

Review Questions: AS/AD Model

Econ520. Prof. Lutz Hendricks

1. Short questions: monetary policy

1.1. Why is anchoring inflation expectations important

(10 points) Why is **anchoring inflation expectations** an important goal of the Fed? Explain using a transitory positive demand shock as an example.

Answer: Consider the Phillips Curve: $\pi = \pi^e + m + z - \alpha u$. Suppose the economy is hit by a transitory demand shock that drives up employment and therefore prices (in the short run). If inflation expectations are well anchored, the Fed can simply wait for the shock to disappear. The economy then returns to full employment. If inflation expectations are not anchored, π^e starts to rise. When the shock reverts, inflation expectations remain elevated. The Fed needs to incur a recession (usually) to bring π^e back down.

1.2. Higher money growth rate neutral

(10 points) Imagine there are two identical countries. They only differ in their constant money growth rates (say 2% in country A vs 5% in country B). How would you expect the two countries to differ in the medium run? Consider their nominal and real interest rates, their investment, labor supply, and output.

Answer: The key idea here is monetary neutrality or the Classical Dichotomy. Once price frictions have worked their way through the system, real variables become independent of money growth. The only changes are: higher inflation and a higher nominal (but not real) interest rate.

2. Supply Shock and the Phillips Curve

Recall that the Phillips Curve is given by

$$\pi = \pi^e + m + z - \alpha u$$

Consider an economy that starts at full employment. It is then hit by a permanent negative supply shock, represented by an **increase in the markup m** .

Questions:

1. (15 points) Explain what happens to the Phillips Curve when m increases. Explain the intuition.

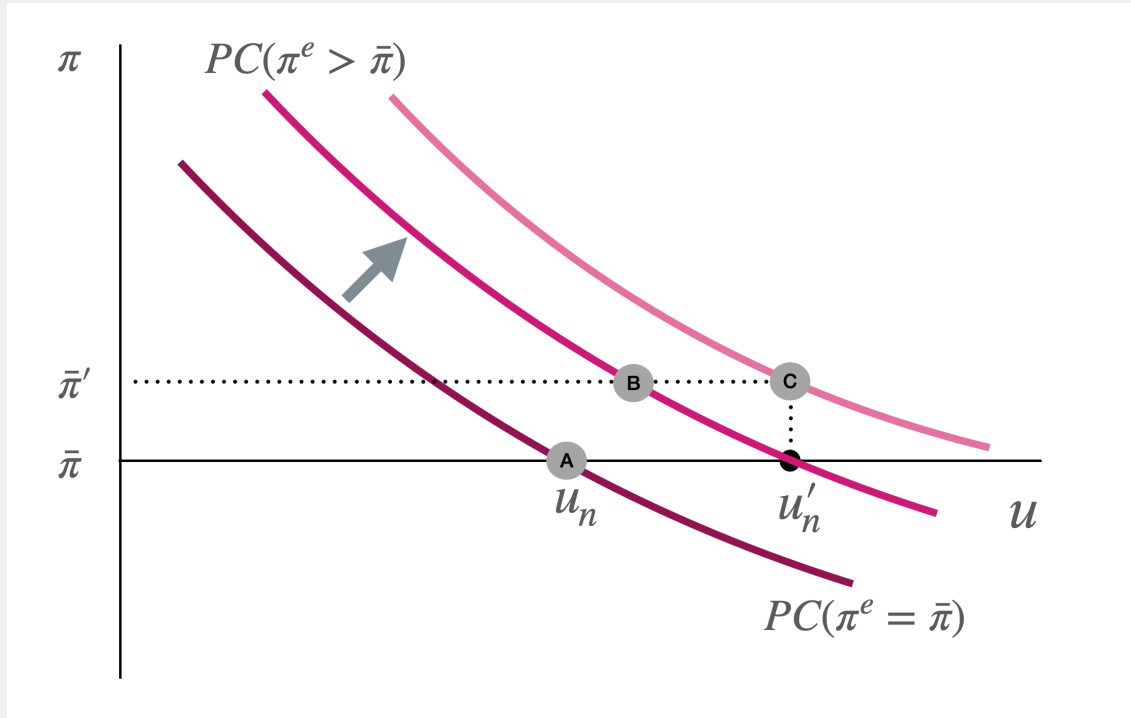
Answer: Recall that the Phillips Curve is essentially AS rewritten in inflation terms. Just as a higher m shifts AS to the left, a higher m shifts the Phillips Curve to the right. The shift is to the right because lower Y_n means higher u_n .
Intuition: Lower real wage reduces labor supply.

2. (35 points) Suppose that the Fed decides to keep output and employment at their pre-shock levels. It does so by increasing the money growth rate once. Then it keeps the money growth rate constant forever at that higher level.
 - What do you expect to happen to inflation?

- What about inflation expectations?
- What happens to output and employment over time?

Explain and **illustrate** in your graph.

Answer:



The economy moves to higher inflation, to the north-east along the new PC ($A \rightarrow B$). Here, I don't actually impose that the Fed holds output constant at the original u_n . It is enough to assume that output is above the new u'_n .

Unless inflation expectations are well-anchored, they will start to rise because $\pi > \pi^e$. Hence, the PC will shift up.

Since the Fed keeps inflation constant, the economy moves gradually eastward ($B \rightarrow C$).

Eventually, the economy returns to full employment, but at a higher inflation rate. In sum:

- Output initially remains high, but gradually returns to the now lower full-employment level.
- Inflation rises and then remains high permanently.
- Inflation expectations gradually catch up with inflation.