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DEPARTMENT: EDUCATION
MPUMALANGA PROVINCE

ECONOMICS NOTES
TOPIC 7: MARKET FAILURE
GRADE: 12
YEAR: 2023

MARKET FAILURE: ESSAYS

1. **Discuss in detail how the following factors lead to the misallocation of resources in the market:**
 - Externalities
 - Missing markets
 - Imperfect competition
 - Lack of information
 - Immobility of factors of production
 - Imperfect distribution of income and wealth
2. **Discuss in detail state intervention as a consequence of market failures, with the aid of relevant graphs.**
 - Direct control
 - Imperfect markets
 - Minimum wages
 - Maximum prices
 - Minimum prices
 - Taxes and subsidies
 - Subsidies on goods and services
 - Redistribution of wealth
 - Government involvement in production

MARKET FAILURE:

- It is when free markets fail to produce the quantities of goods and services that people want at prices that reflect the marginal utility (value to the consumer) of the product best available
- When optimal production outcome has not been achieved / markets are unable to achieve best resource allocation

REASONS (CAUSES) FOR MARKET FAILURE (POSSIBLE ESSAY)

- **Missing markets**
 - A significant market failure is the failure to produce some goods and services, despite being needed or wanted.
 - The most extreme case of a missing market is the case of pure public goods.
 - Pure public goods clearly provide a benefit to the consumer, but, they are unlikely to be provided in a market economy.
 - Examples of pure public goods include national defence, the police service, and street lighting.
 - Due to the fact that markets for these goods are not likely to form they are called **missing markets** and are considered a special case where demand exists, but supply is absent.

Pure public goods

- The market is likely to fail to supply pure public goods, given the impossibility of charging consumers at the point of consumption.
- Public goods have the following characteristics:

Non-excludable: When a public good is supplied, it is impossible to exclude other individuals from deriving a benefit.

- For example, once street lighting is made available in an area, all passers-by can benefit, and no one can be denied access to it.

Non-rivalry: When a pure public good, such as street lighting, is consumed by one individual, the stock available for others does not decrease. A pedestrian passing under a street light has no effect on the supply of lighting whatsoever.

- Because the stock of a public good does not diminish (decrease) with use, consumers do not need to compete with each other to get access to them.
- For example, individuals do not need to queue to get access to street lighting.
- These characteristics discourage potential suppliers because it would be impossible to charge users at the point of use.

- **Imperfect competition:**

- Markets fail because imperfect markets fail to achieve both technical and allocative efficiency, e.g. a monopolist is considered to be inefficient because it produces less and charges a higher price.
- In market economies, competition is often impaired by power.
- Power often lies to a greater extent with producers than consumers.
- Most businesses operate under conditions of imperfect competition that allows them to restrict output, e.g. monopoly, duopoly, oligopoly.
- They raise prices and charge prices that exceeds marginal cost.
- They can also prevent new businesses from entering the industry.
- Imperfect markets fail to achieve technical and allocative efficiency .
- The modern market does not always allow for price negotiation.
- Advertising is often employed to promote producer market power.

- **Externalities/ spill-over effects/ third party effects**

- Externalities are when the production or consumption of a good has a negative or positive effect on third parties (people not directly related to the transaction).

Negative externalities

- Goods with negative externalities result in social costs (affect the society negatively).
- Social costs are considered to be the **private cost** plus **external cost**. Individuals often consider only the costs they themselves bear (private costs) when making decisions, not the costs that may be borne by others (external costs).
- Private cost plus external cost form social costs.
- E.g. the social cost involved in building and running an airport can be split up into:
- Private costs of the airport: cost of construction, cost of paying workers to run airport, etc.

- External cost of the airport: noise and air pollution to those living nearby, risk of accident to those living nearby, loss of landscape.

Positive externalities

- Goods with positive externalities result in social benefit.
- Social benefit is the total benefit to society from producing or consuming a good/service
- Social benefit includes all the **private benefits** plus any **external benefits** of production/consumption.
- If a good has significant external benefits, then the social benefit will be greater than the private benefit.
- E.g. cycling to work. If people cycle to work, the private benefits include health benefits for cycling, avoiding congestion, lower cost of cycling rather than driving. external benefit of cycling may also include lower congestion for other road users, lower pollution levels.
- Market fails because it fails to produce more of goods with positive externalities (such as education and health services).

• **Lack of information**

- Technical and allocative efficiency require that both producers and consumers have complete and accurate information about the costs (disadvantages) and benefits of the goods and services produced and consumed in the market.
- Producers and consumers make production and consumption decisions based on the information they have.
- When information is incomplete or inaccurate, it leads to wrong decisions about what to produce, how to produce and for whom to produce, and a waste of resources occurs.
- Producers might not know all the different technologies and production techniques that are available and the different resources that can best be used to produce goods/services more efficiently.
- Consumers might not know that the price of a product is lower from some other suppliers.
- Consumers might not know about the harmful effects of a product since they might just base their decisions to consume on the information from a misleading suppliers.

• **Imperfect distribution of income and wealth**

- There is an unequal distribution of income and wealth because the market is only interested in distributing goods/services for those who can afford to pay.
- Other reasons for unequal distribution of income and wealth:
 - Discrimination,
 - A difference in market power

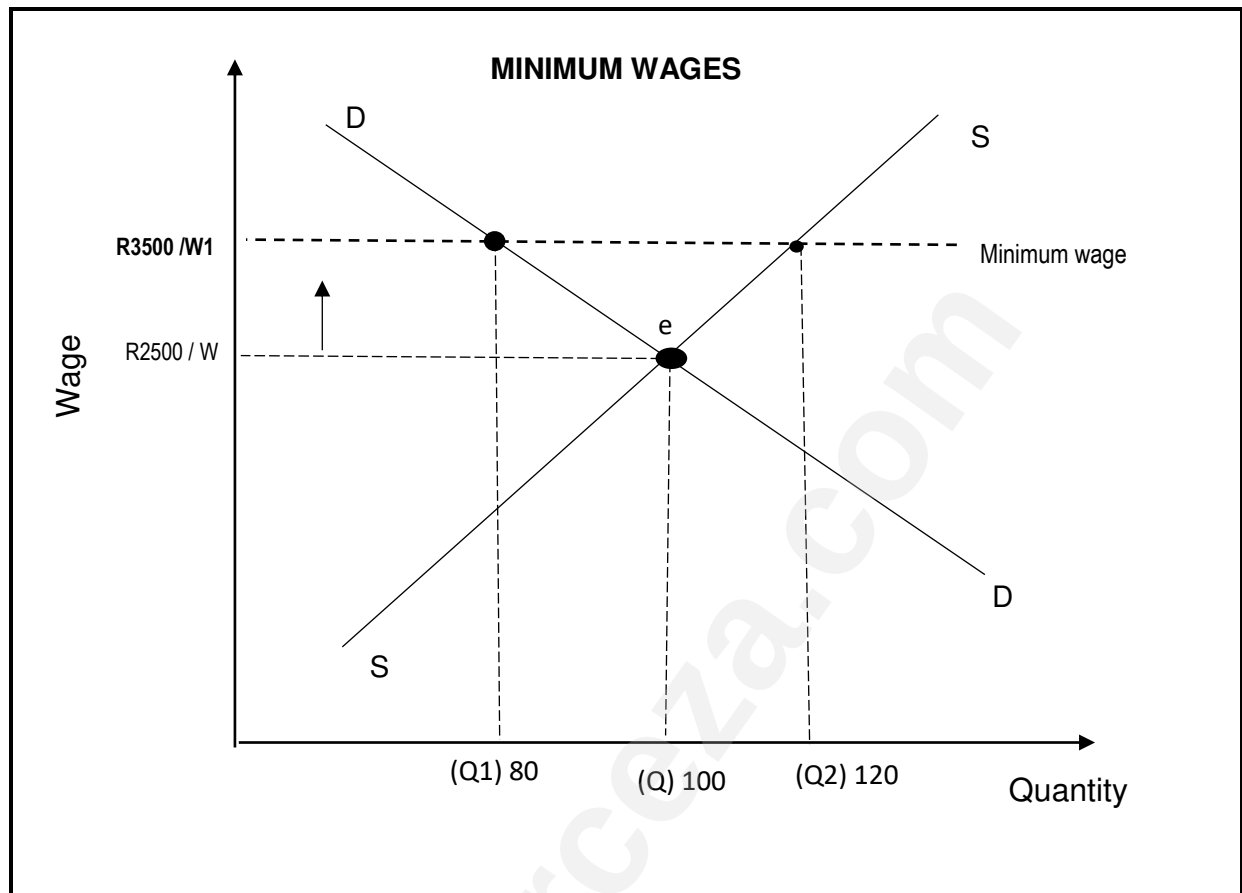
- Unequal access to markets and educational opportunities
- **Immobility of factors of production**
 - Resources may not be very mobile at the best of times and therefore markets are not able to adjust as rapidly to changes in demand and supply.
 - Geographic immobility of labour: people are usually happy where they are, they have relatives and friends, they know the town and area, and they are members of various clubs and other social groupings, so they are often unwilling to move far for work.
 - Institutional immobility of labour: pension schemes may tie people into a particular company – if a worker moves, he or she will probably lose the amount paid in by the employer on their behalf. Foreign-trained doctors may not be allowed to work in another country unless they spend several years of retraining.
 - Married or very close couples may not be able to take a better paid job offered elsewhere because it would render the other partner unemployed, so total family income would fall if they moved.

CONSEQUENCES OF MARKET FAILURE

Market failure can result in government intervention, externalities and inefficiencies

1. STATE INTERVENTION IN THE MARKET AS A RESULT OF MARKET FAILURE (possible essay)

- **Minimum wages**
 - It is the lowest wage an employer is by law allowed to pay an employee.
 - Minimum wage policy helps to redistribute income.
 - This is because unskilled workers (e.g. farm workers) are at a disadvantage at negotiating and are usually unable to obtain real wage increases.
 - Their wages are usually very low, and this continues unfair income distribution of income

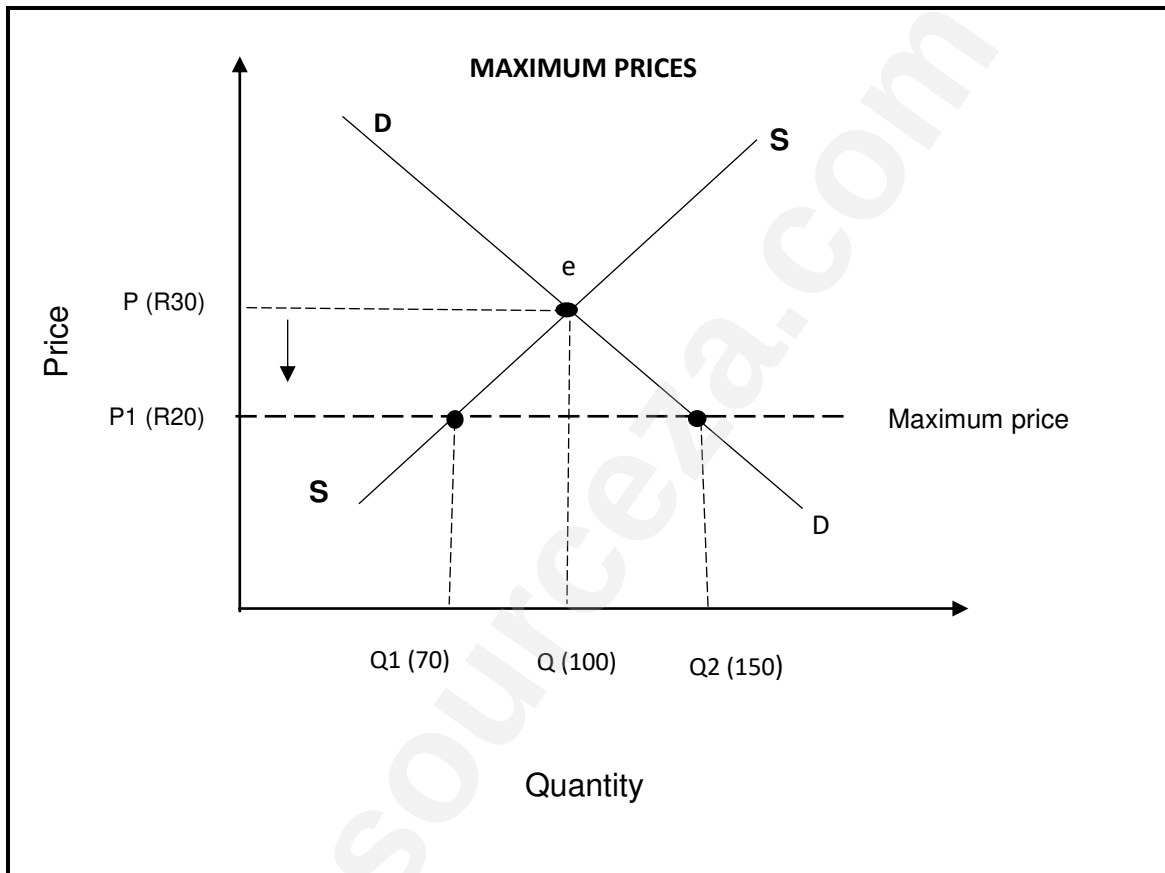


- The original wage rate is R2500 or W (market wage) at which quantity of labour employed is Q (100).
- The implementation of minimum wage policy increases wages to R3500 or W1 which is the minimum wage.
- Minimum wage results in increase in supply of labour, meaning more workers look for employment as indicated by Q2. Curve SS represent the number of people willing to supply labour/ to work.
- The demand for labour decreases due to minimum wage as indicated by Q1. Some employers may not afford the minimum wage therefore they may retrench workers. Curve DD represents the number of people (firms) willing employ labour.
- Therefore, the effect of minimum wages is that it can result in oversupply of labour or in decreased demand for labour.

• Maximum prices

- They are the highest prices that a producer is allowed by law to charge for a product.
- They are lower than the market price.

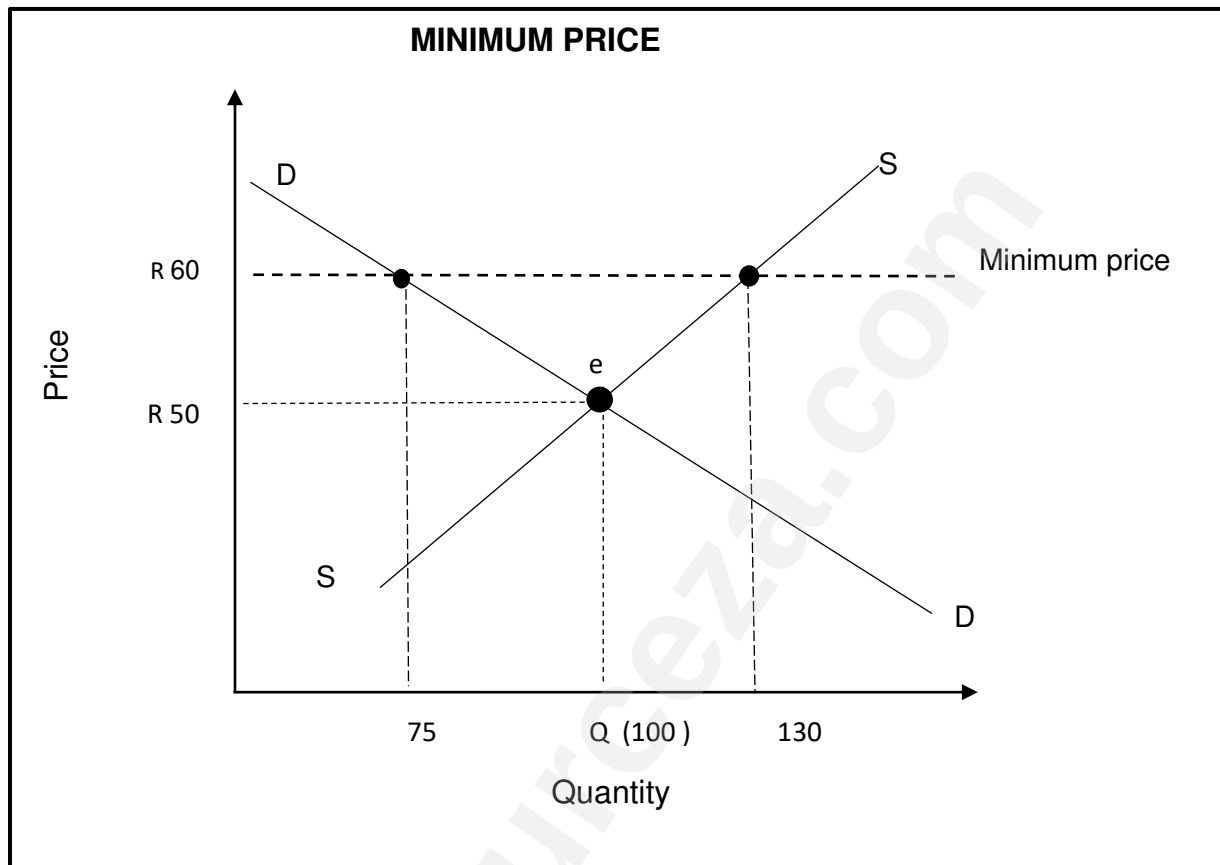
- In other words, the government put a price ceiling for the particular product.
- Their effect is that they cause supply to decrease, therefore resulting in excess demand for the product.
- This usually result in black market where the price charged is higher than the price ceiling.



- At the original price is P (R30) which is the market price, the quantity demanded and supplied is Q (100). Q is the equilibrium quantity which indicates that there is a balance between demand and supply of the product.
- The implementation of maximum price P1 (R20) will result in increase in demand for the product (Q2) but the quantity supplied decreased to Q1.
- This means there will be a shortage which is represented by the distance between Q1 and Q2.

• Minimum prices

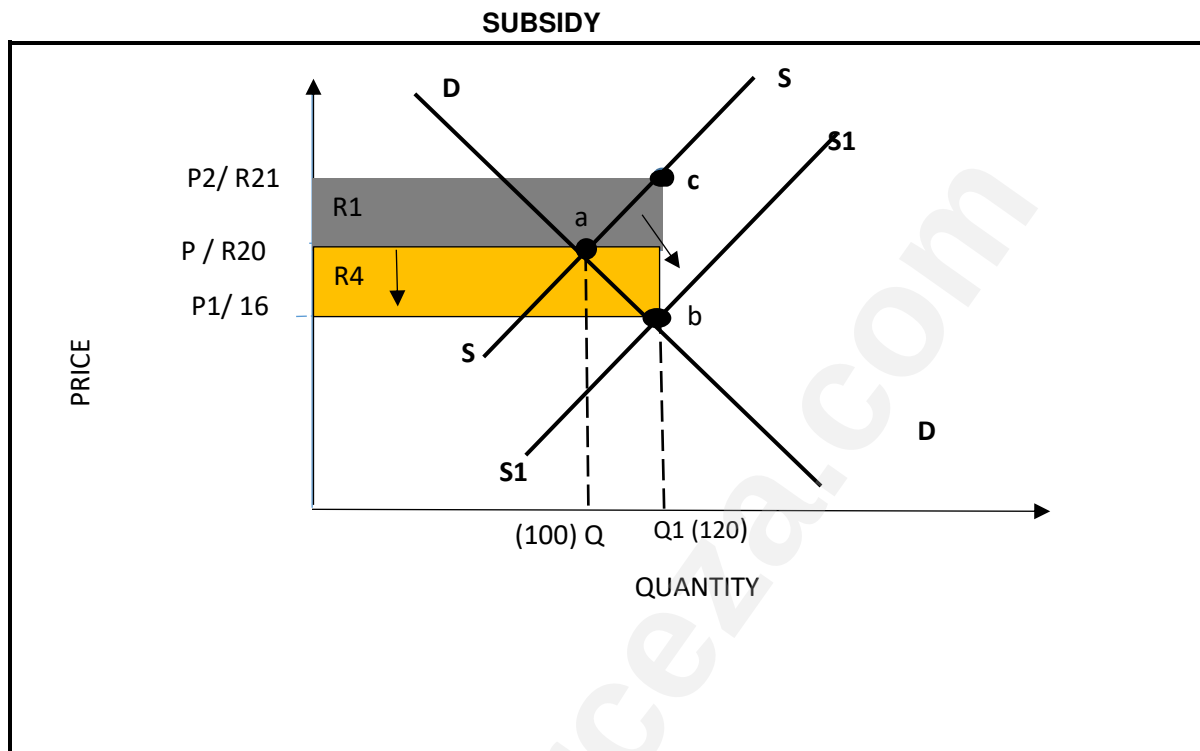
- They are the lowest price that the producer is by law allowed to charge for the product.
- They are usually higher than the market equilibrium prices and are implemented on basic foodstuff such as maize.
- The aim is to make it useful (worthwhile) for producers of such products to stay in the market.
- The effect of minimum prices is that it often result in oversupply of the product.



- At the market price of R50, there is equilibrium between demand and supply of the product at quantity Q (100).
- When the government imposes a minimum price of R60, demand decreased to Q1 (75) but supply increased to Q2 (130). This creates an excess supply of the product.

• Subsidies

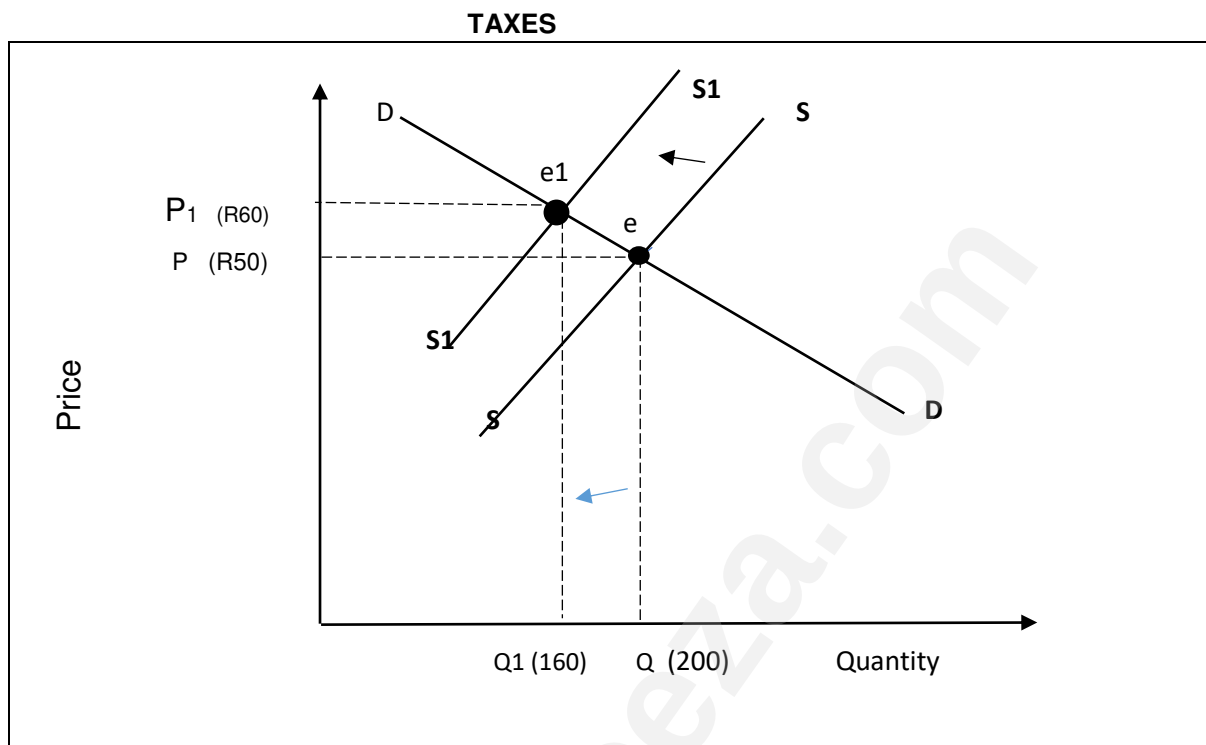
- A subsidy is a financial grant to support the production of a good or service.
- It can be direct (such as cash) or indirect such as rent rebates or meeting certain expenses on behalf of a producer or a person.
- Subsidies can be offered for variety of purposes e.g. production, income, employment and exports.
- Provision of merit goods is another of such purpose for which the government provide subsidies for e.g. government often pay subsidy to promote consumption.



- The subsidy will cause an increase in supply and the supply curve shift to S_1S_1 and quantity supplied to Q_1
- The price paid by the consumer decreases from P (20) to P_1 (R16) and increase in quantity consumed increase from Q to Q_1 .
- For the producer, the subsidy increases the price received from P (R20) to P_2 (R21).
- The subsidy is equal to P_1P_2cb (which is equal to R5) and the producers make a profit represented by PP_2ca (which is equal to R1.00)
- This means from the total subsidy of R5.00, only R4 will benefit the buyer by reducing the price to R16. The other R1, 00 is a benefit to the producer, which is what is regarded above as the profit from the subsidy.

• Taxes

- Government sometimes intervene in the market in order to recover external costs.
- This means that the government use the taxation to discourage the consumption of certain goods (demerit goods).
- These are goods which are generally regarded as undesirable as they negatively affect the welfare of the society e.g. cigarettes and alcohol.



- Originally, the price of P is charged, and quantity Q is consumed.
- A tax on the products (excise tax), can cause the supply to decrease to Q1, and the price (of cigarettes) to increase to P1. This means consumers will be needed to pay more money than before for the product.
- The supply reduces from SS to S1S1 and the quantity supplied from Q to Q1.

• Direct Control

- Government can use laws (legislations) to control the behaviour of producers and consumers who generate negative externalities.
- In South Africa emission of dangerous chemicals and pollution are regulated through various Acts and policies.
- For example, Advertising by tobacco industry is not allowed and alcohol should not be sold to persons of under 18 years of age.

• Imperfect markets regulations

- Firms operating in imperfect markets usually produce less quantities and charge higher prices.
- Government attempt to reduce allocative inefficiencies from non-competitive markets (imperfect markets) by using two instruments which are *competition from abroad* and *promotion of competition*
- Competition from abroad: allowing firms from foreign countries to operate in South Africa make local market more competitive (having many producers). This tend to

protect the consumers as firms may be careful not to charge too high a price as they may lose their customers.

- Competition promotion: The Competition Commission, Competition Tribunal and Competition Appeal court are established to ensure fair competition among firms.

- **Redistribution of income and wealth**

- The government uses fiscal policy to address income and wealth inequality.

The following are some of the measures used

- Progressive income tax system in which higher income group pay higher tax rates than lower income groups.
- Subsidies on goods and services such as housing, education and primary health care are provided
- Social grants such as old age, child support grants are provided to improve the standard of living of the poor.
- Provision of free goods such as free water and electricity to those who are poor.
- Using laws such as the BBBEE/ BEE whereby the previously disadvantaged members are intended to receive first preference in order to improve their participation in the economy

- **Government involvement in production**

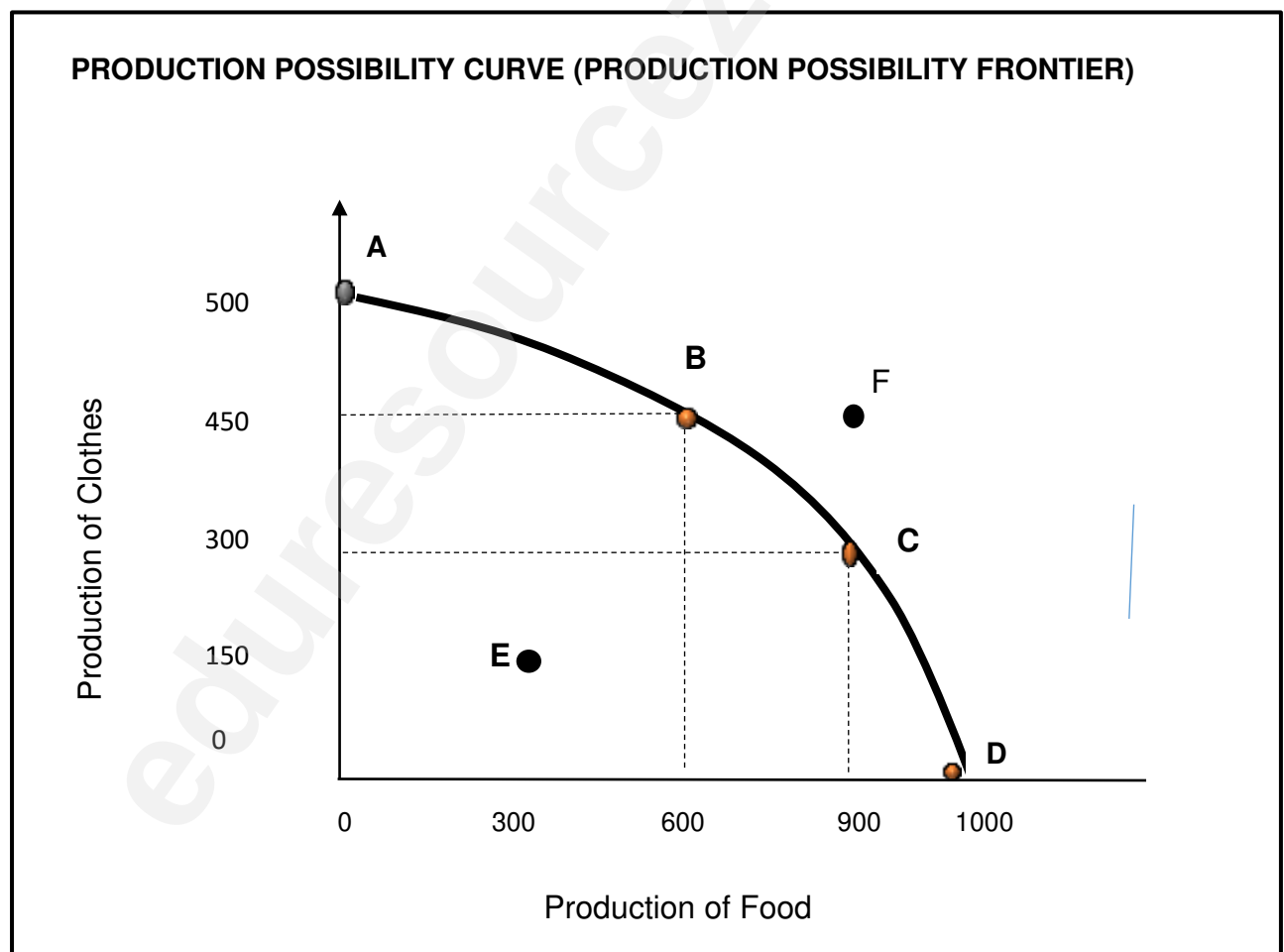
- Government intervenes in the markets by supplying goods that are desired by the society but not sufficiently produced by the market.
- These goods are called public goods since the producer is the public sector.
- Community goods and collective goods and are types of public goods produced by government
- Government use income from taxation to provide community goods.
- Collective goods are provided at a user fee e.g. refuse removal, usage of toll road.

2. INEFFICIENCIES

Two kinds of inefficiencies occur as a result of market failure, namely productive and allocative efficiency.

- **Productive (technical) inefficiency:**

- It when firms do not produce goods at the best possible cost (which is at the lowest point of the AC curve)
- This means the firms can still reduce cost without reducing the quality of the product but firms fail to do so.
- It is also when the firms produce too few products than required by the consumers (the firm does not maximise output from their production resources)

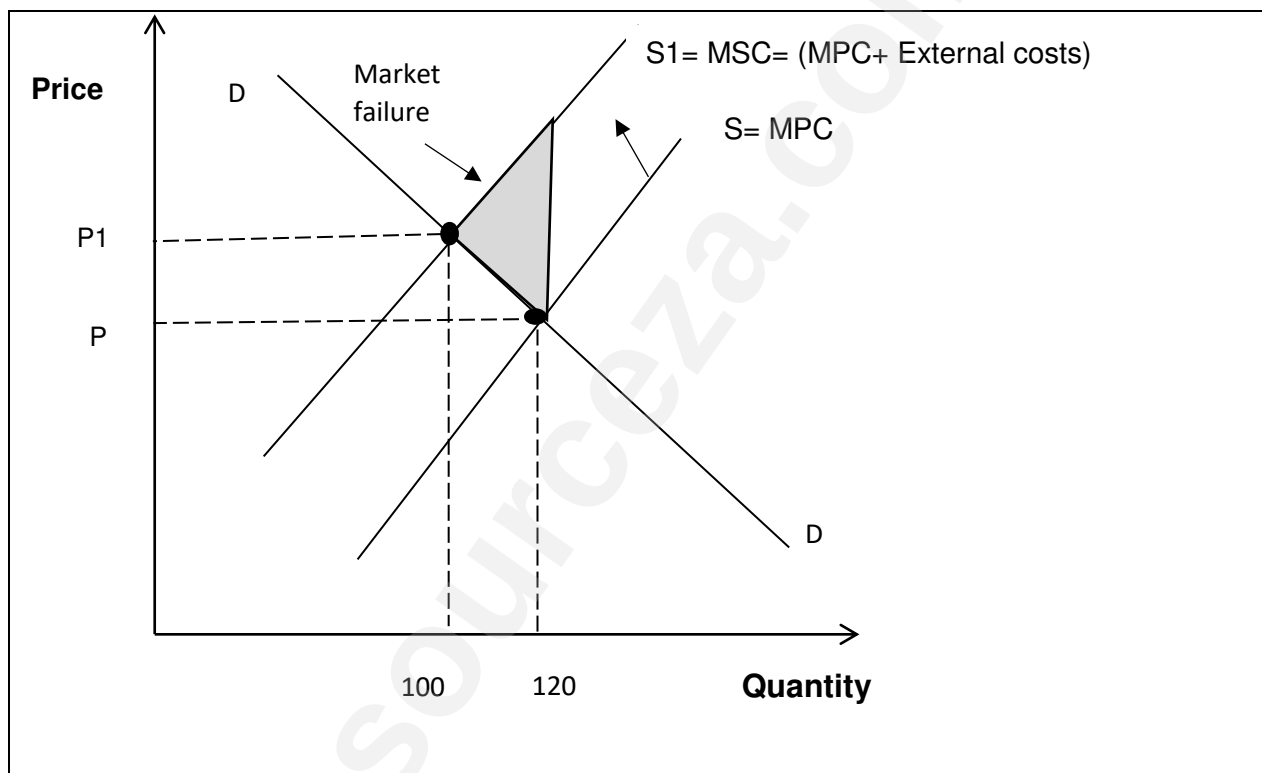


- The market is productively efficient when it produces any combination of goods along the PPC (i.e. the combinations at A, B, C, D). these are quantities which are achievable when all resources are used productively (without wastage).
- The area within the PPC (e.g. E) represents productive inefficiency, because fewer goods than what is possible are produced.
- At point E, while the available resources (workers, capital, raw materials) can allow the market to produce a combination of 150 clothes and 950 foods, the market produces only 150 clothes and 300 foods. This represents wastage of resources,
- This means the market produce the quantities that are lower than its potential, there is a lot of wastage of raw materials, time, labour resource etc.
- Wastage of resources results in the costs of production being higher than they should be.
- The area outside the PPC e.g. point F represents the unachievable level of production, because the economy does not have enough resources to produce any quantities outside the PPC.
- **Allocative inefficiency:** is when firms do not distribute production resources correctly. This is indicated when:
 - The product mix does not match the tastes of consumers. This means the products produced are not what the consumers want.
 - The quantities required by the consumers are not available e.g. the products are available at too few quantities.
 - Allocative inefficiency can still be existing even when the market has achieved productive efficiency.
 - For example, on the PPC curve (above), if the consumers want to consume the combination of food and clothes represented by point C (more of food and less of clothes) but the producers supply combination represented by point B, there is allocative inefficiency. *(Both point C and B represent productive efficiency but in this case only C represents allocative efficiency)*
 - This means the quantities produced are not exactly what the consumer want to buy, so resources are not allocated competently.

3. EXTERNALITIES / SPILL-OVER EFFECTS

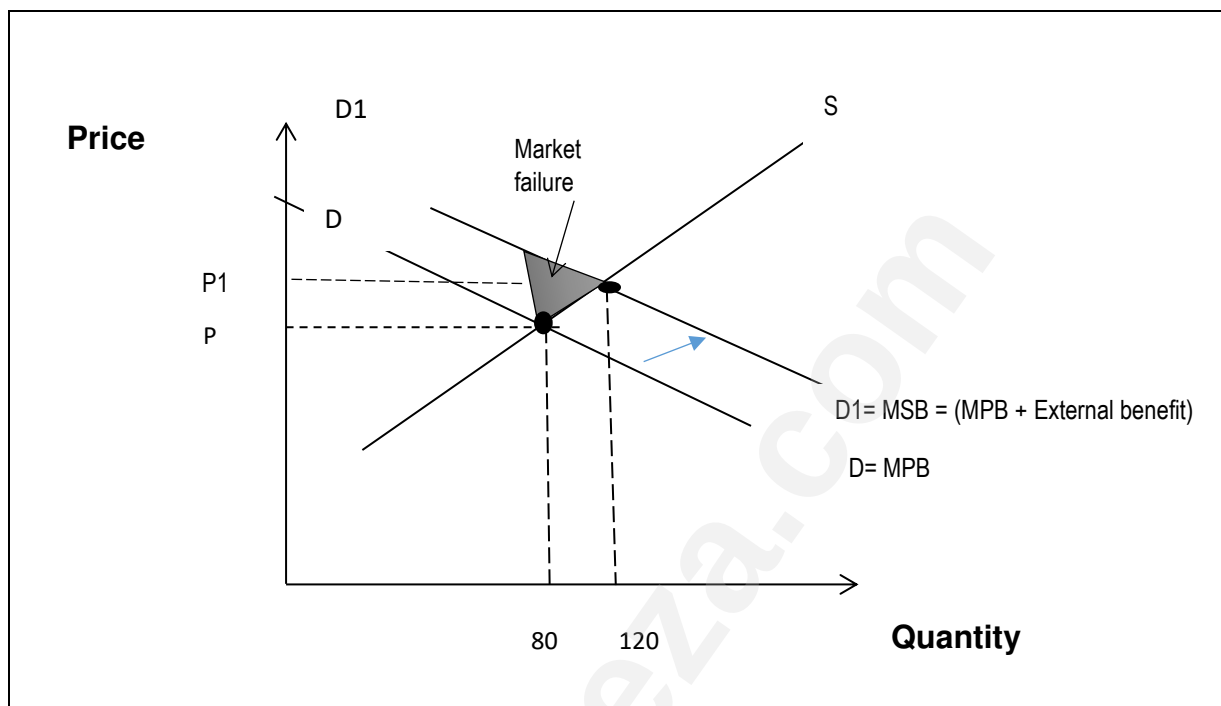
- An externality is an effect (cost/ benefit) of consumption or production that is not included in the pricing of the products. The effect is on people who are not part of the transaction (i.e. third parties).
- Externalities can either be negative or positive.

3.1 NEGATIVE EXTERNALITY



- Supply curve (S) represents the Marginal Private Cost (MPC) of the producer in when producing the product.
- If everything is left up to the market the price charged will be P and equilibrium quantity will be Q.
- If the cost of harmful externality associated with production e.g. pollution is added to the MPC, the price will be pushed higher, to P1.
- P1 takes into consideration **social costs** associated with externality. At this price the supply curve S1 represents the Marginal Social Costs (MSC) which means the cost to the society (External cost) and the cost of producing the product (MPC) are included.
- The distance between MSC (S1) and MPC (S) indicates market failure. Market has failed because too much of a product with negative externality is produced.
- P1, DD, S1S1, Q1 represent socially optimal point of production while P, DD, SS, Q represent market optimal point of production

3.2 POSITIVE EXTERNALITY



- The demand curve DD represents the Marginal Private Benefit (MPB) for the consumer and its intersection with supply curve SS result in market output of Q .
- If a positive externality occurs (e.g. a subsidy on education), this benefit will be added to the MPB to obtain Marginal Social Benefit (MSB). This means the distance between the MPB and the MSB represents the positive externality benefit.
- P_1 , D_1D_1 , SS , Q_1 represent the socially optimal point of production. Because the market output is less than the socially optimal output, there is market failure. Market has failed to produce enough of the product which has benefit for the society.

COST- BENEFIT ANALYSIS

- It is a tool by which social costs and social benefits of a particular project are compared in order to select the best one.
- CBA is often used in government projects because government is interested in the welfare of the whole society.
- In private sector because they are only concerned with private costs and private benefit, an investment is evaluated by undertaking feasibility study (not CBA).
- CBA involves comparing different projects which can offer solution to a particular economic problem.
- The project which offer the highest social benefit with lowest social cost should be the one to be implemented
- Social benefit consists of private benefit and external benefit, while social cost consists of private cost and external benefit.

RATIONALE (REASONS) FOR CBA

- CBA helps in making better decisions on how to use scarce resources to satisfy human wants.
- Brings objectivity to decision making – by comparing social benefit and social cost for a particular project.
- To determine whether a project will benefit the country as a whole.
- To evaluate the feasibility of different projects to determine which project will be the best investment.
- It considers a wider social impact and includes externalities in the decision-making process.
- To estimate the effects of an investment on social welfare and on the environment.
- The private sector usually only compares the expected private costs and benefits over the estimated time span of a new project, the public sector on the other hand, needs to compare the expected social costs and social benefits over the estimated time span of a new project.

APPLICATION OF CBA IN PRACTICE

- CBA is used where the government wants to produce goods for which consumers will not pay e.g. public road, railway lines, dams etc.
- To determine the cost and benefit of a project, the cost benefit ratio needs to be calculated using the following formula:

$$\text{Cost –benefit ratio (CBR)} = \frac{\text{Present value of economic benefit}}{\text{Present value of economic costs}}$$

- If the CBR is below 1 ($\text{CBR} < 1$) the project cannot be carried out as it will not improve the welfare of the society (the costs are higher than the benefit).
- If the CBR is above 1 ($\text{CBR} > 1$), it means the benefits are higher than the costs to the society therefore the project should be carried out.
- If the CBR is equal to 1 ($\text{CBR} = 1$), the social costs and the social benefit of the project are equal, therefore the project will not make any change to the welfare of the society. Therefore, the project should not be carried out.
- **Example of CBA: The costs and benefit of supplying reliable public transport**

Alternatives/Options	Economic benefits		Economic costs	Cost benefit ratio
A = buses	1200 000	÷	1200 000	1
B= trains	1500 000	÷	1300 000	1,15
C= high speed trains	100 000	÷	800 000	0,13
D= combination of the three options	4000 000	÷	2200 000	1.82

The best option for the country will be to carry out option D as it has the highest positive CBR.