

Microeconomics: BSc Year One

Markets

The economy is held together by, and works through, markets, where prices coordinate decisions, decisions influence prices, and consumers decide what they want to buy and pay. If businesses don't produce what people want, they fail. But if consumers don't pay businesses at least what it took to make the good, the businesses won't produce it. This is Adam Smith's invisible hand – guiding the economy along.

Markets consist of, and can be defined by:

- buyers and sellers in contact with each other (directly and indirectly)
- the Law of One Price – people will take the cheapest option with homogenous products.

A market may spread over more than one place if trade barriers do not exist. Perfect competition is a market which is totally free:

- i) many buyers and sellers (no individuals affect the price)
- ii) homogeneous product
- iii) perfect knowledge (full information for everyone)
- iv) free entry and exit in the long term

To begin, let us assume we're dealing with a consumer good. Households will decide how much of it they want, giving us the equation:

$$q_d = D(p, y)$$

where y is total income, p is price, and D is a function.

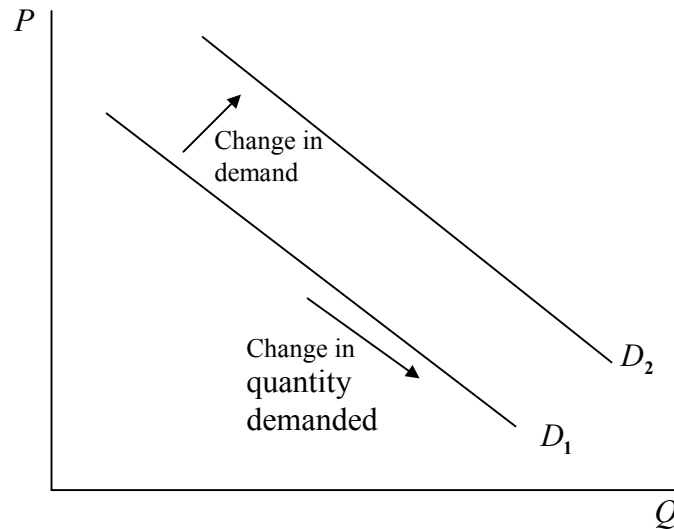
Firms will decide how much they want to sell:

$$q_s = S(p, w)$$

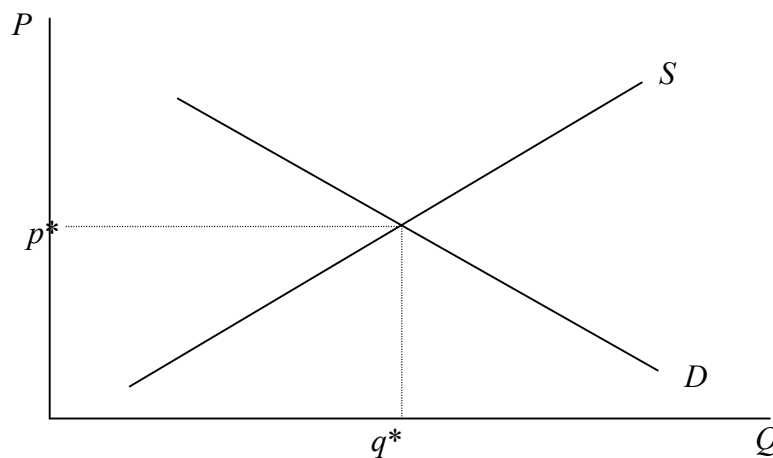
where w is the cost to the firm of wages, or so on. Again, S is a function.

We shall treat y and w as exogenous values – they are fixed and given. q and p are endogenous (that is, determined within the model). Looking at demand first; as the price for a good rises, people will not want to buy as much of it, and so the demand curve will be seen as a downward-sloping line.

Further to this, we can consider that there are two ways in which the graph will change; through a change in price (when the point will move down the demand curve – this is known as a change in quantity demanded), or through outside factors (like income changes, or substitute goods, which will move the demand curve itself – this is known as a change in demand).



Supply, however, will slope upwards, as firms will produce more at a higher price. Putting the two together gives the economic equilibrium of the market:



At prices above p^* there exists excess supply – consumers are not buying all that is being produced. Below p^* we have excess demand – not enough is being produced. It should be noted that the supply curve shows planned supply related to expected price, rather than actual supply – the latter is affected by unseen events as well as the price and cost in the marketplace.

We reach equilibrium where $q_d = q_s$. This value will not change until an exogenous variable changes. The economy will then take time to adjust to the new quantities.

Looking at the example of international markets in primary commodities (that is raw materials and fuels, et cetera), we see that both the demand and supply curves are steeply sloping. Changes in price have little effect on demand (defined as “inelastic”), which is lucky because supply often has erratic shifts due to weather and other factors.

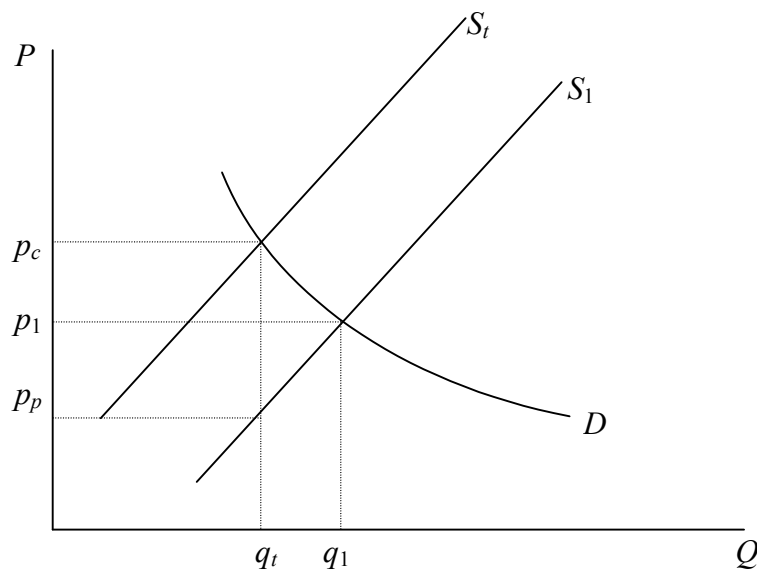
Applications of Demand and Supply Analysis

Indirect Tax

A per-unit tax is defined as a tax that places an equal burden on all goods in a market, such as the tax on cigarettes – a fixed amount whatever the price of the good. Two things must be examined regarding taxes: the incidence of the tax (whether the producer or the consumer pays the tax), and the effects on allocation of resources. The easiest way to show how tax affects purchasing patterns is to show tax by the equation

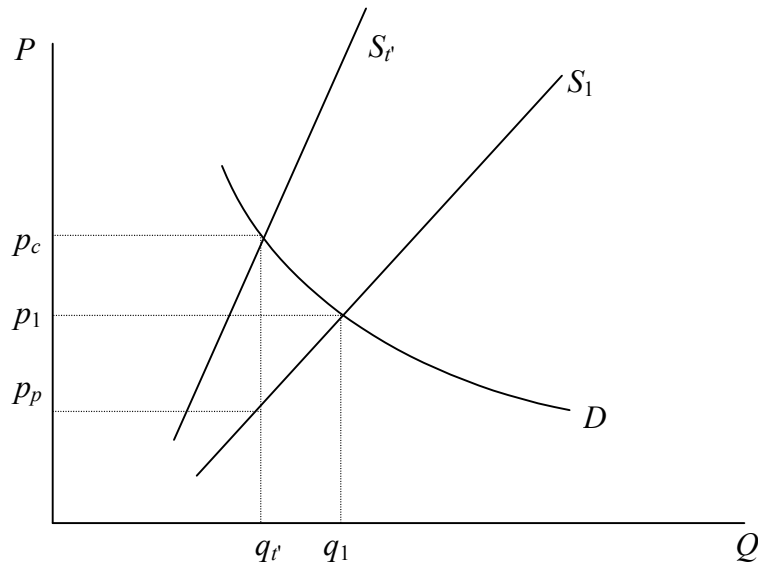
$$p_c - p_p = t,$$

where p_c is the price paid by the consumer and p_p is the amount received by the producer. It can then be shown that the demand curve is a function of p_c , while the supply curve is influenced by p_p :



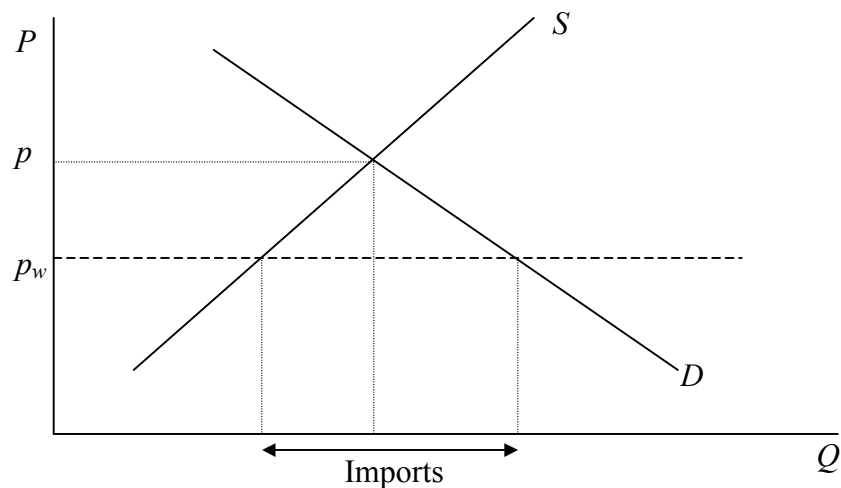
The producer therefore accepts less and the customer pays more; the exact proportions will alter according to the slope of the demand curve. It can also be seen that the tax has discouraged consumption, as the quantity bought has fallen; quantity will fall more if demand is inelastic, which will lead to a higher tax incidence on the consumers.

Another type of tax is a percentage tax, such as VAT, which varies with the price of the good; here, $p_c = (1 + t')p_p$. This has the effect of pivoting the supply curve, but in every other way it is the same as above:



Trade in a Small Open Economy

Assuming the economy is too small to have any effect on world prices, if the world price is lower than the equilibrium price in the closed economy, the price will naturally be set at the lower price. Any deficiencies in quantity produced will be made up from imports:



The government can artificially raise the price of the good in the economy by placing an import tax on the good; this will also reduce the amount of imports, and raise money for the government. In this case, the domestic consumers will take the whole tax burden. If the taxes make the price equal to or higher than the equilibrium price in the closed economy (p), the economy will act as a closed economy and tariffs will have no effect.

Another method used to directly restrict imports is quotas; these restrict how many imports can be brought into the country, and thus force up the price. The price will be set at the level

where the difference between the supply and demand curves is equal to the amount of imports allowed. Note that in this case consumers pay more and it is the importers, rather than governments, who benefit.

Price Controls

Price controls are a very ineffective way of affecting price; while the price may change to a more desirable level, the economy is left with either excess demand or excess supply and thus an inefficient allocation of resources. One of the few examples of a beneficial price control is when dealing with a monopsony (an industry in which one firm employs all the staff); minimum wages may be required to ensure unemployment is not too high.