# 

# JC Economics Notes: Market Failures

## Features of Free Market Economy

* The free market economy relies on the **use of market mechanism to conduct resource allocation** where the government will only conduct the administration of laws that regulate the economy. It has the following characteristics:
  + Private ownership of property
  + Freedom of choice and enterprise
  + Competition (keen or high degree of competition)
  + Maximization of personal benefits
  + Price is determined freely by **market demand and supply**

## Meaning of Market Mechanism

* + The market mechanism focuses on the use of the market forces of demand and supply to allocate resources so to attain social optimization where there is maximization of net social benefit gain without incurring any deadweight loss. While the market demand reflects the consumers' willingness and ability to purchase, the market supply reflects the producers' willingness and ability to produce. In this price mechanism, the equilibrium price and output level is attained whereby the market demand is equal to the market supply when the demand curve intersects the supply curve.

The market mechanism will attain the price signal to determine how the economy solve the three fundamental economic problems that arise due to the problem of scarcity

Draw the demand and supply – intersection of demand and supply curve – determine market equilibrium – derive price signal

maximization of net social benefit gain = total benefit gain – total cost

1. **Explain how the price mechanism conducts resource allocation**
   * In the process of resource allocation, the market mechanism for price mechanism is adopted to solve the three fundamental economic problems of what to produce, how to produce and for whom to produce with the use of the price signal.
     + For what to produce, the price mechanism would reflect the choice of consumers through the price signal which will rise if there is a rise in demand for the good. increase in demand for condo – increase in price of condo – producers will produce more condos
       - * For the method of production or how to produce, the firm will have the method of production on price indication of the factor and product market, abiding to the rule of profit maximisation. (MR = MC)
         * Lastly, for the allocation of the good and services or for whom to produce, the price signal from the consumer market will reflect the consumers’ purchasing power that will determine the allocation.
         * (goods are allocated based on those who can afford)

## Pros and Cons of Free Market Economy

### 3.1 Advantages

* + Price mechanism leads to allocative efficiency – absence of glut or excess as the consumer demand and production condition is efficiently reflected and determined (assuming perfect market/information)
  + No need for complex and costly government interference – speedy allocation as it is based on price signal, avoiding administration cost and time lag.
  + Competition forces firms to keep cost and price low, which consumers benefit from.

### 3.2 Disadvantages (Effects of market failures)

* + Lack of perfect market information and mobility of resources will make it impossible for the economy to attain the efficiency of allocation of resources. Industries may not be able to attain production at socially optimum level.
  + Purchasing Power and property rights are unequally distributed: The have and the have-nots, creating extensive unequal distribution of income and wealth.
  + To maximise private benefits, firms have the incentive to collude and increase market power and price. This undermines the welfare of consumers🡪Consumer exploitation occurs as the lack of perfect information causes consumers to pay more than they should.

**Explain how the price mechanism conducts efficient resource allocation to solve problem of scarcity (10).**

**Introduction** (definitions, requirement of the question, economic principles)

definition of price mechanism and resource allocation, problem of scarcity

state that the price mechanism used in the market economy can be used to solve the problem of scarcity to conduct resource allocation

**Main body**

1. Explain the problem of scarcity
2. Explain how the price mechanism derive price signal (concept of demand and supply) - draw diagram and describe diagram
3. Explain how the price signal conduct resource allocation by solving the three fundamental economic problems
4. meaning of efficient resource allocation
5. evaluation – assumptions required. (perfect market information and mobility of resources

**conclusion**

## Meaning of Market Failures

Market failure refers to the failure of price mechanism to conduct efficient resource allocation and thus, calls for the intervention of the government. When market failures occurs, there will be no maximization of resource allocation as the net social benefit gain is reduced by the presence of dead

The price mechanism will fail under the conditions when there is absence of the provision of public good, the presence of externalities and the presence of imperfect market. It is also a condition of market failures when the society is unable to reduce the extensive disparity in the distribution of the net social benefit gain when there is extensive unequal distribution of income

Conditions for Market Failures

1. Failure to provide public good
2. Presence of externalities
3. Presence of imperfect market

* condition of market dominance
* condition of imperfect information
* condition of immobility of resources

1. Unequal distribution of Income

Reasons for Imperfect Market

1. Market power
2. Imperfect market condition (imperfect mobility of resources)

∴P≠MC

## Reasons for Market Failures

The cause of market failures can be seen from the following manners:

1. The nature of public goods will make it difficult for the private producers to produce the goods as the private firms cannot charge the consumers due the problem of free-riders **(Non-payee cannot be excluded from the consumption of the good).** This occurs as the public goods are **non-excludable** and **non-rival** in production and consumption which make the separation of the payers and non-payers a difficulty. In the absence of the provision of public goods, there will be complete market failure as consumers are **unable to attain any welfare without the consumption of public goods.**

Absence of public goods- bec private sectors has no incentive to produce public goods – due to the problem of free-ridership – This occurs bec public goods are non-rival and non-excludable – price is zero as marginal cost is zero – no profit incentive to produce – absence of public goods – complete loss of welfare – complete market failure.

non-rival will facilitate sharing and allow free-riding – marginal cost is zero and price can be set at 0 – no profit incentive to produce

non-excludable - non-payee cannot be charged and consumers can free- ride – no incentive to produce.

Notable Characteristics of Public Goods

a. Non-rival

* Consumption of one good by one party will not deny the consumption by another party (MC=0)

b. Non-excludable

* Individuals cannot be excluded from consumption [Based on property rights]

Example – street lights / firework

effects of street lamps which make it easy for people to see at night can be shared (non-rival)

this effect cannot be made exclusive to only payee as it is difficult to set a parameter for the usage (non-excludable)

**why government must provide public goods?**

* the welfare is shared by the whole society (must prevent complete market failure
* huge initial investment and difficulty in attaining return on capital invested – private sector is unwilling to produce

**alternative solution to direct provision by government**:

* direct sponsorship from individuals will provide the goods to the public for free

1. The presence of **market imperfection** and **market power** would cause **under-production** which will create **dead weight-loss**. Under such production condition, the firms will not be able to attain allocative efficiency as the firms focuses on profit maximization which is at a **production level where the marginal cost is equal to the marginal revenue and this is below the social efficient level of production where the production level is at the level where the price is equal to marginal cost**. This is due to the market power the firms possess under imperfect market condition where the **downward sloping demand curve, which will contribute to the difference of the production level**. Consequently, there will be allocative inefficiency causing the industry to incur deadweight loss.

DWL

E0 🡪 P=MC

MC @ E1 , where MC=MR (profit max)

Q0

AR

MR

P0

MC

Qty

Price

**Imperfect market condition:**

* imperfect market information – consumers have no perfect knowledge of the price of goods - producers can set price and output – certain degree of market power – MR and AR are downward-sloping
* Market power – control the market – set price and output
* Immobility of resources – producers control the critical resources – control production can set price and output

If the firm can set price and output – possess market power – MR and AR are downward-sloping

1. The **presence of externalities** would cause market failures as it **creates deadweight loss** as the production and consumption at market equilibrium without government intervention will be below or above the social equilibrium level, undermining social welfare gain. For **merit goods**, the presence of **positive externalities** will create positive benefit that lead to the divergence of the private marginal benefit and social marginal benefit. This will lead to the condition of **under-production (Qm < Qs) which will incur deadweight loss**. As for **demerit goods**, the presence of **negative externalities** will create external cost that lead to the divergence of the private marginal cost and social marginal cost. This will lead to the condition of **over-production (Qm> Qs) and thus, causes deadweight loss.**
2. The **presence of inequality of distribution of income** will mean that the **net social benefit gain will be unevenly distributed**. This will undermine the interest of the poor as they will receive lesser benefit than the rich from the production of the good despite the presence of maximization of net social benefit gain 🡪 a form of market failure total net social benefit gain is unevenly distributed

P

Underproduction

S0

Overproduction

D0

Qty

Q1

Q2

Q0

Demerit good

Merit good

## why DWL indicates market failures ? – DWL will reduce the net social benefit gain attained by the society – no optimization of resources – indicates market failures

### Meaning of Social Optimization of Resources

The notion of social optimization is attained when the social marginal cost (SMC) is equal to social marginal benefit (SMB). There is the maximization of net social benefit gain as the industry will not incur deadweight loss.

### **Explain how market failures will occur as a result of the presence of negative externalities**

### **Economic Causation (Demerit good/ negative externality, external cost, DWL** (social welfare loss).

### **In the** consumption and production of road usage which is considered a demerit good by the government as it gives rise to negative externality in the form of traffic congestion. This will contribute to the rise of external cost like longer traveling and higher cost of traveling. Consequently, we can observe that there will welfare loss (dead-weight loss), seen in terms of loss of investment and production as cost of production is higher cost of production. This will undermine the industry from attaining maximization of net social benefit gain, indicating that market failures have occurred.:

**why the government must intervene into the road usage market (4)**

The government must intervene in to the road usage market as there is market failures due to the presence of negative externalities

**Explain how market failures occur in the road usage? (4)**

There is market failures in the road usage industry as there is the presence of negative externalities which will call for government intervention.

In the transport industry, the rise of traffic jam due to over-population of cars is a form of negative externality that causes the rise of external cost in the road usage market seen in terms of longer traveling time and cost. This will cause the condition of over-production where the market equilibrium level of output is above the social equilibrium level of output. This gives rise to welfare loss and undermines the transport industry from gaining maximum level of net social benefit gain where the welfare loss is seen in terms of loss of economic activities that reduces economic growth.

P0

Qty of Road Usage

Cost/Benefit

QS

QM

SMC

PMC

SMB ==

DWL

As seen from the diagram, the market equilibrium is set at Qm where PMC is equal to PMB. However, the **presence of negative externalities** will lead to the **rise of external marginal cost** which will lead to the **pivotal rise of PMC to SMC, (PMC + EMC = SMC),** implying that the social equilibrium of production of cars at QS  is lower than the market equilibrium of car at QM. Without government intervention, the economy will experience DWL (shaded area) as in the diagram.

**Economic Causation of impact of demerit good**

|  |  |  |
| --- | --- | --- |
| **Demerit Good** | Smoking | Road Usage |
| **Negative Externalities** | Pollution | Traffic Congestion |
| **External Cost**  **(monetized value)** | ↑Medical cost/↑COP↓productivity | ↑cost of travelling/↑COP (↓productivity) |
| **DWL(affect society)** | ↑Hospital expenditure | ↓production/↓I/↓NY, N+ |

alcoholic drinks – social problems (-ve ext) – cost in managing social problems (ext cost) - social loss of stability which will affect investment

**7.3.1 Explain how market failures will occur as a result of over-consumption of demerit good**

In the consumption of demerit goods such as gambling, there will be negative externalities seen in terms of the social problems associated with this good. This will raise the external cost whereby there is higher cost of administration of the social problems. Without any government intervention, there will be a rise in deadweight loss (DWL), which is the cost of loss of investment, production and national income as a result of social and political instability

In this industry, over-consumption occurs where the consumers will consume at a level beyond the social equilibrium as their level of demand represented by PMB (Private Marginal Benefit) is higher than the level of demand deemed socially beneficial to the society represented by the SMB (Social Marginal Benefits). This is because the value of benefit of demerit good is deemed higher by the individuals than the value deemed by the society

SMC=PMC+EMC

PMB

SMB

Qty

Q­m

Qs

P­m

Cost/Benefit

(Private benefit)

(Social benefit)

As seen by the diagram, the value of external cost is represented by the SMC which will include the PMC (Private Marginal Cost) and EMC (External Marginal Cost) while the PMB represented the demand of the individuals. The consumption at Qm will experience overconsumption as the quantity at market equilibrium at Qm is higher than the social equilibrium at Qs and thus, there will be occurrence of DWL represented by the shaded portion, as SMC is higher than SMB at production level between Qm and Qs.

### **8. Explain how market failures will occur as a result of the presence of positive externalities**

Due to the presence of positive externalities in the production and consumption of merit goods like education services, external benefit such as the benefit of more productive workers will arise. This will lead to a condition of under-production when there is no government intervention and the society fails to reap the benefit whereby the market equilibrium is lower than the social equilibrium, thus contributing to deadweight loss (DWL); **welfare loss to society which is the value of external benefit the society fails to reap.**

P0

Qty of Education Services

Cost/Benefit

QS

QM

SMB = PMB + EMB

SMC

PMB

DWL

As seen from the diagram, the **market equilibrium is set at Qm where the PMB is equal to PMC and there is no externalities taken into account. T**he presence of positive externalities will create external marginal benefit that will raise the PMB to SMB(PMB + EMB), causing the market equilibrium of the production education services to be set at Qm which is lower than the social equilibrium level of production education services at Qs where SMB=SMC. Consequently, the value of deadweight loss will arise if there is no government regulation.

**Economic Causation of impact of merit good**

|  |  |  |
| --- | --- | --- |
| **Merit Good** | Education | Medical Services |
| **Positive Externalities** | Productive Labor Force | Productive labour force |
| **External Benefit $** | ↑productivity /COP ↓ | ↑productivity /COP ↓ |
| **DWL** | ↓I, ↓N+ | ↓I, ↓N+ |

🞹DWL: Failure to reap external benefits due to underproduction

## Causes of Inequality

### 11.1 The competitive market mechanism is such that those who have acquired the right skills achieve the most benefits. Those that do not are being marginalized by the society.

### 11.2 Monopoly

* + Monopoly firms take part of the consumer surplus at the expense of consumers
  + The failure of market causes deadweight loss

### 11.3 Information Asymmetry

* + Some consumers are unaware of information that can enable them to get the best deal. Hence they are unable to fully realize their potential welfare.

11.3A Inflationary Condition in the Global Market

* Price of resources in the global market undermine the purchasing power of the lower group, while the appreciation of resources and asset will raise wealth of resource and asset owners

## 11.4 Government Policies to Solve Inequality

* + Creating institutions to govern the market forces to prevent exploitation by the enterprises
  + Education to reduce asymmetric information
  + Use of taxation and subsidies to affect the consumption and production of the good and services to prevent exploitation

## Types of goods

Goods are classified based on two main dimensional notions, the notion of excludability and the notion of rivalry.

(Refers to classification and main definitions from list of definitions)

12.1 Distinguish the types of goods

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Types of good** | **Public Good** | **Private Good** | **Merit Good** | **Demerit Good** |
| **Notion of rivalry** | Non-rivalry in consumption – its use will not deprive others – MC of additional user is zero | Rivalry in consumption – its use by a consumer will deprive others of its consumption | Rivalry in consumption – its use by a consumer will deprive others of its consumption | Rivalry in consumption – its use by a consumer will deprive others of its consumption |
| **Notion of excludability** | Non-excludable – not possible to exclude people from using once provided | Excludable – possible to exclude non-payers from using the good | Excludable – possible to exclude non-payers from using the good | Excludable – possible to exclude non-payers from using the good |
| **Degree of Externalities** | Huge positive externalities | No externalities | Positive externalities | Negative externalities |
| **Source of production** | Not profitable and not marketable because non-rivalry in consumption implies that there is no market price since P=MC at market equilibrium. Non-excludability will lead to people refraining from expressing demand due to free-rider problem 🡪 stop private firms from producing | Profitable and produced by private sector. Market equilibrium is allocative efficient | Profitable and can be produced by private sector but due to external benefit that is not taken into account by private individuals – market produce too little/under-consumption | Profitable and can be produced by private sector but due to external cost incurred, regulation will be made to reduce consumption or production |
| **Degree of government intervention** | Government takes over the production | No need for government intervention, unless government deems intervention is necessary | Government needs to intervene to increase production/consumption | Government needs to intervene to reduce production and consumption |
| **Examples** | Defence, street lights, overhead bridges | Shoes | Education, health services | Smoking, Cars |

* Explain how these types of goods will cause market failures
* Distinguish the types of goods
* Reasons for and against producing g merit and public good

12.2 Reasons for government to provide all public goods

* To prevent the occurrence of complete market failures which will lead to complete welfare loss as there is no provision of public goods by the public sector.
* The government can provide source of finance as it is able to collect taxes from the public as it has the legal and moral authority to do so.
* Most of the public goods require huge financing and have a slow rate of returns which will discourage the private sector from producing it.
* The government can ensure that the firm will produce at the production level at allocative efficient level despite the fact that the firm will make losses in the case of a natural monopoly as it can finance the loss through subsidy
* To raise the standard of living of the people especially the lower income group as the provision of public facilities will make their lives more convenient and comfortable for them to live.
* To ensure that the industries will be supported by the public facilities to raise the efficiency of production and thus, lower cost of production to increase competitiveness.

12.3 Reasons for the government to produce merit goods

* To ensure that the production and consumption is at social optimum level of production so as to reap maximum net social benefit gain, ensuring that there is no welfare loss in the society.
* To ensure that the welfare of the lower income group is taken care of as in the case of provision of merit goods like education
* The lack of capable and efficient private producers to ensure that there is efficient production of the merit goods

12.4 Reasons against the government for producing merit goods

* Undermine the advantages of the price mechanism in the allocation of resources which is based on price signals – swift and less administrative cost in the production and distribution process
* The possible rise of government failures will make it not productive for government to be involved in the provision of merit good

1. **Main Areas of Discussion**

(Is it necessary for government to intervene into the market to correct allocative inefficiency?)

**Many economists strongly oppose to government intervention in the allocation of scarce resources. Their basic presumption is that markets generally work well by themselves and that there are just a few limited instances in which government action is needed.**

**(a) Explain the circumstances in which the government should intervene in resource allocation. [10]**

1. Why government needs to intervene into the market to correct market failures? (consider the negative impact of market failures)

* To correct inefficient allocation of resources so as to attain maximization of net social welfare gain
* To reduce the cost of the deadweight loss that will be paid by the government
* To prevent the consumers from experiencing consumer exploitation whereby they will be charged higher price and sold with poor quality product
* To prevent the complete loss of welfare due to the absence of the provision of public goods
* To prevent unequal distribution of net social benefit of gain due to unequal distribution of income and wealth

1. Why government may not need to correct market failure?

**Possibility of government failures**

**limitations of the government policies**

* High cost of financing is needed for government to incur in the provision of public goods will discourage the government from providing public goods
* Lack of technological expertise in the production and distribution in the public good will hinder government from the provision
* Government may not correct market failures due to market power as the firm with large market power offers other areas of advantages which may benefit the firm the cost advantages of large scale production
* Government may also find it difficult to estimate the monetary value of externality and thus, it may not want to intervene as the cost of intervention may be higher than the cost of welfare loss
* Complexity of the production and distribution of goods and services will make it difficult for the government to intervene