The Labor Force and Unemployment

David A. Díaz

UNC Chapel Hill

The Labor Force

- There are three categories the "working population" can be placed in:

    1. Employed (**E**): Those who work as paid employees, worked in their own business, or worked as unpaid workers in a family business. Includes part-time and full-time workers and those on temporary leave.
    2. Unemployed (**U**): Those who are not employed, are available for work, and have tried to find employment during the previous four weeks.
    3. Not in the labor force (**O**): Everyone else – full-time students, retirees, etc.

- **Labor Force (LF):** The total number of workers $= E + U$

The Labor Force

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- Not included in P:
  - Military members (only counting the civilian population)
  - Institutionalized individuals (e.g., in jail)
  - Individuals who are less than 16 years old

The Labor Force

- **Labor-force participation rate (LFPR):** % of the adult population that is in the labor force

$$LFPR = \frac{LF}{P} = \frac{E + U}{E + U + O}$$

The Labor Force

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- 2,000 work full-time in the public sector (non-military) E
- 2,000 work part-time in the private sector E. Of these part time workers, 20% are working part-time for economic reasons and would prefer full-time work.
- 1,500 individuals were laid off 6 months ago due to a plant closing. Of these laid off individuals, 1,000 have actively sought work since being laid off, while 500 searched for work immediately after being laid off, but not in the last four weeks.

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$LFPR = LF/P = (E + U)/P = 8,500/12,500 = 68\%$

Trends in the US Labor Force

- Decline in LFPR for males particularly steep for those $\sim$ 65 years or older.
- Dramatic increase in LFPR of women in the last 50 years. Particularly steep among married women.
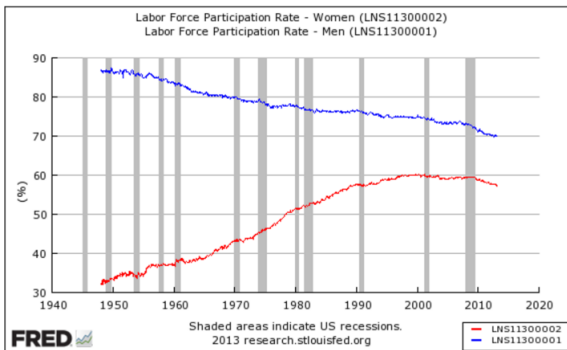

Figure: LFPR by Sex, 1948 - 2015

Trends in the US Labor Force

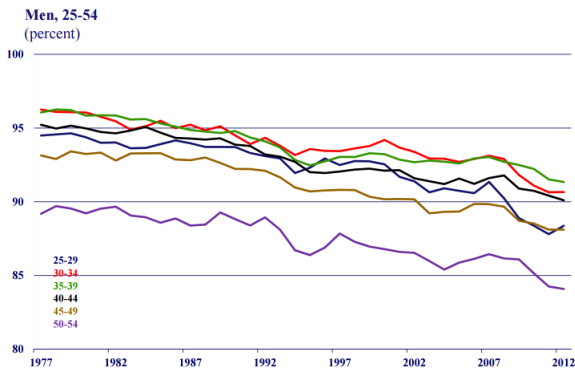- Tough to explain fall in the LFPR among prime-age males.

Figure: Male LFPR by Age, 1977-2012
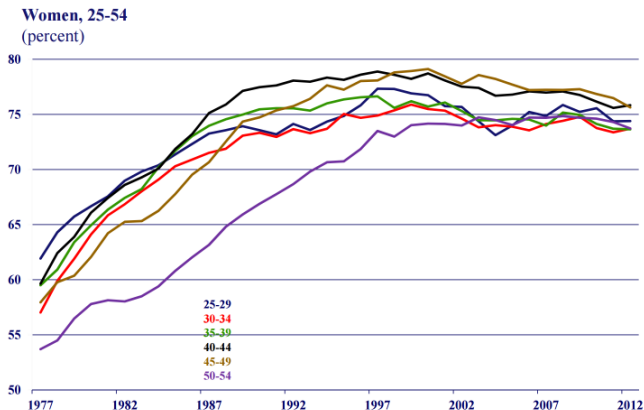
Trends in the US Labor Force

Figure: Female LFPR by Age, 1977-2012

Trends in the US Labor Force

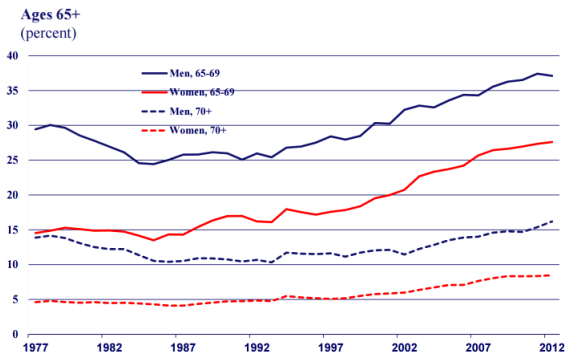- LFPR of those in retirement years has increased recently.

Figure: LFPR in Retirement Years, 1977-2012
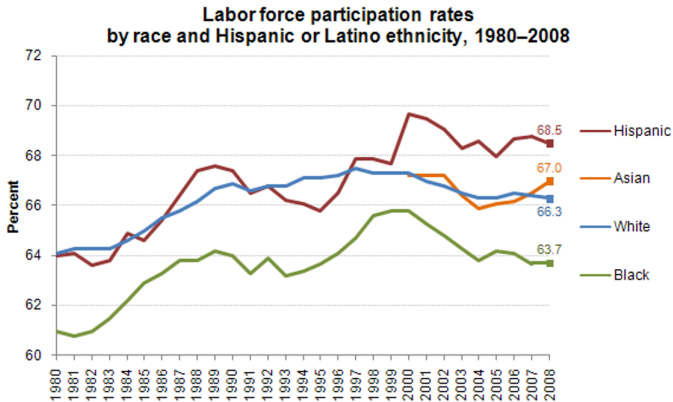
Trends in the US Labor Force

Figure: LFPR by Race/Ethnicity, 1980-2008

Unemployment

- **Unemployment rate (UR):** % of the labor force that is unemployed

$$UR = \frac{U}{LF} = \frac{U}{E + U}$$

Example

What is the unemployment rate in Waxhaw?

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Example

What is the unemployment rate in Waxhaw?

$UR = U/LF = 1000/8,500 = 11.8\%$

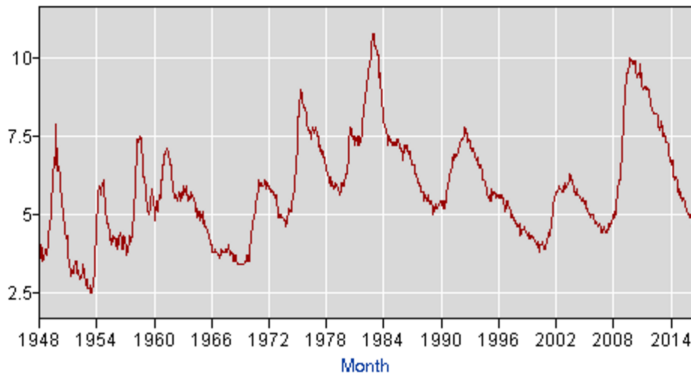# US Unemployment Trends

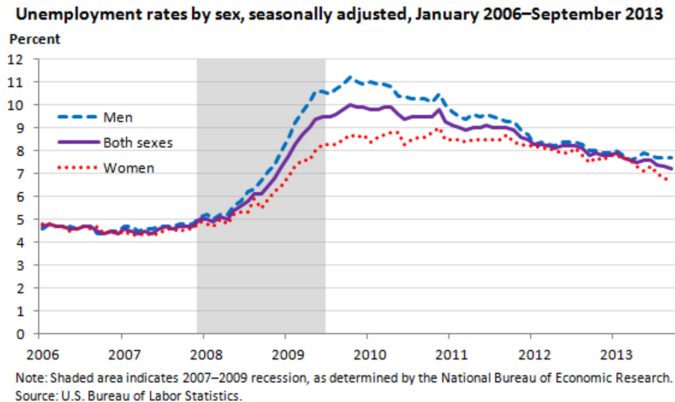
Figure: Unemployment Rate, 1947-2016
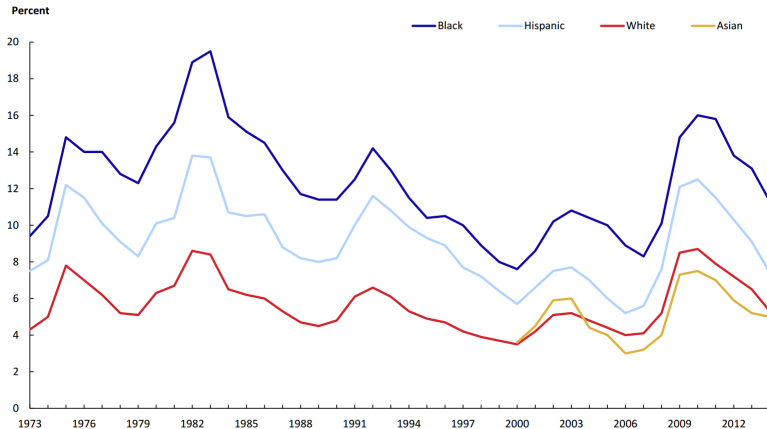
US Unemployment Trends

Figure: Unemployment Rate by Sex, 2006-2013

US Unemployment Trends

Figure: Unemployment Rate by Race, 1973-2014
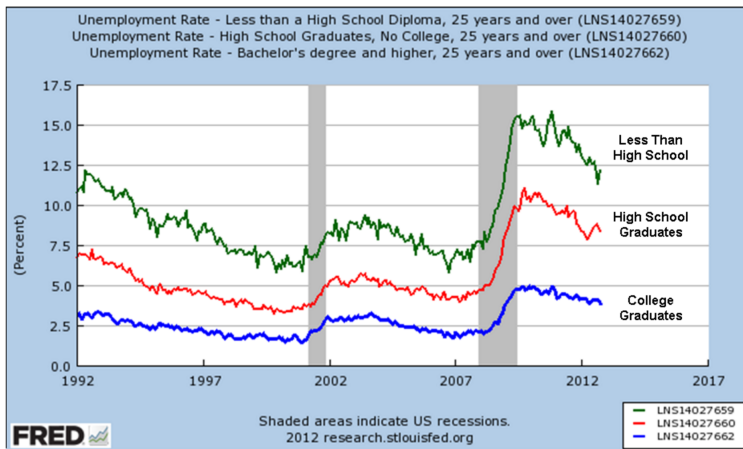
US Unemployment Trends

Figure: Unemployment Rate by Education, 1992-2012

Unemployment

Example

In each of the following, what happens to the unemployment rate? In each case does the unemployment rate give an accurate impression of what is happening in the labor market?

1. Sue lost her job, and begins looking for a new one.
2. Jon, a steelworker who has been out of work since his mill closed last year, becomes discouraged and gives up looking for work.
3. Sam, the sole earner in his family of 5, just lost his $80,000 job as a research scientist. Immediately, he takes a part-time job at McDonald's until he can find another job in his field.

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No change in the unemployment rate. Does not accurately reflect changes in labor market

Unemployment

- The task of determining whether someone is unemployed or simply not in the labor force makes measuring the true amount of unemployment in an economy difficult.

- Is the unemployment rate a good measure of joblessness? What's missing?

Unemployment

- Discouraged/marginally attached workers are considered out of the labor force
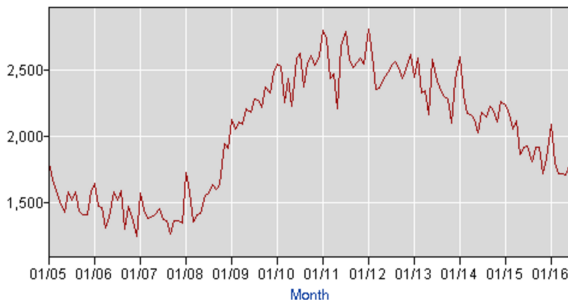

Figure: Marginally Attached Workers (thousands), 2005-2016

The Unemployment Rate: Issues

- Underemployment is not taken into account
    - Highly skilled workers in low paying jobs
    - Highly skilled workers in low skill jobs
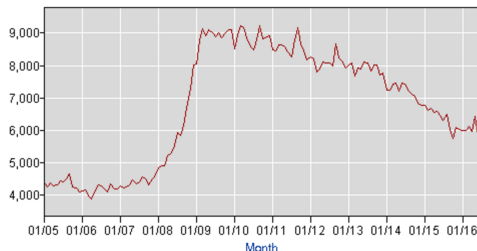   - Part-time workers who would prefer to be full time.

Figure: Part time Workers for Economics Reasons (thousands), 2005-2016

The Unemployment Rate: Issues

- Length of unemployment not taken into account
  - Short spells indicate labor market fluidity
  - Long spells indicate more serious issues
  - Upward trend in the fraction of the unemployed who had been without work more than 26 weeks
  - More pronounced during recent recession

Number of unemployed persons by duration of unemployment, seasonally adjusted, January 2006–September 2013
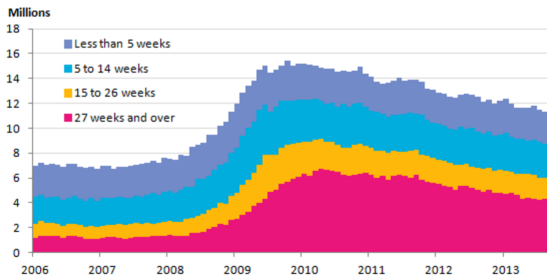
Source: U.S. Bureau of Labor Statistics.

The Unemployment Rate: Issues

- These factors are more severe during recessions
- Unemployment rate may understate the depths of recessions and state of economic hardship
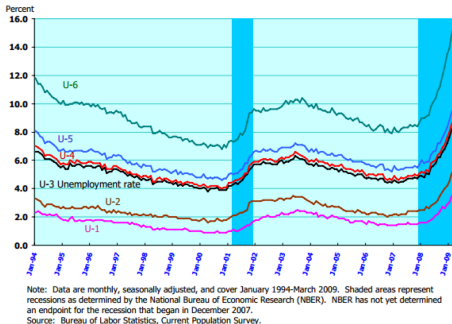

Figure: Alternative Measures of Unemployment, 1994–2009

Unemployment

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Consider the town of Waxhaw described in the previous example. If we decide to change the definition of unemployment so that we counted all discouraged or marginally attached workers as "unemployed," what would be the new unemployment rate?

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$U' = 1,500 \Rightarrow LF' = 9000 \Rightarrow UR' = 1,500/9,000 = 16.7\%$

Unemployment

- **Natural Rate of Unemployment:** The normal rate of unemployment around which the unemployment rate fluctuates.

- **Cyclical Unemployment:** The deviation of unemployment from its natural rate. Generally an issue with the demand for labor.

Unemployment

- The natural rate of unemployment is comprised of two forms of unemployment:
    1. **Frictional unemployment:** Unemployment that results because it takes time for workers to search for jobs.
    2. **Structural unemployment:** Unemployment that results because of long-lasting shocks to permanent features of an economy.

- Frictional unemployment is generally limited to the short run, while structural unemployment is more long run in nature.

Unemployment

Example

In each of the following, determine which type of unemployment is present.

1. Someone who recently moved to Florida due to its warmer climate will have to spend some time looking for a job.

2. A worker repairing VHS cassette tapes was laid off because most customers have started using DVD players.

3. Natalie, a highly trained construction worker, lost her job when the recession began. He is looking for work, but the demand for labor in the industry is still low.

4. Curtis has looked to work as an accountant for some time. While the demand for accountants doesn't seem to be decreasing, there seems to be more people applying than there are jobs available.

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Readings and Assignments

- Today: Mankiw Ch. 28
- Next time: Mankiw Ch. 29
- Problem Set 5, section 4