

# Unit 4- National Income and Price determination

By Kyle Bowers, Scott Sieger and Michael Madden

# MPC and MPS

- Marginal Propensity to consume(MPC) is the increase in consumer spending when disposable income rises by \$1. The formula for MPC is:
- $MPC = \text{change in consumer spending} / \text{change in disposable income}$
- $MPC = 1 - MPS$
- Marginal propensity to save(MPS) is the fraction of an additional dollar of disposable income that is saved.
- The formula of  $MPS = 1 - mpc$
- $MPC + MPS = 1$

# The Spending Multiplier

- The Macroeconomic spending multiplier is the ratio of the total change in real GDP caused by an autonomous change in aggregate spending to the size of that autonomous change. Formula=  $1/MPS$
- Significance: The spending multiplier measures how GDP increases or decreases when the government increases or decreases spending in the economy.

# Consumption Function

- The consumption function is an economic formula representing the functional relationship between total consumption and gross national income. The formula is:

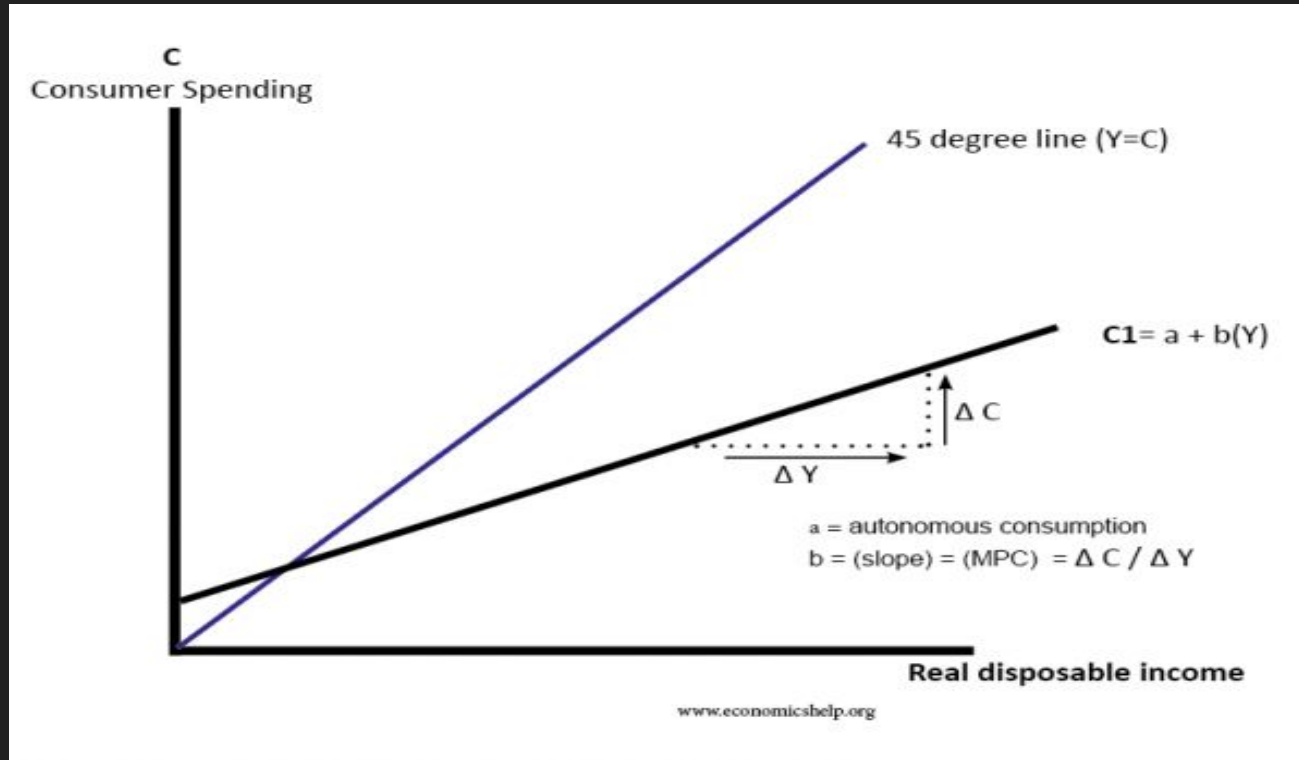
$$\underline{C = A + MPC \times Y_d}$$

C: consumer spending

A: Autonomous spending

Y<sub>d</sub>: Disposable income

# Consumption Function graph

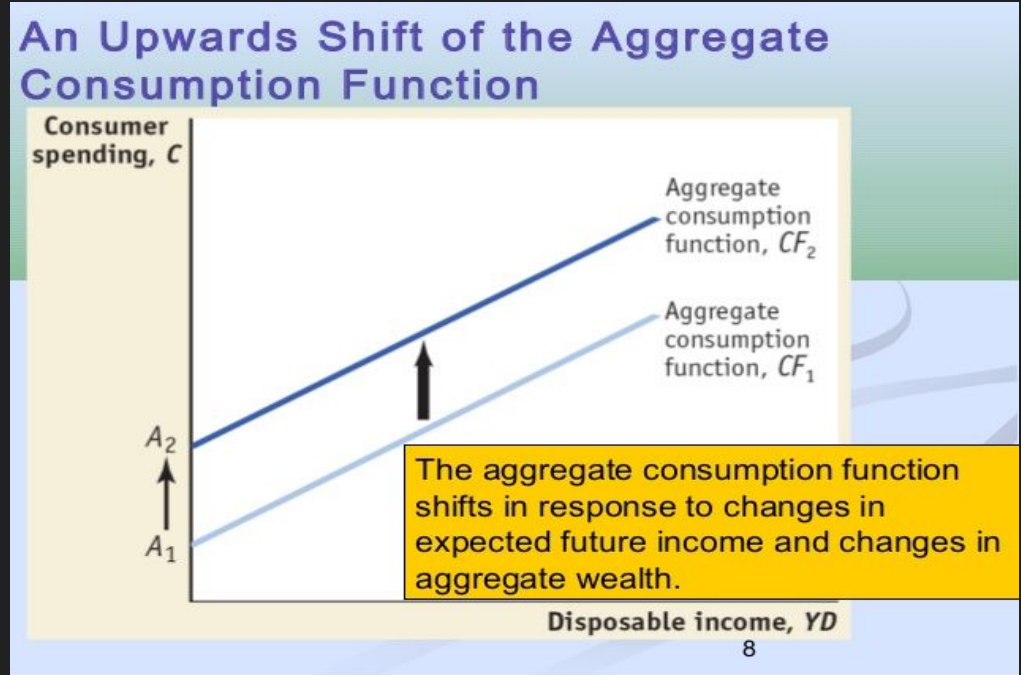


# Movements along the Consumption Function

- Movements along the Consumption Function are caused by changes only in disposable income. Changes in disposable income do not cause shifts.
- Shifts are caused by changes in real wealth and expectations.

# Upward Shift of Agg Consumption Function

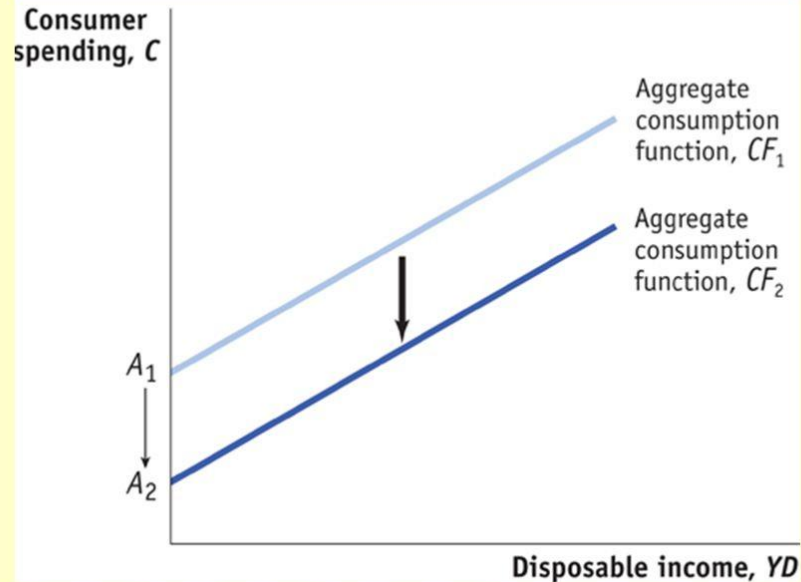
- The upward shift is caused by an increase in real wealth and an increase in consumer confidence.



# Downward shift of Agg Consumption Function

- The downward shift is caused by a reduction in real wealth and Negative consumer expectations.

## Aggregate Consumption Function





# Shifts in the aggregate consumption function

Shifts are caused by changes in:

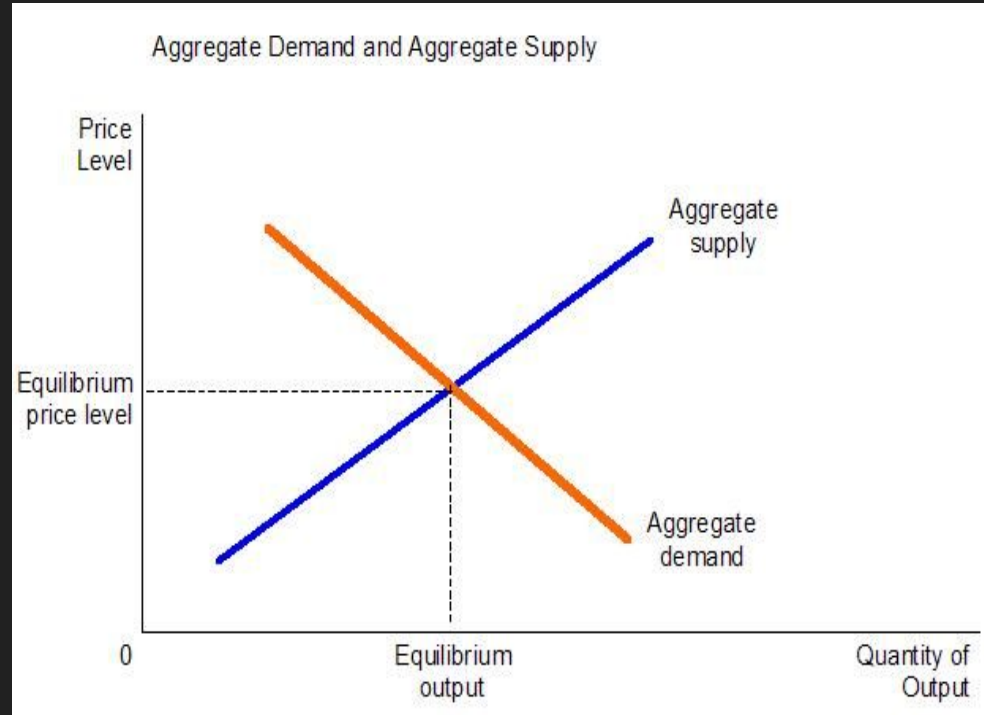
- Changes in expected future disposable income: Consumer spending will increase if there is an increase in consumer confidence and an increase in disposable income.
- Changes in aggregate wealth: A rise in overall wealth will lead to increased consumer spending as well because of expected high disposable income. With more money to be spent, consumers will most likely buy more products causing an upward shift. If there is less wealth, less money will be spent by consumers causing a downward shift on the graph.
- Investment Spending: Investors that see potential will increase their spending in hopes of a profitable return therefore causing an upward shift on the agg consumption graph. Poor expectations would lower investment spending and lead to a downward shift on the agg consumption graph.

# Aggregate Demand and Real GDP

- Aggregate Demand is equal to real GDP because the two variables are directly related. If aggregate demand in an economy increases, manufacturers and companies will need to match this by producing more and increasing total output in the economy to satisfy the growing need or demand for certain products. Therefore,  $\text{Aggregate Demand} = \text{RGDP}$ .

## Aggregate Demand Curve

- The AD curve is downward sloping because of the equation:  
$$GDP = C + I + G + X - IM$$
where an increase in price level (y-axis) decreases the C, I, and net exports aspects of RGDP (x-axis).

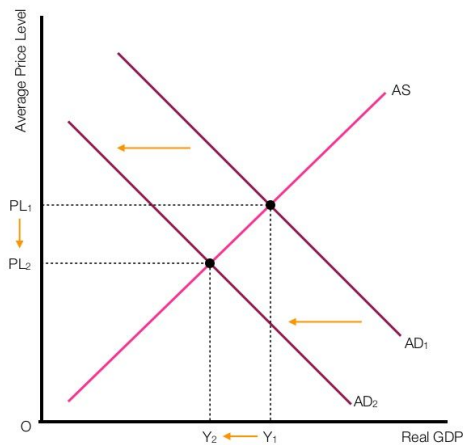


# Shifts in Aggregate Demand

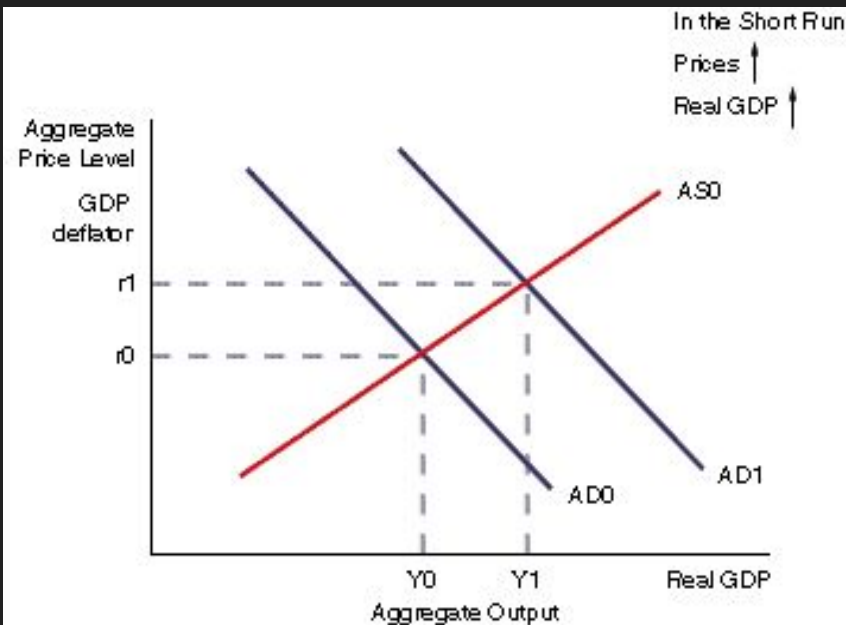
- **Expectations:** With a good outlook on the economy, consumer and investment spending will increase, and AD will shift right. On the other hand, with a negative outlook spending will decrease and AD will shift right.
- **Changes in Wealth:** If the real value of household assets rise, consumer spending will rise causing AD to shift right. If the value of these assets fall, AD will shift left.
- **Fiscal Policy:** If taxes are cut, consumer spending will increase and AD shifts right. If taxes are raised, consumer spending decreasing and AD shifts left.

## Leftward Shift

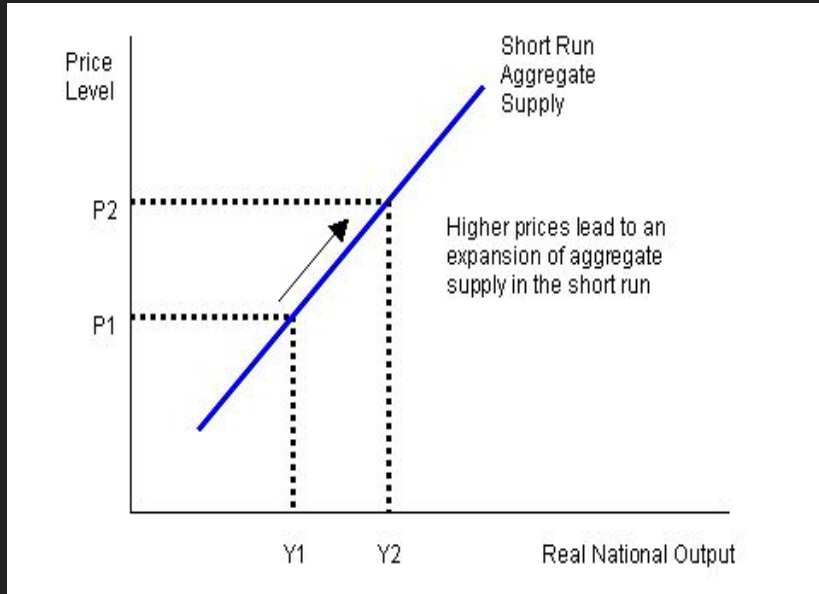
### Leftward Shift in Aggregate Demand



## Rightward Shift



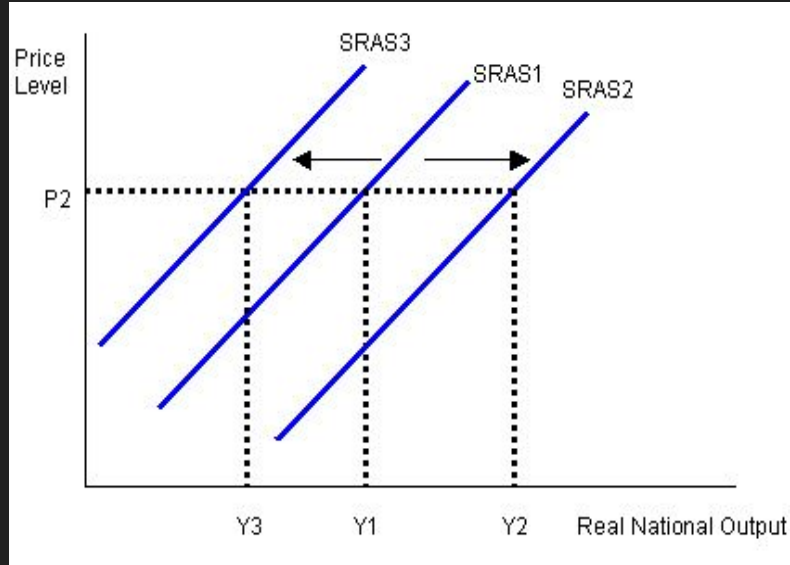
# Short Run Aggregate Supply Curve



Sticky wages: nominal wages that are slow to fall during high unemployment and slow to rise during labor shortages.

This relates to the curve of SRAS because when price levels increase, real wages (not nominal) fall, causing firms to hire more labor. This will increase productivity and RGDP.

## Shifts in SRAS

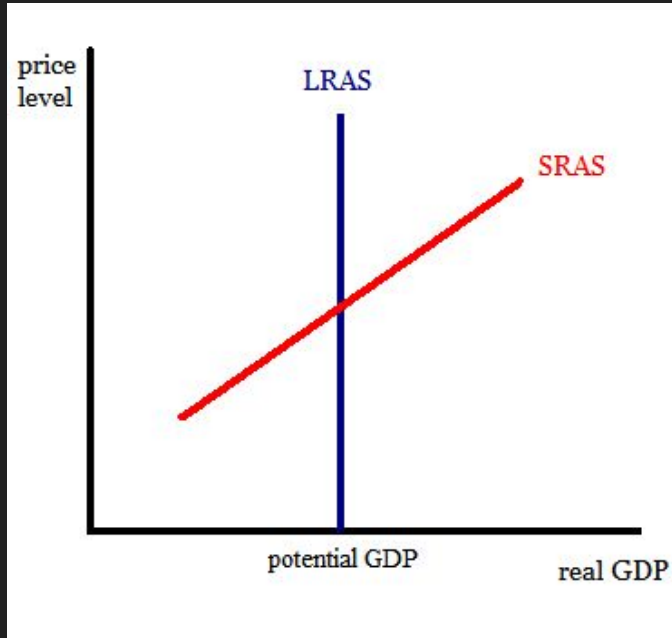


Changes in Commodity Goods: An increase in the price of a commodity raises production costs across the economy, and reduces quantities supplied which shifts the SRAS curve to the left. A decrease would cause a rightward shift.

Changes in Nom. Wages: A rise in nominal wages increases production costs and shifts the SRAS curve to the left. Decreases in nominal wages shifts it right.

Changes in Productivity: A rise in productivity shifts the SRAS curve right while a fall in productivity shifts it to the left.

## LRAS (Long run Aggregate Supply) Curve



The LRAS curve is a vertical line because it shows where an economy's potential output is along the x-axis (which is RGDP)



# What factors cause LRAS to shift right?

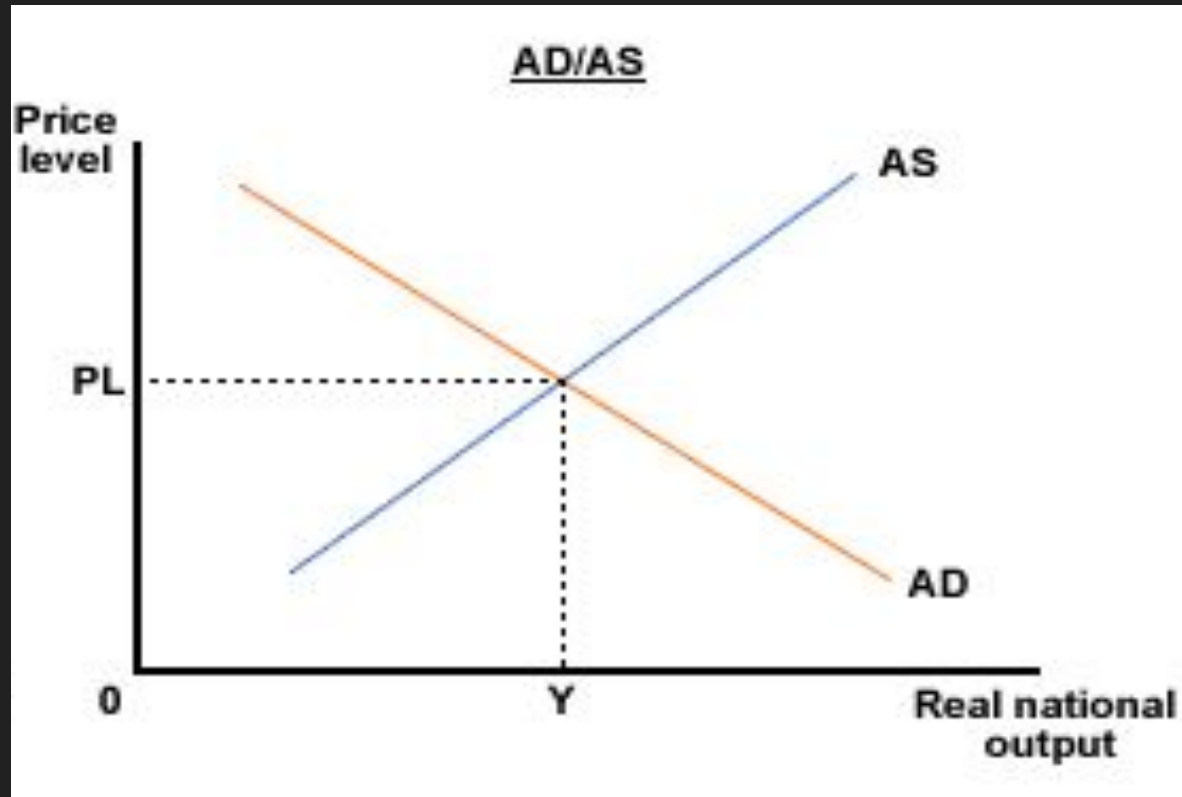
- Increases in worker productivity.

(Ex. A new spaghetti claw, allows Eddie Spaghetti to move more spaghetti at one time.)

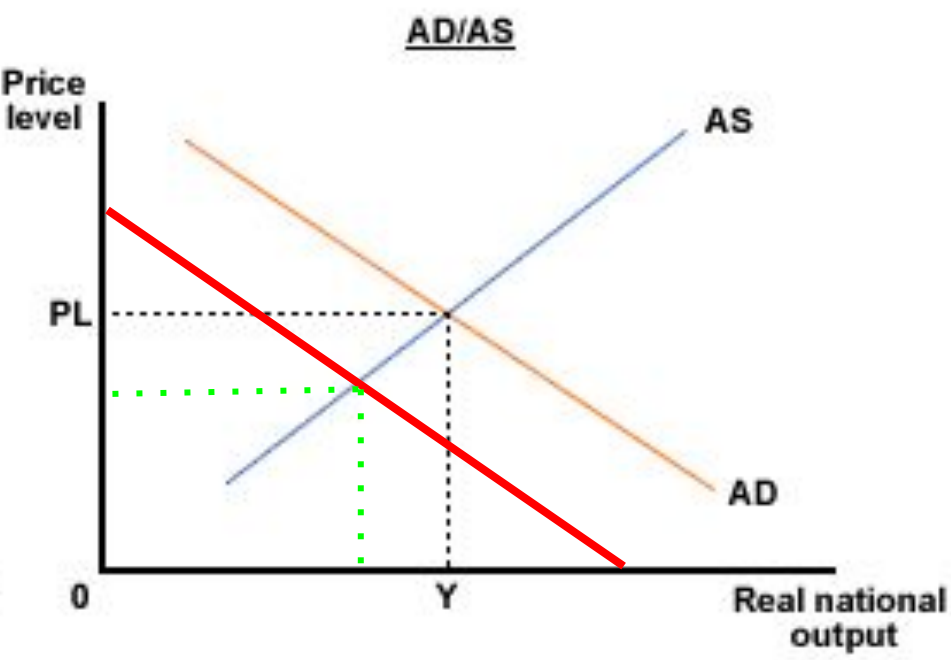
- Price of key inputs falls.

(Ex. The price of tomato sauce falls, allowing Eddie Spaghetti to buy more sauce for the same price as before)

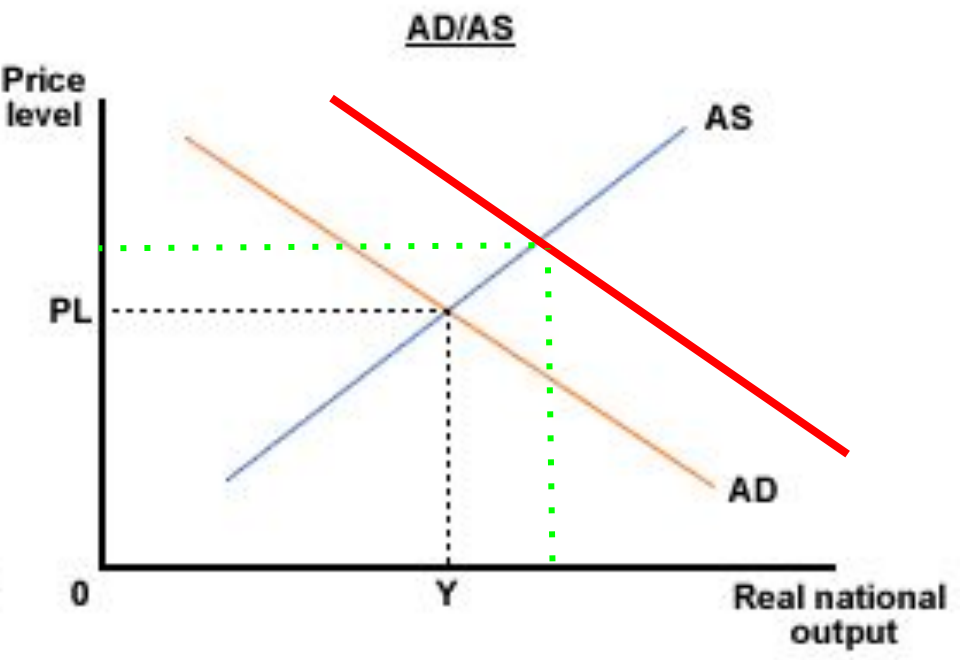
# AS/AD Model in equilibrium



# Negative Demand Shock

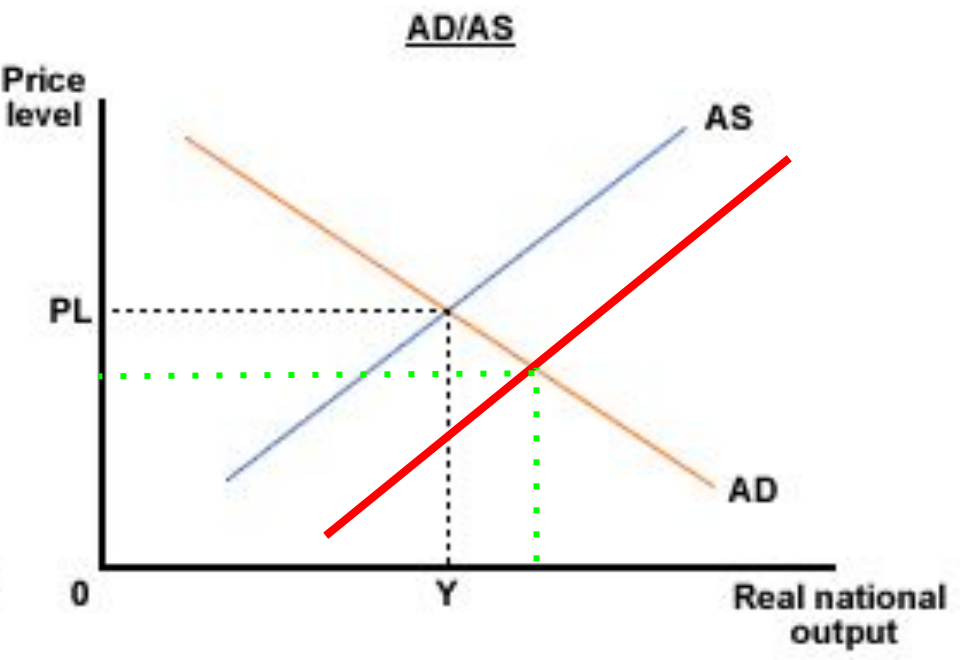
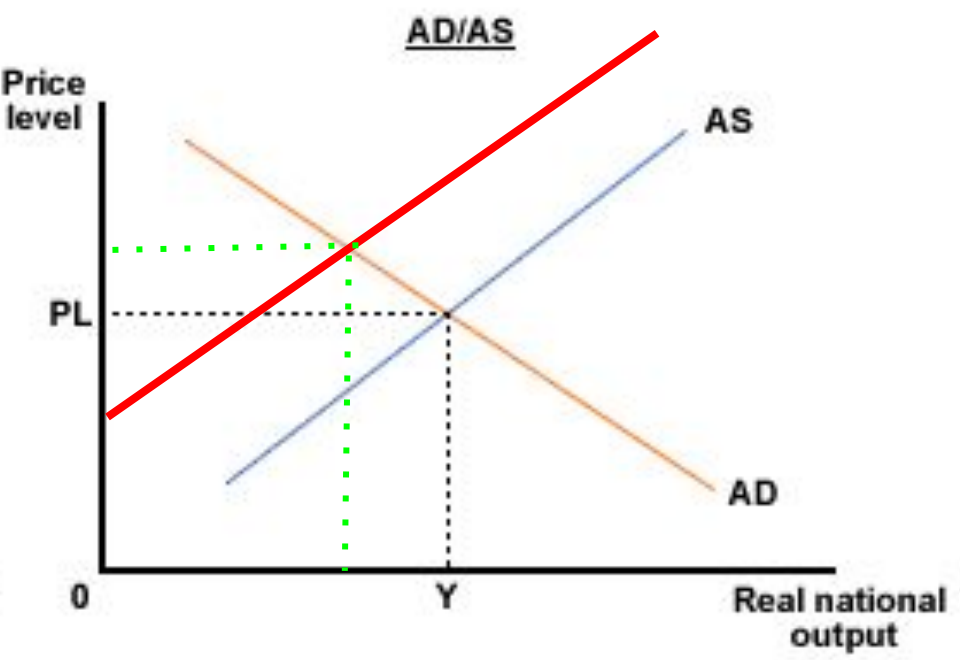


# Positive Demand Shock

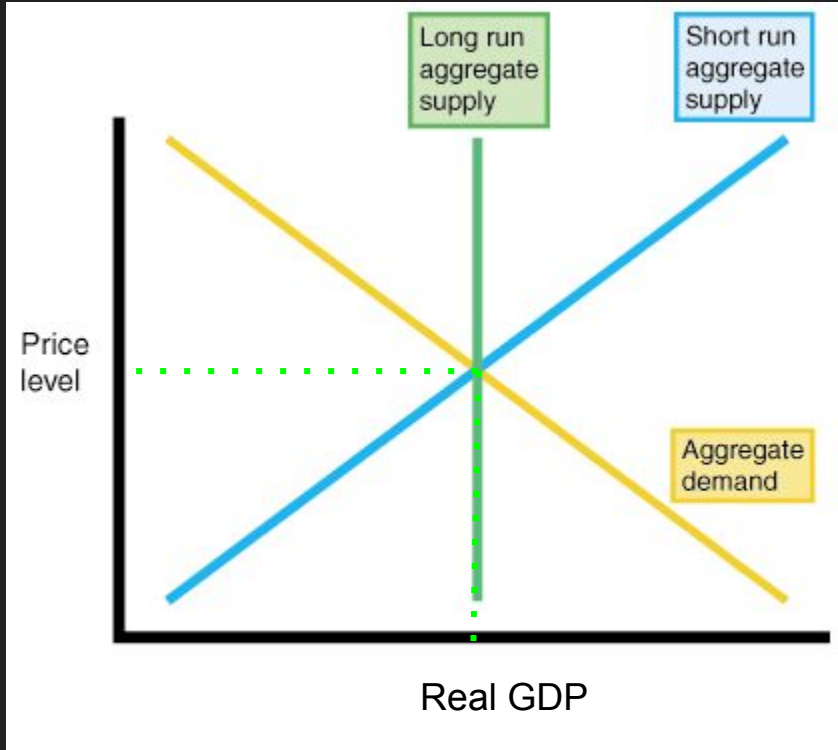


Negative Supply Shock

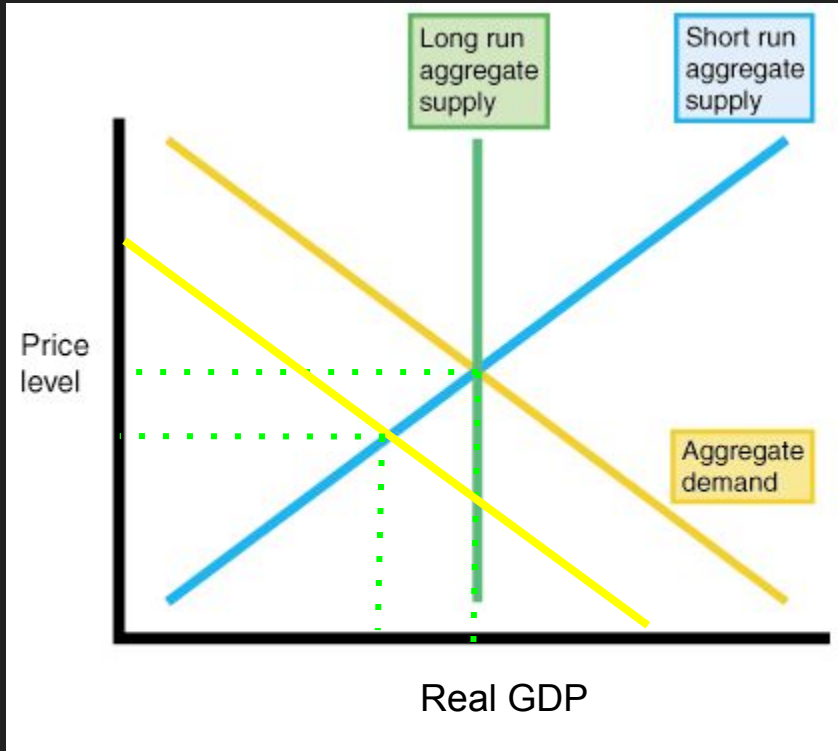
Positive Supply Shock



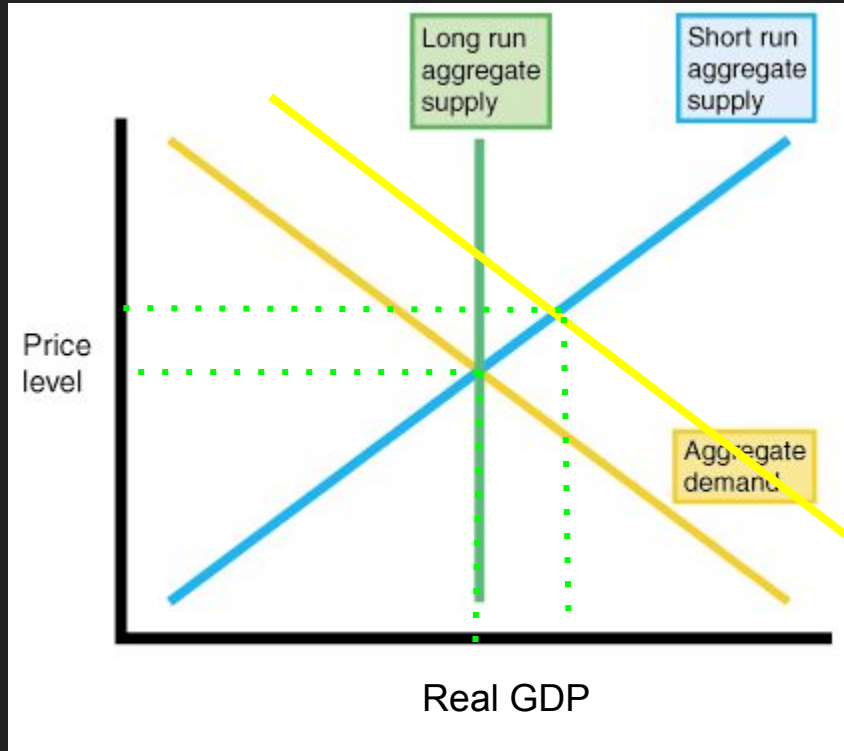
# Long Run Aggregate Supply in Equilibrium



# Long Run Aggregate Supply with recessionary gap



# Long Run Aggregate Supply with inflationary gap



# Keynesian Thinking

## **Negative Demand Shock**

Increase Government spending

## **Positive Demand Shock**

Decrease government spending

Economists embraced the concept that all disequilibrium in the economy was caused by changes in Aggregate Supply, they believed in self-stabilization in the long run

Conformed to J.B. Say's observation that supply creates demand



# Automatic Stabilizers

Economic policies and programs designed to offset fluctuations in a nation's economic activity without intervention by the government or policymakers

Examples include...

- Progressive tax - tax amount increases based on the income of a person
- Unemployment insurance - money received by the government when you are in between jobs, etc.
- Transfer payments - payments funded by the government through taxes received from other citizens