

Macroeconomics | Lecture 5

The Labour Market: Unemployment as a Flow

In Class Group Activity

· SJTU Summer School · Fatih Kansoy

How this block runs. You work in your home group of three or four, textbook open. Roles rotate: **Scribe, Reporter, Sceptic, Timekeeper.**

- **Phase 1, Concept checks (~10 min).** Each group votes together, argues for 90 seconds, then settles on one answer.
- **Phase 2, Desk problem (~20 min).** One labour market, read through the “bathtub” model, part by part.
- **Phase 3, Case (~25 min).** One real story, ending hidden. Your group commits a prediction, then we reveal what happened.

Word list. The **labour force** is the employed plus the unemployed; the **unemployment rate** u is the unemployed as a share of it. Think of unemployment as a bathtub. The **separation rate** s is the share of the employed who lose their job each period (water flowing in); the **job-finding rate** f is the share of the unemployed who find a job each period (water flowing out). In the long run the two flows balance, giving the **natural rate** $u^* = s/(s + f)$. **Frictional** unemployment is short spells while workers and jobs are matched; **structural** unemployment is a lasting mismatch of skills or wages; **cyclical** unemployment rises and falls with the economy.

Phase 1 – Concept checks

~10 MIN

ConceptTest 1. In the bathtub model, the natural rate of unemployment depends mainly on

- (a) the total number of jobs in the economy.
- (b) the rates at which workers lose jobs and find jobs.
- (c) the size of the population.
- (d) the rate of inflation.

ConceptTest 2. An engineer spends five weeks looking for a better post after quitting her last one. This is best called

- (a) structural unemployment.
- (b) frictional unemployment.
- (c) cyclical unemployment.
- (d) not unemployment at all.

ConceptTest 3. “Immigrants and machines take jobs, so they must raise unemployment.” The flaw in this claim is that

- (a) immigrants never work.
- (b) the number of jobs is not fixed; a growing economy creates new work as old work disappears.

- (c) machines cannot do useful work.
- (d) there is no flaw; it is correct.

ConcepTest 4. Two countries have the same separation rate s , but one has a much lower job-finding rate f , so its unemployed stay out of work longer. That country will have

- (a) a lower natural rate of unemployment.
- (b) a higher natural rate of unemployment.
- (c) exactly the same natural rate.
- (d) no unemployment.

Phase 2 – The desk problem

~20 MIN

One labour market, read as a bathtub

In the long run the flow into unemployment equals the flow out. If s is the share of the employed who lose a job each month and f the share of the unemployed who find one, then $s(1 - u) = fu$, which rearranges to the natural rate

$$u^* = \frac{s}{s + f}.$$

(a) The base case (worked for you). Take $s = 0.02$ (two per cent of the employed lose a job each month) and $f = 0.38$. Then

$$u^* = \frac{0.02}{0.02 + 0.38} = \frac{0.02}{0.40} = 0.05,$$

a natural rate of 5 per cent.

(b) A recession. A downturn halves the job-finding rate to $f = 0.19$, with s unchanged at 0.02. Find the new natural rate.

(c) A high-churn economy. Instead of (b), imagine jobs turn over much faster: the separation rate doubles to $s = 0.04$, with f back at 0.38. Find the natural rate.

(d) Same rate, different disease. Your answers to (b) and (c) should be close to each other. In one or two sentences: which of the two economies has *longer* unemployment spells, and why might the right policy differ between them?

Phase 3 – The case

~25 MIN

The sick man of Europe

How to run this. Read the story with your group. The ending is hidden on purpose. Do the reasoning in questions 1 and 2, commit a written prediction to question 3 before the reveal, and do not search the internet.

The story. In 2005 one large European economy was being called “the sick man of Europe”. Nearly one worker in eight was out of work, an unemployment rate of about 12 per cent, and many had been jobless for years. Over 2003 to 2005 the country changed the rules of its labour

market: benefits for the long-term unemployed were cut and time-limited, job centres pushed harder to place people, and a lightly taxed low-wage sector was opened up. The reforms were unpopular, and the leader who passed them lost the next election. Then, only three years later, the largest global downturn since the 1930s arrived. World trade collapsed in 2008 and 2009, and this export-heavy economy was hit hard: its output fell more sharply than that of the United States.

The story stops here.

Four questions (commit your answer to question 3 in writing before the reveal):

1. In the model $u^* = s/(s+f)$. The 2003–05 reforms were designed to push unemployed workers into jobs faster. Which flow were they trying to change, s or f , and in which direction?
2. When the slump hit, firms could either lay workers off or cut everyone's hours and keep them on the payroll, with the state topping up part of the lost pay. In the model, which flow does keeping workers on, at shorter hours, hold down?
3. **Predict.** Output fell more here than in the United States in 2008–09. What do you think happened to this country's unemployment rate during and after the crisis?
4. Put the two pieces together. Using $u^* = s/(s+f)$, explain how a country can end up with much *lower* unemployment after a reform to f and a crisis met by holding down s .

End of activity handout. Solutions are distributed after the block.