ECON 212
ELEMENTS OF ECONOMICS II

Session 10 – AGGREGATE DEMAND AND AGGREGATE SUPPLY

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2014/2015 – 2016/2017

Session Overview

- Aggregate demand and supply curves although similar to the individual demand and supply curves in microeconomics, are different. This session first of all, discusses the link between aggregate spending and the price level before going on to derive the aggregate demand curve. Specifically on both the aggregate demand and supply curves, the session focuses on their slopes, determinants and factors that shift the curves. With regards to the aggregate supply, a distinction is further made between the short run and long run aggregate supply curves.

Session Outline

The key topics to be covered in the session are as follows:

- Aggregate spending and the price level
- The Aggregate Demand curve
- Why the AD slopes downwards
- Properties of the AD curve
- AD curve vrs. Individual demand curve
- The Aggregate Supply curve
- Difference between the short run AS curve and the long run AS curve.
- Slope and shifts in AS

Learning Outcome

- After completing this session, you should be able to;
  - Show that aggregate demand is the level of desired real domestic spending at each price level.
  - Illustrate the aggregate demand curve plots the negative relationship between GDP and the price level.
  - Explain why the aggregate supply curve reflects a positive relationship between output and the price level, at given input prices.
  - Plot the aggregate demand curve.
  - Discuss the slope and properties of the aggregate demand and the aggregate supply curves.
  - Identify the difference between the aggregate demand curve and the individual demand curve.
  - Discuss the slope of the aggregate supply curve.
  - Show the difference between the short run and long run aggregate supply curves

Reading List

- Read Chapter 18 of R. G. Lipsey & K. A. Chrystal, Economics, Tenth Edition, (2004), Oxford University Press
- Session Slides
- Watch video on session 10 ……………………..
- Any Other Economics text books available to students

Aggregate Spending and the Price Level

- Changes in the price level affects the AE curve and therefore causes it to shift and equilibrium GDP to change.
- We can therefore derive a relationship between the price level and the GDP.

Why and How do changes in the Price level affect AE?

- When the price level changes it affects
  - the level of desired consumption spending
    - through its impact on the wealth of asset (money denominated) holders
  - net exports
    - Through its impact on export demand
    - Through its effect on relative prices and import demand

Aggregate Spending and the Price Level

Level of Desired Consumption spending

- When prices change it affects the level of desired consumption spending by;
  - affecting the wealth of holders of assets
  - When the wealth of private sector changes due to a change in price, there is a change in savings and therefore desired consumption spending
    - ↑P → ↓ Real value of assets denominated in monetary units → ↓in the real value of private sector wealth → ↑in savings to restore real wealth → ↓ desired private consumption spending (C) → downward shift of AE curve → ↓Real GDP or national output

Aggregate Spending and the Price Level

Level of Net Exports

- When prices change it affects the level of net export spending;
  - An increase in price level means domestically produced goods are relatively more expensive than imports, thereby encouraging imports.
  - An increase in the price level implies that the price of exports to foreign sector consumers is relatively higher, thereby discouraging export demand.
  - In both cases net exports spending declines thereby shifting the AE curve downwards and leading to a decline in real GDP or national output.

Aggregate Spending and the Price Level

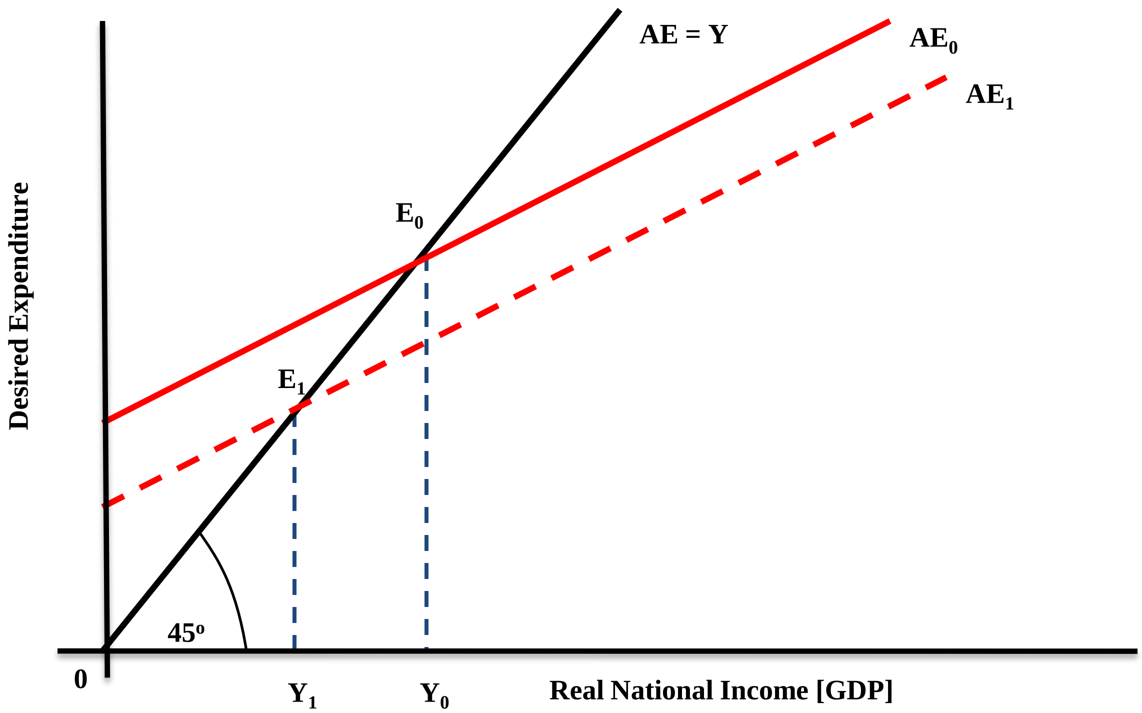
- Changes in the price level cause the AE curve to shift and equilibrium GDP to change.

- AS shown in figure 1 below, the initial AE curve is AE_0 and GDP is at Y_1.

- An increase in the price level reduces desired expenditure and thus causes the AE curve to shift down to AE_1.

- As a result GDP falls to Y_1.The reverse happens for a fall in the price level.

Aggregate Spending and the Price Level (Figure 1)

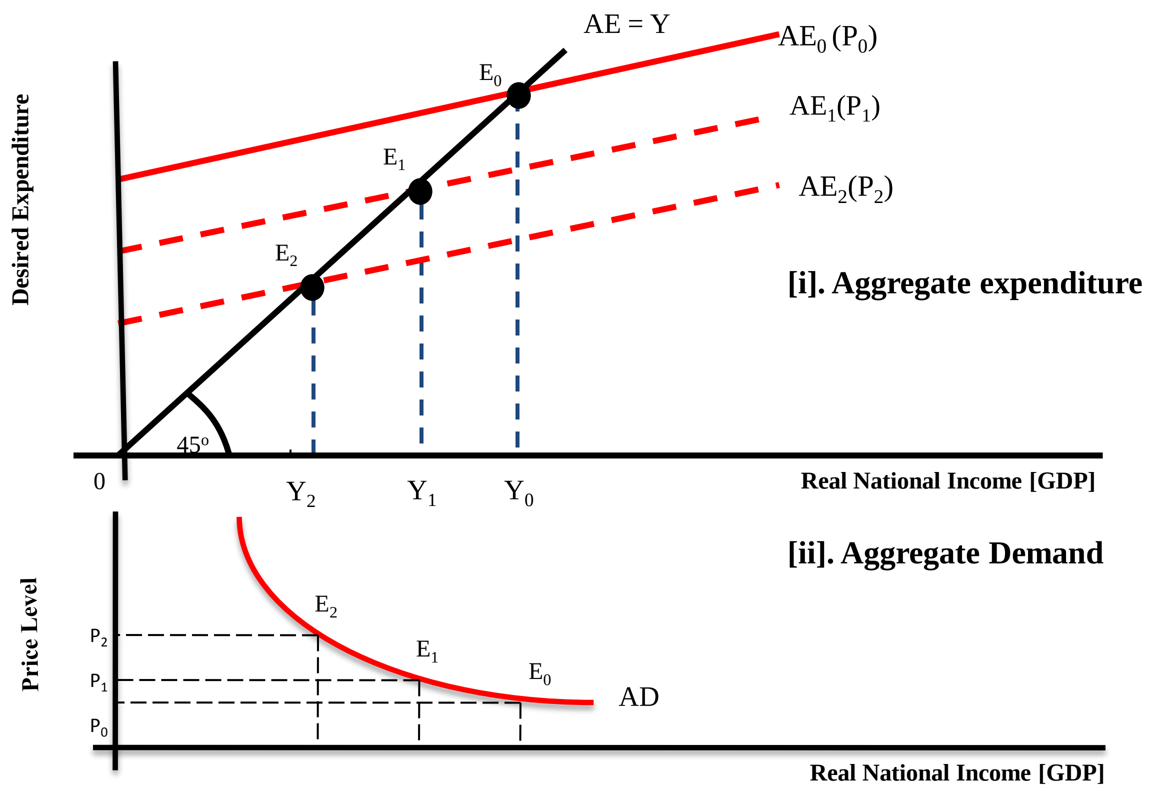


The AD curve and the AE curve

- Equilibrium GDP is determined by the AE curve for each given price level.
- The level of GDP and its associated price level are then plotted to yield a point on the AD curve.
- In figure 2 below, when the price level is P_0 the AE curve is AE_0 and GDP is Y_0. Plotting Y_0 against P_0 yields the point E_0 on the AD curve.
- An increase in the price level to P_1 shifts the AE curve down to AE_1, producing GDP of Y_1 and this is represented by point E_1 on the AD curve.
- A further increase in the price level to P_2 shifts the AE curve down to AE_2, producing GDP of Y_2 and this is represented by point E_2 on the AD curve.

The Aggregate Demand and the AE Curve

Figure (2)



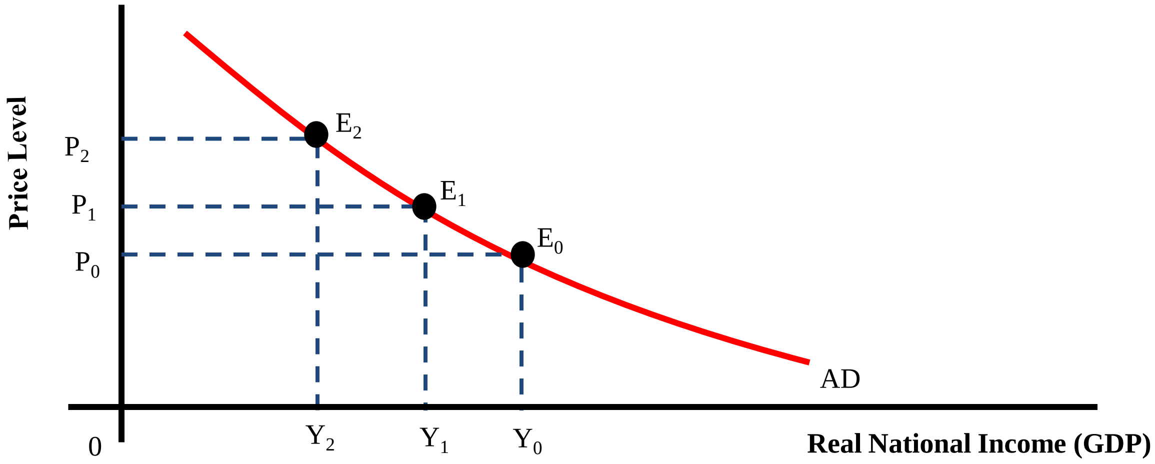
Topic One

AGGREGATE DEMAND

The Aggregate Demand Curve

- Just as individuals have a demand curve, the economy as a whole also has a demand curve. This is what is referred to as the aggregate demand (AD)curve.
- The aggregate demand curve is the total or aggregate quantity of output that is willingly bought at any given price level (all things being equal)
- It simply combines all the individual demands in the economy and then show the relationship this aggregate demand has with the general price level.
- The AD curve has the same downward sloping shape just like an individual demand curve although the rationale behind the shapes are different.

The AD Curve



[ii]. Aggregate Demand

Slope and Properties of AD Curve

- The AD is negatively sloped just like the individual demand curve under microeconomics
- As general price level increases AE declines because private consumption declines as households or the private sector saves more to restore real value of wealth
- As general price level decreases AE increase because private consumption increase as households or the private sector benefits from an increase in the real value of wealth.
- However note that the properties of the AD curve are different from the individual demand curve.

Why the AD Curve Slopes Downwards

- The aggregate demand curve is downward sloping but unlike the individual demand curve which is downward sloping because of the substitution and income effects of a price change, the AD curve is downward sloping due to a number of factors:
  - The money supply effect – if the money supply is held constant and we assume an increase in the price level, real money supply (Ms/P) will decrease. This decrease in the real money supply will lead to a reduction in the purchasing power of individuals in the economy, hence a reduction in spending that is translated into a reduction in aggregate demand.

In effect, an increase in price leads to a decrease in aggregate demand, hence the downward (negative) sloping AD curve.

Slope and Properties of AD Curve

- The AD is negatively sloped just like the individual demand curve under microeconomics.
- As general price level increases aggregate spending declines because private consumption declines as households or the private sector saves more to restore real value of wealth.
- As general price level decreases aggregate spending increase because private consumption increases as households or the private sector benefits from an increase in the real value of wealth.
- It is important however to note that the properties of the AD curve are different from the individual demand curve

AD Curve vrs Individual Demand Curve

Ad Curve

1. movement along the AD curve is caused by changes in general price level.
2. The negative slope of the AD curve is due to changes in aggregate spending resulting from changes in desired consumption and net exports as general price level changes
3. Reflects total demand for aggregate output of goods and services

Individual Demand Curve

1. movement along the individual demand curve is caused by changes in price of the commodity.
2. The negative slope of the individual demand curve is due to the substitution and income effect of an own price change (assuming all other prices and income is fixed)
3. Reflects individual demand for a particular goods or service

Shifts in AD

The AD curve will shift when there is a change in any of the autonomous factors that have been held constant in its derivation. What are these?

- A change in autonomous consumption
- A change in investment
- A change in Government Spending and/or Taxes
- A change in Net exports

Rightward Shift of AD

- Increase in autonomous consumption and/or Investment Spending and/or Government Spending and/or net exports, but a decrease in net taxes

Leftward Shift of AD

- decrease in autonomous consumption and/or Investment Spending and/or Government Spending and/or net exports, but a increase in net taxes

Topic Two

AGGREGATE SUPPLY

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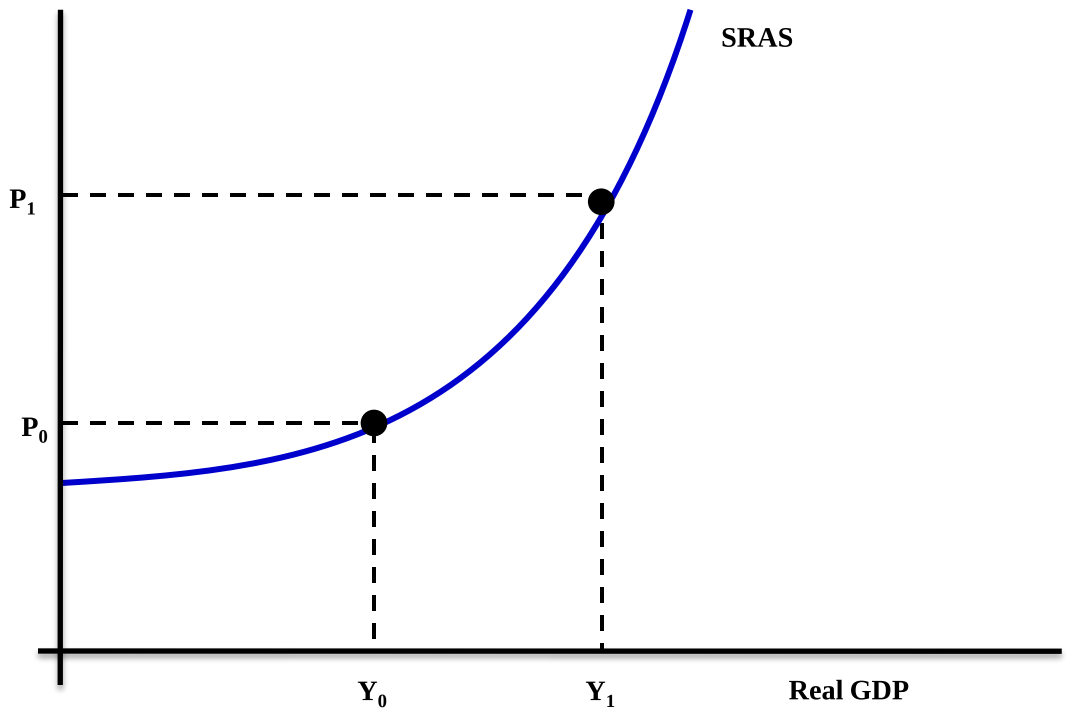
Aggregate Supply

- The aggregate supply curve is a schedule that shows the level of total national output that will be produced at each possible price level.
- In other words it is the aggregate output of goods and services that are produced by all firms assuming that all will be sold at the going general price level.
- The AS curve relates the aggregate output of goods and services supplied to the price level

Aggregate Supply

- There are two main types of AS curves;
  - Short Run Aggregate Supply (SRAS): shows the aggregate output of goods and services that all firms would like to produce and sell at each general price level assuming the prices of all inputs remain fixed.
  - Long Run Aggregate Supply (LRAS): shows the aggregate output of goods and services that all firms would like to produce and sell after the general price level and input prices have fully adjusted to any exogenous shift of aggregate demand.

A Short-run Aggregate Supply Curve



The Short-Run Aggregate Supply Curve (SRAS)

- The SRAS curve is positively sloped just like the individual supply curve and the logic behind the shapes is the same.
- The positive slope shows that with prices of labour and other inputs given, total desired output and the price level will be positively associated.
- This has to do with profit of firms, when prices increase, holding cost of production constant, firms profit margins increase and firms make more profit if they produce and sell more vice versa.
- A rise in the price level from P_0 to P_1 will be associated with a rise in output supplied from Y_0 to Y_1.
- The slope of the SRAS curve is fairly flat at low levels of output and very steep at higher levels.

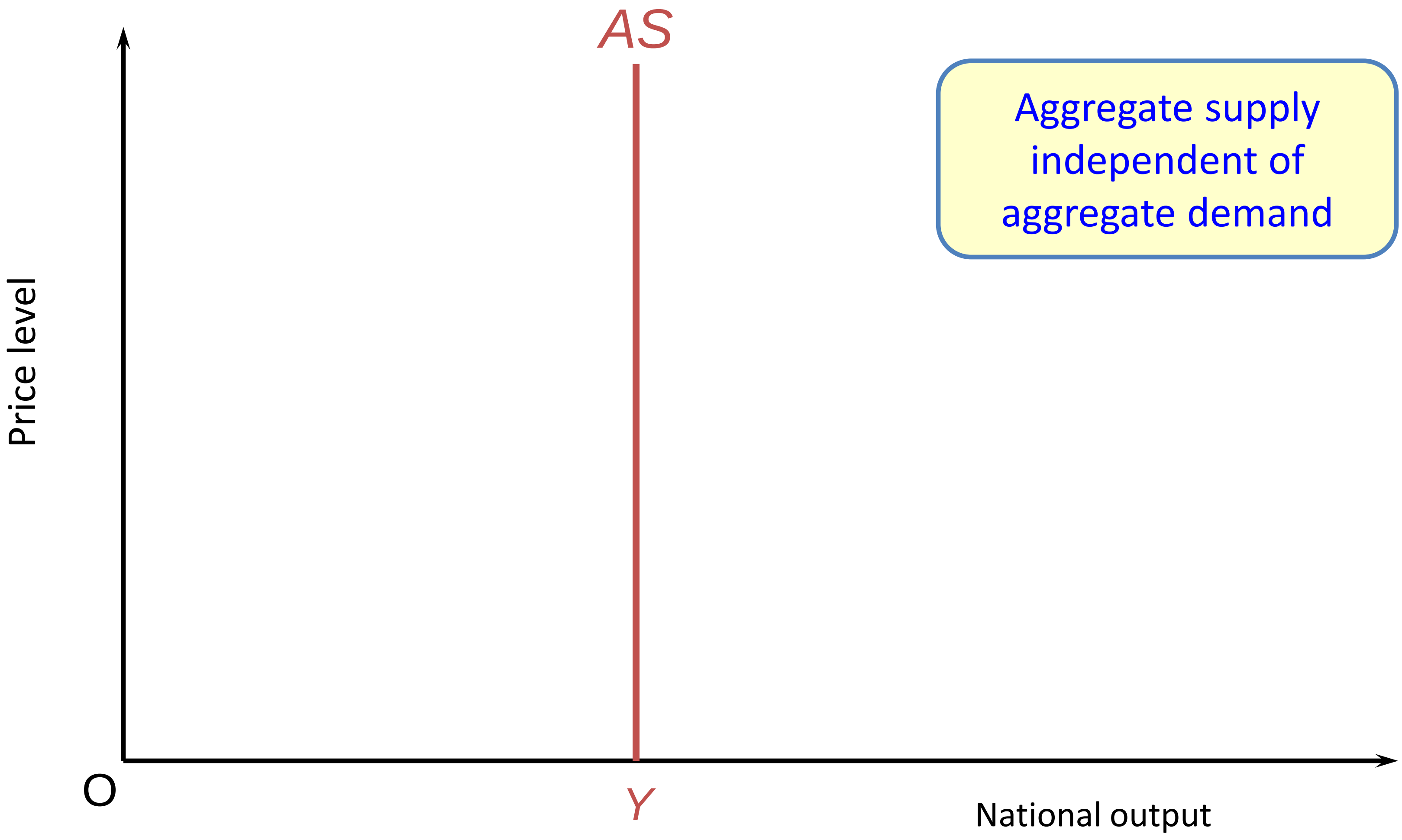
Shifts in AS

- The AS curve can be shifted (that is increase in supply at a given price) by;
  - Changes in productivity
  - Changes in input prices (cost of production)
- Productivity
  - An increase in productivity implies that firms can supply more output at the same price and therefore the AS shifts down to the right.
  - The opposite is also true
- Changes in Input Prices
  - If input prices rise, the cost of production increases and therefore the profit of firms decline at the same price level. Firms will react by cutting down on production and therefore produce less aggregate output. This will shift SRAS upward to the left
  - The opposite is also true.

Long Run AS Curve

- The long run AS (LRAS) curve in vertical. It indicates changes in the price level do not generate changes in total output.
- An economy is said to be at full employment at the point where its long run AS curve is vertical, thus when all its potential resources are fully employed. At that point, price no longer becomes an incentive to increase production since all available resources have been fully utilised.
- All factors that shift the short run aggregate supply curve also shift the long run aggregate supply curve.
  - Factors that increase (decrease) the cost of production will shift the LRAS curve to the left (right).

The Long Run Aggregate Supply Curve



Questions

1. With the aid of an appropriate diagram, show the effect of an increase in autonomous consumption on the aggregate demand curve.

2. What is the difference between the short run and the long run aggregate supply curves.