Principles of Economics II

Lecture 1: Introduction and the competitive labour market model

Fall 2019
Tuukka Saarimaa

Welcome!

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Lectures: Mon 13–15, Tue 10–12

Review Session: Thu 14–16

Course organization

Course homepage

- mycourses.aalto.fi -> my own courses-> Principles of Economics II
- Lecture slides, problem sets, return of problem sets

Textbook

- CORE-team: The Economy: www.core-econ.org/the-economy
- Relevant chapters indicated in the Syllabus of the course

Lectures

- Indicate the central content in the textbook and develop some themes further

Learning objectives

Principles of Economics (4 separate units) aims to

- Provide an overall view of economic activity in modern societies
- Take a first look at economic modeling and economic analysis
- Give an introduction to the use of data in economics
- Introduce economics behind major societal challenges

Objectives for Part II

- Understand aggregate economic phenomena
- Understand the role of the public sector

Assessment and grading

Grading

- 80% of your grade is based on final examination
- 20% of your grade based on problem sets

Review sessions: discuss the lecture material and suggested solutions to problem sets

- Answers to problem sets returned via MyCourses
- An ideal place to ask questions regarding course material

It is essential to complete the problem sets!

The course (160h) assumes a large amount of independent work on top of the lectures

How to get the most from the course?

Familiarize yourself with the topic of the lecture in advance

Check that you have understood the main concepts in the lecture

- You can do this using the interactive tools in the textbook and by reviewing the list of concepts provided at the end of each chapter

Concentrate on the most relevant concepts and ideas

- One of the learning goals in this course is that you should learn to identify the key ideas
- Lecture material and problem sets are designed with this in mind

Feedback

You will get feedback on

- Performance in the problem sets
- Performance in the final examination

We want to get your feedback

- During lectures: ask questions! If you do not understand something, many others will have the same problem
- After lectures: I am available for short questions immediately after class and can set up an appointment for longer ones
- In review sessions
- A questionnaire during the course and after the course

Outline for the course (tentative)

Lecture 1–2: The labour market: Wages, profits, and unemployment. Unit 9

Lecture 3–4: Markets, efficiency and public policy. Unit 12 (and Unit 22)

Lecture 5: Economic fluctuations and unemployment. Unit 13

Lecture 6–7: Unemployment and fiscal policy. Unit 14

Lecture 8–9: Inflation, unemployment, and monetary policy. Unit 15

Lecture 10–11: Technological progress, employment, and living standards in the long run. Unit 16

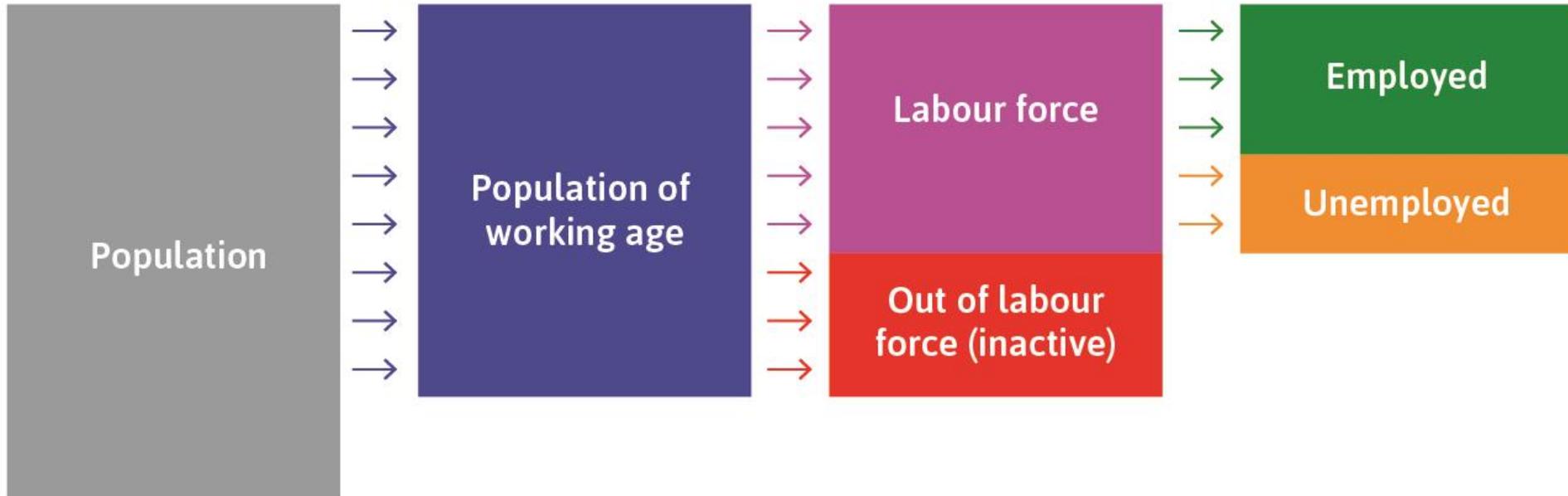**Lecture 12**: Recap

Outline for this lecture

- **Introduction**

- **Measuring unemployment**

- **Competitive labour market model and applications**
  - Immigration, minimum wage

Measuring unemployment

The unemployed

- **The unemployed are the people who:**

  - are not in paid employment or self-employment

  - are available for work

  - are actively seeking work

The labour market

The Finnish labour market in 2017

Population of working age (15–74y) : 4.1M

Labour force: 2.7M

Out of labour force: 1.4M

Employed: 2.5M

Unemployed: 230 000

Labour market statistics

- **Unemployment rate:**

  - unemployed / labour force = 0.23M/2.7M = 8.5%

- **Employment rate:**

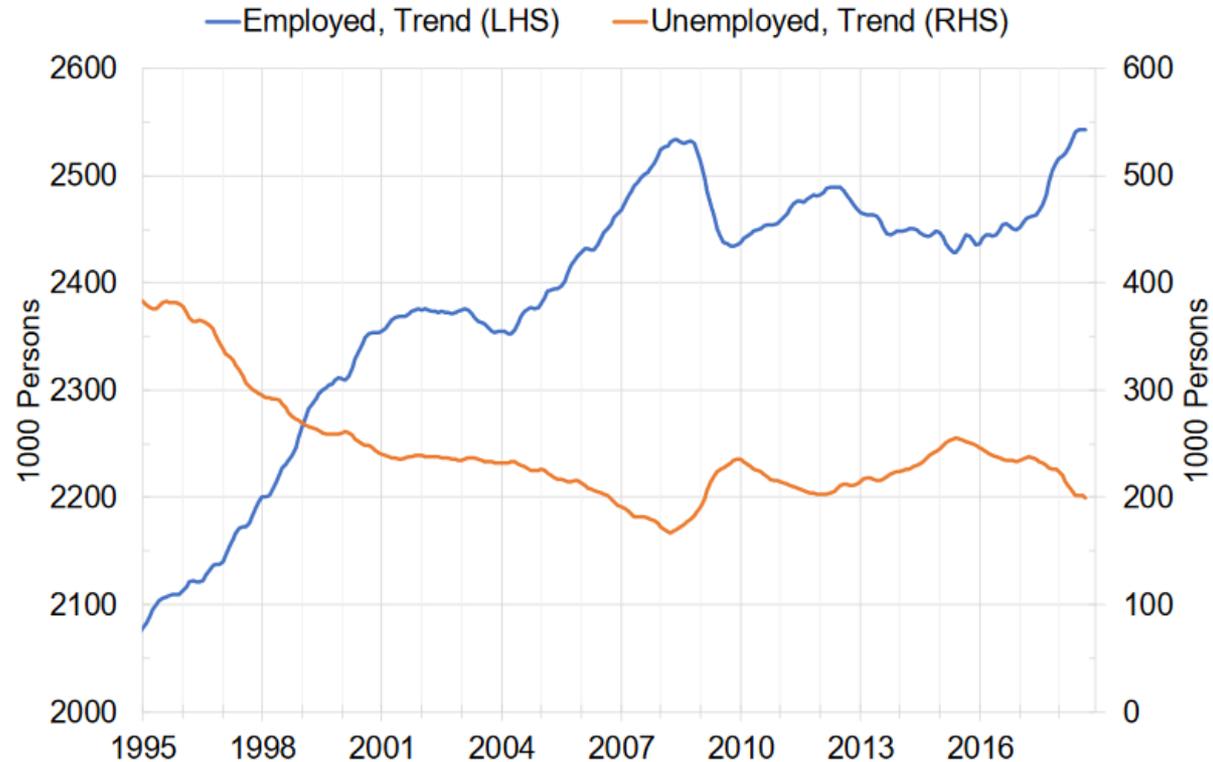 - employed / population of working age = 2.5M/4.1M = 61.0%

- **Participation rate:**
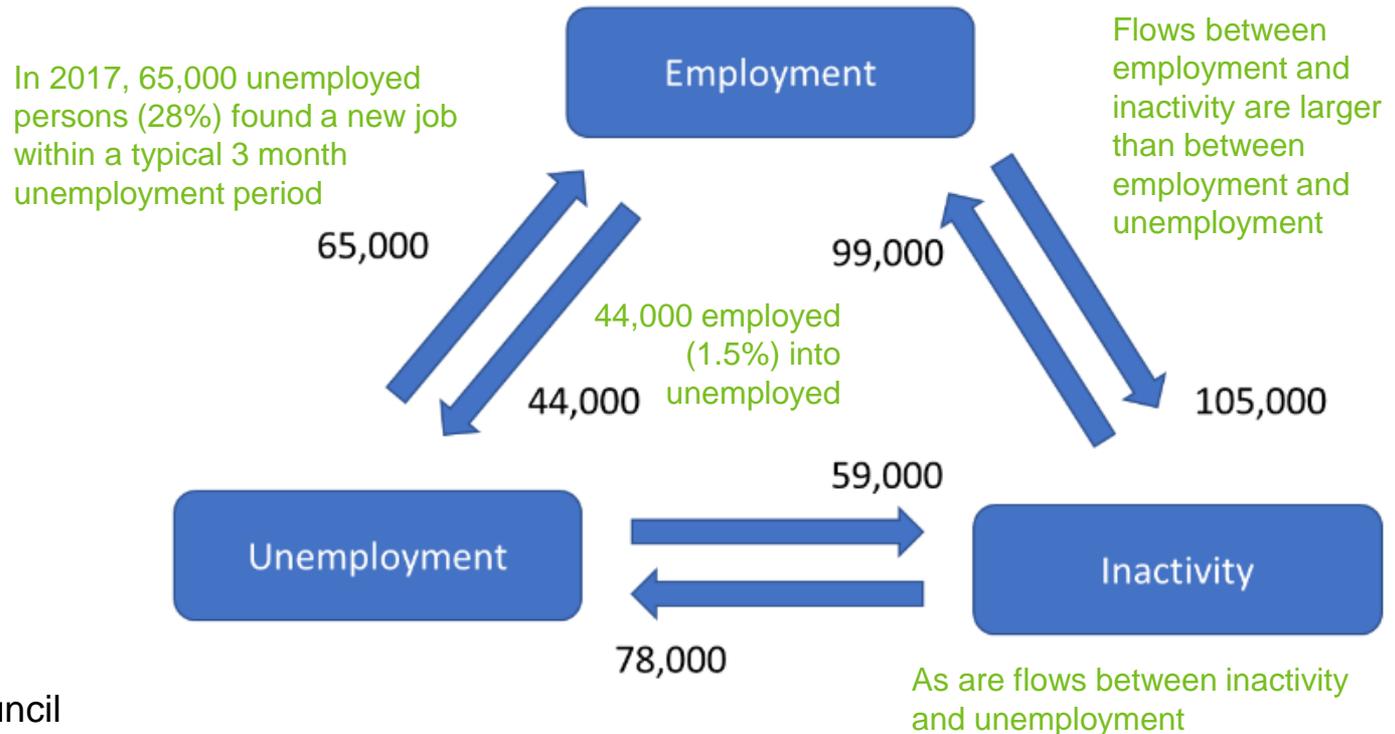
  - labour force / population of working age = 2.7M/4.1M = 65.8%

Employment and unemployment

Figure 3.1.1: Employment of 15-74-year-olds has increased faster than unemployment has decreased.

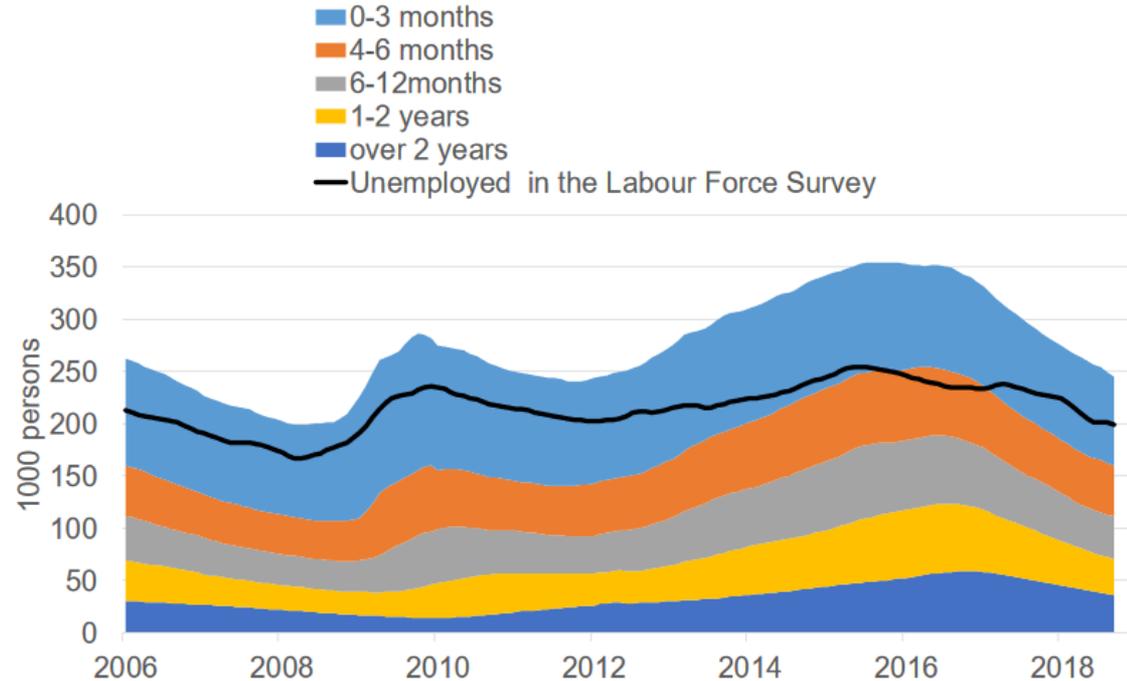Source: Statistics Finland: Labour Force Survey and EPC.

Flows between employment, unemployment and inactivity in 2017

Figure 3.1.2: Average quarterly flows between employment, unemployment and inactivity in 2017.

In 2017, 65,000 unemployed persons (28%) found a new job within a typical 3 month unemployment period

Flows between employment and inactivity are larger than between employment and unemployment

65,000

99,000

44,000 employed (1.5%) into unemployed

44,000

105,000

59,000

78,000

As are flows between inactivity and unemployment

Sources: Eurostat Labour Force Survey and EPC.

Source: Economic Policy Council Report 2018

Registered unemployed persons vs. Labour Force Survey

Figure 3.1.3: The stock of registered unemployed persons by the duration of unemployment and number of unemployed according to the Labour Force survey, trends.

Legend:
- 0-3 months
- 4-6 months
- 6-12months
- 1-2 years
- over 2 years
- Unemployed in the Labour Force Survey

Sources: Ministry of Economic Affairs and Employment; and Statistics Finland. Trend adjustment by the EPC.

Registered unemployed vs. Labour Force Survey

- **Labour Force Survey:**
  - A random sample from the Statistics Finland population database
  - The monthly sample consists of some 12,000 persons and the data are collected with computer-assisted telephone interviews
  - Unemployed = respondent says (i) unemployed, (ii) has seeked a job within the last four months and (iii) is willing to accept a job offer within two weeks of the offer

- **Employment Service Statistics:**
  - Jobseekers registered at the employment and economic development offices
  - Unemployed = person registered as jobseeker who is not working over 4h a week, is not a student, entrepreneur or pensioner
  - https://www.stat.fi/til/tyti/tyti_2016-08-23_men_001_en.html

Competitive labour market model

Building blocks of the model

- **Firms maximise profits and are competitive both in the product market (seller) and the labour market (buyer)**

- **Labour demand: how many workers to hire at a given wage level**

  - Firms hire workers as long as workers' marginal productivity is higher than the wage level

  - Diminishing marginal product => demand curve slopes down

- **Labour supply: how much workers are willing to work for a given wage level**

  - Assume that as wage increases the willingness to work => supply curve slopes up
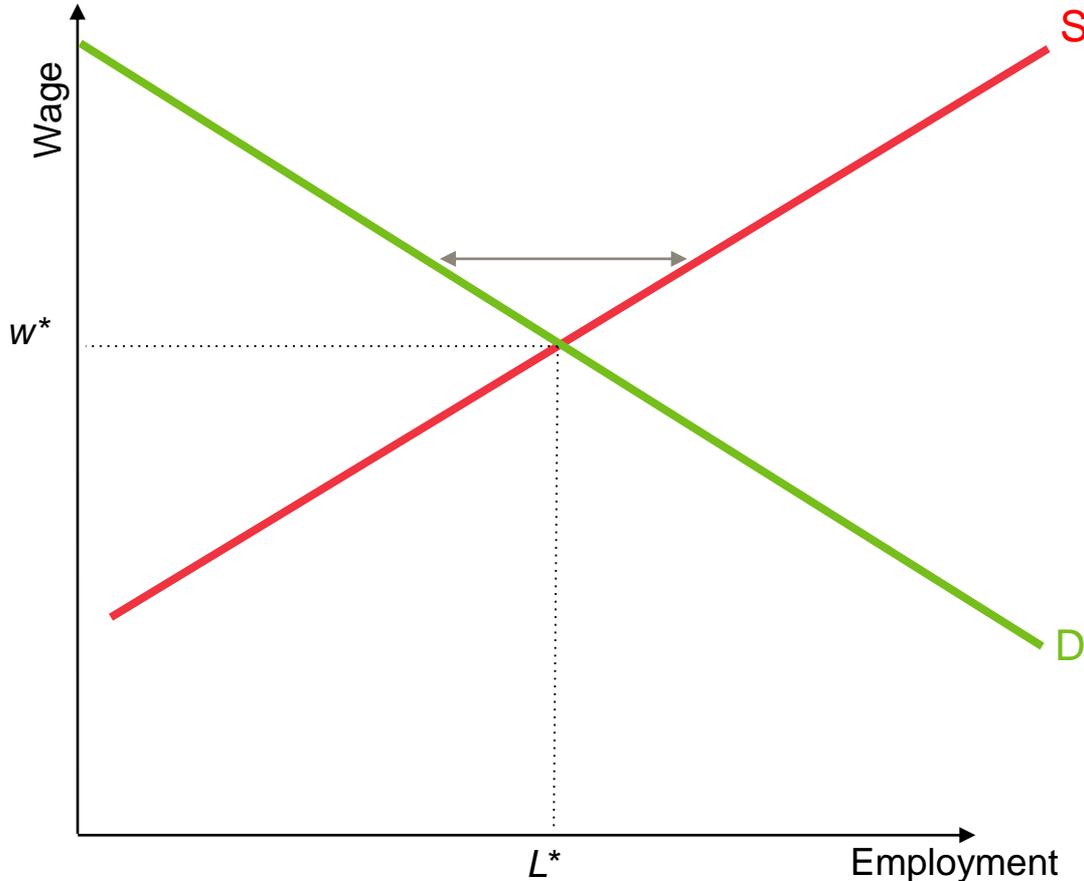
Market equilibrium
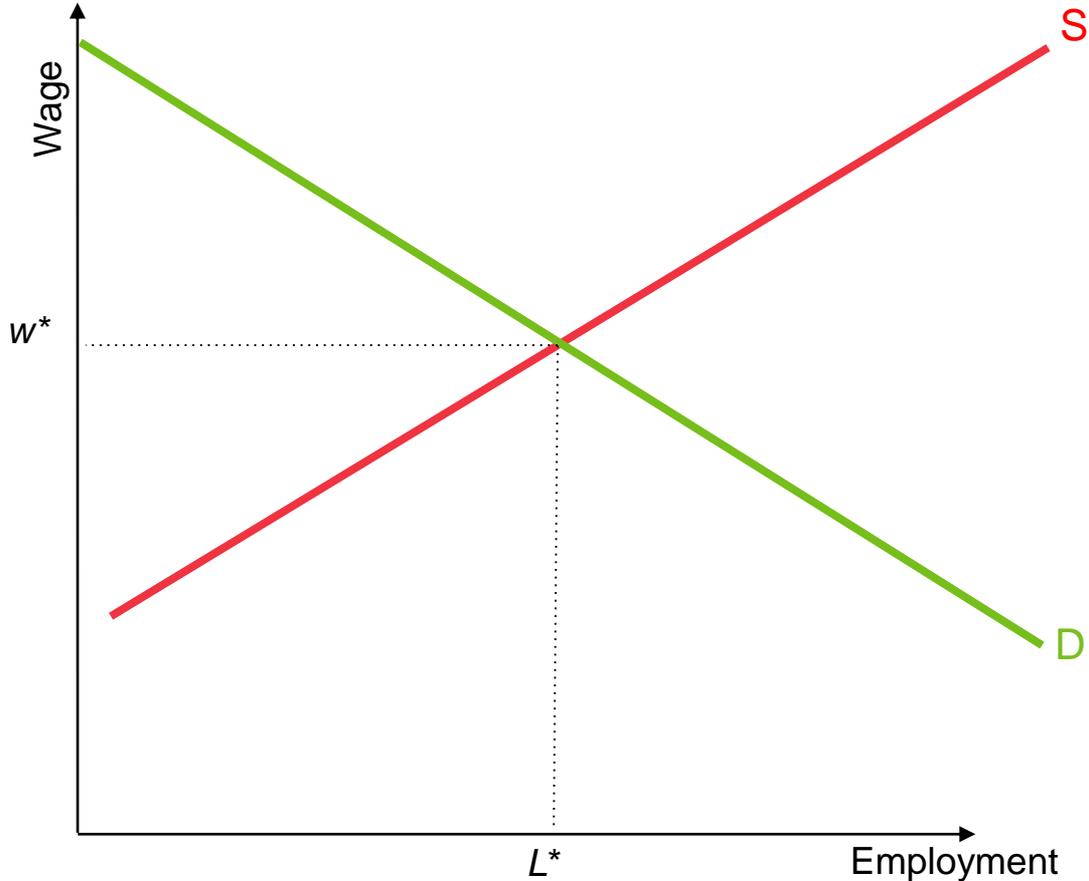
In equilibrium, demand = supply

Equilibrium wage is w^* and equilibrium employment is L^*
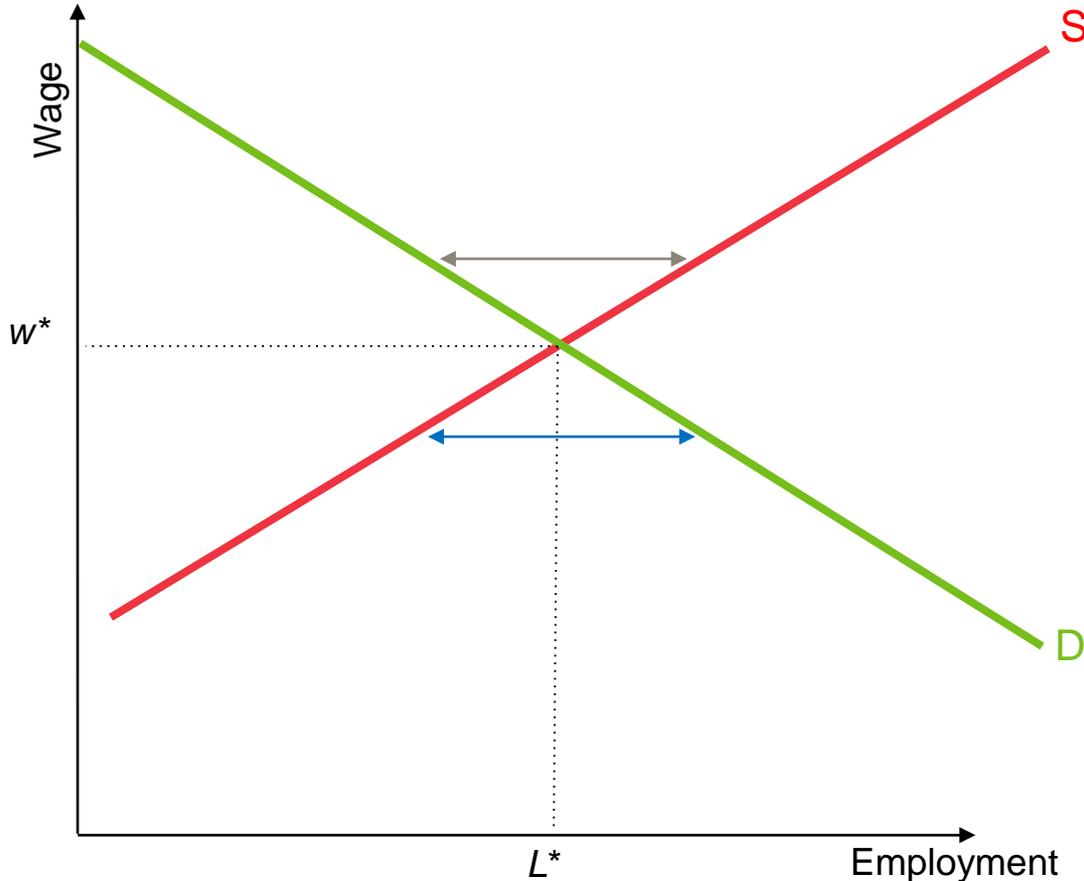
Market equilibrium

In equilibrium, demand = supply

Equilibrium wage is w^* and equilibrium employment is L^*

If the wage level would be higher than w^* more people would be willing to work than firms would be willing to hire

Market equilibrium

In equilibrium, demand = supply

Equilibrium wage is *w** and equilibrium employment is *L**

If the wage level would be higher than *w** more people would be willing to work than firms would be willing to hire

If the wage level would be lower than *w** firms would be willing to hire more people than would be willing to work for this wage
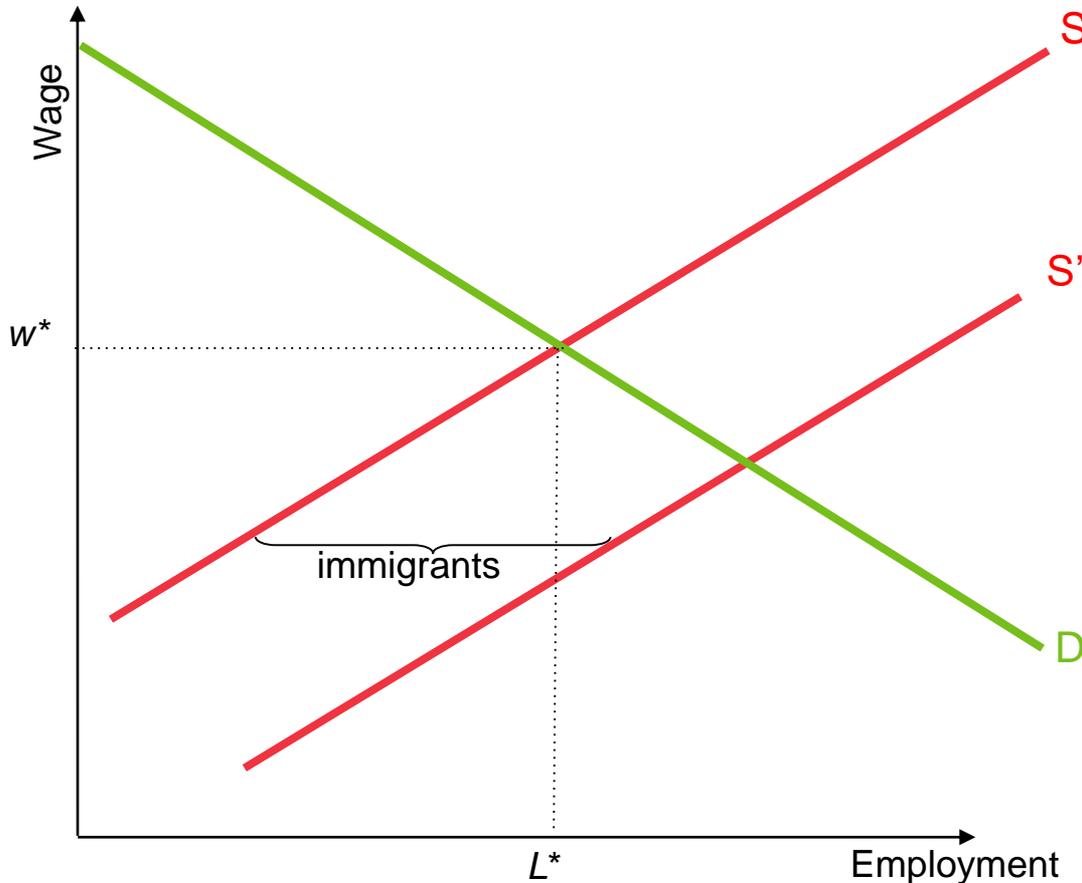
Effect of immigration on wages and employment

- **This is a simple model, but let's use it to analyse some important and not so simple questions**

  - What happens to wages and employment when immigration increases?

  - What about when a minimum wage is introduced?

Immigration
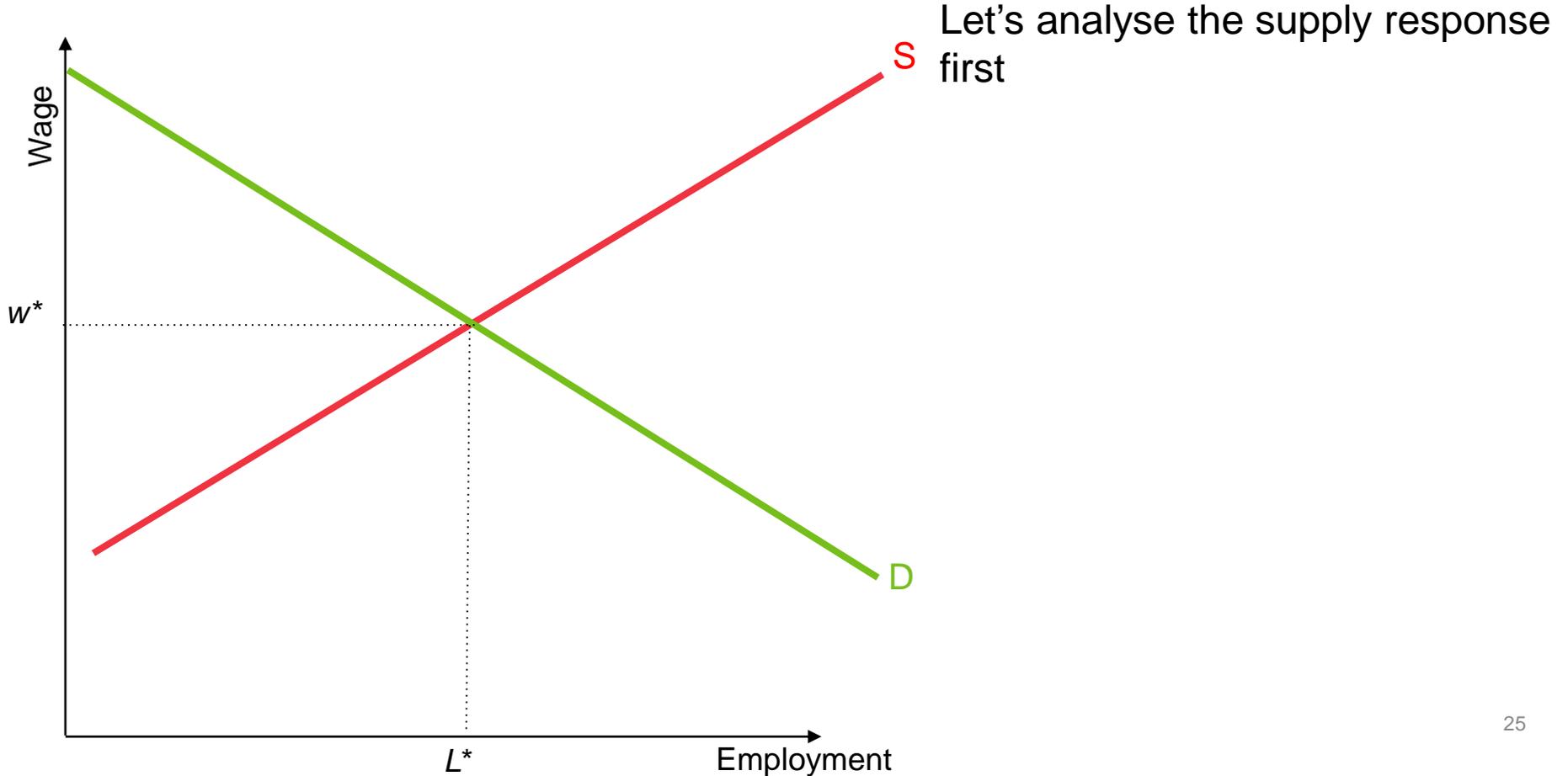
Let's analyse the supply response first

Immigration

Let's analyse the supply response first

As immigration increases, there are more workers willing to work at any given wage level

We see this as a rightward shift in the labour supply curve

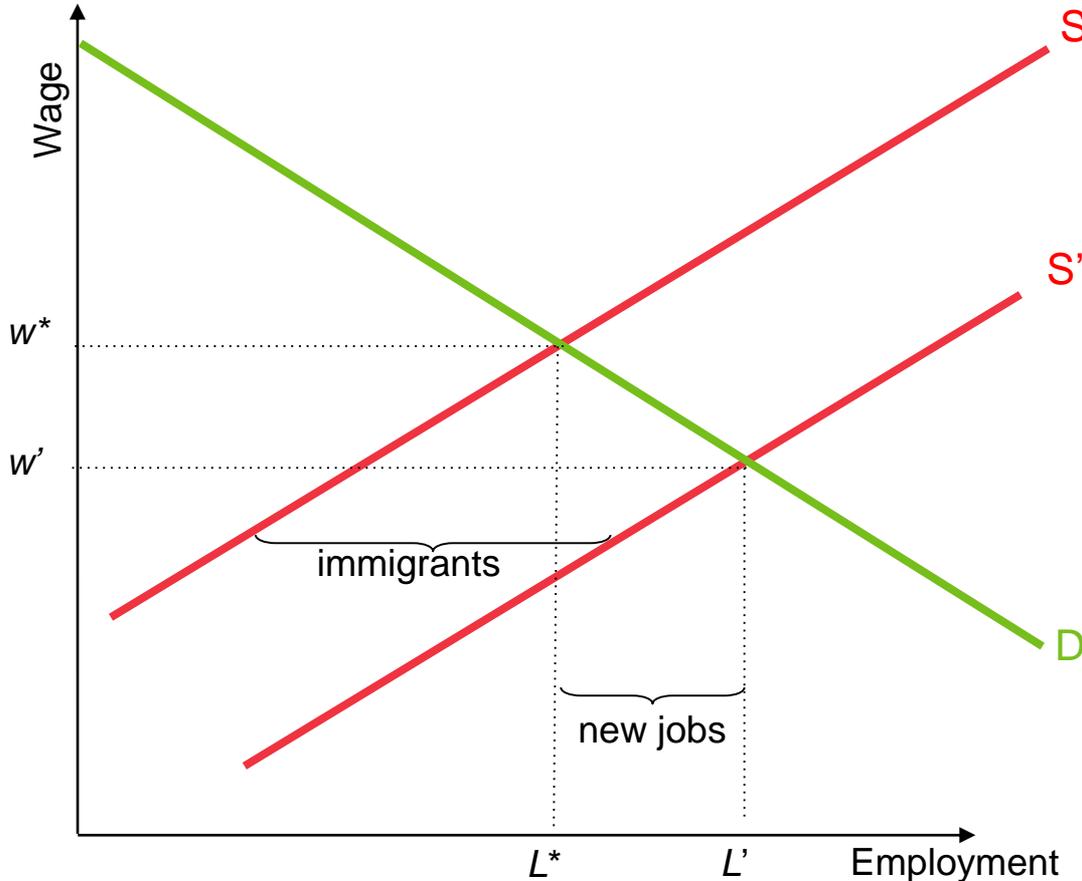At the initial wage, labour supplied exceeds the quantity demanded

26

Immigration

Let's analyse the supply response first

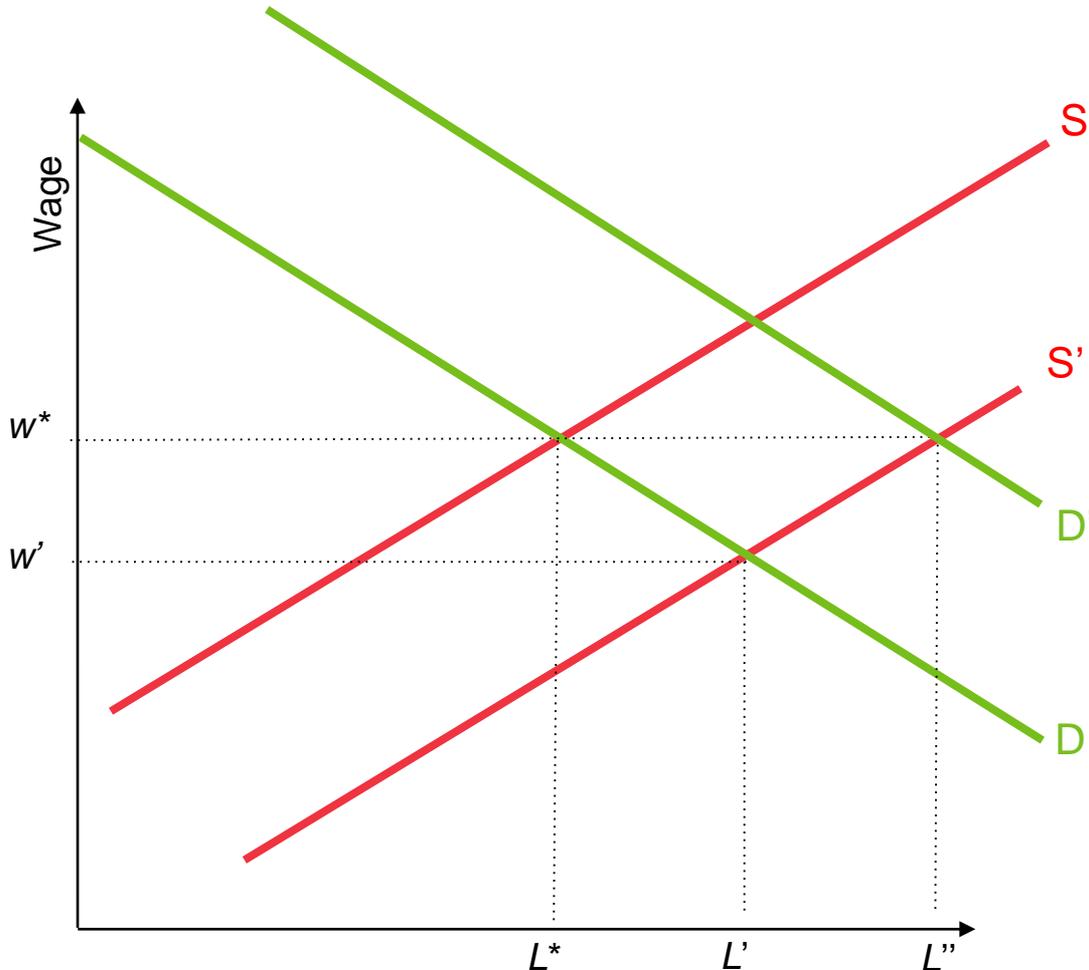As immigration increases, there are more workers willing to work at any given wage level

We see this as a rightward shift in the labour supply curve

At the initial wage, labour supplied exceeds the quantity demanded

This puts downward pressure on wage: $w^* => w'$

But the supply response is not the whole story!

Immigration

The new workers will of course spend their money

They may become employers etc.

This means that as a result <u>labour demand will also increase</u>

We see this as a rightward shift in the labour demand curve

In the figure, immigration has no effect on the wage level or employment of the native workers

What happens in the end, will depend on the magnitude of the labour demand shift

Effect of immigration on wages and employment

- **In a more general model we would have heterogeneity among workers**

  - Some native workers have more similar skills than immigrants (<u>substitutes</u>) => competition in the labour market increases

  - For others, the immigrants are <u>complements</u> in terms of skills and tasks => for these natives wages and employment opportunities may increase

- **The labour market effects of immigration will depend on**

  - Are immigrants substitutes or complements?

  - How fast the economy will adjust to increased labour?

Empirical challenges

- **The causal question**

  - For example, what is the average wage of a particular worker group in Helsinki today when immigrant share is x, as oppose to the share being y (the <u>counterfactual</u>)?

- **How can we construct a plausible counterfactual?**

  - Experimental research designs difficult/impossible to come by => we need to compare labour markets with high and low immigration

Average income and immigrant share in Finnish municipalities

$$y = 20.9 + 52.5*x$$
$$(0.2) \quad (6.8)$$
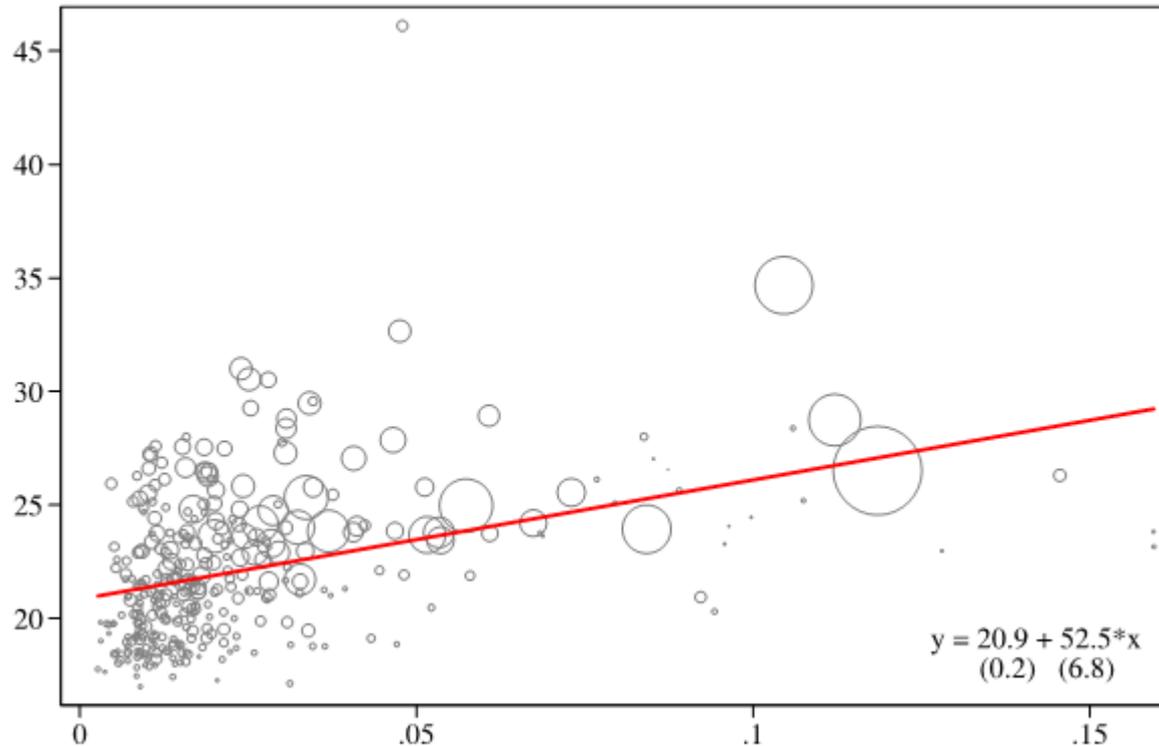
Is this sorting or due immigrants really increase the local wage level?

What would be an ideal research design?

Natural experiments

- **Card (1990): Cuban mass immigration during the "Mariel boatlift"**

  - On April 20, 1980, Fidel Castro declared that any Cuban wishing to emigrate to the US can do so from the port of Mariel

  - From May to September, 125,000 immigrant arrived in Miami

  - Roughly 70 percent stayed permanently => a 7% increase in the labour force and a 20% in the number of Cuban workers

  - Card finds virtually no effect on the wages or unemployment rates of less-skilled workers, even among Cubans who had immigrated earlier

  - Still ongoing debate

Table 3. Logarithms of Real Hourly Earnings of Workers Age 16–61 in Miami and Four Comparison Cities, 1979–85.

Group	1979	1980	1981	1982	1983	1984	1985
Miami:							
Whites	1.85	1.83	1.85	1.82	1.82	1.82	1.82
	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.05)
Blacks	1.59	1.55	1.61	1.48	1.48	1.57	1.60
	(.03)	(.02)	(.03)	(.03)	(.03)	(.03)	(.04)
Cubans	1.58	1.54	1.51	1.49	1.49	1.53	1.49
	(.02)	(.02)	(.02)	(.02)	(.02)	(.03)	(.04)
Hispanics	1.52	1.54	1.54	1.53	1.48	1.59	1.54
	(.04)	(.04)	(.05)	(.05)	(.04)	(.04)	(.06)
Comparison Cities:							
Whites	1.93	1.90	1.91	1.91	1.90	1.91	1.92
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Blacks	1.74	1.70	1.72	1.71	1.69	1.67	1.65
	(.01)	(.02)	(.02)	(.01)	(.02)	(.02)	(.03)
Hispanics	1.65	1.63	1.61	1.61	1.58	1.60	1.58
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.02)

Note: Entries represent means of log hourly earnings (deflated by the Consumer Price Index—1980 = 100) for workers age 16–61 in Miami and four comparison cities: Atlanta, Houston, Los Angeles, and Tampa–St. Petersburg. See note to Table 1 for definitions of groups.

Source: Based on samples of employed workers in the outgoing rotation groups of the Current Population Survey in 1979–85. Due to a change in SMSA coding procedures in 1985, the 1985 sample is based on individuals in outgoing rotation groups for January–June of 1985 only.

Table 4. Unemployment Rates of Individuals Age 16–61 in Miami and
Four Comparison Cities, 1979–85.
(Standard Errors in Parentheses)

Group	1979	1980	1981	1982	1983	1984	1985
Miami:							
Whites	5.1	2.5	3.9	5.2	6.7	3.6	4.9
	(1.1)	(0.8)	(0.9)	(1.1)	(1.1)	(0.9)	(1.4)
Blacks	8.3	5.6	9.6	16.0	18.4	14.2	7.8
	(1.7)	(1.3)	(1.8)	(2.3)	(2.5)	(2.3)	(2.3)
Cubans	5.3	7.2	10.1	10.8	13.1	7.7	5.5
	(1.2)	(1.3)	(1.5)	(1.5)	(1.6)	(1.4)	(1.7)
Hispanics	6.5	7.7	11.8	9.1	7.5	12.1	3.7
	(2.3)	(2.2)	(3.0)	(2.5)	(2.1)	(2.4)	(1.9)
Comparison Cities:							
Whites	4.4	4.4	4.3	6.8	6.9	5.4	4.9
	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.4)
Blacks	10.3	12.6	12.6	12.7	18.4	12.1	13.3
	(0.8)	(0.9)	(0.9)	(0.9)	(1.1)	(0.9)	(1.3)
Hispanics	6.3	8.7	8.3	12.1	11.8	9.8	9.3
	(0.6)	(0.6)	(0.6)	(0.7)	(0.7)	(0.6)	(0.8)

Note: Entries represent means of unemployment indicator variable for individuals age 16–61 in Miami and four comparison cities: Atlanta, Houston, Los Angeles, and Tampa–St. Petersburg. Samples are based on individuals in the labor force. See notes to Table 3 for definitions of groups and data sources.

Natural experiments

- **Friedberg (2001):**

  - Mass migration from the former Soviet Union into Israel had no effect or slightly increased Israeli wages and employment

- **Glitz (2012):**

  - Mass migration to West Germany: Within 15 years, 2.8 million arrived and these immigrants were exogenously allocated to different regions to ensure an even distribution across the country

  - Lowered West German employment, but had no effect on wages

- **Bratsberg and Raaum (2012):**

  - EU enlargement

  - Licensing requirements in the Norwegian construction sector: Easy to enter some segments (e.g. electrical installation and plumbing companies) but not others (e.g. carpenter and painting firms)

  - Lowered wages of construction workers who faced more competition

Immigration empirics recap

- **Immigration seems to have a moderate effect on native wages and employment possibly due to**

  - Economy adjusts in many dimensions: employment, wages, industry structure, technology

  - Some native groups may lose substantially, while many may gain moderately

  - The estimates are biased?

- **What about Finland?**

  - Labour market effects likely to be small

  - Larger effects maybe through public finances and politics
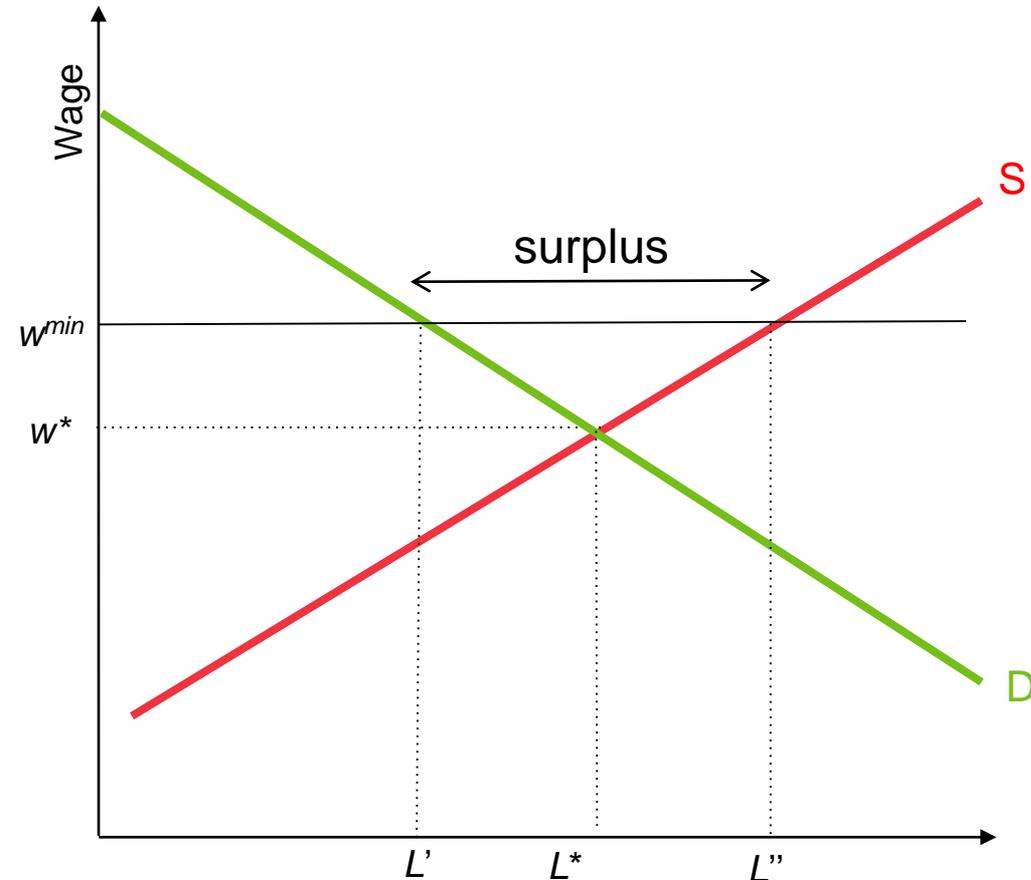
Minimum wage
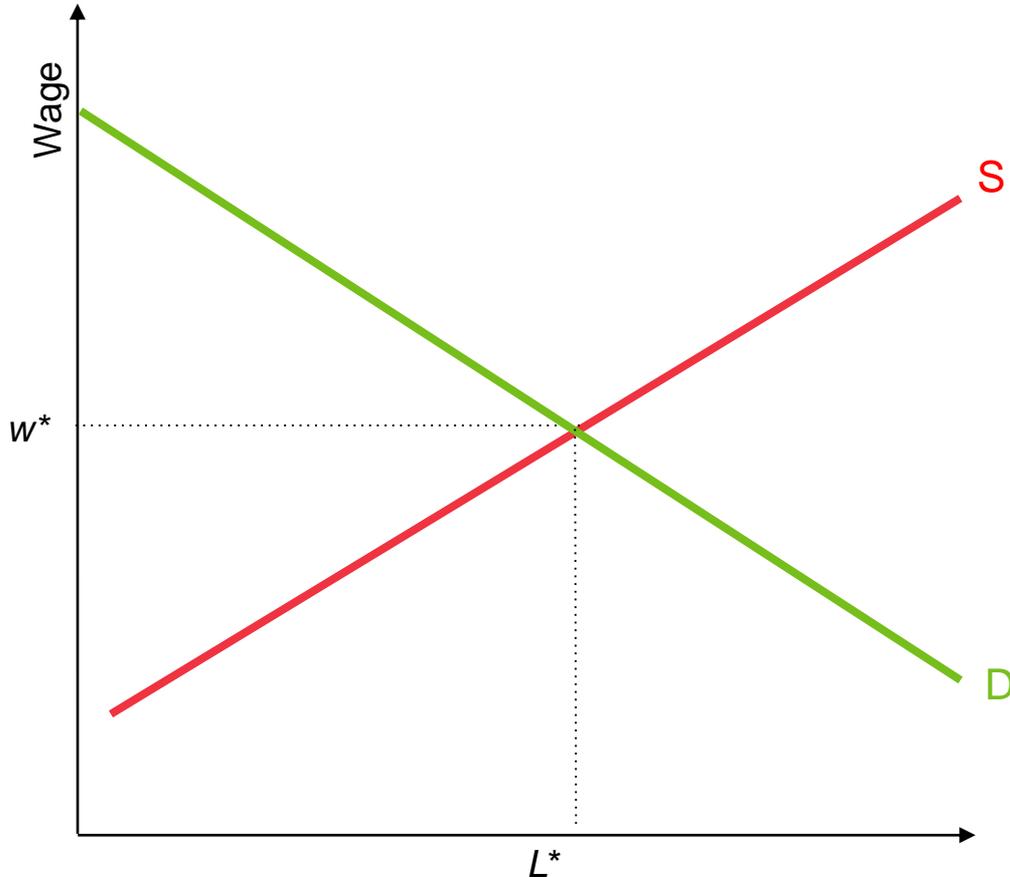
Let's assume that the public sector wants to increase the wages of low-skilled workers (typically low wage workers) by setting a minimum wage (w^{min}) which is higher the market wage (w^*)
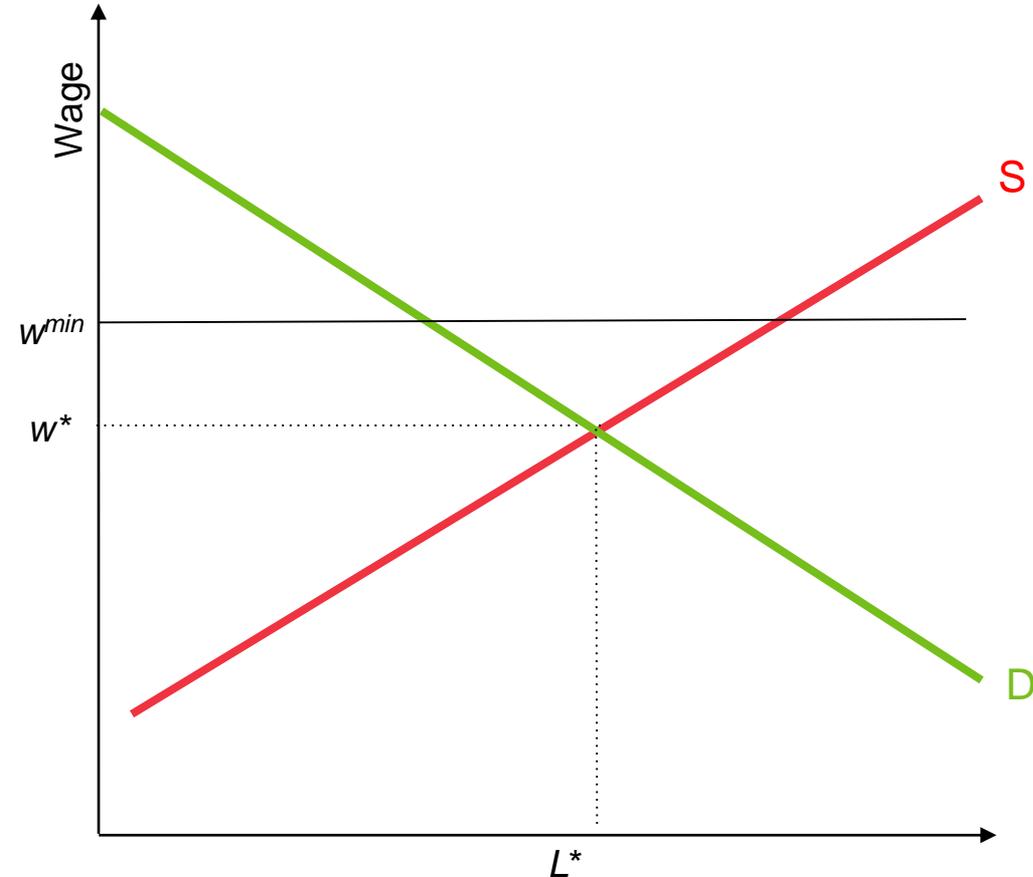
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At this new higher wage L'' workers are willing to work, but firms are only willing to hire L' workers

The result is a surplus or unemployment (at the higher wage level)

# Empirical example: New Jersey minimum wage increase

On April 1, 1992, NJ increased the state minimum wage from $4.25 to $5.05; PA's minimum wage stayed at $4.25

Card & Krueger (1994) surveyed about 400 fast food stores both in NJ and in PA before (February) and after (November) the minimum wage increase

Results: Surprisingly, employment rose in New Jersey!

In models, where employers have market power in the labour market, this can happen

But sufficiently large increases will decrease employment in any model!
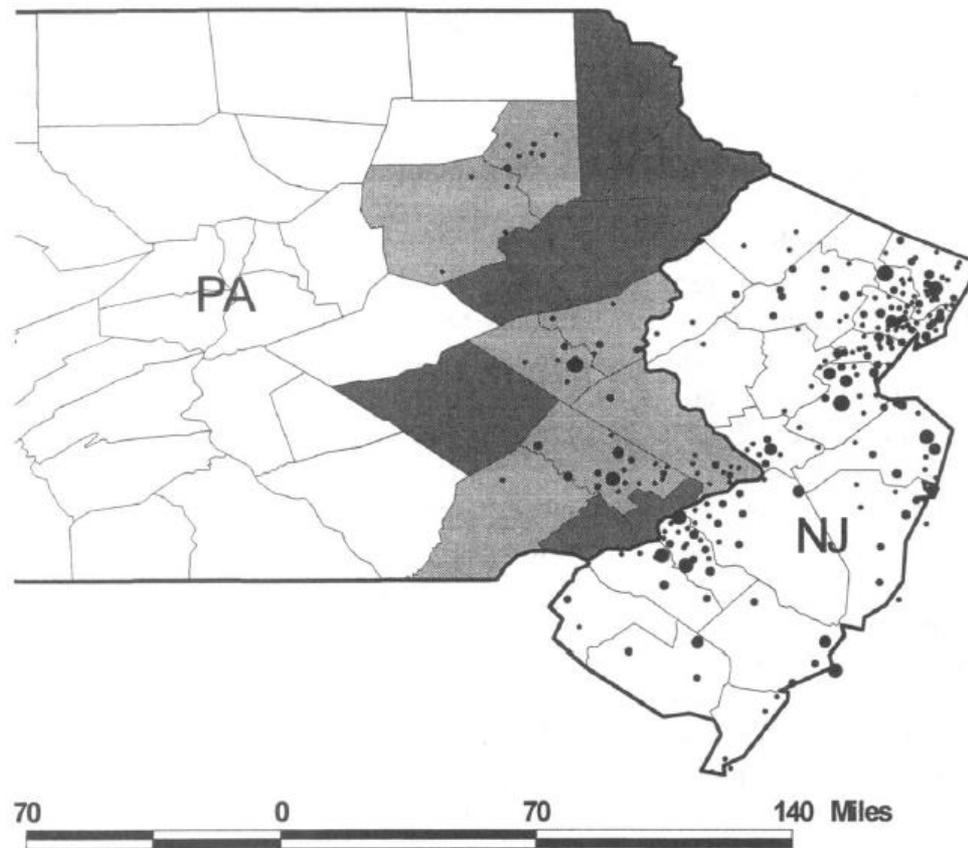
Newer results on minimum wage

- **Still an open question and also quite a heated debate**
  - It seems that major employment effects are rarely found
  - At the same time, minimum wage reforms are often quite small
  - Large enough minimum wage hikes are going to lower employment
- **Incidence of the minimum wage is also an interesting question**
  - If employment and hours are unaffected, do employers bear the cost through lower profits or consumers through higher prices?
  - Harasztosi and Lindner (2019): In Hungary, small employment effects and 75 percent of the minimum wage increase was paid by consumers and 25 percent by firm owners

Minimum wage as a transfer program

- **If there are no employment effects, low-wage workers get a transfer from employers of low-wage workers**

  - Equivalent to an additional tax on the employers

  - Usually transfer programs are funded through the tax system so that everyone chips in

  - Compare to rent control and landlords

- **If the employers can shift some of the burden into higher prices, the minimum wage is similar to a transfer to low-wage workers funded by a tax on employers and a consumption tax on consumers**

Summary

- **The model assumes that the labour market is simply a re-labelled product market with complete contracts**

- **Unrealistic, but is the model useful?**

  - Yes! Real-world markets are typically not perfectly competitive, but some policy problems can be analysed using this rather simple demand and supply model

  - You will see lots of more applications in future courses (especially in product markets)

- **On the other hand, it is too simple to for some markets and questions**

  - Next we will turn to another labour market model