

Labor Markets

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Econ520

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- Basic facts about U.S. labor markets.
- A framework for thinking about who works and how does not.
- Why is there unemployment?

Labor Market Facts

Labor Market Facts

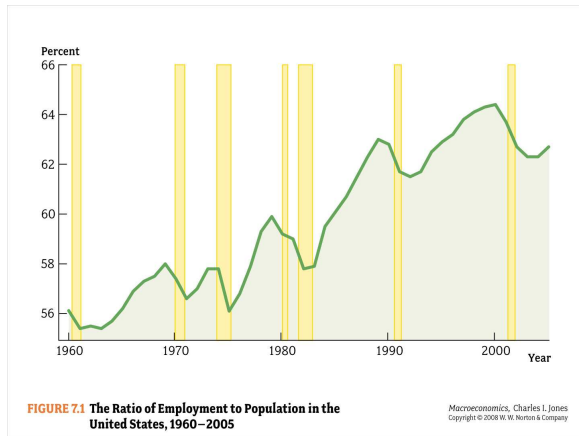
Concepts and definitions

Civilian population, age 16+: 226m

- Labor force: 149m
 - Employed: 142m
 - Unemployed: 7.6m
looking for work, but not working (tricky).
- Not in labor force: 77m
of working age, but not looking to work (tricky).

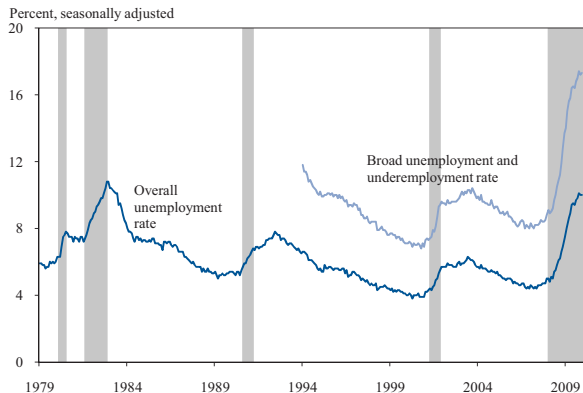
2005 numbers.

Employment / population rises



The trend: women entered the labor force.

Unemployment



Unemployment rate: number unemployed / labor force.

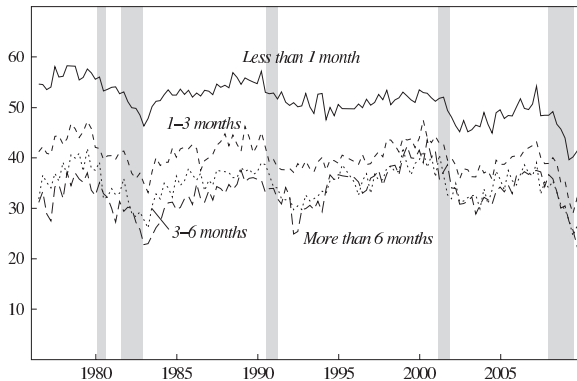
Unemployment Duration

- Most unemployment spells are short
 - about 3 months on average
- Most of the time spent unemployed is accounted for by a small fraction of long-term unemployed.
 - about 20% are unemployed longer than 6 months

Unemployment Duration

Figure 15. Unemployment Outflow Probabilities by Duration of Unemployment, 1976–2009^a

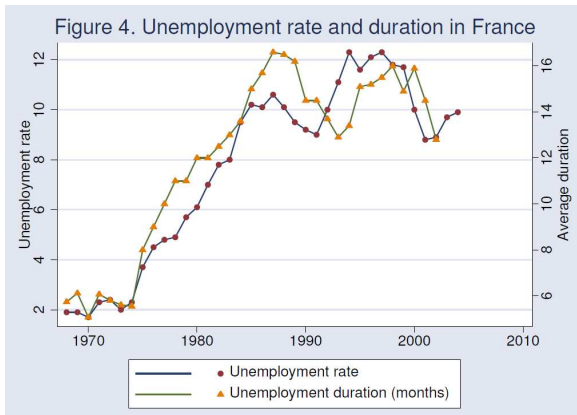
Percent of unemployed



Source: Elsy et al. (2010)

Probability of exiting unemployment within a month after having been unemployed for N months.

Unemployment: Europe



Source: Blanchard (2005)

Unemployment: The Issues

- 1 What determines unemployment in the long run?
 - Is there a **market failure** / inefficiency?
 - Or is unemployment **voluntary** / due to search for jobs?
- 2 Why is unemployment much higher in Europe than in North America?

The Walrasian View of the Labor Market

A Walrasian View of the Labor Market

- Let's start by analyzing the labor market like any other market: supply and demand.
- Then we will think about how this view needs to be modified.
- But we will (partially) conclude that the Walrasian view is not bad for thinking about long-run employment and wages.

- Firms hire labor until real wage equals marginal product of labor.
- The labor demand curve is the *MPL* curve.
- Example: $Y = \bar{A}K^\alpha L^{1-\alpha}$
 - $MPL = dY/dL = (1 - \alpha)\bar{A}K^\alpha L^{-\alpha}$.
 - The firm sets $w = MPL$.
 - Everything else (\bar{A}, K) equal, labor demand is downward sloping in L .

- We should derive labor supply from the household's decision how much to work / how much leisure to consume.
- The RQ contain the details.
- For now, we just use our life-cycle model intuition to think about what shifts labor supply.

What shifts labor supply?

Think about the household's decision between work and leisure.

- 1 **Income** effects
- 2 **Substitution** effects

Labor Market Equilibrium

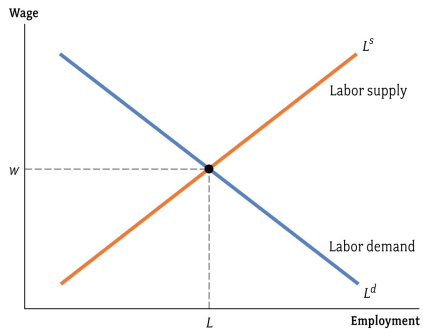


FIGURE 7.3 The Labor Market

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Where is unemployment?

- Everyone who wants to work does work.
 - There is no involuntary unemployment.
- But some non-workers may file unemployment claims.
 - They don't want to work at existing wages, but they want to collect benefits.
- Insight: **Unemployment is an arbitrary concept.**

Change in labor demand

- What if A or K fall?
- $MPL = (1 - \alpha)\bar{A}K^\alpha L^{-\alpha}$.
- Labor demand shifts down.

Change in labor demand

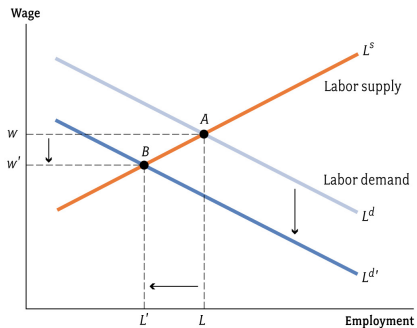


FIGURE 7.5 A Reduction in Labor Demand

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A wage tax

- Firms pay $w = MPL$.
- Households receive $w(1 - \tau)$ where τ is the tax rate.
- What happens in the labor market diagram?
- Two ways of drawing the diagram...

What are the effects of productivity improvements on employment?
Does productivity growth "rationalize away" jobs?

What are the concerns?

- Productivity growth renders jobs obsolete.
- Less labor is needed to produce the same output.

But in the labor market diagram, it seems that L rises!?

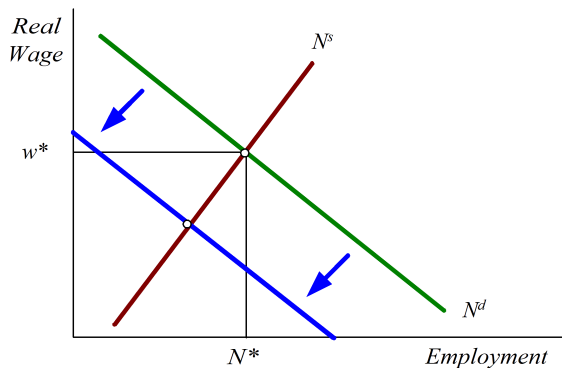
Case 1: Inelastic Demand

- Consider the market for a particular good.
- Assume that demand for the good is **price-inelastic** at \bar{Y} .
- A rises.
- Assume that K stays the same.
- The amount of labor needed to produce \bar{Y} falls:

$$\bar{Y} = \bar{A}K^\alpha L^{1-\alpha} \quad (1)$$

- Labor demand / employment declines.

Case 1: Inelastic Demand

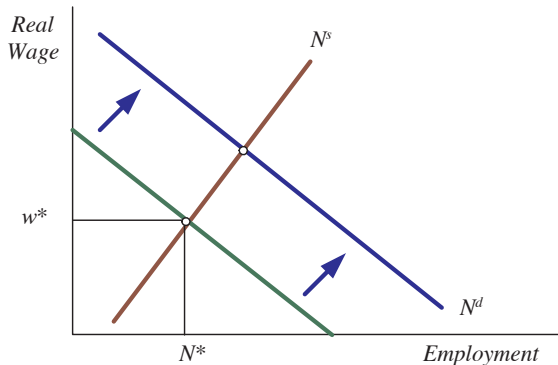


Productivity growth leads to layoffs and lower wages.

Case 2: Elastic Demand

- Assume that demand is **price elastic**.
- A small drop in price leads to a large increase in Y demand.
- A rises.
- Marginal cost falls. Price falls.
- The amount of labor needed to produce Y rises.

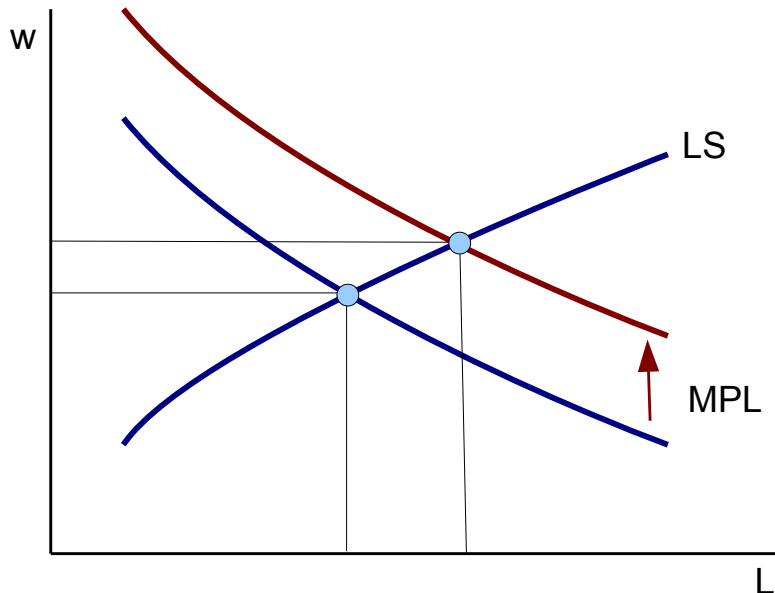
Case 2: Elastic Demand



Productivity growth leads to higher employment and rising wages.

Which view is correct?

Productivity growth and employment



- What is our previous analysis missing?
- We looked at one market.
- Demand for the good was taken as given.
- But in the aggregate: productivity growth raises income and demand for goods.

Key point: The intuition obtained from looking at just one market can be very misleading. General equilibrium effects matter.

- Productivity rises all the time.
- Why don't we see that employment is rising over time?

- Productivity rises all the time.
- Why don't we see that employment is rising over time?
- Employment could trend up or down over time, depending on whether rising labor demand or rising labor supply are stronger.
- In the data, the long-run trend has falling hours worked.

Rigid Wages

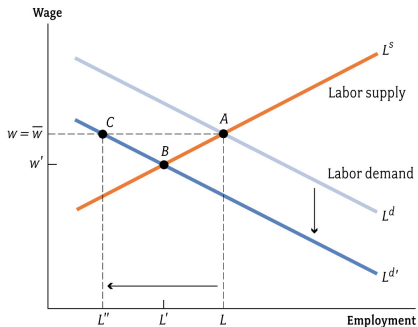


FIGURE 7.6 A Reduction in Labor Demand with Wage Rigidity

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To account for **involuntary** unemployment, the Walrasian model needs rigid wages.

What is special about the labor market?

- The Walrasian view treats the labor market like the market for any other good.
- Unemployment is voluntary, unless wages are rigid.
- This view misses important features of the labor market.
- But it is useful for thinking about long-run issues.

- Jones, *Macroeconomics*, ch. 7.