Aggregate Supply and Aggregate Demand

by Sophia

WHAT'S COVERED

This tutorial will cover aggregate supply and aggregate demand.

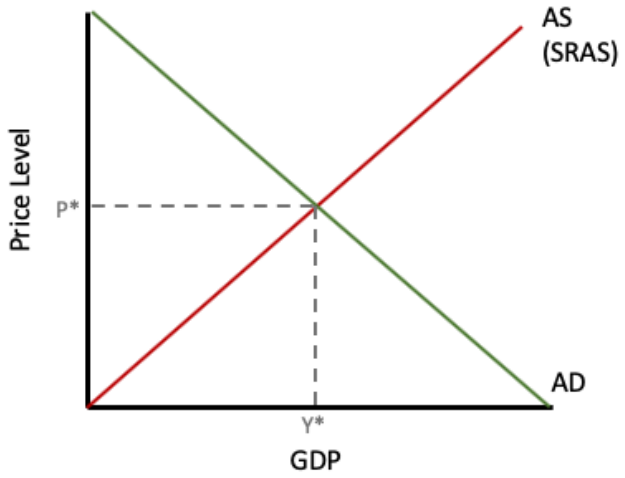
Our discussion breaks down as follows:

1. Aggregate Supply/Aggregate Demand Model
2. Aggregate Demand
   a. Wealth Effect
   b. Interest Rate Effect
3. Aggregate Supply
   a. SRAS
   b. LRAS
4. Aggregate Demand/Aggregate Supply Equilibrium

1. Aggregate Supply/Aggregate Demand Model

Let's begin by looking at the aggregate supply/aggregate demand graph. Notice that in microeconomics, the x-axis generally represents quantity, as in the quantity of one specific item, but here it represents *overall* quantity or all output in an economy, which is GDP.

The y-axis represents the overall price level, not just the price of a specific item.



This is the most common graph that we are going to be using in macroeconomics to show overall, or macroeconomic, activity.

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2. Aggregate Demand

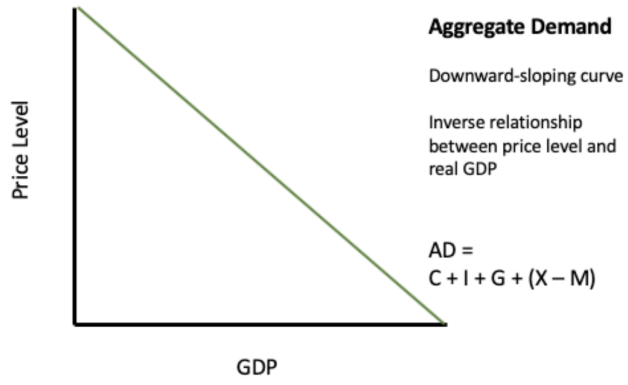
We will start by discussing **aggregate demand**, abbreviated as AD. It is the total amount of goods and services demanded in the economy at a specific point in time and at a prevailing price level.

Here is what an aggregate demand curve looks like. Notice the formula in the lower left-hand corner:

FORMULA TO KNOW

Aggregate Demand

$$AD = C + I + G + (X - M)$$



If you recall from the tutorial on GDP, GDP equals consumer purchases, investment outlays by businesses, government spending, and net exports. This is what comprises aggregate demand.

So, would aggregate demand really comprise the sum of all demand curves for everything in the economy? Well, sort of, but let's think about it differently.

In microeconomics, demand curves slope downward because as the price of something specific falls, people buy more of it. We cannot use this same analysis when looking at aggregate demand.

However, there are three reasons why aggregate demand slopes downwards:

2a. Wealth Effect

As prices in the economy fall, people feel like they are wealthier. Now, they would not necessarily *be* wealthier, but because their money can go further, people will tend to buy more.
The part of aggregate demand that is increasing here is the C-component. Consumer purchases will increase due to this wealth effect as prices fall. The wealth effect is defined as the perception that wealth has increased, resulting in an increase in consumption, or the C-component of the aggregate demand formula.

2b. Interest Rate Effect

As prices go down along the y-axis, this increases the amount of money circulating in an economy, which tends to drive down interest rates.

HINT

Remember, interest rates are what we pay whenever we borrow money, so this likely will not impact consumer purchases of groceries or clothing, for instance.

As interest rates fall, people will buy more items that require loans, like cars, houses, appliances, and furniture--items considered to be durable goods.

Again, this is impacting that C-component of the aggregate demand formula, though it refers to a different type of consumer purchases, those requiring loans.

Also, falling interest rates will impact business investment. Businesses will take advantage of lower rates and invest more in their companies. Basically, we see the C and I being impacted on anything that is interest sensitive, due to the interest rate effect as the price level falls.

Therefore, the interest rate effect is as interest rates fall, consumption increases due to the decrease in the cost of borrowing. As a result, purchases and business investment (Consumption, C, and Investment, I, respectively) both increase.

2c. Exchange Rate Effect

Finally, aggregate demand curves slope downward because of the exchange rate effect. As price levels in the U.S. fall, our goods become relatively cheaper to foreigners, because our exchange rate falls.
When that happens, foreigners will try to take advantage of it by buying more from us, so exports (X) are going to increase.

At the same time as our exchange rate falls, our dollars will not go as far when purchasing items from other countries. Therefore, we buy less from other countries and imports (M) decrease.

THINK ABOUT IT

If you think about it, if X is increasing and M is decreasing, then our net exports are increasing. This is the (X-M) portion of the aggregate demand formula, the component that would be increasing as exchange rates

fall when the price levels come down.

Exchange rate movements impact demand. Domestic currency depreciation--meaning as our price level comes down, our exchange change rate comes down--increases the cost of imports, resulting in a potential decrease in imports, or M. The lower domestic exchange rate also increases foreign demand for domestic goods, increasing our exports, or X.

TERMS TO KNOW

Aggregate Demand

Total amount of goods and services demanded in an economy at a specific point in time and at a prevailing price level

Wealth Effect

Perception that wealth has increased, resulting in an increase in consumption, C

Interest Rate Effect

As interest rates fall, consumption increases due to the decrease in the cost of borrowing; as a result, purchases and business investment (consumption, C, and investment, I, respectively) both increase

Exchange Rate Effect

Exchange rate movements impact demand; domestic currency depreciation increases the cost of imports, resulting in a potential decrease in imports, M; the lower domestic exchange rate increases foreign demand for domestic goods, increasing exports, X

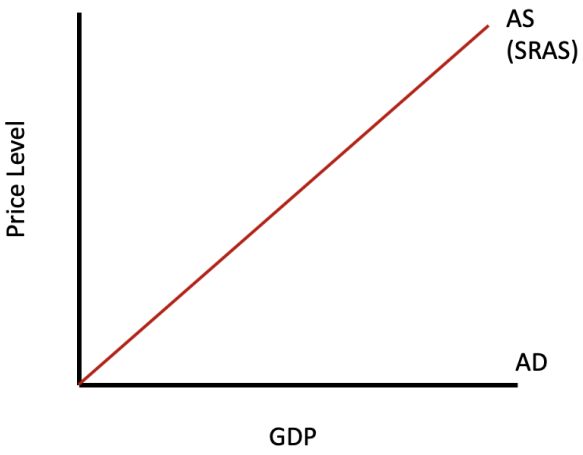
3. Aggregate Supply

Now let's turn our attention to aggregate supply. There are two aggregate supply curves.

3a. SRAS

The aggregate supply curve on the graph at the beginning of this tutorial is the **SRAS**, or **short-run aggregate supply** curve. The short-run aggregate supply, or SRAS, is the total amount of goods and services supplied in an economy in the short run.

In the short run, the aggregate supply curve does slope upward, as shown below.



Again, aggregate supply is the total amount produced at various price levels. It slopes upward in the short run because businesses can actually produce more as the price levels rise, for several reasons:

- They will not necessarily have to pay their workers more immediately. As prices go up, eventually workers are going to argue for higher wages, because things will be more expensive and the workers will want more money. However, that does not happen immediately; it is an adjustment that takes some time. Therefore, businesses can produce more because they will not have to pay their workers more money immediately.
- Businesses can also start drawing down their inventories. They can use up inventory that they already have on hand.

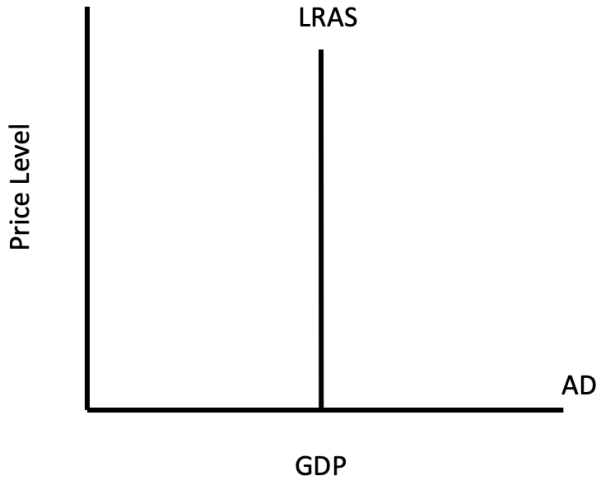
Therefore, in the short run, aggregate supply can slope upwards. As prices go up, they can choose to produce more, while as price levels fall, they can produce less.

3b. LRAS

The **long-run aggregate supply** curve, abbreviated **LRAS**, is the total amount of goods and services supplied in an economy in the long run. This is a vertical or straight up-and-down line.

DID YOU KNOW

The LRAS curve is also known as the Solow growth curve.



The idea here is that we can ramp up our production in the short run, but this can really only get us so far. In the long run, we have a limited amount of resources, such as materials and workers. Therefore, that vertical line represents the current potential for how much we can produce.

Now, in order for that potential or production capacity to change, something else would need to change to increase our ability to produce more.

EXAMPLE The invention of new technology might increase production capability and shift the supply curve over and to the right.

TERMS TO KNOW

SRAS

Short Run Aggregate Supply; total amount of goods and services supplied in an economy in the short run

LRAS

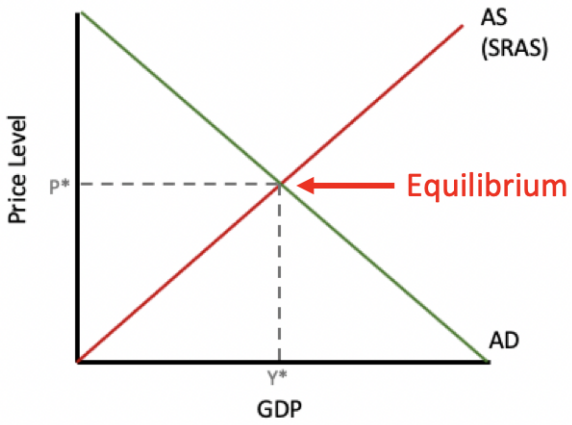
Long Run Aggregate Supply; total amount of goods and services supplied in an economy in the long run

4. Aggregate Demand/Aggregate Supply Equilibrium

Now, the intersection of the short-run aggregate supply curve and the aggregate demand curve will give us equilibrium.

The Y*--note that it is now on the x-axis--represents the equilibrium level of production or output, also known as real GDP.

P* on the y-axis represents our current price level.



In upcoming tutorials, we will be using this graph to show what happens to the new equilibrium price level and real GDP, when anything changes like aggregate demand or aggregate supply.

SUMMARY

Today we learned about **aggregate supply** and **aggregate demand**, by viewing the **model** and examining why they are shaped the way that they are. Remember, the three reasons aggregate demand slopes downward is because of the **wealth effect**, **interest rate effect**, and **exchange rate effect**. We also learned about the difference between short-run aggregate supply (**SRAS**) and long-run aggregate supply (**LRAS**) curves. Lastly, we learned that the intersection of the SRAS and aggregate demand provides the **equilibrium** price level and output level, or real GDP.

Source: Adapted from Sophia instructor Kate Eskra.

TERMS TO KNOW

Aggregate Demand

Total amount of goods and services demanded in an economy at a specific point in time and at a prevailing price level.

Exchange Rate Effect

Exchange rate movements impact demand; domestic currency depreciation increases the cost of imports, resulting in a potential decrease in imports, M; the lower domestic exchange rate increases foreign demand for domestic goods, increasing exports, X.

Interest Rate Effect

As interest rates fall, consumption increases due to the decrease in the cost of borrowing; as a result, purchases and business investment (consumption, C, and investment, I, respectively) both increase.

LRAS

Long Run Aggregate Supply; total amount of goods and services supplied in an economy in the long run.

SRAS

Short Run Aggregate Supply; total amount of goods and services supplied in an economy in the short run.

Wealth Effect

Perception that wealth has increased, resulting in an increase in consumption, C.