AS Economics

Market Failure Q&A

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1 Economic Efficiency

Economic Efficiency is one of the most important concepts in A Level Economics. There are two aspects to economic efficiency: allocative and productive. Confusingly, there are many types of efficiency. Learn definitions of each and supporting diagrams Be sure you can apply allocative and productive efficiency to particular situations

1.1 Efficiency in economics

1.1.1 What is efficiency in economics?

The economic problem means societies have limited resources that cannot produce sufficient goods and services to meet unlimited wants and needs. Economic systems have to choose between alternative allocations (uses) of land, labour and capital. **Efficiency** is about making the best or optimal use of our scarce resources to satisfy most wants & needs.

1.1.2 Explain economic efficiency

**Economic efficiency** occurs when society is using its scarce resources to produce the highest possible amount of goods and services (**productive efficiency**) that consumers most want to buy given their costs (**allocative efficiency**).

1.1.3 What is an efficient allocation of resources?

**Resource allocation** refers to a given use of land, labour, capital and entrepreneurs that results in particular amounts of goods and services being produced.

A reallocation of resources means some factors of production are switched into different industries and occupations resulting in different amounts of goods and services, produced.

An efficient or optimal allocation of resources occurs when society is using its scarce resources efficiently ie to produce the highest possible amount of goods and services that consumers most want to buy, given their costs.

1.1.4 How is economic efficiency achieved?

Economic efficiency involves making best use of scarce resources to produce those items most valued by consumers and requires:

- **Productive efficiency** firms deliver the highest possible output from given inputs ie produce at lowest possible unit cost
- **Allocative efficiency** resources are being allocated to the production of items most valued by society, given their costs.

1.1.5 What is the difference between static and dynamic efficiency?

**Static efficiency** is about how resources are used and products allocated at a given moment in time

**Dynamic efficiency** is about how resources are used and products allocated over time.

Economies are dynamic (changing) and respond to:

- **Technological innovations** that allow 1) new and better products and 2) new processes increasing productivity
- **New suppliers** entering markets offering new products and improving consumer choice
- **Changes in social factors** – eg aging population – and **consumer taste**

These changes impact on price and output levels and so result in changes in static efficiency and represent an improvement in dynamic efficiency.
1.1.6 List the types of efficiency used by economists

**Economic efficiency** society uses its resources to produce the most products that consumers most want to buy.

**Allocative efficiency** resources are being allocated to the production of the goods and services most valued by society, given their costs. Firms are producing at a level of output where marginal cost equals price.

**Productive efficiency**: firms deliver the highest possible output from given inputs ie produce at lowest possible unit cost

**Technical efficiency** when firms are producing on the lowest point of an average cost curve ie lowest possible unit cost.

**X-inefficiency** when a firm uses more inputs than are necessary for a given level of output.

**Pareto efficiency**: resources cannot be reallocated to make one consumer better off without making someone worse off.

**Social Efficiency**: output or consumption occurs where social marginal benefit = social marginal cost.

**Static efficiency** how resources are used and goods allocated at a *given moment in time*

**Dynamic efficiency** how resources are used and products allocated *over time*.

1.2 Productive Efficiency

1.2.1 What is productive efficiency

**Productive efficiency** can be defined as:

- Using the least amount of resources to produce a given product or
- Output is being produced at the lowest possible unit cost

1.2.2 What are the conditions for productive efficiency - lowest short run unit cost?

Productive efficiency occurs when unit costs of production are minimised and firms are producing on the lowest point of the lowest short run average cost (SAC) curve.

In the diagram opposite, B is productively efficient; A is not. However B is only productively efficient if SAC2 lies on the lowest point of the long run average cost (LAC) curve.

Any point lying on the production possibility boundary is productively efficient.

Productive efficiency is maximising output from given inputs and thus producing at lowest possible unit cost.
1.2.3 What are the conditions for productive efficiency – exploiting economies of scale?

Internal Economies of Scale are lower long run unit costs from an increase in the amount of labour & capital used in production. A firm can be technically efficient - i.e. at the lowest point of its SAC curve - and still fail to exploit all potential economies of scale.

In the diagram opposite, economies of scale mean the long run average cost curve (LAC) curve slopes downwards until the Minimum Efficient Scale of output is reached and all potential economies of scale are exhausted.

In the long run a firm can move from SAC1 to SAC2 by increasing the amount of capital used.

In the diagram opposite, B is productively efficient; A is not.

1.2.4 Define the types of economies of scale

Economies of scale can occur internally within a firm. Individual firms expand their level of output – through organic growth or by a merger/takeover. External EoS occur within an industry. Many firms locating in the same area create support services, an infrastructure & pool of experienced labour.

1.2.5 What the implications of productive efficiency

Productive efficiency implies firms are using the least costly labour capital & land inputs in both the short and long run by utilising the best available technology & best production processes. They are exploiting all potential economies of scale and minimise the wastage of resources in their production processes.

1.2.6 Is productive enough for economic efficiency?

There is little point in producing items at lowest cost if they are not the products most valued by consumers. Productive efficiency is a necessary but insufficient condition for an optimal allocation of resources. Allocative efficiency is also required.

1.2.7 Technical efficiency?

Technical efficiency occurs when firms are producing on the lowest point of an average cost curve i.e a lowest possible unit cost.

1.2.8 What is X-inefficiency

X-inefficiency occurs when a firm uses more inputs than are necessary for a given level of output. Eg firms may employ three managers when only two are needed.
1.3 Allocative Efficiency

1.3.1 What is the link between allocative efficiency and the economic problem?
Economic systems must choose between alternative allocations (uses) of land, labour and capital to produce products which best satisfy unlimited wants and needs. How can an economy best decide how much resources to use (allocate) to a given product? Is it better to produce more or less of a product? The concept of allocative efficiency helps identify the conditions required for the optimal use resources so that economic welfare can be maximised.

1.3.2 How can a given level of output be allocatively efficient?
**Allocative efficiency** occurs when at a given level of output, the value consumer place on a product (ie its *price*), equals the cost of the resources used in its production (ie its *marginal cost*). Identifying one allocatively efficient level of output in an industry involves comparing the cost of producing an extra unit – marginal cost – with the benefit gained from its consumption – marginal benefit.

- If marginal cost of an extra unit is less than the marginal benefit derived from its consumption, then it makes sense to increase production.
- If marginal cost is more than the marginal satisfaction gained from consumption then it makes sense to reduce production and release resources for alternative, ‘better’ uses.

1.3.3 Define allocative efficiency
**Allocative efficiency** is achieved when additional resources are bought into an industry to create more output up to the point where the value consumers place on the good bought, (ie *price*), equals the cost of the resources used up in providing the product ie *marginal cost*.

1.3.4 What is the condition of for allocative efficiency?
In a market economy allocative efficiency in a given industry occurs when *price = marginal cost* ie *P=MC*. This assumes there are no positive or negative externalities ie private & social costs & benefits are identical.

1.3.5 Why is allocative efficiency good?
Once the allocatively efficient level of output has been achieved, firms are producing those goods and services most valued by society, given their costs. Scarce resources are being used to make the goods and services most wanted by consumers so that their wants and needs are met in the best way possible. Any reallocation of resources reduces welfare.

1.3.6 How do economists measure value and consumer benefits from consumption?
In economics, money is used as a unit of account to measure value. The value of a good or service to a consumer is given by the price the buyer is willing to pay. Willingness to pay (WTP) is the maximum price a consumer is prepared pay to obtain a product rather than forego consumption and shown by the demand curve. WTP is used as a measure of a consumer’s marginal private benefit (MPB) ie $D=WTP$.

1.3.7 What is marginal private benefit?
**Marginal Private Benefit (MPB)** is the value consumers place on the consumption of the extra unit of a good. Money is used as a unit of account to measure consumer satisfaction. MPB is given by the demand curve ie $D=WTP=MPB$.

1.3.8 What information is given by a demand curve?
The demand curve shows the amount of a good consumers are willing and able to buy at different prices and

- Consumers’ willingness to pay (WTP) for a good expressed in terms of money, therefore
- The value or benefit, in money terms, from the consumption of an extra unit ie **marginal private benefit (MPB)**

1.3.9 What information is given by a supply curve?
The supply curve shows the amount of a good producers are willing and able to sell at different prices and the cost in money terms of the resources needed to produce an extra unit ie private marginal cost (MPC)

Economic welfare refers to the level of satisfaction derived from the consumption of products
Assume no externalities, information failure or market dominance
Assuming no externalities, information failure or market dominance allocative efficiency occurs when $P=MC$

Q: ‘what is the value of a can of coke’
A: ‘the price paid in the shop eg 50p’.

Use the demand curve to measure consumers’ private benefits
A supply curve measures a firms’ private costs
1.3.10 How can allocative efficiency be illustrated?

Identifying allocative efficiency involves comparing the cost of producing an extra unit with the benefit gained from its consumption. Compare three possible levels of output:

- **10 units: under allocation.** The value placed by consumers (MPB) on the 10th unit, alone, is £3. The cost of making that unit (MPC) is just £1. Increasing the amount of resources used up to the 20th unit is an improvement on resource allocation because for each extra unit MPB>MPC.

- **30 units: over allocation.** MPB for 30th unit is £1 while the MPC is £3. Reducing the amount of resources until MPB=MPC, ie to 20 units, improves resource allocation.

- **20 units: optimal allocation of resources** occurs when 20 units are bought and sold because the value consumers place on the consumption of the extra 20th unit exactly equals the marginal cost to the firm of producing that good. MPB = MPC = £2.

The interaction of supply and demand result in an equilibrium price and output that is allocatively efficient. The value consumers place on output equals the firms’ costs of production.

1.3.11 What are the conditions for allocative efficiency?

Allocative efficiency occurs when the value that consumers place on a product (ie the price they are willing and able to pay) equals the cost of the resources used up in production. The technical condition required for allocative efficiency is that price = marginal cost. Assuming no externalities, allocative efficiency occurs when for a given level of output:

- Marginal Private Benefit (MPB), the value consumers place on a good ie price, equals
- Marginal Private Cost (MPC), the cost of resources used up in producing that good ie marginal cost.

Given externalities allocative efficiency no longer occurs where MPB = MPC because private and social costs or benefits now diverge.

The production possibility curve (PPB) LM shows the combination of two goods a country can make in a given time period with resource fully employed. A PPB is drawn assuming a country has a fixed amount of resources and a given set of consumer tastes, resources and technology.

1.3.12 What is meant by Pareto efficiency;

Pareto efficiency occurs when resources cannot be reallocated to make one consumer better off without making someone worse off.

Pareto efficiency can be illustrated using a production possibility boundary curve or frontier (PPB)

- Any point within the PPB - eg A - is inefficient. Using idle resources to increase output means some consumers gain while no consumers lose.
- All points on the PPB - eg B & C - are allocatively efficient because the economy cannot produce more of one product without affecting the amount of all other products available.
### 1.4 Efficient allocation of resources

#### 1.4.1 What is a free market

A free market is an economic system where the forces of supply and demand set prices and allocate resources:

- **Free** because there is no government intervention eg price controls, regulations, or laws which limit the behaviour of consumers or producers – except laws to ensure competition
- **A market** because the forces of supply and demand set the price of goods in different markets

#### 1.4.2 How are resources allocated in a market system?

Economic systems have to choose between alternative allocations (uses) of land, labour and capital. In a free market economy:

- **Households** own resources and markets allocate resources through the price mechanism. An increase in demand raises price and encourages firms to switch additional resources into the production of that product. The amount of goods and services consumed by households depends on their income. Household income depends on the market value of an individual’s work.
- **Firms** make decisions about the amount of capital and labour to use in production. The interaction of consumers and producers in markets determines the equilibrium price and equilibrium quantity bought and sold, hence the amount of resources used.
- **Governments** take the view that markets work, assume a laissez faire (let alone) approach, step back, and allow the forces of supply and demand to set prices and allocate resources. Government intervention is required to ensure markets are ‘free’ and to prevent or correct market failure through anti monopoly legislation, enforcing property rights, redistributing income through the tax and benefit system etc

#### 1.4.3 How does the price mechanism reallocate resources?

The economic environment is constantly changing eg:

- Consumer tastes evolve – goods become ‘fashionable’
- New products, processes and technologies emerge

Market economies use the price mechanism to reallocate resources from one use to another.

Eg: in the diagram opposite, a movement in consumer taste towards the good shifts the demand curve to the right. The resultant increase in price acts as a signal to producers to use more resources to increase output from Q1 to Q2

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**Equilibrium** is a state of balance - ie a situation where there is no tendency for change

Changes in a condition of supply or demand send the market price of a good up or down. The change in price acts as a signal to consumers or producers to change quantity bought and sold, hence resource allocation. This is the price mechanism or system.
1.4.4 How can competition lead to an efficient allocation of resources?

A perfectly competitive market results in an optimal allocation of resources because it ensures

**Productive efficiency.** Firms to produce at lowest possible unit cost (productive efficiency) for two reasons:
- Ceteris paribus (all other things being equal) lower unit costs mean higher profits. Profit maximising firms have an incentive to minimise costs.
- Firms who fail to produce at lowest cost cannot match competitors prices make less than normal profits/losses and bankruptcy forces closure

**Allocative efficiency.** The profit motive encourages firms to:
- Produce those goods and services most valued by consumers
- Enter industries currently enjoying abnormal profit. The increase in supply lowers price (ie marginal benefit) so that it equals marginal cost
- Leave an industry where abnormal losses are being made. The decrease in supply raises price (ie marginal benefit) so that it equals marginal cost

**Assumptions**
No externalities and perfect competition ie a large number of firms produce identical product; perfect information; no barriers to entry.
Perfect competition offers a useful benchmark against which to evaluate real world markets.

1.4.5 Do markets work?

In theory, free and perfectly competitive markets produce the goods and services consumers most want in the right quantities and at the lowest possible cost. This is why markets are said to be so powerful and ‘work’.

1.4.6 Do markets fail?

Market failure occurs when free markets, operating without any government intervention, fail to deliver an efficient allocation of resources. Reasons for markets failing include: the price mechanism does not take into account externalities; or monopolies increase price above marginal cost; factors of production are immobile; markets do not provide sufficient public and merit goods; or through information failure
2. Market Failure

2.1.1 What is market failure?

Market failure occurs when free markets, operating without any government intervention, fail to deliver an efficient allocation of resources.

2.1.2 Why is market failure a problem?

Market failure results from either

- **Productive inefficiency.** Firms are not maximising output from given factor inputs and is a problem because the lost output from inefficient production could have been used to satisfy more wants and needs
- **Allocative inefficiency.** Resources are misallocated and producing goods and services not most wanted by consumers, given their costs. This is a problem because resources can be put to a better use making products consumers value more highly so that more wants and needs are satisfied and economic welfare increased.

2.1.3 Why can market failure occur?

Markets can fail because of

**Externalities** either negative eg pollution or positive training or public infrastructure causes private and social costs and/or benefits to diverge

**Imperfect information** means merit goods are under produced while demerit goods over produced

Markets cannot make a profit from producing public goods and quasi-public goods

**Market power:** imperfect competition results in market dominance and abuse of monopoly power

**Factor immobility** eg geographical & occupational causes unemployment hence productive inefficiency

**Equity (fairness) issues.** Markets can generate an ‘unacceptable’ distribution of income and social exclusion where people on low income – the relatively poor – are denied access to essential goods and opportunities considered ‘normal’ by a society eg food, clothing, housing, and education

Market failure in a given industry may occur for several reasons eg education involves externalities, imperfect information local market dominance and equity issues.