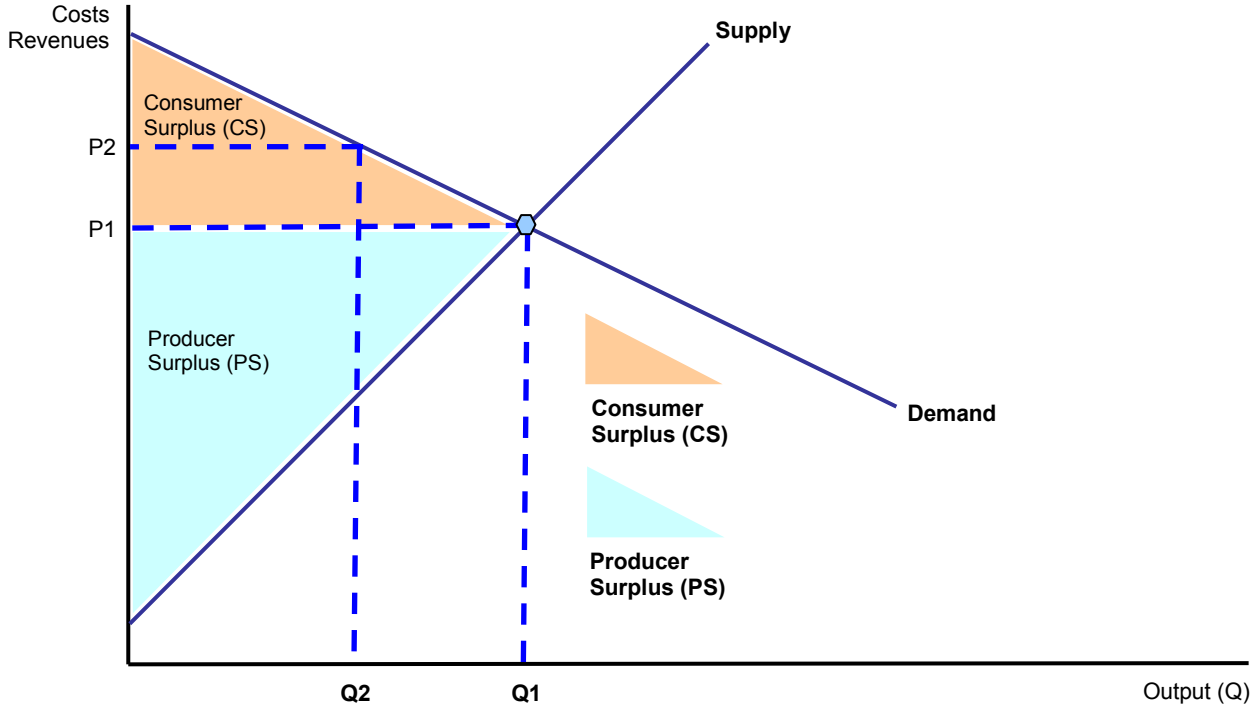
Economic Efficiency

Efficiency is about a society making optimal use of scarce resources to satisfy wants & needs.

There are several meanings of efficiency but they all link to how well a market allocates our scarce resources to satisfy consumers. Normally the market mechanism is good at allocating these inputs, but there are occasions when the market can fail.

Allocative efficiency

Allocative efficiency is concerned with whether factor inputs are used to produce the goods and services that match our **changing needs and preferences** and which we place the greatest **value** on. Allocative efficiency is reached when no one can be made better off without making someone else worse off. This is also known as **Pareto efficiency**.



Allocative efficiency occurs when the value that consumers place on a good or service (reflected in the price they are willing and able to pay) equals the cost of the resources used up in production. The condition required for allocative efficiency is that **price = marginal cost of supply.**

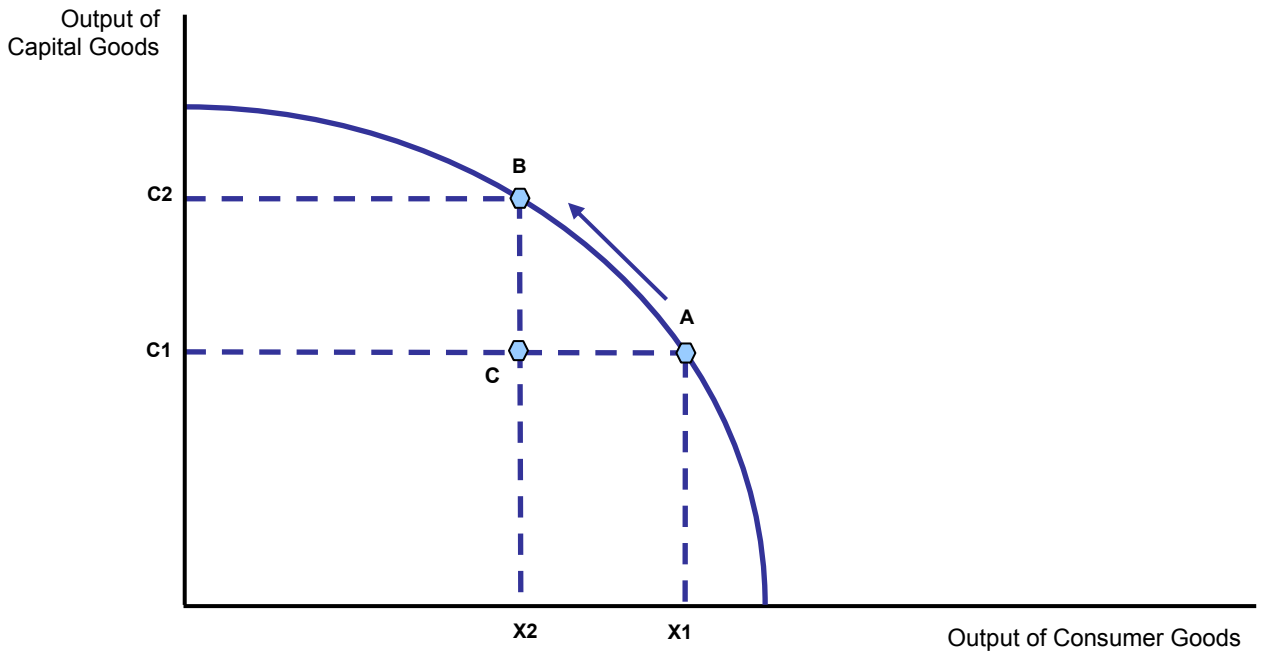
In the diagram above, the market is in equilibrium at price P1 and output Q1. At this point, the total area of consumer and producer surplus is maximised. If for example, suppliers were able to restrict output to Q2 and hike the market price up to P2, sellers would gain extra producer surplus by widening their profit margins, but there also would be an even greater loss of consumer surplus. Thus P2 is not an allocative efficient allocation of resources for this market whereas P1, the market equilibrium price is deemed to be allocative efficient.

We will see when we study the economics of **monopoly** that when businesses have 'pricing power' in their own markets, they may increase their profit margins to squeeze extra profit from consumers (*they are turning consumer surplus into producer surplus*). This has an effect on allocative efficiency for if a monopoly supplier can select a price well above the costs of supply, consumers will suffer a reduction in their welfare. Have you ever felt ripped off buying sandwiches from a motorway service station? The producer has become better off but someone else has become worse off.

Using the production possibility frontier to show allocative efficiency

Pareto defined allocative efficiency as a position *"where no one could be made better off without making someone else at least as worth off."*

This can be illustrated using a **production possibility frontier** – all points that lie on the PPF are allocatively efficient because we cannot produce more of one product without affecting the amount of all other products available. In the diagram below, the combination of output shown by Point A is allocatively efficient as is the combination shown at point B – but at the output combination C we can increase production of both goods by making fuller use of existing resources or increasing efficiency. C represents a loss of economic efficiency.



If an economy is operating within the PPF there will be an under-utilisation of resources causing output of goods and services to be lower than is feasible. In this sense unemployment is a waste of scare resources; indeed the hours lost through jobless workers can never be recovered – unemployment can be very costly from both an economic and social viewpoint. If every market in

the economy is a competitive free market, the resulting equilibrium throughout the economy will be Pareto-efficient.

Productive Efficiency

Productive efficiency is achieved when the output is produced at **minimum average total cost** (ATC) i.e. when a firm is exploiting economies of scale. Productive efficiency also exists when producers **minimise the wastage of resources** in their production processes.

Dynamic Efficiency

Dynamic efficiency occurs over time and it focuses on changes in the amount of consumer choice available in markets together with the quality of goods and services available.

Innovation as a source of dynamic efficiency

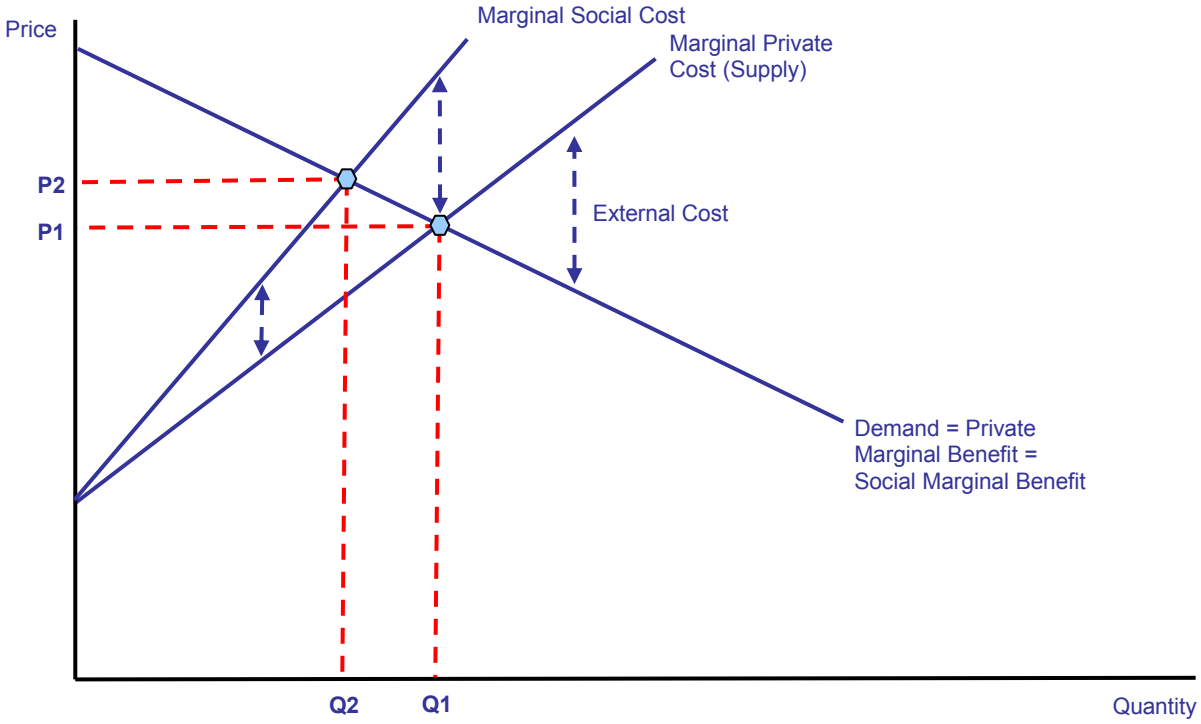
Dynamic efficiency is improved when businesses bring to the market goods and services that are innovative and high quality and which offer consumers greater choice.

Social Efficiency

The socially efficient level of output and or consumption occurs when **marginal social benefit = marginal social cost**. At this point we maximized social welfare. The existence of negative and positive externalities means that the private optimum level of consumption or production often differs from the social optimum leading to some form of market failure and a loss of social welfare.

In the diagram below the socially optimum level of output occurs where the social cost of production (i.e. the private cost of the producer plus the external costs arising from externality effects) equals demand (a reflection of private benefit from consumption.

A private producer who opts to ignore the negative production externalities might choose to maximise their own profits at point A. This divergence between private and social costs of production can lead to market failure.



Efficiency and productivity at the Royal Mail

If a firm is producing the maximum output it can from the resources (inputs) it employs, such as labour and capital, and is also using the best technology available, it is said to be **X-efficient**.

It is doubtful that the Royal Mail can be said to be X-efficient in view of the issues facing it in recent years. The postal workers strikes in October 2009 were the latest in a series **industrial relations problems** faced by the organisation which go back several years. These problems are a consequence of the Royal Mail facing severe **competitive pressures**, which 25 years ago, when it was a **monopoly**, were simply not there. Most recently the Royal Mail has had try to modernise **working practices** and introduce new sorting **technology** as competitive pressures have reduced demand for its mail services (down 10% last year and losing it £170m in revenue).

Arguably Royal Mail has been carrying a significant degree of X-inefficiency for many years and has now had to tackle it. What is **X-inefficiency**?

It was Harvey Liebenstein in a 1966 article in the American Economic Review, who first introduced this concept. Liebenstein argued that, due to organisational slack resulting from the absence of competitive pressures, monopolies are likely to be technically and productively inefficient. This means that at all levels of output a firm would always operate above its **long run average cost curve** in terms of cost per unit.

Over the last 25 years the Royal Mail's postal service has been hit first by fax, and then by e mail and texting. In addition since 2006 the market has been fully open to new entrants such as TNT and UK Mail. These firms have successfully bid for lucrative bulk mail contracts from banks, and insurance and credit card companies who send out thousands of items per day. Firms such as TNT collect the mail from these bulk mail customers, deliver them to Royal Mail sorting offices and then postal workers deliver the letters to people's homes. The Royal Mail has lost a lot of profitable business to these firms, hence the need to be able to compete effectively in a rapidly changing market where new technology and powerful competitors are a threat.

Over the last few years the Royal Mail has tried to address the efficiency issues with 55,000 jobs going since 2002. However, a reform of working practices and significant investment in new sorting machinery is needed if its market share is not to fall further. For many years the lack of competitive pressures gave the Royal Mail the opportunity to carry organisational slack, but now rapid modernisation, with possibly part or full privatisation, are the only options, as X-inefficiency from the past has come back to bite the company. Improvements in efficiency helped Royal Mail's letter delivery unit make profits totalling £58m in 2008, compared with a loss of £3m for the year before. For the first time in 20 years all four parts of Royal Mail group were profitable making profits totalling £321m, but much still needs to be done after years of neglect when the company was a pure monopoly.

Source: Bob Nutter, EconoMax, autumn 2009