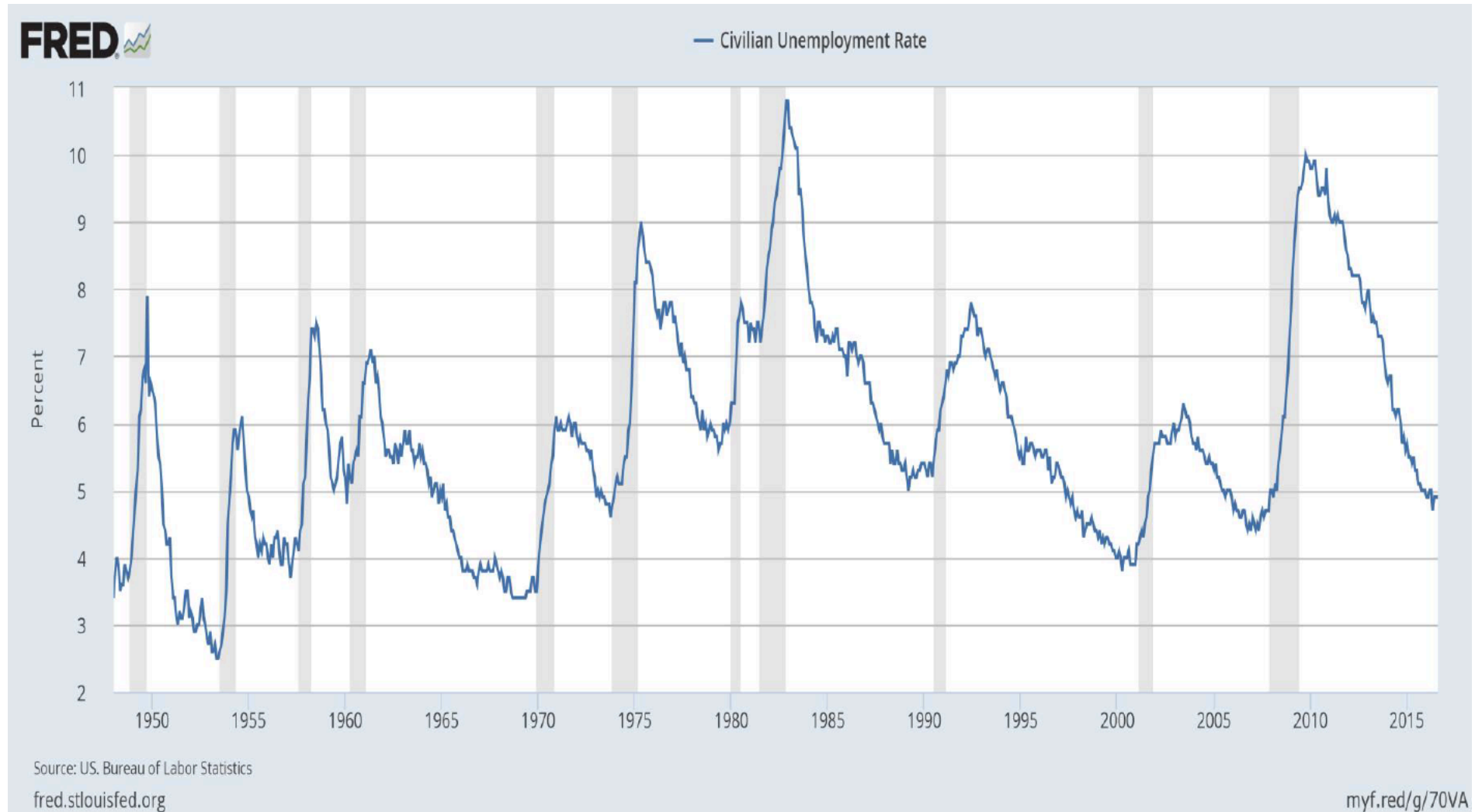
Problems with Measuring the Unemployment Rate

- It might *understate* the true degree of joblessness
  - Discouraged workers are not counted as unemployed
  - Part-time workers wanting a full-time job are counted as employed

- It might *overstate* the true degree of joblessness
  - Individuals not actively looking claiming they are
  - Individuals employed but engaged in an illegal activity or want to avoid paying taxes

# Problems with Measuring the Unemployment Rate
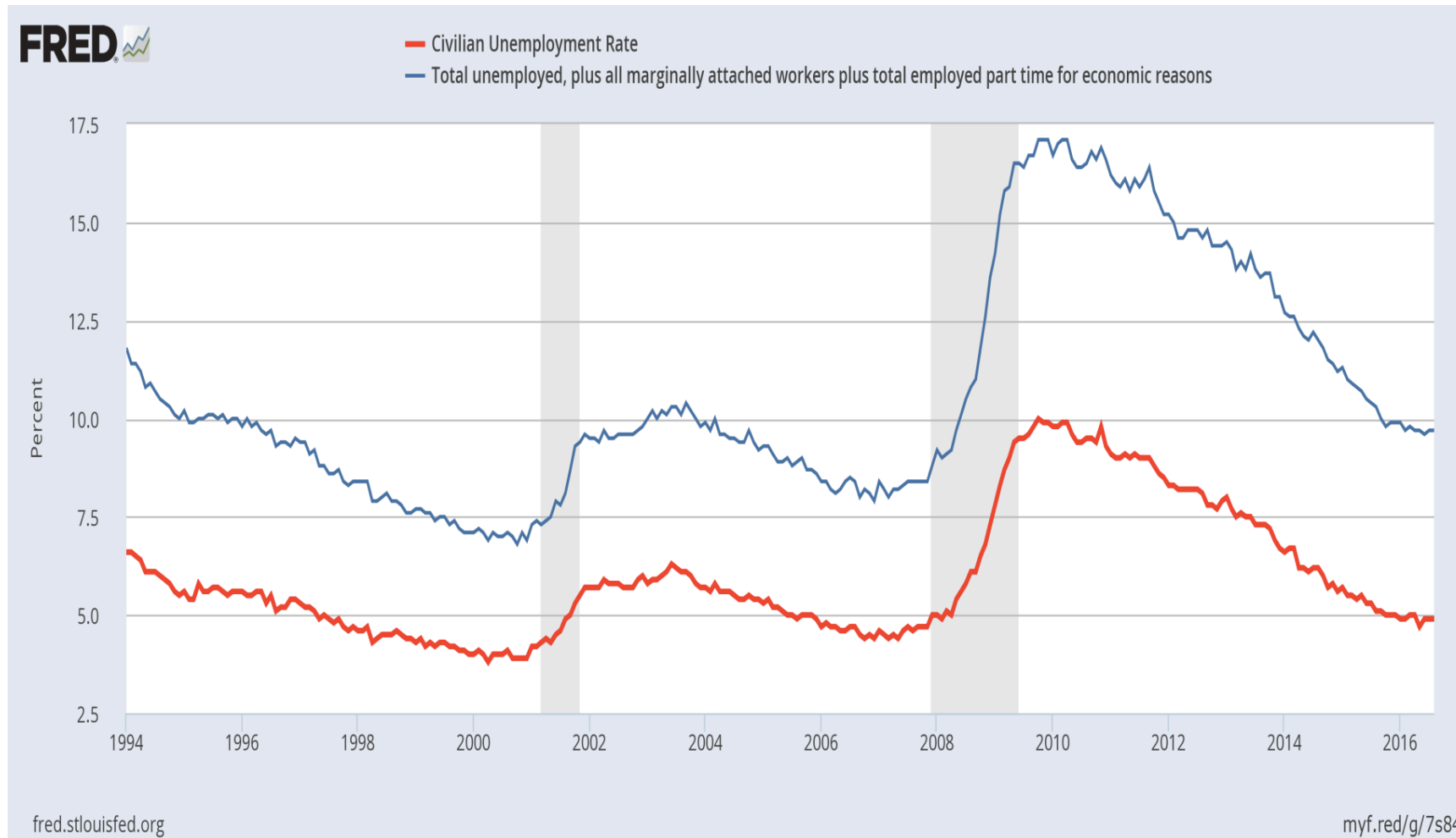
Different Definitions of Unemployment Rate

- **U3** is a useful but imperfect measure of the labor market

- **U6** is a broader measure
  - Available for work but not actively looking for job
  - Workers stuck in part-time jobs are "underemployed"

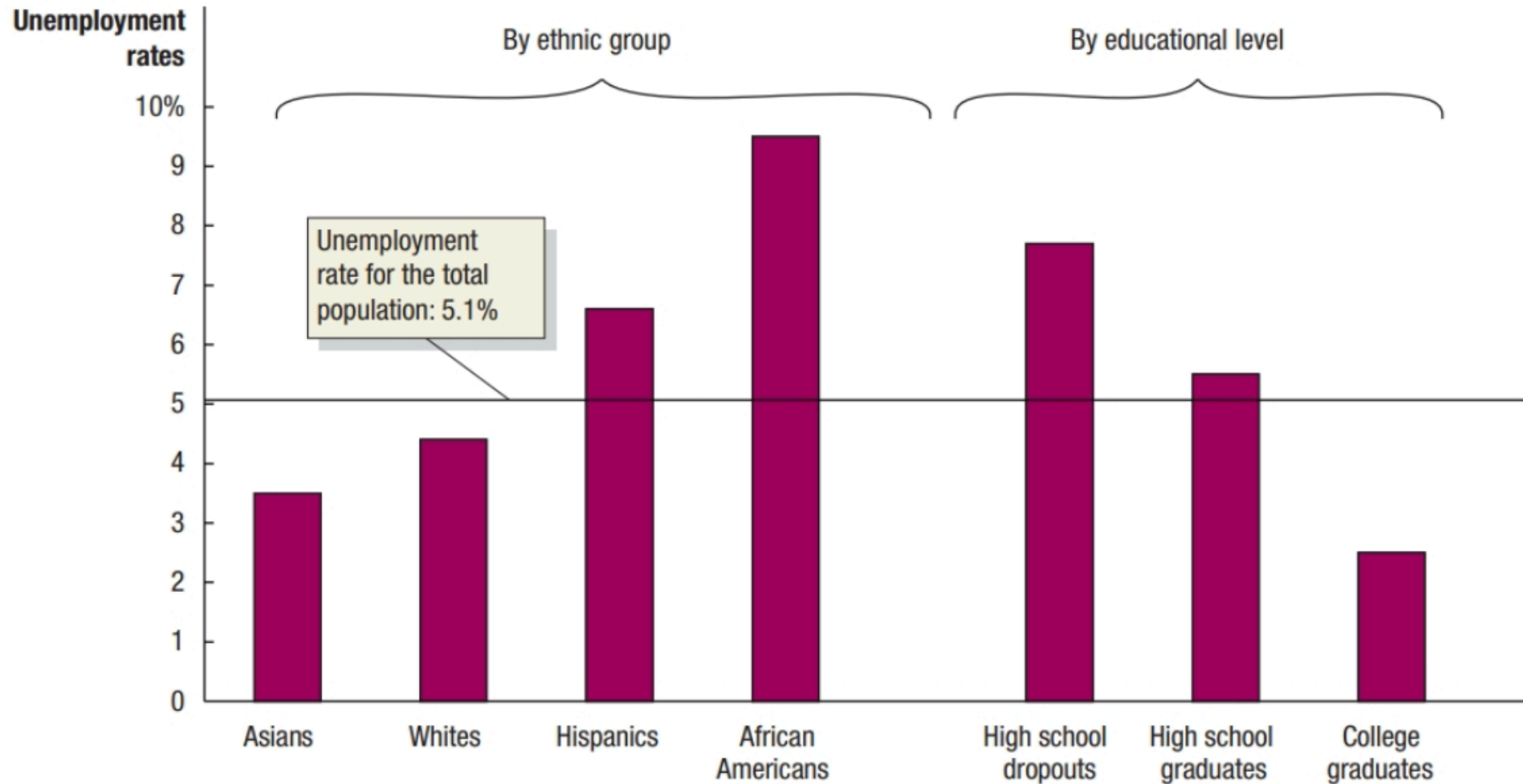- Not all 4.4% (U3) unemployment rates are equal

	1999	2007	2017
U3 rate	4.4%	4.4%	4.4%
U6 rate	7.7%	8.0%	8.6%

Trends in Labor Force Participation

- Unemployment data also available by **demographic characteristics**
  - ▪ Age, race, sex, education

- Different groups (ethnic/educ.) have **different** unemployment rates
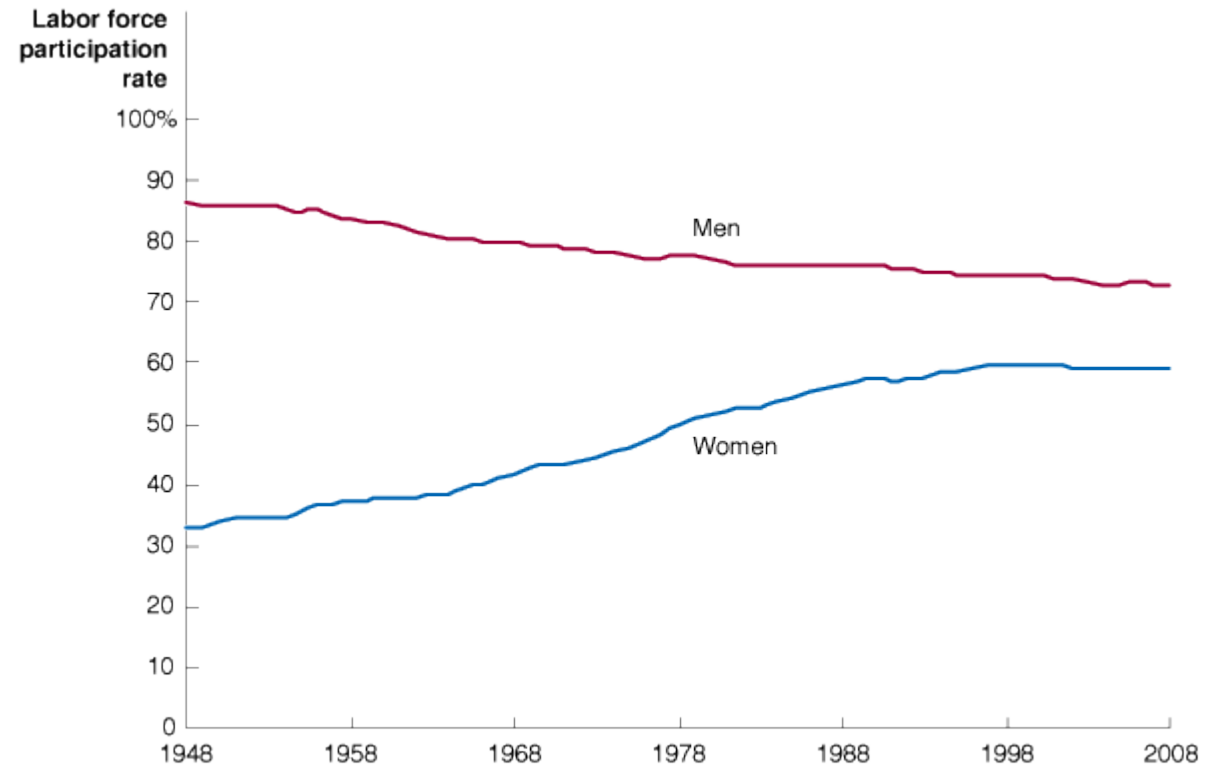
Unemployment Rates for Different Groups

How Long Are People Typically Unemployed?

Duration of Unemployment

LENGTH OF TIME UNEMPLOYED	PERCENTAGE OF TOTAL UNEMPLOYED
Less than 5 weeks	35.6%
5 to 14 weeks	31.3%
15 to 26 weeks	15.7%
27 weeks or more	17.5%
(a) Duration of unemployment during an economic expansion.	
Less than 5 weeks	22.0%
5 to 14 weeks	24.2%
15 to 26 weeks	19.9%
27 weeks or more	33.8%
(b) Duration of unemployment during an economic recession.	

The Establishment Survey

- Calling and visiting 60,000 people, and asking for answers, leaves a lot of **room for error**

- The **non-farm payroll tally**, <u>in its final estimation</u>, is a much **better descriptor** of the labor market
  - 300,000 firms' payrolls

- The problem?
  - The first estimates are **very preliminary**, with only a small sample

Recession or No Recession?

	Nonfarm Payrolls		Changes
	Original	Revised	difference
Apr-08	-20	-149	-129
May-08	-49	-231	-182
Jun-08	-62	-193	-131
Jul-08	-51	-210	-159
Aug-08	-81	-334	-253
April-August Average	-52.6	-223.4	-170.8

Payroll Surveys: Good Sectorial Breakdown

- The payrolls report provides estimates of:

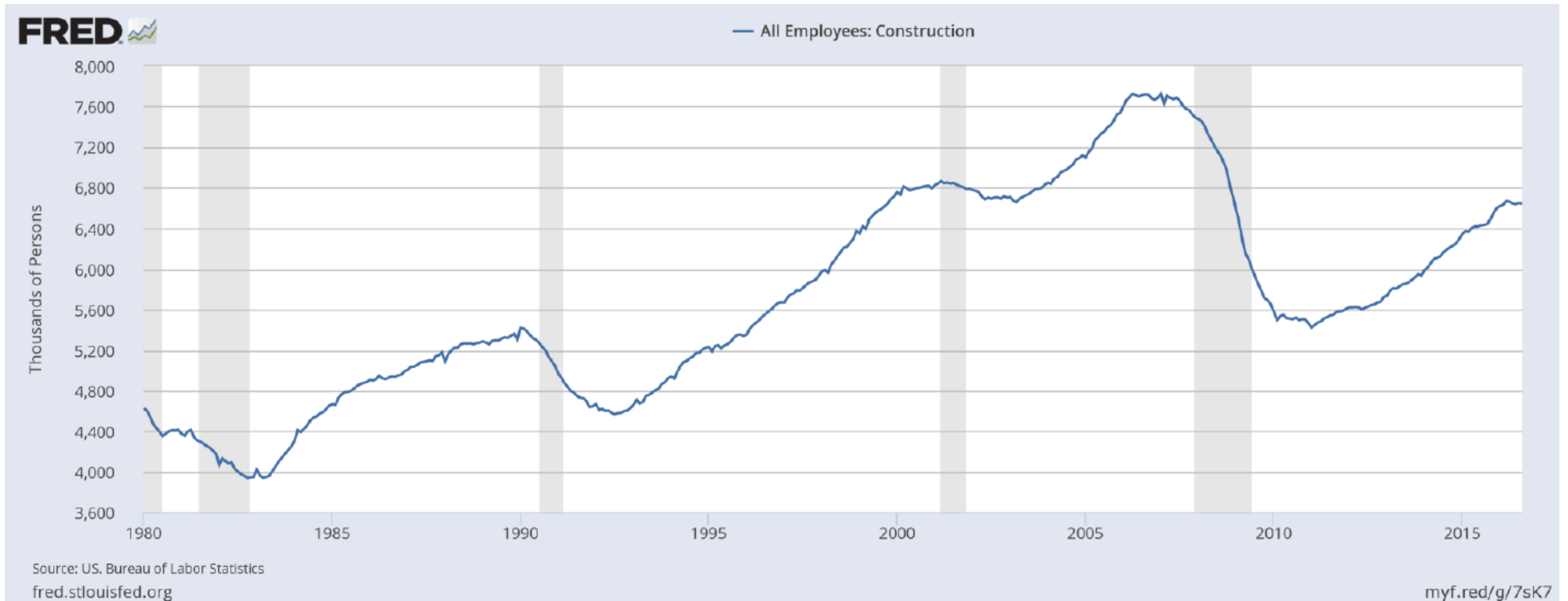 Private payroll jobs: 84.3% of total

  Manufacturing jobs: 8.7% of total
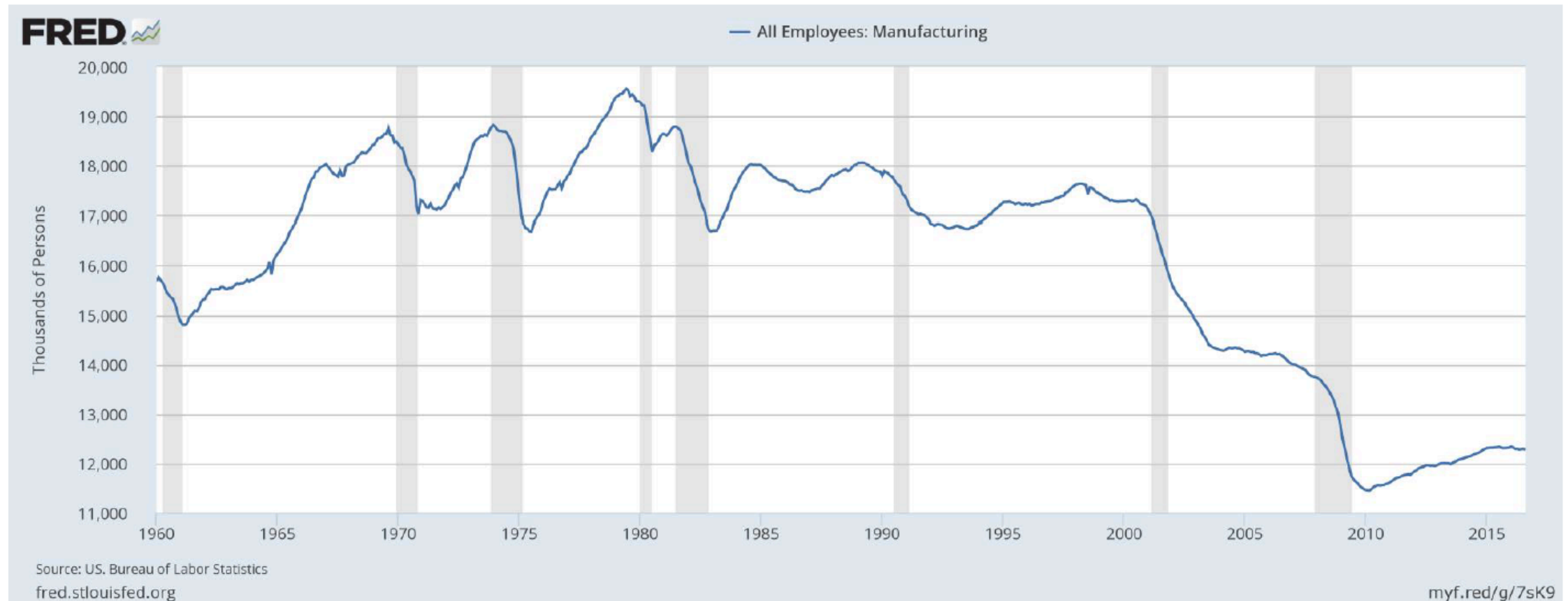
  Construction jobs: 4.4% of total

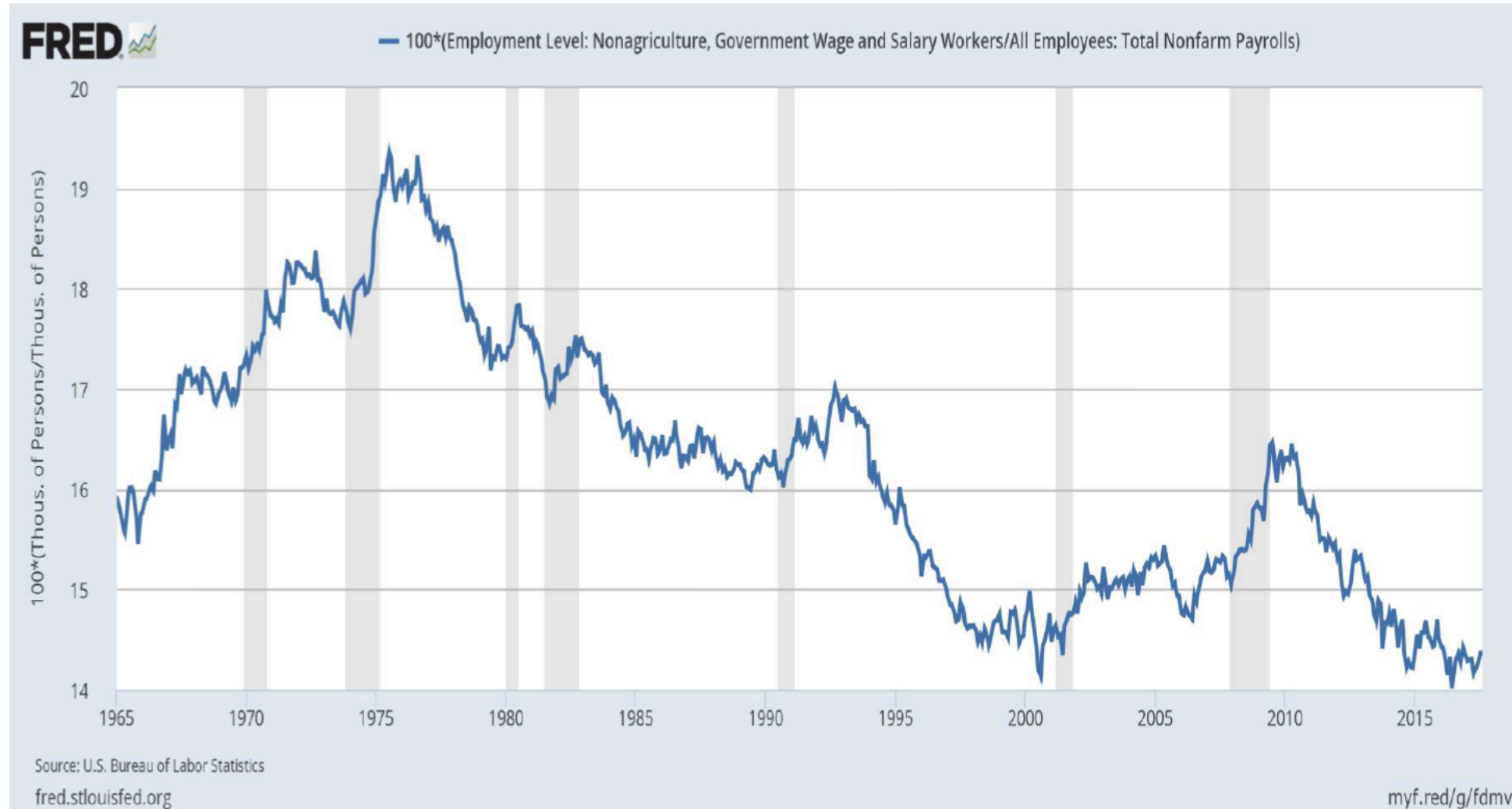 Private services: 70.5% of total

  Government jobs: 15.7% of total

Construction Jobs: Still Depressed

# Manufacturing Job Losses: Productivity + Globalization?

FRED

All Employees: Manufacturing

Thousands of Persons

Source: US. Bureau of Labor Statistics
fred.stlouisfed.org
myf.red/g/7sK9

Government Jobs as % of Non-Farm Workforce

FRED 📈 — 100*(Employment Level: Nonagriculture, Government Wage and Salary Workers/All Employees: Total Nonfarm Payrolls)

Source: U.S. Bureau of Labor Statistics
fred.stlouisfed.org

myf.red/g/fdmv

A Good Measure of Labor Market Strength

- Job Openings and Labor Turnover Survey (JOLTS)
- **Quits rate**: Number of quits during entire month as a percent total employment
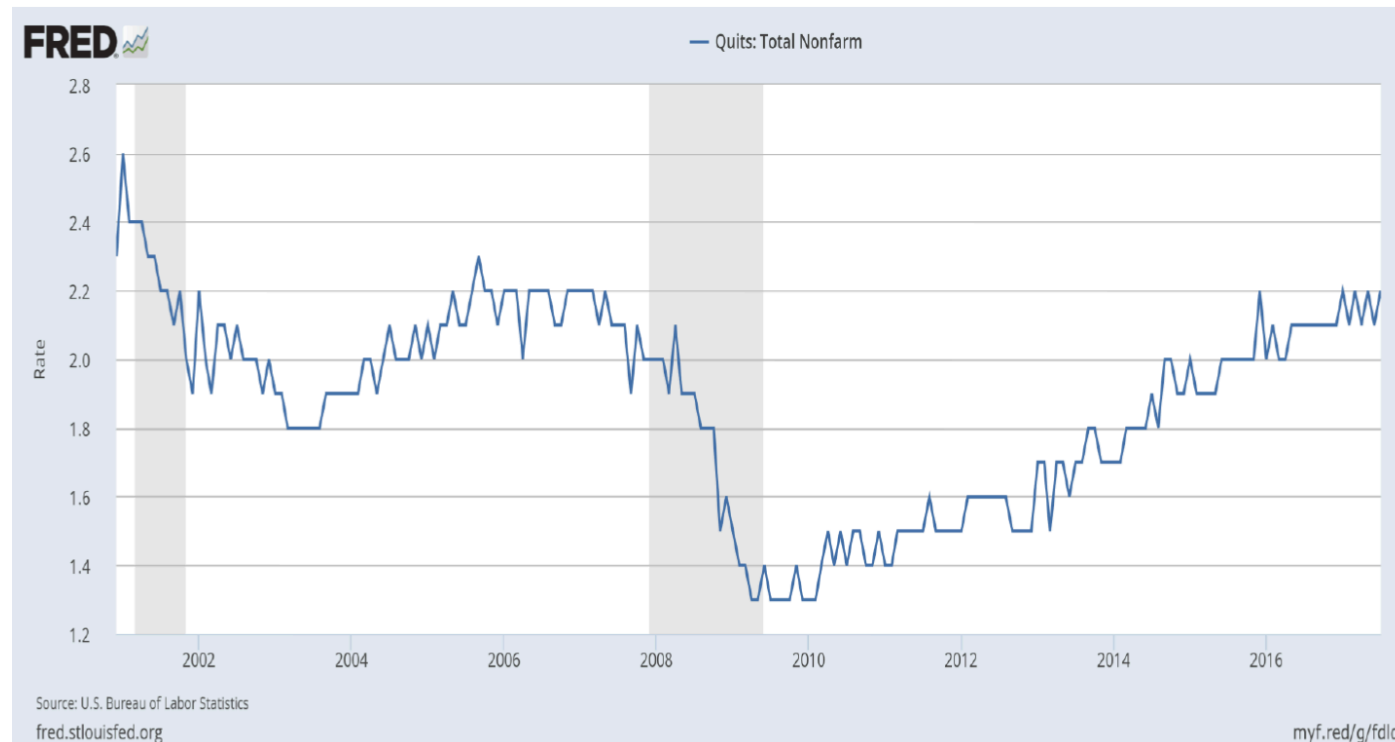
Types of Unemployment

- Why the unemployment rate never falls to zero?

- **Structural** Unemployment
  - Persistent mismatch between skills and requirements
  - Example: Bowling alley pinsetter

- **Frictional** Unemployment and Job Search
  - Matching process, seasonal unemployment ➡ seasonally adjusted
  - Examples: New worker entering the labor force, construction workers

- **Cyclical** Unemployment
  - Deviation of unemployment from its natural rate ➡ Business cycle
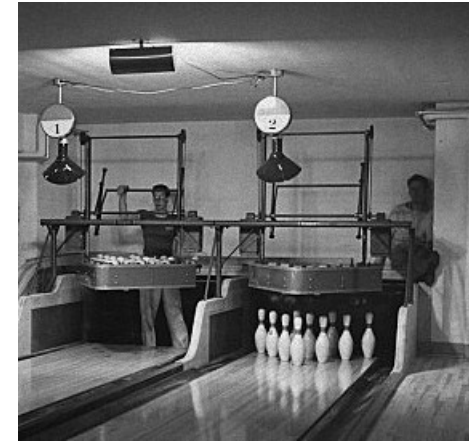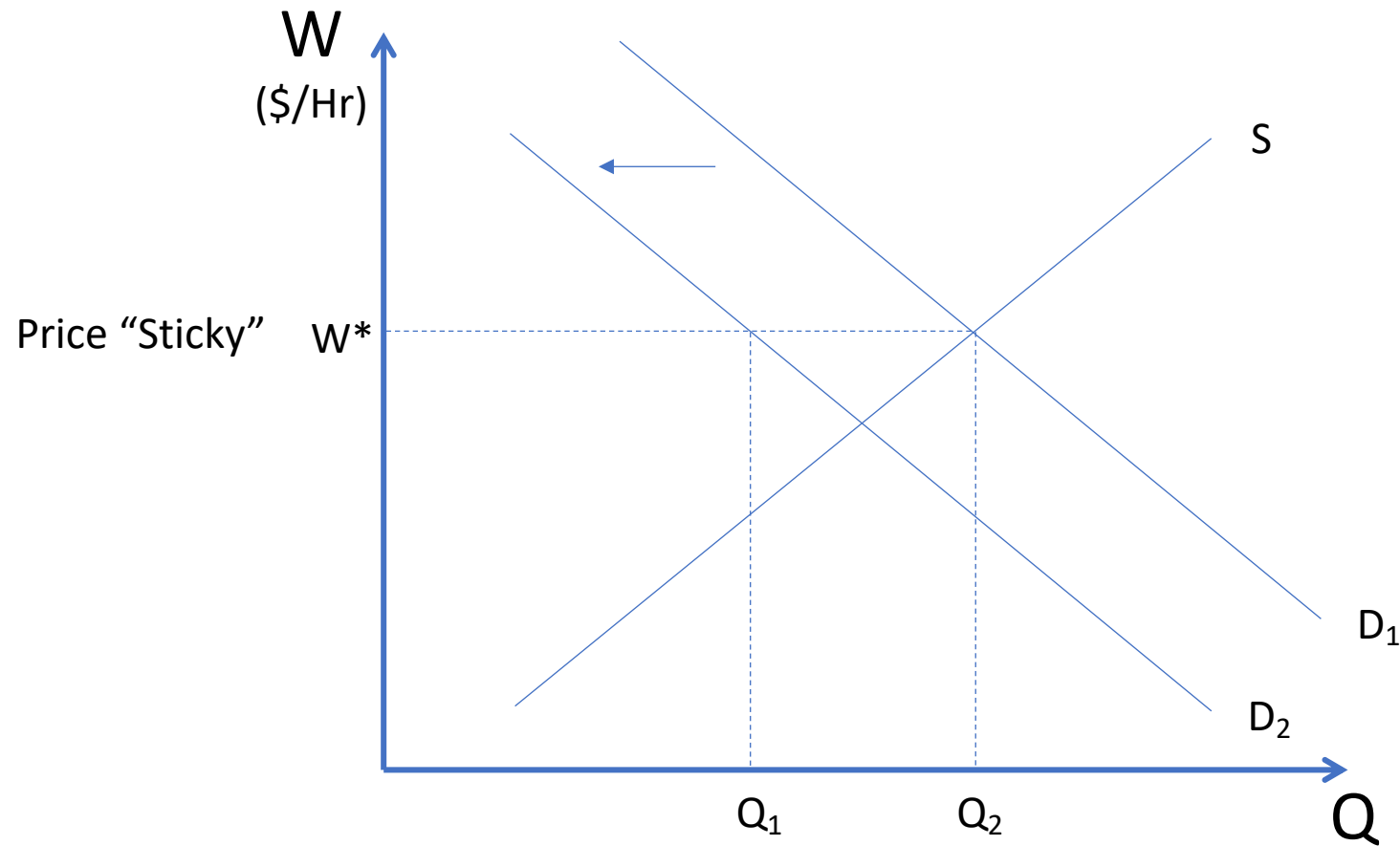
Natural Rate of Unemployment

- As expansion continues, *cyclical* unemployment drops to zero but unemployment rate will not be zero, why?

- When the only remaining unemployment is **structural and frictional**, the economy is said to be at **full employment**

- The underlying level is the **natural rate of unemployment**
  - It is likely that it does not remain constant over long periods (decade)

- Economists disagree on the exact value: likely range 4% and 5%

Explaining Unemployment: Frictional, Structural

- **Government policies**
  - Training programs for workers

- **Unemployment insurance**
  - Helps reduce the severity of recessions

- **Minimum wage laws**
  - Economists disagree on the amount of unemployment that has resulted

- **Labor unions**
  - Bargain with employers for higher wages

- **Efficiency wages**
  - Firms pay higher-than-market wages to increase worker productivity
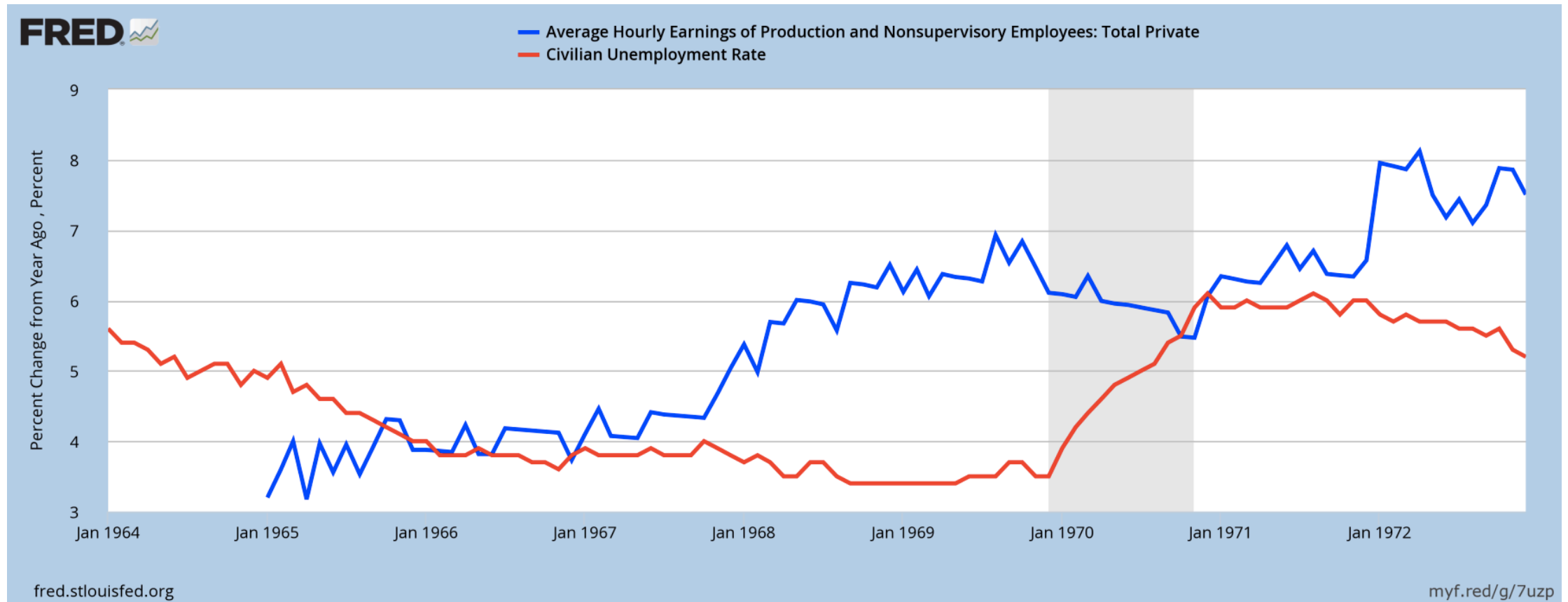
Explaining Unemployment: Cyclical

- **Sticky wages** go a long way to explain the boom/bust pattern in the jobs market

We Don't Like High Nor Low Unemployment

- Obvious why we don't like high unemployment

- But, how can too many people working be bad?

- **Overheating**: Producing more than your potential, employing more than the economy's natural rate

When U$_t$ Gets Very Low, …
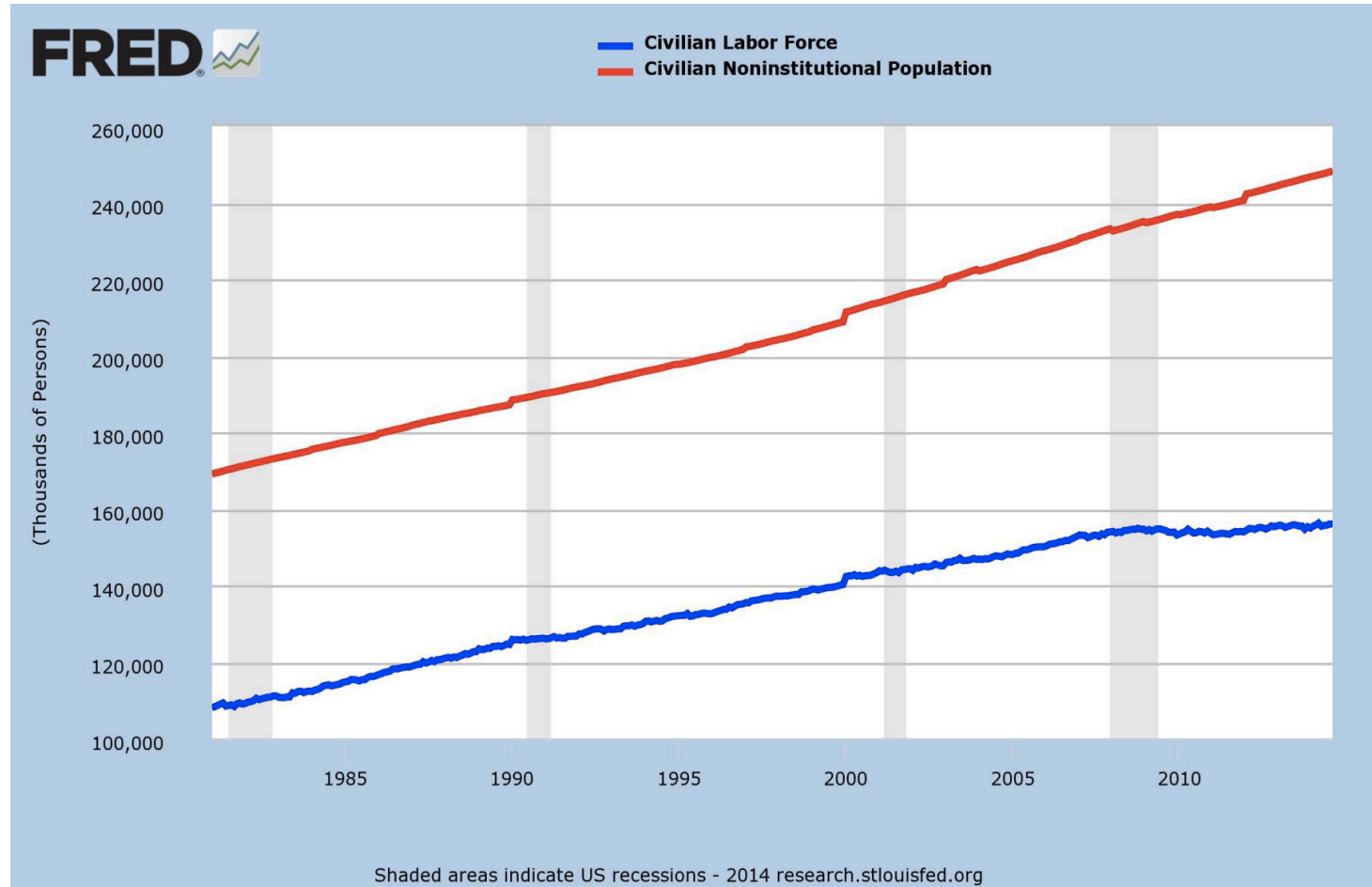
What If We Bid Up Wage Rates?

- Accelerating wage increases labor costs, so firms raise prices more quickly and inflation accelerates
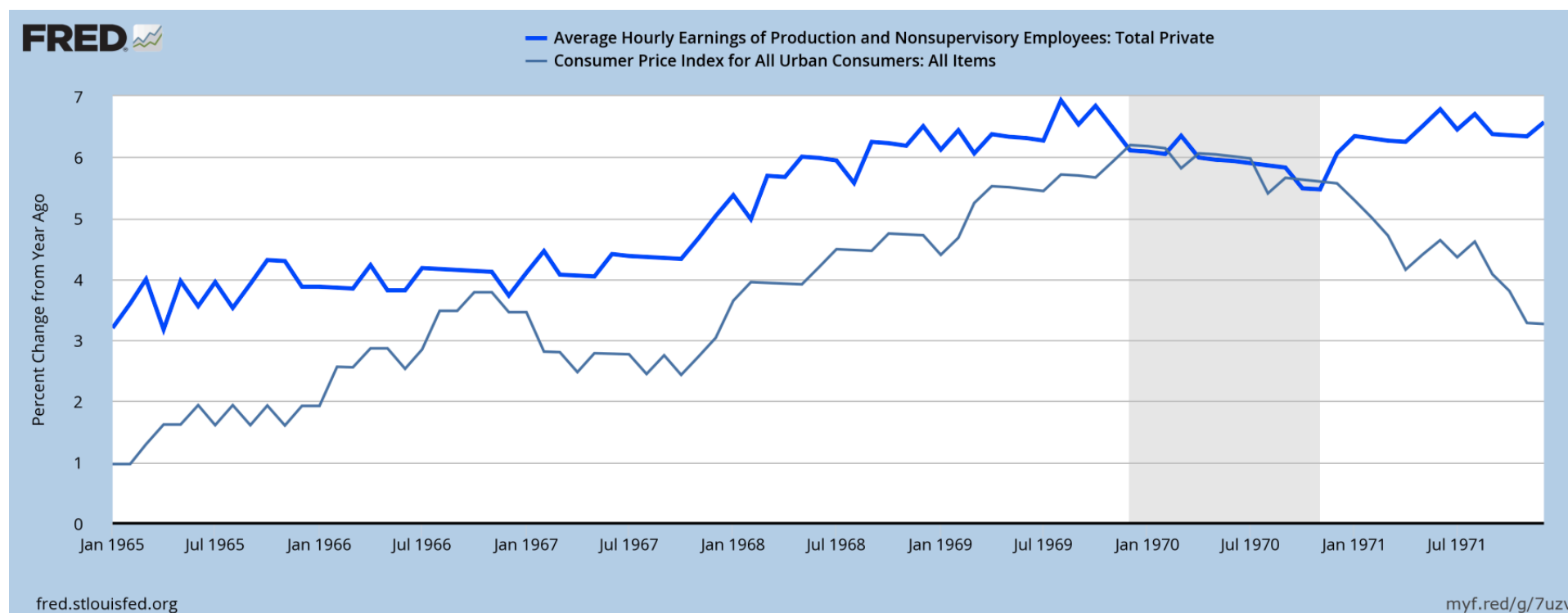
- Economists disagree on the strength of the wage-inflation link

Application

- What change is evident in this picture?

Participation Has Fallen Dramatically
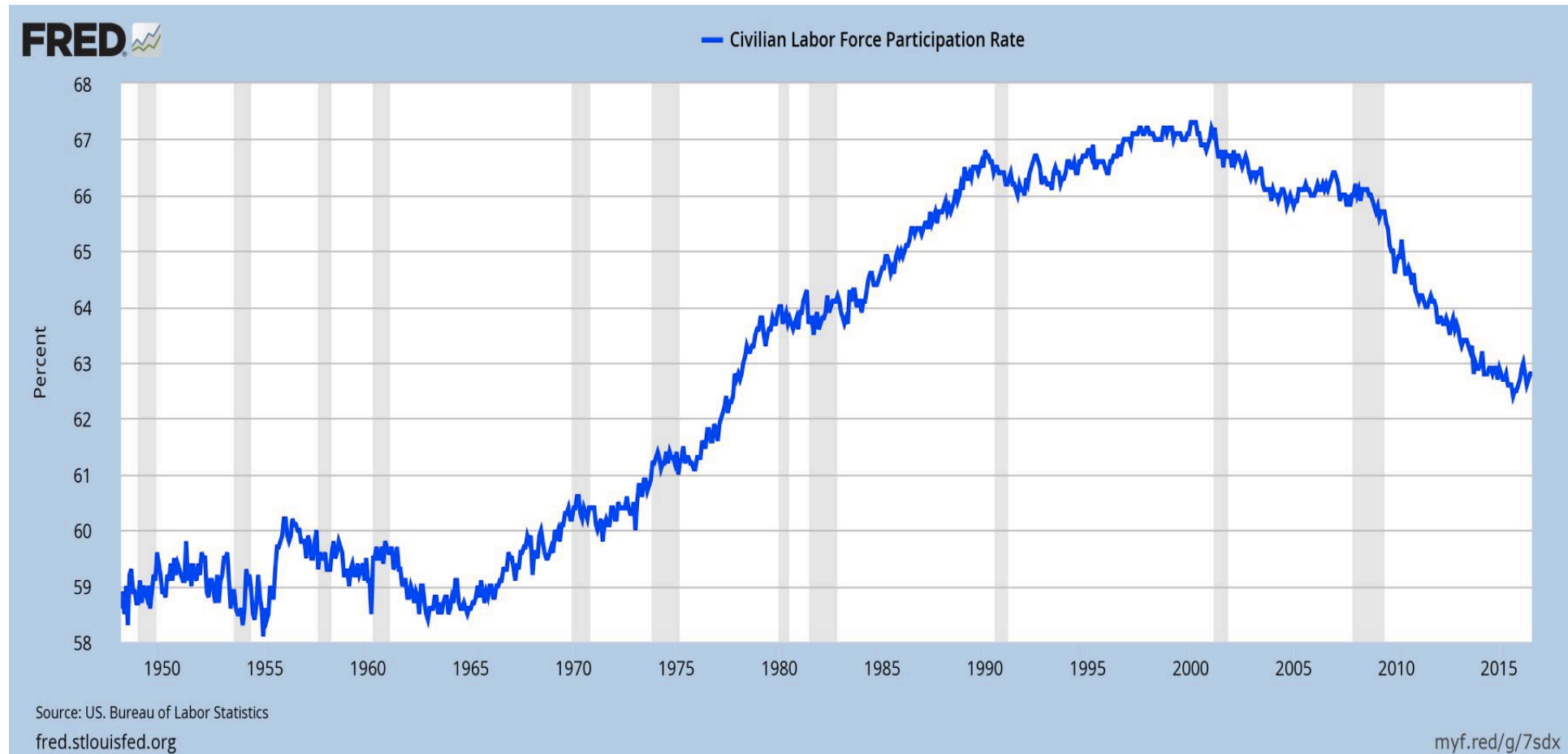
LFPR By Age Cohort

	2000	2004	2014	2015	2020*
Total 16 and over	67.1	66	62.8	62.6	62.5
16-24	65.4	61.1	54.5	55.1	48.2
25-54	84	82.7	81.1	80.9	81.3
55-64	59.3	61.9	63.9	64.2	68.8
65 and older	12.5	14.5	18.3	19.0	22.2
*BLS Forecast					

Why Is This Important?

|	gains for non-farm payroll employment[1]	gains for household employment[1]	gains for household labor force[1]	jobless rate	labor force participation rate
8/14 to 8/15	238,000	193,000	58,000	6.2% to 5.1%	62.9% to 62.6%
8/15 to 8/16	204,000	198,000	183,000	5.1% to 4.9%	62.6% to 62.8%

1 monthly average

- Despite a comparable job growth, why U_t declined so much?
  - Declining LFPR

- In 2015, some economists feared a jump in inflation
  - Population growth of 1% but LF growing by **less** ➡ aging population
  - So 200,000 per month climb for employment ➡ U_t sharply lower

- If wanted to stabilize U_t at 4.5% ➡ big **SLOWDOWN** for jobs growth

But Good News on Participation

- Prime age workforce (25-54 yrs) is mounting a rebound for LFPR
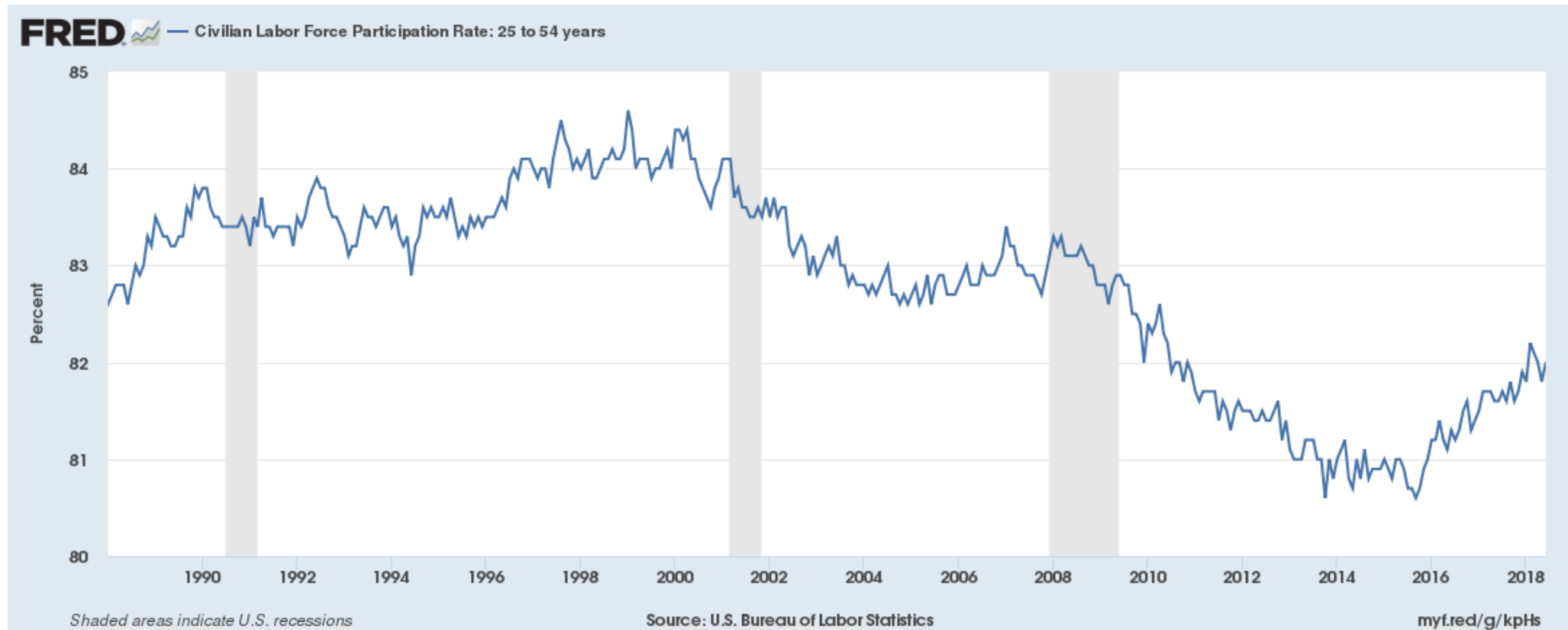
How Much Room Is There to Grow?

- In 2016, the prime age (25-54 yrs) workforce participation rate registered its first year of rebound since the onset of recession

- This propelled a rise for the *overall* participation rate, and a healthy rise in the labor force

- If the rebound in participation rates continue, possible to support more years of 100,000-200,000 per month jobs gains before U_t falls dramatically further

A Challenge for Policy Makers

- U_t has fallen below 4% from 10% since the peak in 2009
  - **Part-time employment** explains some of the decline
  - **Falling participation** explains some of the decline

- Some argue that weak job growth reflects demographic and schooling changes
  - We only need modest job growth, so **no more** stimulus is needed

- Others argue that weak job growth reflects the fact that large numbers of workers have given up looking
  - Therefore, weak job growth numbers suggest we need **more** stimulus

Application: Forecasting Job Gains

- We need to forecast:
    - Working-age population ➡ Distribution of population by age cohorts
    - What percent of the population will be in the labor force?
    - What percent of the population will be employed vs unemployed?

- What drives population?
    - (Births – Deaths) + (Immigrant arrivals – Emigrants exits)

- Let's assume net immigration inflows are zero

BLS Population Forecast

	2016 population	BLS pop growth forecast	2026 Population	Population Growth
16 and over	253724		276896	23172
16-24	38469	-0.28%	37405	
25-54	125675	0.32%	129755	
55-64	41378	0.32%	42721	
65 and over	48202	3.35%	67015	

If We Assume No Change in the LFPRs

	2016 LF	Labor force 2016 lfpr	2026 Labor force assume steady LFPR	Labor Force Growth	2026 total LFPR
16 and over	158757		166018	7261	60.0%
16-24	21197	55.1%	20611		
25-54	101944	81.1%	105254		
55-64	26369	63.7%	27225		
65 and over	9299	19.3%	12928		

- BLS suggests 23.2 million population gain but only 7.3 million gain for the labor force, why?

How Many Net New Jobs?

- Let's assume an unemployment rate of 3.9%

- Therefore, over 10 years

$$\text{Net New Jobs} = 0.961 \times 7.261 = 6.98 \text{ million}$$

- Way less than Trump Administration's goal of 25 million jobs over 10 years

Another Scenario

- Let's use LFPRs maximum recorded values for all age cohorts

	LFPR 2016	LFPR 2026 assume maximum for each age cohort	2026 Labor force assume maximum for each age cohort	Labor Force Growth	2026 total LFPR
16 and over	62.6%		175141	16384	63.3%
16-24	55.1%	66.0%	24688		
25-54	81.1%	84.4%	109513		
55-64	63.7%	65.4%	27940		
65 and over	19.3%	19.4%	13001		

- Leaving U3 at 3.9% yields

$$\text{Net New Jobs} = 0.961 \times 16.384 = 15.75 \text{ million}$$

- Better but still well below 25 million

Forecasting Job Gains: Conclusion

- We could allow for even higher LFPRs and lower unemployment rate to try to get a better picture than 7 million

- But 25 million seems nearly impossible

- Only if you embrace widespread welcoming of immigrants!

Application: The Government Deficit Problem?

- Decades ago it was agreed that retirees deserve Medicare and social security

- No one count on them living so long

- As baby boomers retire, they are promised benefits

- Plus health coverage?
  - Health costs have relentlessly risen, relative to other costs in the economy

What Do Demographics Do to Size of the Budget Deficit?

- 100 million population in 2020

- 16-64 population: 80 million   16-64 LFPR = 80%
  - Will remain stable

- ≥65 population: 20 million   65 LFPR = 25%
  - Will grow 10 million over 10 years

- U = 10%

- Economy in 2020 vs in 2030
  - LFPR? Labor force? How many people unemployed? How many people employed?

The Government Budget in 2020 vs 2030

- Revenues = $1,000 x (# of employed)

- Payments = $3,000 x (≥65 population)

- Revenues – Payments = Balance (Surplus or Deficit)

- Compare the budget in 2020 vs 2030
  - Revenues?
  - Payments?
  - Balance?

What Might Be Done to Avoid This Calamity?

- We can raise taxes to raise revenues
  - Risk?
  - Adversely affect the economy

- We can cut payments to oldsters
  - Issue?
  - Fairness/social equity

- A program for young immigrants?