Aggregate Demand & Aggregate Supply

Endogenising price in the short run

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Principles of Macroeconomics
Semester 2/2019-2020
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Version: April 6, 2020

Overview

"At last. . . endogenous prices have come along" (Etta didn't sing this)

Deriving the aggregate demand (AD) relation

Deriving the aggregate supply (AS) relation

“At last…endogenous prices have come along” (Etta didn’t sing this)

At last... from interest rates to inflation

The IS-LM is useful, but AD-AS is a more useful tool since prices – along with its changes (inflation, deflation) – are endogenised.

- This means that we can understand via a simple model how i translate into π !
- REMINDER: we are still in the Keynesian school
- AD-AS model may be developed independently from the IS-LM model. Nowadays the IS-LM is totally disregarded when developing AD-AS relations.
- Macroeconomics has come a long way, but still it is useful to understand AD-AS links to the IS-LM we have covered.

Deriving the aggregate demand (AD) relation

The demand side: putting all we have covered together...

Demand – a relation between prices and output.

- Just like in EE212, higher prices in the aggregate would lead to a lower quantity of aggregate output demanded.
- But it actually works quite differently! Why?
- There are two effects of price changes:
  1. Wealth effect: higher aggregate prices, again, mean lower purchasing power
  2. Interest rate effect: lower investments and higher savings!
- We will focus here in the simple model the second effect – easily explained through the IS-LM relation.

Back to IS-LM relation

IS relation is given by

$$Y = C(Y, T) + I(i) + G$$

LM relation is given by

$$\begin{aligned} \frac{M}{P} &= L(i, Y) \\ \text{real money supply} &= \text{real money demand} \end{aligned}$$

Deriving the AD curve

Shifts in the AD curve

Deriving the aggregate supply (AS) relation

The supply side – the labour market: they are the same!

Here, we will go a little bit beyond the Keynesian school (prices are fixed) – as well as the classical school (output is fixed).

- Supply (output) is determined by how many people are employed;
- Instead of sticky price, we have sticky wage.
- Wages are sticky because labour contracts cannot be changed in the short run. *Other reasons?*

The Labour Market – Demand side

The firms *demand* labour for producing goods and services. In this simple model, we assume perfectly competitive markets, and identical firms that are profit maximising

The firm's profit would be maximised when:

$$\begin{aligned} MR &= MC \\ \Leftrightarrow P \times MPL &= W \\ \frac{W}{P} &= MPL \end{aligned}$$

The firm's hiring decision: the firms would hire people up to a point where *nominal wage* equals to *the value of the marginal product of labour.*

Labour demand curve is the MPL

Thus, the short run aggregate supply (SRAS) curve…

Shifts in the SRAS

Shifts in the SRAS – factors

Main factors that causes the producer to change their willingness to produce at a given price:

1. changes in commodity prices;
2. changes in the nominal wage;
3. changes in the productivity;

What about the long run supply?

Contracts and informal agreements can be adjusted and renegotiated in the long run. Nominal wage now can vary! In the long run, aggregate price level **has no effect** on the aggregate output supplied.

The horizontal axis of the LRAS is a very important measure, and we have discussed about it!

- It is the potential output of the economy, assuming everything is flexible;
- Usually we are below or above this estimate;
- It is the trend around which actual aggregate outputs fluctuates from year to year!