## Unemployment and Inflation

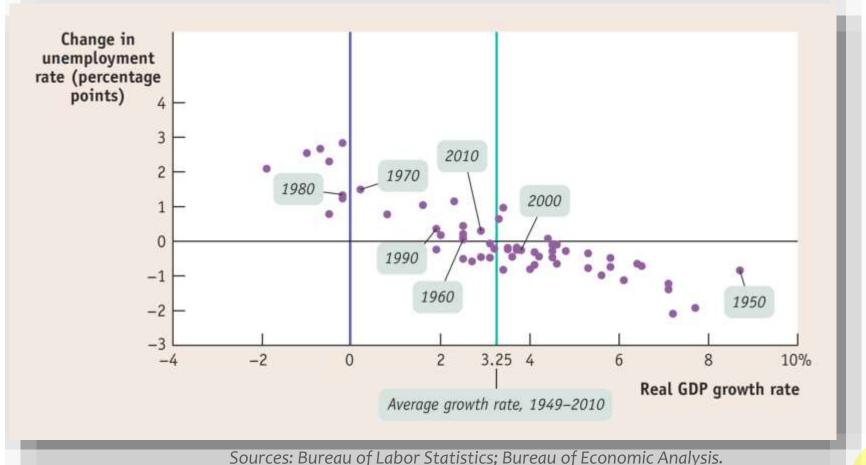


- How <u>unemployment</u> is measured and how the <u>unemployment</u> rate is calculated
- Paradox of Thrift, marginalized and discouraged unemployment
- The <u>relationship</u> between the unemployment rate and economic growth
- The natural rate of unemployment
- The economic costs of inflation
- How inflation and deflation create winners and losers



### Growth and Changes in Unemployment, 1949–2010

Generally there is a strong <u>negative</u> relationship between growth in the economy and the rate of unemployment.



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# **Measuring Unemployment**

Every month the Census Bureau contacts 60,000 households to determine their economic activity.

It asks a series of questions that the Bureau of Labor Statistics uses to determine unemployment.

Check out: BLS.org/ OOH → Occupational Outlook

Handbook





## The Significance of the Unemployment Rate

The unemployment rate is a good <u>indicator</u> of how <u>easy</u> or <u>difficult</u> it is to find a job given the current state of the economy.

### It can overstate the true level of unemployment.

Even if the labor market is healthy, it takes time to find the right job. (Meanwhile, you're "unemployed.")

### It can understate the true level of unemployment.

When some have given up looking for a job, but statistically they are not "unemployed" - there are no jobs available, or other reasons.



## **Problems with Unemployment**

Discouraged workers: nonworking people who have given up looking for work for the time being. Not considered unemployed.

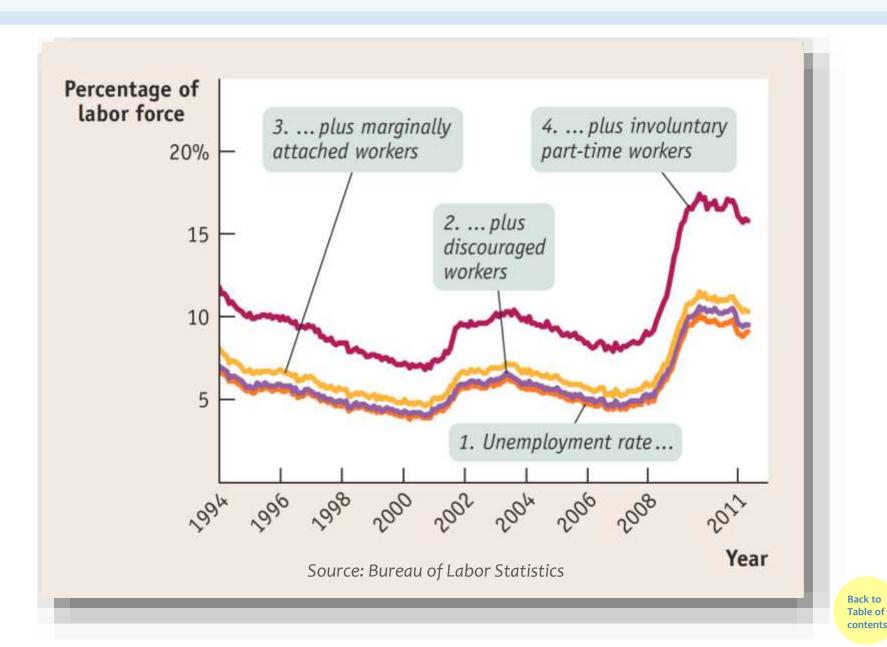
The deeper the recession, the more discouraged workers there are.

Marginally attached workers: those who were available and actively looked for work recently but are not currently looking (in the past 12 months but NOT in the past 4 weeks)

Underemployed workers: people who work part time because they cannot find full-time jobs.

"Paradox of Thrift" – During recession, most households would reduce spending; this would lead to firms also reducing their production; if this is persistent, firms would lay off workers, thus create Unemployment. Less income would lead to even less spending, and so the downward spiral continues on.

### Alternative Measures of Unemployment, 1994–2011



# **Defining Unemployment**

#### Measuring the labor force participation rate

The percent of the <u>adult (16+)</u> <u>non-institutionalized civilian</u> population who are <u>working</u> or <u>actively looking</u> for work.

(Labor force / Adult Population) x 100%

Adult Population: age 16 or older

Labor force = employed + unemployed

- not included: military, seniors, retirees, disabled, discouraged workers
- Measuring unemployment

The unemployment rate is the percent of the labor force without a job: (Unemployed / Labor Force ) x 100%

-Unemployed is defined as: those who are jobless, looking for jobs, and available for work.

During 2008-09, housing crisis: 26 weeks unemployment benefits  $\rightarrow$  99 weeks ("99ers")



### **Active Learning: Practice**



Adult population	200 million
Labor force	150 million
Employed persons	138.75 million
Discouraged workers	10.5 million

According to the table, the unemployment rate is and the labor force participation rate is

- ------
- a) 7%; 60.4%
- b) 0.7%; 99.3%
- c) 5.6%; 69.4%
- d) 7.5%; 75%



### **Active Learning: Practice**



Which of the following individuals can be counted as unemployed?

- a) Darren, a 10-year-old child
- b) Nazma, a stay-at-home mom
- c) Moesha, a full-time college student
- d) Carl, who works part time at the Olive Garden but would prefer more hours
- e) None of the answers is correct.



# The Natural Rate of Unemployment

### Some unemployment is <u>natural</u>.

Over the past 50 years, the national unemployment rate has never dropped below 2.9%.

### There are three types of unemployment:

- 1. frictional
- 2. structural
- 3. Cyclical

(Also, <u>Seasonal</u> Unemployment)

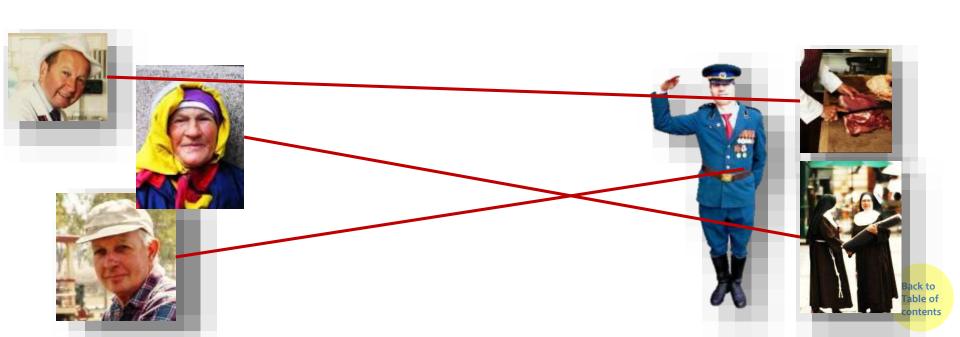


# **Frictional Unemployment**

Frictional unemployment: unemployment due to the time workers spend in job search.

Scarcity of information creates frictional unemployment.

Matching people to jobs takes time.



## Structural Unemployment

Structural unemployment: due to changes in the structure of the labor market or some industries.

#### Some causes:

Labor unions

Labor unions sometimes increase wages above the equilibrium.

Efficiency wages

**Efficiency wages:** wages that employers set above the equilibrium rate as an incentive for better employee performance.

Side effects of government policies

Unemployment insurance, minimum wage law

Mismatches between employees and employers

Geography or skills or industries or stages of economic development



## **Structural Unemployment in East Germany**

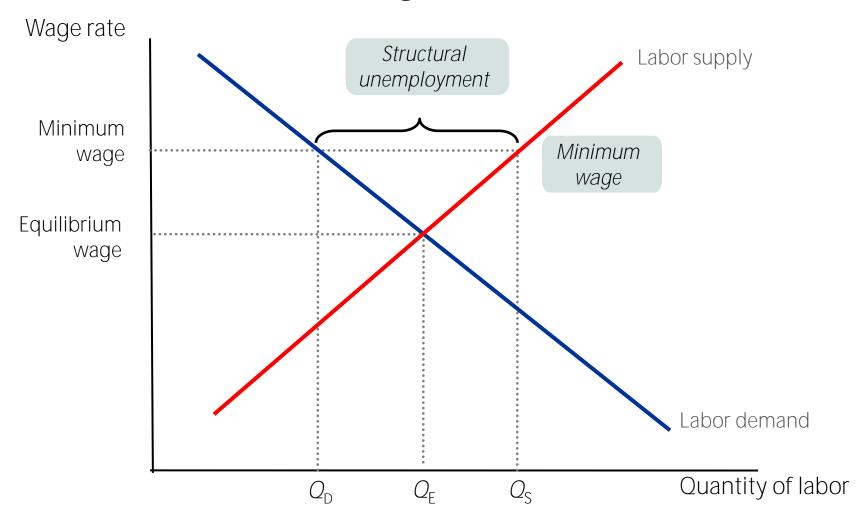


Since reunification in 1989, East Germany's economy has remained depressed, with productivity low and structural unemployment high.



# **Structural Unemployment**

#### Effect of minimum wage on low-skilled unemployment



(lookup: http://www.dol.gov/whd/minwage/america.htm)



### Natural Unemployment around the OECD

Persistently high European unemployment rates are the result of government policies like high minimum wages and generous unemployment benefits.

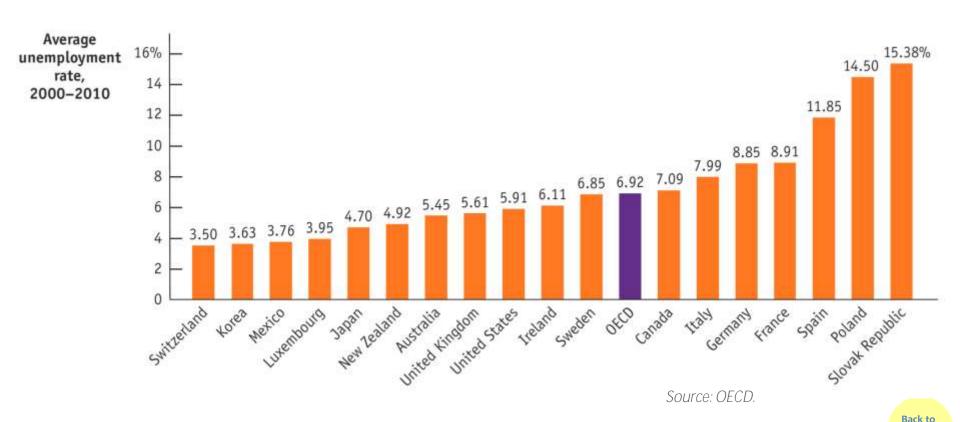


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## The Natural Rate of Unemployment

Frictional and structural unemployment are always present; they are "natural."

**Natural rate of unemployment:** the unemployment rate that arises from the effects of frictional plus structural unemployment.

Natural unemployment =

frictional unemployment + structural unemployment.

Actual unemployment =

natural unemployment + cyclical unemployment.

<u>Cyclical</u> <u>unemployment</u>: unemployment correlated with the business <u>cycle</u>—the deviation from the natural rate.



## **Active Learning: Practice**



### Which of the following statements is true?

- a) The natural rate of unemployment equals a country's unemployment rate during a recession.
- b) The natural rate of unemployment equals a country's unemployment rate during an expansion.
- c) The natural rate of unemployment is the sum of frictional and structural unemployment.
- d) The natural rate of unemployment is the sum of frictional and cyclical unemployment.



### **Inflation and Deflation**



Inflation hurts the economy.

The Costs of Inflation are:

- 1) Shoe-Leather Cost
- 2) Menu Cost
- 3) Unit-of-Account Cost



### **What Inflation Costs**

**Shoe-leather costs:** the increased costs of transactions caused by inflation.



The shoe-leather costs of inflation in Israel: When the inflation rate hit 500% in 1985, people spent a lot of time in line at banks.





## **What Inflation Costs**



Unit-of-account costs: inflation makes money a less reliable unit of measurement.

Calculations are hard when inflation is high.



## The Cause of Inflation



#### **Demand-Pull inflation**

Inflation caused by increased in Demand for goods.

A mild inflation is a signal of a healthy economy.

A rush inflation is a bad sign:

"Irrational Exuberance" demand for housing Speculation in the stock markets

### **Supply-Push inflation**

1973 oil shock is an example.

A continuous increase in "money printing" as happened in Zimbabwe, 2008.



# Try this:



### **Inflation-Adjusted Wages:**

You have just been awarded a cost-of-living increase tied to the CPI. The CPI has gone from 110 to 112. If your salary is \$30,000 per year before the increase, what will it be after the CPI increase is factored in?

- a)\$29,464
- b)\$30,545
- c)\$30,600
- d)\$33,600





# **Creating a Simple Price Index**

Assumption: Quantity stays the same

		2013		2014	
Good	Quantity	Price	Cost	Price	Cost
Popcorn	2	\$4	\$8	\$6	\$12
Lemonade	2	\$4	\$8	\$4	\$8
Movie ticket	1	\$8	\$8	\$10	\$10
<b>Basket Price</b>			\$24		\$30

Index (Base: 2013)

$$\frac{$24}{$24} \times 100 = 100$$

$$\frac{$30}{$24} \times 100 = 125$$

Inflation rate: (P2 - P1) / P1 = 25%



# Price & Wage Comparison across time and place

 $\frac{\text{CPI 1983} = 100}{\text{CPI today} = 337}$  compared to:  $\frac{\text{value of dollars in 1983}}{\text{value of dollars today}}$ 

CPI today = 237 value of dollars today

<u>1983</u> <u>Today</u>

Median home price: \$64,200 ?

Median household income: \$17,710 ?

Cost of Living across states: (Cost of Living Index – Selected Urban Areas)

Atlanta, GA: 95.6

Seattle, WA: 121.4

New York, NY: 216.7

San Francisco: 164

Atlanta Seattle New York San Francisco

Accountant \$52,000

Sales Professional \$56,000



### Winners and Losers from Inflation

Interest rate: the price that a lender charges for the use of his or her savings for one year.

**Nominal interest rate:** the interest rate expressed in current terms;

check today's nominal interest rate at Federalreserve.org/

**Real** interest rate = Nominal interest rate - inflation rate or

Inflation rate = Nominal Interest rate - Real Interest rate.

If inflation is <u>different from predictions/expectations</u>, some will lose and some will benefit.



## **Active Learning: Practice**



Mary expects the inflation rate to be 5%, and she is willing to pay a real interest rate of 3%.

Joe expects the inflation rate to be 5%, and he is willing to lend money if he receives a real interest rate of 3%.

If the actual inflation rate is 6% and the loan contract specifies a nominal interest rate of 8%, then:

- a) Joe is glad he lent out funds even though his real interest rate has fallen.
- b) Joe is sorry he lent out funds, since his real interest rate is now 9%.
- c) Mary is glad she borrowed the funds because her real interest rate has fallen.
- d) Mary is sorry she borrowed funds, since her real interest rate is now 9%.

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### Winners and Losers from Inflation

Americans who took out mortgages in the early 1970s quickly found their real payments reduced by higher-than-expected inflation.

Due to Oil Crisis in the 70s, Inflation rate suddenly shoot up to double digit around 15%; and Home Loans in the 70s are "Fixed" at 6%, rather than "Adjustable" rate that we know now.

**REAL** rate = 
$$6\% - 15\% = -9\%$$



