11 The economy as a whole

We're close to the end of this primer. So, in this chapter, we're going to analyse the entire economy as a whole. You know that GDP can increase or decrease. And if does for consecutive months, we describe those increases or decreases as booms and busts, as expansions and recessions. Usually, a boom is described as three consecutive months of GDP increase and we consider a recession as three consecutive months of GDP decrease. When the recession is -10% or more, we say it is a depression.

Economics is based on uncertainty, so macroeconomic variables are unpredictable. They have fluctuations that occur based on the same economic fundamentals, political events, etc. The business cycle refers to the booms and busts the GDP has throughout time. When there's an economic boom, firms and households also improve their income. When there's a recession, firms and households see their income decrease.

Expansions and recessions are fluctuations in the short term. Most of the macroeconomic variables are related to each other. When there's an expansion, consumer spending increases, imports increase, and investment increases. When there's a recession, these variables decrease. Everything is interconnected.

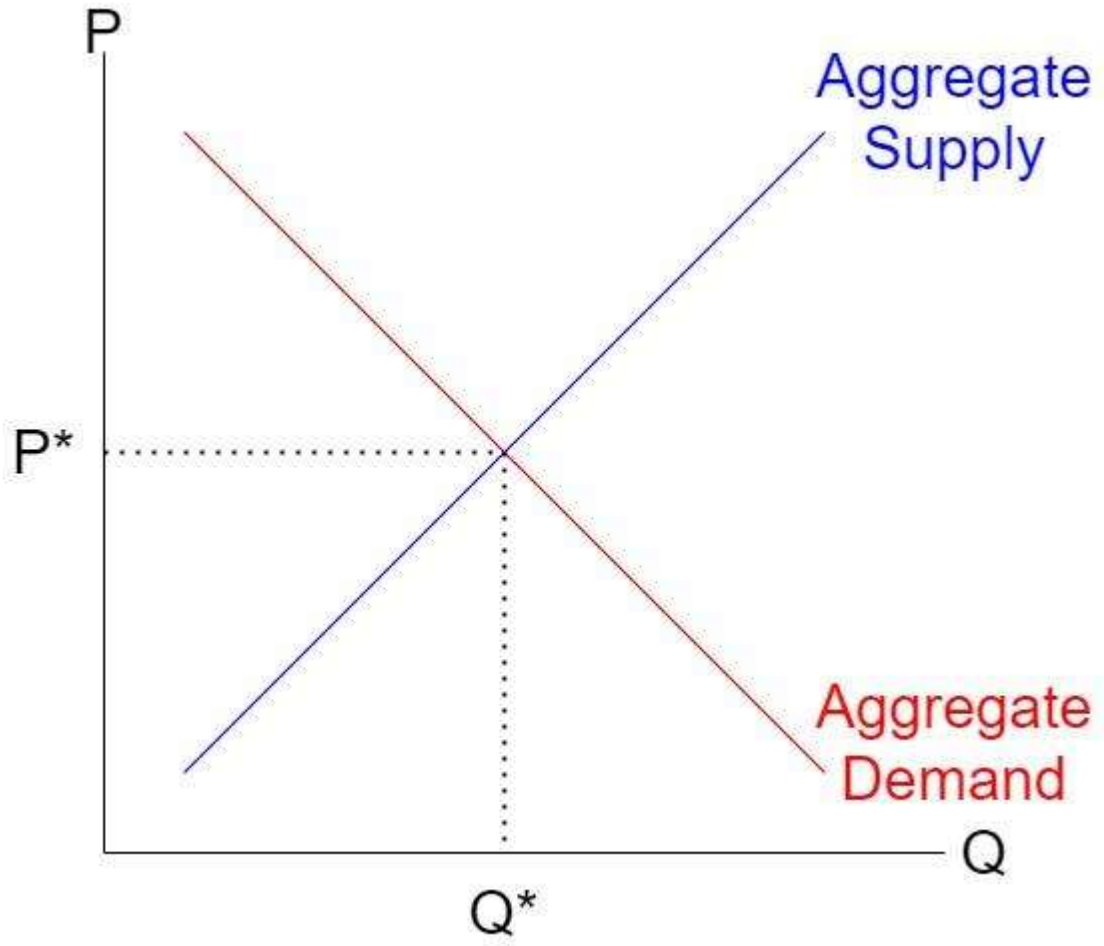
Let's understand how fluctuations occur in an economy in the following section.

11.1 Short-run fluctuations

You might remember from previous chapters what nominal and real variables are. Classical economics states that the money supply only has an impact on nominal variables, not on real variables. Besides, this conclusion is understood to happen in the long run. In the short run, nominal variables might move in order to get close to real variables. Nominal variables are to be analysed in the short run, while real variables are to be analysed in the long run.

We analyse fluctuations in the short run in an economy as a whole by using a model in which we talk about the aggregate demand and supply curves. Aggregate demand is the sum of the quantity demanded of domestic goods and services consumed or used by households, firms, government and foreign people. The aggregate supply is the sum of the number of goods and services that firms produce and sell.

Let's see the graph



As we have seen previously, the aggregate supply (demand) curve has an upward (downward) slope.

11.2 The aggregate demand curve

A shift in the aggregate demand curve can happen for many reasons:

- When governments spend more (less), the aggregate demand shifts towards the right (left).
- When consumers spend more (less), the aggregate demand shifts towards the right (left).
- When foreigners spend more (less) on domestic products, the aggregate demand shifts towards the right (left).
- When domestic consumers import more (less), the aggregate demand shifts towards the right (left).
- When firms invest more (less) in capital, the aggregate demand shifts towards the right (left).
- When the central bank decreases (increases) their reference interest rates, the aggregate demand shifts towards the right (left).

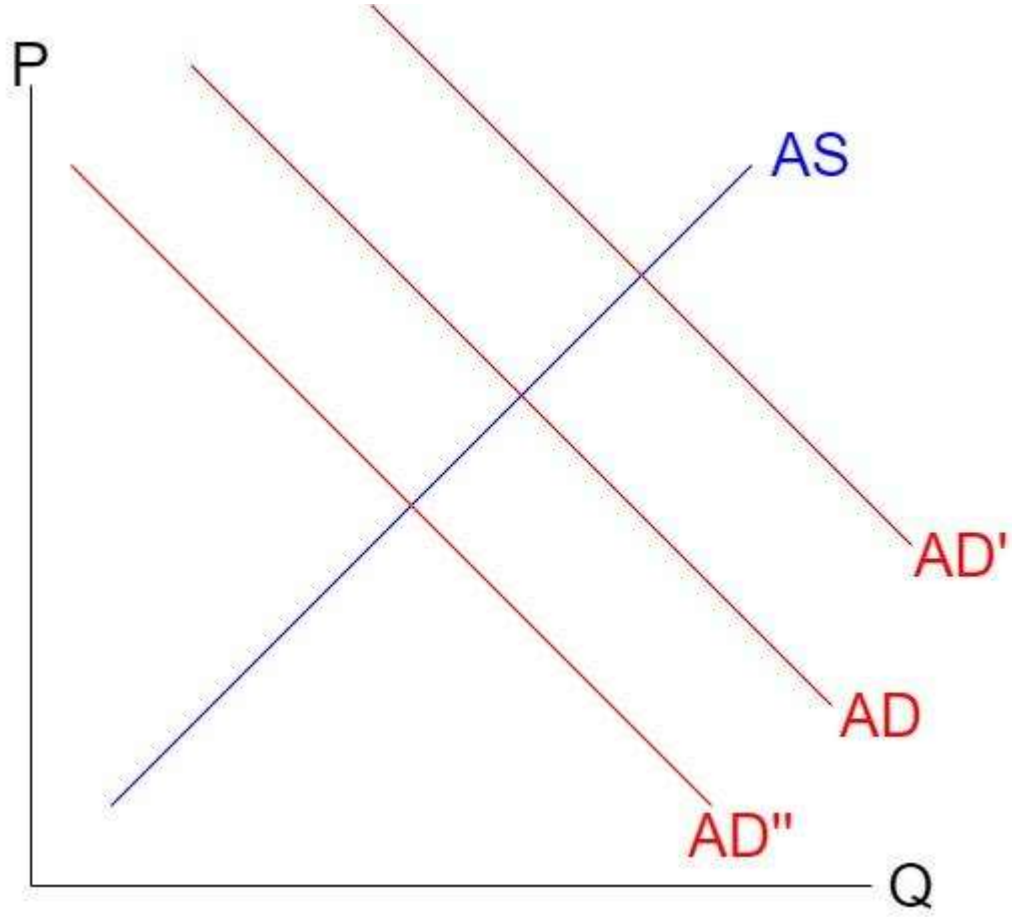
The explanations follow the same principle as explained in previous chapters. The first three impacts occur because by decreasing the quantity demanded of goods and services, firms' sales decrease. This decrease

means a less value of GDP, and this also means more unemployment. The aggregate demand shifts to the left and it moves along the supply curve. Since output decreases, firms also decrease their prices to accommodate for the lower quantity supplied of goods.

The fourth example is about imports. If more people import more from foreign goods, this means foreign goods are more preferable than domestic goods. An increase in imports, means a decrease in domestic firms' sales, which in turn decrease output and prices as described above.

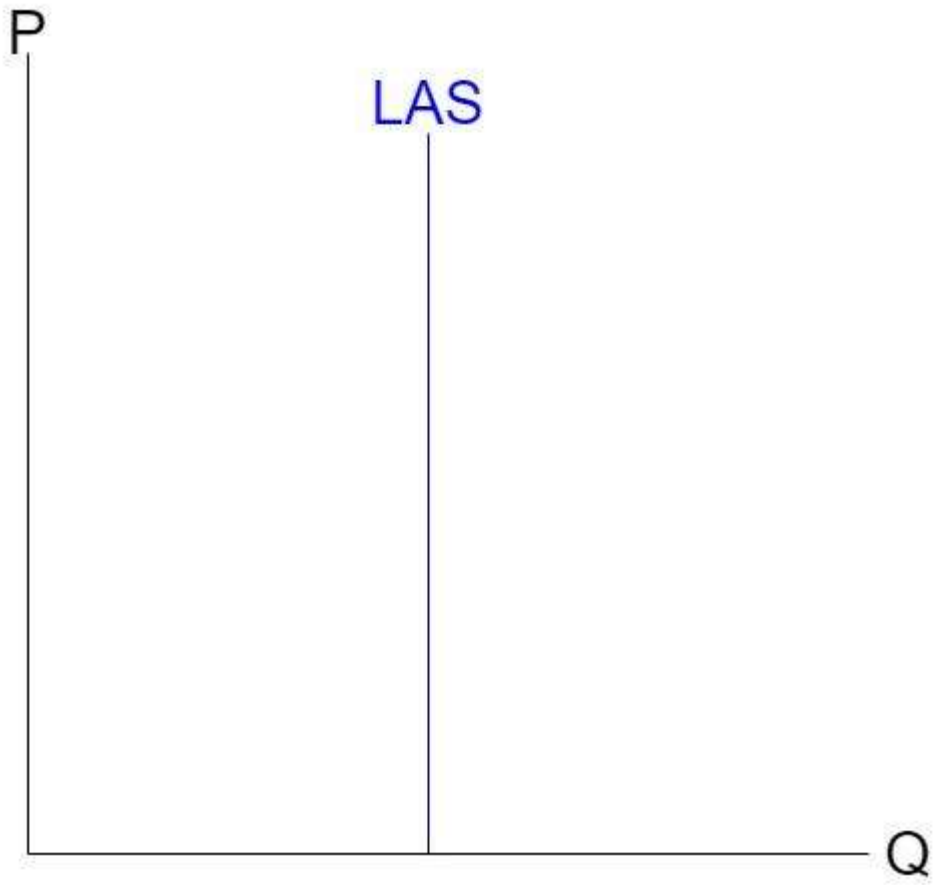
An increase in firms' investments increase firms' consumption of domestic capital and labor force, this means an increase in the quantity demanded of goods and services. This also means an increase in output and an increase in the domestic firms' quantity supplied of goods and services. This is a shift in aggregate demand to the right. By increasing the firm's quantity supplied of goods, there is also an increase in prices. When central bank decreases its reference interest rate, this means it will decrease the cost of investment, which in turn increases firms' investment as described above.

A positive (AD') and a negative (AD'') shift of the aggregate demand curve can be represented as



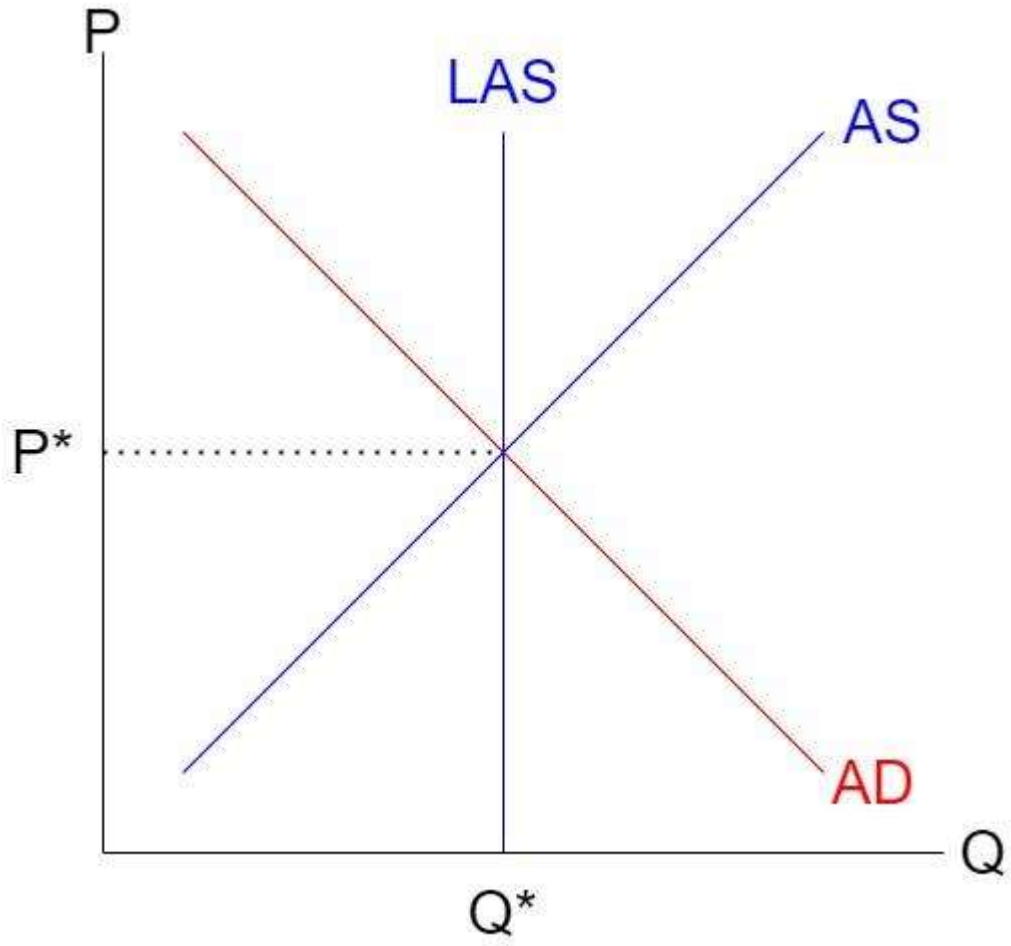
11.3 Equilibrium in the long and short run

Those curves are the short-term aggregate demand (AD) and aggregate supply (AS) curves. The long-run aggregate supply (LAS) curve can be graphed as



As you can see, this curve doesn't move for any price given in the economy. This curve follows the explanation of classical economists saying that real variables such as GDP will not change based on nominal variables, such as price.

The long-run and short-run equilibrium can be given by the intersection of all the curves, as follows:



Whenever there's technological progress, this will change the long-run aggregate supply (LAS) curve, and the short-run curves, both supply and demand, will shift to meet the new equilibrium given by LAS. Whenever there's a change in the aggregate demand, this will shift the short-run supply curve and both curves will meet in equilibrium with a higher price equilibrium and the same output equilibrium.

11.4 Considerations while investing in the long run

We should know some things while trading for a short-term profit.

- Inflation increase/decrease can be given not only by demand shocks but also by technological progress. So, whenever there's an increase in this variable, we should check if it's related to technological progress or due to demand shocks, i.e., unexpected increase/decrease of exogenous variables in the quantity demanded function. If it's primarily by demand shocks, we shouldn't expect an increase in output in the long run. You might see an increase in financial asset prices, but not necessarily an increase in output.

- Central banks might influence exchange rates, but real exchange rates depend only on the country's fundamentals. Consequently, if you see an increase in the central bank's interest rate, it won't necessarily reflect the real exchange rate.
- Government spending and consumer spending increase positively impact the equilibrium quantity of goods and services. However, in the long run, as we've seen previously, this increase in demand will only produce inflation, if it's not accompanied by an increase in technological progress.