Chapter 7: The price mechanism and resource allocation

(1.1)

Key concepts:

- The basic economic problem – revisited
- Choice and opportunity cost
- The price mechanism and resource allocation

“An economist is an expert who will know tomorrow why the things he predicted yesterday didn't happen today.” Laurence Peter

- The basic economic problem – revisited

The basic economic problem (see Chapter 2) of “what to produce, how to produce it and for whom the output is produced” is a question faced by all economies. Two basic solutions to this have been forth historically, a planned economic system such as the USSR and a market based system. Neither of these ever existed in a pure form – instead most economic systems were mixed economies with a degree of planning and markets side by side. Here we shall briefly look at the basic issue of how the factors of production – land, labour, capital and the entrepreneur – are allocated in a market system by way of the price mechanism.

- Choice and opportunity cost

Since societal wants are unlimited (infinite) and factors of production are limited (finite), choices must be made – by both consumers and suppliers. When I buy the Rolex Deepsea for USD8,500 I am giving up…well, I am giving up whatever is my next best alternative. This is the trade-off in my choosing the Rolex, the foregone opportunity of a three week luxury vacation or three new tailored Hong Kong suits – whichever of the two foregone options is my preferred. Extra work writing textbooks means foregone time spent at the beach; additional hours after school helping students means less time in the gym, and so on. Every choice comes with an opportunity cost price tag attached.

When economists speak of costs in terms of supplying wants, we are in fact referring to foregone opportunities in using limited resources – the opportunity costs of production. We are also speaking of economic goods – e.g. goods which are scarce since there are alternative uses. In economics we often use a production possibility frontier (PPF, see Chapter 2) to illustrate opportunity costs.
Assuming only two goods, military goods and civilian goods, an economy (either by planning or market forces) can put all available factors into the production of one or the other – and any combinations along the curve. In Figure 7.1 we assume that the economy is operating at maximum output (e.g. the economy is operating on the PPF) so it is impossible to re-allocate resources from military goods to civilian goods without incurring the opportunity costs of fewer military goods. In the example a movement from 6 units of butter to 7 units of butter means an opportunity cost of two units of guns. All goods “compete” for scarce resources. In some way society will make a choice in the re-allocation of resources from certain goods to others.

This is a USD30 pile of wood that Rob the housey and I bought for the household in Mexico City during the winter of 2008/09. Since there are few forests left here in Mexico we have a classic example of scarcity and high price. And yes, we rationed our consumption and instead went on to steal fallen wood from the national park next door.

- The price mechanism and resource allocation

So how is the “decision” made regarding what to produce and how much of it? The answer is the price mechanism arising from the interaction of the supply and demand. The price mechanism serves to allocate resources to the
“best” use in terms of allocating scarce resources. Economists often refer to the market model’s dynamism in terms of three separate functions of the price mechanism:

1) the **signalling** function
2) the **incentives** function
3) the **rationing** function

Any change in market price is a **signal** to suppliers to either increase or decrease output and to consumers to increase or decrease consumption. This is perhaps one of the great successes in the market system – and shows the dismal failure of a centrally planned system. An increase in price means increased ability/willingness of suppliers to put more on the market – this is the **incentives** function of the producers on the market; more will be provided if demand drives up the price of the good, owing to the driving force of firms’ self-interest.

Of course, a higher price for goods is also a signal to consumers – scarcity of goods drives up the price and available goods need to be **rationed** in some way. Consumers will be discouraged from consumption to a certain extent and decrease their demand.

A tricky question in our market model deals with the speed at which the market clears – or whether the market indeed clears at all! This is highly dependant on the market characteristics. An immediate shock to the market for any number of goods might lead to excess demand or supply for an indeterminate period. For example, it is highly unlikely that a decrease in the supply of beef would **immediately** cause an increase in the price of hamburgers – even in the most open and responsive economic systems. However, our model and subsequent analysis indicates that in the longer term, market disequilibrium cannot exist and that prices will indeed move in order to balance relative scarcities or excesses. The price tends to **move towards** market equilibrium.

Taken outside one of the lecture halls at the Oxford College where I do revision courses for the OSC. Now, do you think this is good resource allocation?

<start definition>

**Definition: “Price mechanism”, “signalling function”, “incentives function” and “rationing function”**

The **price mechanism** is the market mechanism whereby scarce resources are allocated between competing uses. The price has a **signalling function** – a higher price means that suppliers have an incentive to increase supply whereas consumers are signalled that they should consume less. The price signal also has an **incentives function** for firms – a higher price is an
incentive for producers to increase supply in order to increase profit. Accordingly, the price also serves a *rationing function* since a higher price will discourage demand.

<end definition>

**Figure 7.2a) to c)** illustrates how the flexibility of competitive markets leads to market dynamism where prices change – ultimately – in accordance with the forces of supply and demand. Assume two goods, for example red and green pens, and optimum efficiency (*Pareto optimum* – see next chapter) in an economy. Recall the basic issue of scarcity and endless wants and how markets solve the basic economic problem via the *signalling function of prices*.

- **Point A** in **figure a)** illustrates an increase in demand for red pens which drives up the price and signals suppliers (*incentive function of price*) to increase the quantity supplied of red pens ($q_0$ to $q_1$).
- **Point B, figure b) and c)**: Since the economy is operating at optimum efficiency (point A, **figure c)**), suppliers must reallocate resources from green pens to red pens, points A to B in the PPF, **figure c)**.
- **As resources used in the manufacturing of green pens become more scarce, the supply for green pens decreases from $S_0$ to $S_1$ (**figure b)**). The increase in the price of green pens ($P_0$ to $P_1$) signals consumers to decrease their consumption (*rationing function of price*) of green pens – quantity demanded for green pens decreases from $Q_0$ to $Q_1$.

<warning!>
The issue of how the price mechanism allocates resources is one of the more common exam questions posed in IB economics. It is also somehow one of the most sloppily addressed. Variations of this question are along the lines of “...explain how the price mechanism allocates resources in a market economy...” and ask that you address three fundamental issues:

1) The basic issue of scarcity and the basic economic problem
2) How the price acts as a mechanism to allocate resources
3) Use supply and demand analysis to illustrate how prices act as signals to producers (incentives function) and consumers (rationing function).

I strongly urge you to get a good solid grip on the diagram series in figure 7.2.

Summary and revision: Markets and demand

Marcia: we should perhaps put a logo with “See online question bank!” in strategic spots. Like