

Problem set 5

ECON-A2200 Principles of Economics II

Deadline: Thursday December 9 at 13:00

Instructions: Return your answers in a **single pdf-file through MyCourses** (*lastname_firstname_PII_PS5.pdf*). Make sure to include your name and your student number in your answers file. You may draw the graphs by hand or with any software (excel, power point, matlab, word,...). In whichever way you draw them, remember always to label the axes, and any point and line or curve that you draw. Add some description/explanation. If solutions are handwritten, make sure that your handwriting is easy enough to read, the picture is of good quality, the pages are labelled, in the right order and orientation.

1. Draw a labour market diagram where the economy is at labour market equilibrium with stable prices. Now consider: A positive shock to aggregate demand that reduces the unemployment rate by 2 percentage points. A negative shock that increases it by 2 percentage points.

- a) What happens to the bargaining gap in each case?
- b) What would you expect to happen to the price level in each case? Explain your answers using the diagram.

2. In the lectures, we went through a situation where a bargaining gap opened when the economy went into a boom. Now, your job is to think about the bargaining gap in a recession. Suppose the economy is initially at labour market equilibrium with stable prices (inflation is zero). At the beginning of year 1, investment declines and the economy moves into recession with high unemployment.

- a) Explain why a negative bargaining gap arises.
- b) Assume the negative bargaining gap is 1%. Draw a diagram with years on the horizontal axis and the price level on the vertical axis. Starting from a price index of 100, sketch the path of the price level for the 5 years that follow, assuming the bargaining gap remains at -1%.
- c) Who are the winners and losers in this economy?

3. Consider a hypothetical distant northern country called Phinland.

- a) There three observations of vacancy rate and unemployment rate from the past decade; (10,1), (7,2), (4,4), where the first number is the unemployment rate and the second is the vacancy rate. Sketch the Beveridge curve of Phinland that passes through the three points. Which of the points are likely to correspond to the boom and recession levels?
- b) Phinland does not have an unemployment insurance system. Using the Beveridge curve, discuss what would happen to Phinlands's economy if an unemployment insurance system is introduced.
- c) The main export of Phinland has long been handicrafts for tourists. Due to international travel bans, the demand of handicrafts has collapsed and labour market

is flooding with unemployed craftsmen looking for jobs. However, at the same time there are also plenty of open vacancies in other industries. What has happened to the Beveridge curve?

- d) Due to high unemployment rate, government is planning to form a public employment service to help unemployed craftsmen finding new jobs. What is the likely impact of the public employment service to the Beveridge curve?

4. Technological progress increases your hourly productivity. This means that by working the same number of hours you could thus produce and consume more, or you can produce and consume the same amount of goods while working fewer hours and enjoying more free time. The economist Oliver Blanchard argues that the difference in output per capita between the US and France is partially due to the fact that relative to those in the US, the French have used some of the increase in productivity to enjoy more free time rather than raise consumption.

- a) Think about two countries, one that has lower GDP per capita due to fewer hours worked, and another that has higher GDP per capita due to more hours worked (such as France and the US). Assuming that overall life satisfaction is only affected by free time and consumption. In which country would you expect overall life satisfaction to be higher, and why? (You may also try to find out the life satisfaction indices of France and US) Clearly state any assumptions you make about the preferences of residents in each country.
- b) Considering only working hours and GDP per capita, which country (France or the US) would you prefer to live in, and why? How would your answer change if you considered other factors as well?

5. Some people have argued that high unemployment in some European countries relative to the US during the 1990s and 2000s was due to the existence of rigid labour market institutions (for example, powerful unions, generous unemployment benefits, and strong employment protection legislation).

- a) Using Figure 16.1, check if the unemployment rate has always been higher in most European countries compared to the US.
- b) From what you have learned from this section, and by looking at Figures 16.1, 16.14, and 16.16, evaluate the claim that high unemployment in Europe was due to the existence of rigid labour market institutions.