

Market Failure

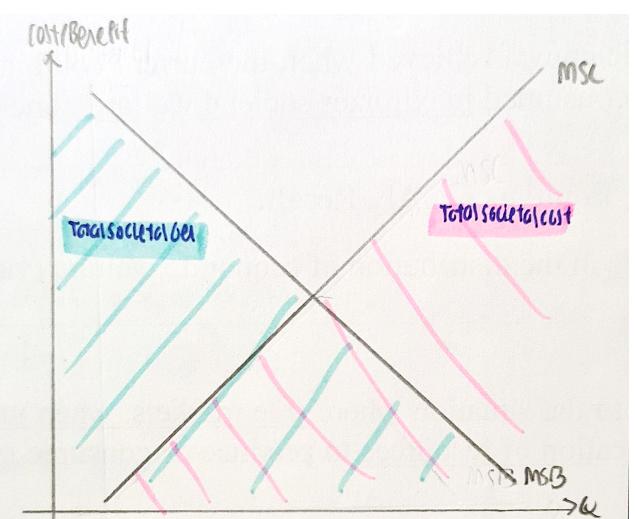
Market failure refers to the situation where free markets, when unregulated, fails to deliver a socially efficient allocation of resources to produce or consume goods and services. → P(i)E & A(i)E.

- Over/under consumption → over/ under allocation of FOPs
- Explain sources of MF with examples, and when discussing solutions, match to solutions implemented in SG.
- Intervention consideration:
 1. Increased **extent of market failure**, calls for increased extent of government intervention (No/ Partial/ Complete MF)
 2. **Valuation** of externality/ MEB/ MEC
 3. **Opportunity cost** of intervention
- Diagram

$MSB = MPB = (DD \text{ curve usually})$,
 $MSC = MPC = (SS \text{ curve usually})$ in the absence of externalities. → free market achieve allocative efficient outcome as societal welfare is maximized at Eq and Ep.

N.B. not always equal b'cos there may not be a market (e.g. C/B of driving car)

N.B. May not be correct to show $MPC=SS$, $MPB=DD$ in diagram (even if there is a market, need to have 2 parties being considered then have DD & SS)



Area bounded by $MSB = Total societal benefit$, Area bounded by $MSC = Total societal cost$

- Societal welfare is maximized when $MSB=MSC$
- Deadweight loss triangle tip always points towards Qs.
- Diagram must always be accompanied with explanation to earn credit.

PUBLIC GOODS

Objective of intervention: Provide g/s req. for the well-functioning of society.

Solution: Government can use tax revenue to engage in direct provision of public goods/ engage firms to provide public goods.

Explanation (in context of mosquito fogging):

A good or service that has the characteristics of non-excludability and non-rivalry in consumption.

A good is non excludable if it is prohibitively costly or impossible to exclude nonpayers from using it. That is, once mosquito control service is provided, it is available for all, and all residents receive the protection, whether or not they have paid for it. Since, non-payers are not excluded from using it, no one will reveal his true preferences (i.e. how much he is willing to pay for the good), but would instead prefer to free ride on those who have paid, since firms cannot accurately charge a price for the good, no firm will want to provide=de it as they cannot be sure of making an economic profit. **Complete MF occurs.**

A good is non rival if one person's consumption will not diminish the amount available for another person. That is, once mosquito control service is provided, it is available to all residents in equal amounts (i.e. protection for a resident will not be reduced even with 1 more person in the neighborhood). Even if it is already consumed by 1 person, it can still be made available to one more person at no additional cost. Thus, MC of providing the good to 1 more person is 0. Since MC=0, firms would have to change a price P=0, if society hopes to achieve an allocative efficient outcome. However, no firm would want to provide the good for free, leading to **partial MF**.

Since public goods are non-excludable and non-rival, complete market failure occurs.

Public goods are essential for the well-functioning of society. Thus, the government must either provide it directly or pay private firms to do it using tax payers money. Specifically, the government estimates the social cost and social benefit of producing and consuming the good before proceeding to provide an amount equivalent to the socially optimal level where MSB=MSC.

While this can lead to a socially optimal outcome in theory, one limitation with this approach is that estimates of MSB and MSC are often subjected to imperfect information as the government may not know accurately which the areas/ which groups of people require more or less of such services. For example, while mosquito fogging is provided in HDB estimates by government via town councils, it may be the case that different HDB estimates require fogging to different intensity, due to differing incidence of dengue. However, the government may not have precise information about the above and allocate a standard amount of resource to provide the service. This may lead to under or over production of such services leading to allocative inefficiency.

Moreover, the government may not be able to produce goods as efficiently as profit driven firms → no pressure to profit maximize → wastage of resources → productive inefficiency → MF → strain government resources and funding for other essential areas → tax rates will have to be raised → income taxes discourage effort and investment in an economy → unsustainable (better to award contract to private firms)

EXTERNALITIES

- Good with externalities may or may not be merit/ demerit goods.
- Intervention measures shift MPB and MPC curve, MSB and MSC curves are unaffected. H/w, note that with adoption of green technology, MSC curve can shift rightward (lowered societal cost).

Comparison Table:

<p>Positive externalities are <u>benefits</u> of production or consumption on <u>persons other than the consumers and the producers themselves</u>. The third parties <u>do not make payment to enjoy the external benefits</u>. (e.g. R&D)</p>	<p>Negative externalities are <u>costs</u> of production or consumption on <u>persons other than the consumers and the producers themselves</u>. The third parties <u>are not compensated for the external costs</u>. (e.g. air travel)</p>
<p>Merit goods are g/s that are deemed <u>socially desirable</u> by the government, and which are <u>under consumed</u> when left to the price mechanism. This occurs because individuals lack perfect information about private costs and benefits, and disregard positive externalities. (Subset of goods with +ve externality, e.g. healthcare, education)</p>	<p>Demerit goods are g/s that are deemed <u>socially undesirable</u> by the government, and which are <u>over consumed</u> when left to the price mechanism. This is because individuals lack perfect information about private costs and benefits and disregard negative externalities. (Subset of goods with -ve externality, e.g. smoking, gambling)</p>
Diagram Explanation	
<ol style="list-style-type: none"> 1. Define positive externalities 2. Use an example if no context is given (e.g. education/ healthcare) 3. State MPC, MPB, MEB and third parties. 4. Since $MSB = MPB + MEB$, the presence of positive externalities will cause MSB to be higher than MPB. 5. Draw graph. Assume absence of negative externalities ($MSC = MPC$) 	<ol style="list-style-type: none"> 1. Define a negative externality 2. Use an example if no context is given (e.g. pollution/ smoking) 3. Identify MPB, MPC, MEC and third parties 4. Since $MSC = MPC + MEC$, presence of negative externalities will cause MSC to be higher than MPC. 5. Draw graph. Assume absence of positive externalities. ($MSB = MPB$)
<p>6. Explain diagram Left on its own, the free mkt eqm occurs at P_m and Q_m, where $MPB = MPC$ H/w, the socially optimum eqm is at P_s and Q_s where $MSB = MSC$ Since Q_m <u>greater than/ less</u> than Q_s, there is <u>over/ under production/ consumption</u> (wrt context). Thus, A(i)E results and society incurs a DWL of area ABC. Government intervenes so tha resources can be allocated more efficiently.</p>	
<p>Museums</p> <ul style="list-style-type: none"> • MPB: Peoplw who visit museums enjoy mPB such as <u>learning about a city's historical background/ cultural heritage/ greater appreciation for the arts</u> • MPC: To produce/ provide such goods to visitors, museums incur MPC such 	<p>Smoking</p> <ul style="list-style-type: none"> • MPB: The <u>satisfaction</u> from smoking tends to decline with additional cigarettes smoked, MPB enjoyed by a smoker is downward sloping. • MPC: In the case of smoking, a smoker incurs MPC in the form of <u>doctor fees if he were to fall sick after smoking</u>. Such

<p>as <u>rent, cost of curating museum exhibits, art pieces, or engaging performing artists.</u></p> <ul style="list-style-type: none"> MEB/ 3rd party: It is likely that people who frequently visit museums tend to have a more cultured disposition and keener appreciation for the arts. If they share insights with <u>family and friends</u>, these 3rd parties enjoy MEB even though they did not visit museums, like <u>knowing more about the arts or even cultivating a more gracious temperament over time.</u> 	<p>cost tend to rise with more cigarettes smoked, as he may suffer from more severe respiratory problems; MPC is upward sloping.</p> <ul style="list-style-type: none"> MEC/ 3rd party: At the same time, the smoker's family incurs mEC in the form of adverse health effects from inhaling second hand smoke
<p>Education</p> <ul style="list-style-type: none"> MPB: People who participate in education enjoy MPB such as <u>increasing their productivity, earning capacity and SOL.</u> MPC: To provide education to prospective students, school incur MPC such as <u>staffing cost, utility and purchasing learning resources.</u> MEB/ 3rd party: If these educated people are present in large proportions and share their insight with <u>coworkers</u>, it helps to <u>increase the productivity of co-workers.</u> (+ attract FDI) 	<p>Driving</p> <ul style="list-style-type: none"> MPB: An individual who drives his vehicle will <u>get to his destination faster, bringing him convenience</u> that constitutes his MPB. MPC: An individual who drives his vehicle for 1 more km on the road incurs MPC in the form of <u>fuel costs and parking charges.</u> MEC/ 3rd party: 3rd parties like <u>pedestrians</u> incur an MEC, as motor vehicles generate air pollution which <u>will get inhaled by pedestrians and potentially lead to adverse health effects.</u> OR 3rd parties like other <u>road users</u> also incur MEC in the form of <u>increased congestion.</u>
<p>Healthcare</p> <ul style="list-style-type: none"> MPB: People who seek treatment for illnesses obtain MPB of <u>recovering from the disease.</u> MPC: To provide healthcare services, medical facilities incur an MPC in terms of <u>operating cost and cost to hire medical professionals.</u> MEB/ 3rd party: In getting treated, <u>others around the previously ill</u> will enjoy MBD as the <u>disease is prevented from spreading to them.</u> 	<p>Pointers: 3rd party should not be defined too broadly. Explanation can be tied with information failure, if merit/demerit goods.</p>
<p>R&D</p> <ul style="list-style-type: none"> MPB: Firms who engage in R&D enjoy MPB of <u>increasing efficiency of pdtn processes, thereby lowering cop.</u> MPC: To engage in R&D, these firms incur a MPC in terms of <u>financing such research, by hiring scientist and paying for research materials.</u> MEB/ 3rd party: If this knowledge can be shared with other firms in the industry, <u>other firms manufacturing similar g/s</u> can leverage on these new innovations and <u>similarly achieve greater efficiency in manufacturing.</u> 	

POLICIES: POSITIVE EXTERNALITIES

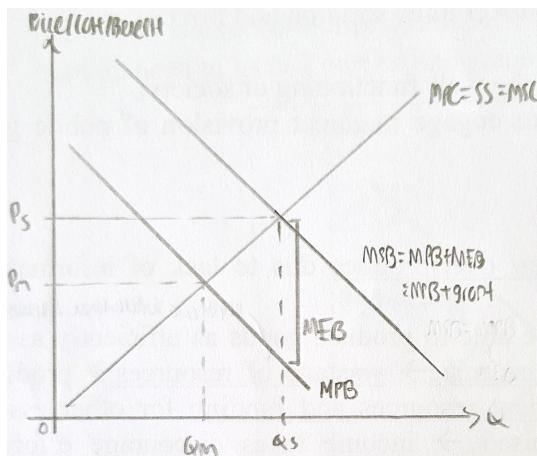
Objective of intervention: Allocate resources more efficiently- force consumers/ producers to internalize external benefit)

Solution: Grants, Legislation, Moral Suasion, Subsidies, Govt supplement pdtn

Increasing DD...

1. Grants

- Grants are money that governments give to consumers to spend on a certain good or service. (E.g, Scholarship)



Grants **decrease cost of consumption**, and makes consumers **aware of the true extent of benefit from consuming** (good), **raising MPB**. If amount of grant is equal to MEB at the socially optimum level of o/p, MPB will increase to MPB + grant, coinciding with MSB. The new market output equates to Qs. **AE is achieved** and the external benefit is internalized (consumer gain additional benefit = external benefit).

N.B. Ⓛ new axes of price/ cost benefit

- Limitation: Difficult to quantify benefits enjoyed → MEB is usually estimated → **Difficult to estimate the level of MEB** → too much or too little grants or subsidies leads to over consumption/ production or under consumption/ production.

2. Legislation

- Increase DD** for goods which give rise to positive externalities (E.g. Compulsory education)
- Limitation: For legislation to be effective, there must be some form of monitoring → cost involved to monitor should be lower than benefits of implementing legislation.

3. Moral Suasion

- Increase DD** for goods which give rise to positive externalities through campaigns and advertisements (E.g. Lifelong learning)
- Limitation: Moral suasion **may not be effective** → voluntary.

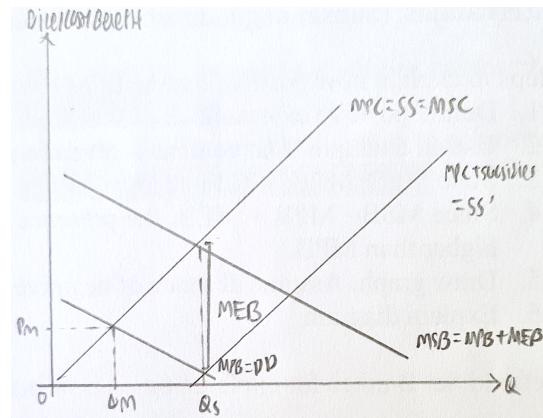
Increasing SS...

1. Government supplement production

- Increase SS, lower price, increase consumption, achieve AE. (+) set the minimum standard
- Overarching limitation: Strain on government's budget → may need increase taxes or cut spending in needy areas → adverse economic and social effects.

2. Subsidies

Lower c.o.p. for firms, lower MPC, increase supply of goods with positive externalities. If amount of subsidy is equal to MEB at the socially optimum level of o/p, MPC will increase to MPC + subsidy. The new market output equates to Q_s , due to lower price of good, AE is achieved.



POLCICIES: NEGATIVE EXTERNALITIES

Objective of intervention: Allocate resources more efficiently- force consumers/ producers to internalize external cost

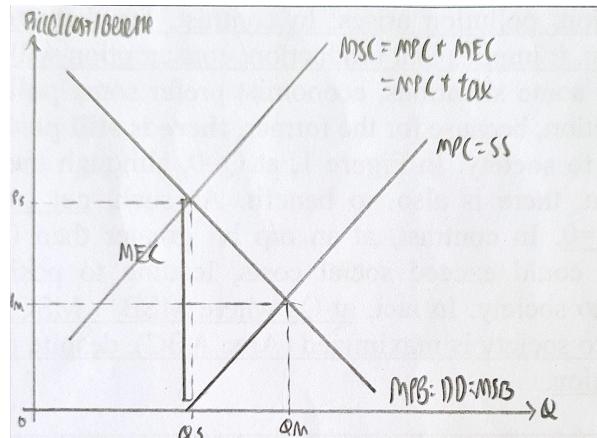
Solution: Indirect tax, Cap & Trade, Legislation, Nationalization, Moral suasion

Intervention measures:

Decreasing Supply...

1. Indirect taxes

Increase c.o.p., make producers more aware of the true cost of (activity), raise MPC, decrease supply of goods. When amount of tax imposed is equal to MEC, at the socially optimum level of o/p, MPC increases to MPC + tax, which coincides with MSC, Q_s , AE. External cost is internalized (consumer incur additional cost= external cost).



- Benefit: Tax revenue can be channeled to paying for external damages from pdtn of pdt/ serve as impetus for firms to use pollution reducing devices and conduct R&D on more envn friendly production methods.
- Limitation: External cost is difficult to quantify → MEC is usually estimated → **Difficulty in estimating MEC** → Too low A(i)E and MF, Too high undermine profitability, raise px for consumer./ Administrative costs/ Difficult and costly to charge each offending firm a particular tax rate

2. Cap and Trade (Tradeable permits)

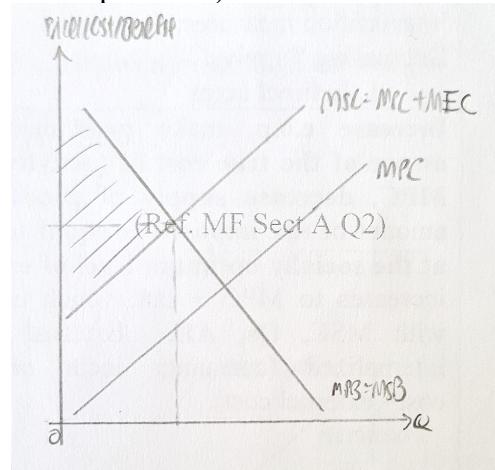
- Government sets a cap on total pollutants firms can emit, allocated to firms in the form of emission permits which are tradable → government affect production of goods/ activities that produce negative externalities indirectly → mitigate negative externality indirectly.
- Firm sells a permit, if the price of the permit is more than the private cost involved in reducing the firm's emissions volume.
- Firm buys a permit, if the price of the permit is less than the private costs involved in reducing the firm's emissions volume.
- Benefit: Society incurs a minimum cost in encouraging pollution reduction, since firms that end up selling tradable permits are those who can cut emissions most cheaply
- Limitation: Difficult to determine optimum cap → too much no AE, too little undermine industry's profitability/ Deter investment in green technology → volatility in permit prices means firms are not certain if future payoff from sale of permit justify adoption of green tech/ High enforcement and administration cost

N.B. more effective when used for context of factory pdtn → localized → easier to detect and quantify (vs air travel emissions)

3. Legislation

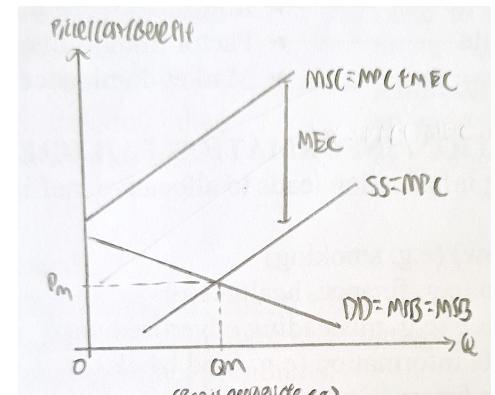
- Legislate maximum pollution a factory can emit/ comply with proper disposal of waste to minimize cost to third parties
- Explanation (reason why some pollution is preferred over no pollution):

Pollution is a negative externality generated in the course of production of a g/s / when individuals undertake activities such as car usage. Thus, as long as there is consumption/ production, pollution arises. In contrast, for there to be no pollution, it implies that production/ consumption will have to be 0. In some situations, economist prefer some pollution to no pollution, because for the former, **there is still positive net benefit to society**. In Figure 1, at $Q=0$, although there is no pollution, there is also no benefit. As such, net benefit to society =0. In contrast, at an o/p lvl greater than 0, social benefits could exceed social costs, leading to positive net benefit to society. In fact, at Q_s where $MSB = MSC$, the net benefit to society is maximized (Area ABC), despite presence of pollution.



Ban on production (extreme measure), used when **MSC is higher than MSB for all output level**.

Limitations: Administration cost in monitoring and enforcing compliance/ no incentive to reduce external cost beyond stated level/ does not allow pollution reduction at a minimum cost; to design good rules and regulation govt regulators need to know details about specific industries and alternative tech which is difficult in practice



4. Nationalization

- Allow govt to produce at socially optimal o/p lvl
- Limitation: Less conscious of reducing c.o.p/ may not actually produce socially optimal lvl of o/p → hard to estimate/ may not have expertise, resources, information to produce gd

Decreasing Demand...

1. Moral suasion

- Voluntary reduction of consumption of goods with negative externalities
- Limitation: Uncertain effectiveness due to strictly voluntary nature

MARKET IMPERFECTIONS

Assumptions of free market

Perfect knowledge → Information failure

Factors are completely mobile → Factor immobility

Freedom of entry → Market dominance

Market Imperfection

IMPERFECT INFORMATION/ INFORMATION FAILURE

Lack of complete or missing information leads to allocative inefficient decisions.

Causes (ICMMU):

1. Ignorance (don't know) (e.g. smoking)
2. Complex information (e.g. finance, healthcare)
3. Misleading information (e.g. misleading advertisement)
4. Missing or incomplete information (e.g. food labels)
5. Uncertainty about the future (e.g. insurance)

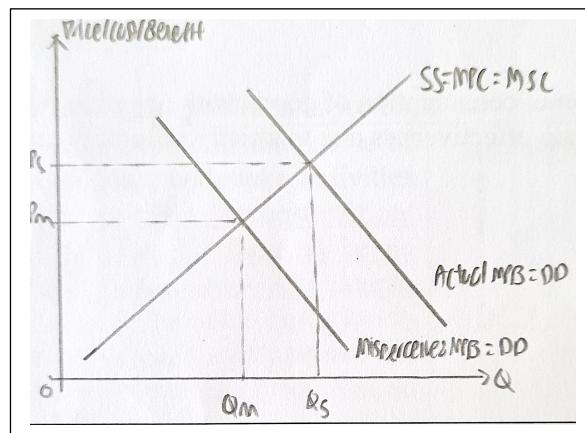
Explanation:

1. Give example of a product with information failure
2. Identify type of information failure with example
3. State underestimation/ overestimation of MPC/ MPB
4. *Misperceived MPB higher/ lower than actual MPB (MPC may be shifted also depending on context: e.g. smoking)
5. State assumptions (i.e. no externalities)
6. Draw diagram
7. Diagram explanation

Free mkt eqm is at P_m / Q_m is where misperceived $MPB = MPC$

Socially optimal P_s / Q_s is where MPB actual = MPC (i.e. $MSB=MSC$)

Since Q_m greater than/ less than Q_s , there is over/ under production/ consumption (wrt context). Thus, A(i)E results and society incurs a DWL of area ABC. Government intervenes so the resources can be allocated more efficiently.



Sample diagram: Ignorance

Note: Differentiate between externalities and imperfect information; consumers underestimate MPB (in the case of ignorance) to themselves vs consumers disregard marginal external benefit to third parties.

Explanation for ICMMU:

- No fixed explanation, must have economic analysis.

1. Ignorance (wrt smoking)

A smoker tends to underestimate the true extent of costs inflicted on his own body from smoking cigarettes, as he is ignorant about potentially adverse effects of smoking on his health. This leads him to overconsume cigarettes.

2. Complex information (wrt computers)

Most consumers buying such products tend to not understand the technical jargon associated as these can be overly complex for a layman. Unless consumers have prior knowledge, there is a high chance they have overestimate/ underestimate the private costs or benefits, resulting in over/ under consumption.

For example, consumers generally have less information about the product than the salesperson. As such, the farmer may be persuaded by the latter to buy a laptop with specifications over and above what they need. In this case, consumers mat overestimate the private benefits of consuming the product i.e. misperceived MPB greater than actual

3. Missing information (wrt ready meals)

Consumers may want to know the exact amount and type of ingredients that are used to make the product, especially for people who are prone to allergic reactions after consuming 'trigger' items like gluten or nuts. Some might want to know to monitor their nutritional intake.

However, information may be missing/ incomplete because food manufactures fial to disclose fully and accurately the ingredients or print labels to alert consumers. In this case, consumers may overestimate the private benefits i.e. misperceived MPB greater than actual, resulting in over consumption. MF occurs ass too much resources is allocated for its pdtn.

4. Misleading information (wrt slimming pdts)

Consumers may be deceived by misleading advertisements into consuming a g/s which may not be suitable for them, leading them to overestimate the private benefits, resulting in overconsumption.

For example, slimming advertisements are endorsed by those who managed to achieve a dramatic weight loss through slimming programmes. H/w, this might not be representative of the majority who might not respond as well to these programmes. Subsequently, consumers overestimate private benefits and are lured into consuming slimming programmes, resulting in overconsumption of slimming programmes.

5. Uncertainty about the future (wrt insurance)

Consumers may be too present oriented and underestimate the need to purchase g/s that would future proof themselves, resulting in underestimation pf private benefits and underconsumption. For example, consumers may not see the need to buy insurance due to their focus on the present, underestimating the benefits of having insurance coverage and under consuming it.

Asymmetric information is a subset of imperfect information:

Asymmetric information before transaction:

Producers have more information than consumers (e.g. market for used cars)

Consumers have more information than producers (e.g. market for health insurance)

Lead to **adverse selection**: refers to a situation in which the uninformed side must choose from an undesirable or adverse selection of goods or customers.

Explanation (no diagram needed):

1. Which party has more information? About what?
2. What is the incentive for party with more information to hide/ withhold information?
 - To profit/ to avoid paying higher premiums.
3. How will the uninformed party behave?
 - Since (who) cannot distinguish between (good what) and (bad what), they are only willing to offer the average price for/of providing (what), because they may be purchasing/ providing for (bad what).
4. What does the market adversely select against?
 - At this price, however, (who) will not want to sell/buy, but (who) will still be willing to sell (bad what) / buy (what). Over time, this leads to a situation where the market adversely selects against (good what) in favors of (bad what).
5. How will the informed and uninformed parties respond, thus causing market failure.
 - Example: The presence of low quality used cars on the market leads buyers to further lower the price offered. In turn reducing the number of high quality used cars put up for sale. Asymmetric information results in thin markets (some high quality goods are sold but fewer than the case if there were perfect information). As such there is an inefficient allocation of resources, leading to market failure.
 - Example: The presence of high risk consumers in the market forces insurance companies to raise the average cost of insurance, further deterring low risk consumers from buying insurance. In the extreme case, no low risk consumer will want to buy insurance. Market failure occurs because asymmetric information results in a relatively small number of low risk consumers buying insurance.

Asymmetric information after transaction:

Moral Hazard. Economic agents do not bear the cost of their actions and thus have a tendency to take more risks than they normally would. Since insurers cannot predict the behavior of the insured, the insurer's risk increases with the insured's hidden actions. (Solution: co-payment clauses).

Example: Discuss whether government intervention is the best solution in the above-mentioned market failure i.e. asymmetric information (15m).

Structure:

- Thesis: Explain how government intervention improves the functioning of markets in situations of asymmetric information
- Antithesis: Explain why govt intervention is NOT the best solution in some situations i.e. limitations

[INTRODUCTION]

The above mentioned market failure is a case of asymmetric information, where there is an imbalance in the level of information between consumers and producers, despite the information being available.

As such, any government intervention should theoretically focus on ① **making more information available** i.e. getting the more informed party to make the information accessible to the less informed party, ② **helping the less informed understand information better** and ③ **providing avenue for affected parties to seek recourse**. Generally, policies to mitigate information failure include (i) moral suasion and (ii) legislation. Specifically, a policy is considered appropriate if it can achieve a more AE outcome, while considering the cost in its implementation.

[THESIS]

1. Legislation: Sellers to inform buyers

- In the case where producers / sellers have more information than consumers about a product or service, the government can intervene by requiring sellers to disclose information about the product.
- In markets where asymmetric information exists to a larger degree (e.g. used cars/ financial services/ electronic devices etc.), sellers i.e. financial advisors or used car dealers have a legal obligation to explain to potential buyers about the benefits, risks, charges relating to the products/ services.
- Besides, government may also set statutory guidelines, regulation standards, inspection and labelling requirements
- This forces the sellers to provide clear, comprehensive and understandable information to inform consumers about the ingredients, food manufacturing process, country of production, expiry dates and pricing etc.
- e.g. Singapore Food Agency legislates that all prepacked food products for sale in Singapore must be labelled with basic information such as the ingredients, content, source etc. under the Singapore Food Regulations and the Sale of Food Act.
- Such compulsory disclosure of product information helps consumers to reduce their information gaps, helping them to better estimate their MPB so that the appropriate quantity of the good is consumed.

★ Raise awareness/ highlight importance of XXX to inform people about their true cost/benefit. OR Compulsory disclosure of product information prevents misleading conduct in connection with the sale of XXX. This helps individuals better gauge the MPB/MPC of consuming XXX i.e. misperceived MPB/MPC shifts closer to actual, making more informed decisions, thereby decreasing the extent of over/ under consumption. This leads to a more appropriate quantity of good consumed, leading to more efficient allocation of FOPs, decreasing the extent of A(i)E and MF.

2. Legislation: Protect Consumers

- Besides getting producers to disclose information to consumers, legislation such as the ‘Lemon Laws’ provide consumers protection against defective goods (i.e. lemons) which fail to meet standards of quality and performance.
- Specifically, sellers are required to repair, replace, refund or reduce the price of those goods found to be defective within six months of purchase.
- With reference to the used car market in part (a), such laws provide an avenue for consumers to seek help if they really end up purchasing a defective used car.
- Ultimately, this law gives consumers greater confidence that the price of the good accurately reflects the quality of the good, thus helping to correct the problem of adverse selection.

3. Moral Suasion

- On the other hand, government intervention can also take the form of public education programmes/ campaigns to educate buyers and reduce their information gaps
- e.g. MoneySENSE is the national financial literacy programme in Singapore which helps consumers acquire more skills in understanding financial, insurance and investment products so that they can make more informed decisions about what products/ how much to buy.

In the event where government intervention is advocated, a range of policies is recommended so that they can complement each other.

[ANTI THESIS: LIMITATIONS]

1. Regulations: Substantial Cost

- Incurred in implementing regulations to ensure sellers disclose key information about their products.
- Much time and resources are needed to ascertain the accuracy of product information disclosed as well as ensure that sellers have complied with the requirements and guidelines.
- Besides, regulations may be limited as firms may choose not to adhere to rules if there is a chance that they will not get caught and punished
- Indeed, very often, most cases are only investigated and acted upon when buyers lodge a complaint against the seller.
- As such, there is a need for government to enforce monitoring system but this will incur even higher costs
- Less money for building infrastructure or spending on merit goods

2. Moral Suasion: Ineffective

- Public education campaigns may not effectively fill consumers' information gaps if the nature of the product/ service is intrinsically complex, since consumers will take a long time to fully understand the costs and benefits associated with it e.g. Insurance or financial products.

3. Government Failure

- Government herself is also subjected to government failure in the course of intervention.
- Specifically, the high administrative cost involved in implementing any measure, time lags resulting from red tape and bureaucracy suggest that government intervention may sometimes result in greater inefficiencies or deadweight loss instead.
- Furthermore, information obtained by the government may still have gaps.

[EV] The above limitations do not make government intervention irrelevant. Instead, there is always a role for them to improve the operation of free markets, just that in the case of asymmetric information, strong incentives already exist for consumers and producers to minimize the market failure. As such, government intervention may not always be the best solution.

[THESIS: Free Market]

- In the market for used cars, both sellers and buyers have the incentive to reduce the adverse selection problem themselves.
- Signaling: Informed party can signal to the less informed party about the car (through inspection report/ warranties), attracting buyers to pay a higher-than-average price for a used car.
- Screening: Less informed party takes action to make more informed party reveal information, to prevent having to choose from an adverse selection of high risk customers.

1. Buyers obtain information on their own

- Potential buyers may try to obtain more information about the quality of used cars put up for sale.
- Consumers may engage their own trusted mechanic to inspect a particular car before purchasing it.
- Alternatively, they may turn to information sources such as automobile magazines or the internet (such as The Automobile Association of Singapore Used Car Price Reference and Sgcarmart.com) to get general information about the reliability of different car models.

[EV] Other than the issue of credibility, such information sources help buyers save time and effort in gathering information on their own and more importantly, help them better distinguish between lemons and plums.

2. Producers use signalling to inform buyers

- Used car dealers may also provide more information 'signaling' about their car quality to buyers.
- By offering 'moneyback' guarantees, warranties/ car inspection reports, sellers 'signal' (i.e. informed party reveals information to the uninformed party) to buyers about the car quality, thereby attracting buyers to pay a higher than average price for a used car.

- Taken together, these measures, if successful, help to reduce the extent of market failure by encouraging high-quality used cars to be sold in the market instead of adversely selecting against them.
- Similarly, in the market for health insurance, insurance companies may require consumers to go for a full body medical checkup for high insurance coverage or ensure that the forms filled in by the insured at the time of purchase will not require the insurer to pay out any benefits if the buyer had not declared his/ her health status truthfully.
- Such actions help the insurance companies to 'screen' through potential buyers i.e. uninformed party takes action to make the informed party reveal more information.
- If successful, this reduces the extent of market failure by preventing the problem of sellers choosing from an adverse selection of high-risk consumers (those with more health issues).

[EV] Alternatively, some insurance companies may provide group coverage/ group insurance plans to get a broader base of consumers so that they will have a mix of both high and low risk consumers. For e.g., they may enroll all the employees of an organization in one insurance plan so that both high and low risk consumers join the pool of consumers. This prevents the adverse selection problem as well as the cost of insurance from escalating.

[SYNTHESIS / OVERALL EV]

1. Actions of economic agents complement each other

- As seen, when asymmetric information is present, government intervention and actions of both consumers and producers are usually in place to correct the market failure. The proportion of use depends on the extent of information failure. In markets where information gaps are more glaring, there can be a larger degree of government intervention to mitigate the market failure.
- Nonetheless it is evident that government intervention is not necessarily the best solution because the market itself (consumers and producers), being driven by self-interest will generate actions to minimize the risks associated with information gaps.
- Although markets for used cars or health insurance continue to thrive without the need for much government intervention, the ideal case would be a policy mix comprising of government intervention to complement existing measures adopted by consumers and producers.

2. Government does not intervene all the time

- While government intervention can remove information asymmetry, it is important to note that transactions between consumers and producers can still occur with imperfect information related to uncertainties.
- This is especially the case for products or services such as financial services/ insurance/ electronic devices which, by their nature, are inherently more difficult for consumers to understand the information (even if it is made available).
- As such, we may have to accept that not all cases of asymmetric information can and will be plugged by government intervention.
- Reason being, the government is rational in making decisions about whether or not to expend a certain amount of resources in order to gather and make the information available to less informed parties.

3. Projecting into the Future

- As markets evolve such that some producers accumulate more market power and impose barriers to entry, they may possess even more power to withhold product information from consumers.
- If so, this may worsen the problem of asymmetric information.
- On the other hand, the widespread use of the Internet and availability of information sources may help consumers gather information more easily e.g. patients can read up about various medical treatments/ medicine online.
- In this case, the extent of information asymmetry may be reduced.

4. Other evaluative considerations

- Address the root cause of information failure? e.g. provide consumers with the ability to decipher information
- Effectiveness of measures on different groups of Cr? e.g. Some groups of consumers are unlikely to change (hardcore smokers), discounting the measure's effectiveness.
- Could certain groups of Cr present stronger case for intervention? Gap information in youths is relatively larger, as youths tend to underestimate the true extent of private costs from smoking (complemented with advertising bans on cigarettes).

FACTOR IMMOBILITY

Situation where resources cannot easily be transferred from one use (occupational immobility) or place (geographical immobility) to another.

1. Occupational immobility

- Capital: Many capitals are industry specific
- Labour: Lack of edu or skills
- Fast changing needs of economy/ structural changes in economy from secondary manufacturing sector to tertiary service sector, → low skilled manufacturing workers become unE as they lack relevant skills to gain employment in high tech industries like IT, renewable energy → structurally unemployed → waste of scarce labour resources → **productive inefficiency**
- Resources cannot be deployed to high tech industries to meet DD → **allocative inefficiency**
- Can provide training subsidies/ skills upgrading. Limitation: Effectiveness depends on worker's attitude and aptitude, workers still risk becoming obsolete quickly due to fast changing needs of economy.

2. Geographical Immobility

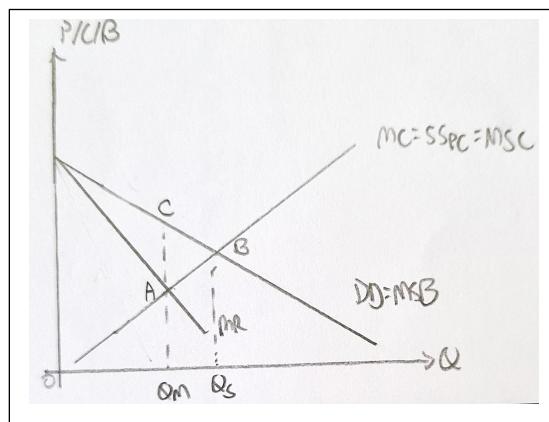
- Family ties, language barriers, high financial costs incurred in moving homes, poorly developed transport systems → labour cannot move from areas with high unE to areas facing shortage of labour → UnE persists and results in productive inefficiency
- Can be reduced by improving transportation network, increasing supply of affordable housing and by providing grants for people to move into areas in need of labour. Limitation: Strain government budget.\

Thus, both occupational and geographical immobility lead to inefficient use and allocation of resources causing market failure.

MARKET DOMINANCE

Causes: Barriers to entry, product differentiation

Consequences: A(i)E, P(i)E



Explanation structure:

1. Explain how market dominance arises and its implications (mkt power)

[DEVL 1: Explain A(i)E]

2. Define AE
3. Assume no externalities.
4. Identify Q_m ($MR=MC$)
5. Identify Q_s ($MSB=MSC/ P=MC$)
6. $Q_m < Q_s$, under production, under allocation of resources, leading to A(i)E (loss of social welfare). Societal welfare can be increased when consumption and production is increased towards Q_s .

[DEVL 2: Explain P(i)E]

7. Define PE
8. State condition for PE (point on AC)
9. Explain why M/O capable of achieving PE but does not in reality

Hence, MF due to A(i)E and P(i)E.

Note: Do put your explanation into context.

Performance Criterion of firms:

P	Productive efficiency
A	Allocative efficiency
C	Consumer choice
E	Equity
D	Dynamic efficiency

Solutions (subsequent topics): Competition laws, nationalization, price regulation

Possible Response

Introduction

A monopoly refers to a market with a single dominant firm. In a pure monopoly case, there is only a single producer of a good with no close substitutes; enjoying substantially high barriers to entry and imperfect information. This gives the firms considerable market power to set prices and results in a downward sloping demand curve.

Possible Contexts

[PUBLIC TRANSPORT]

Public transport services tend to have elements of a natural monopoly. This is especially so in the case of train services, where the fixed cost to cover infrastructure and operating assets (e.g., tracks, trains, signalling equipment, etc) is extremely high. The economies of scale are so significant that average cost is only minimised if an entire line is operated by a single company. Each rail line is a natural monopoly, and the network as a whole is currently a duopoly, with SMRT and SBS operating different rail lines.

Note: In this case, diagram should be **NATURAL MONOPOLY**.

[TICKETING SERVICE- SISTIC]

SISTIC, a ticketing service provider is a middleman between event promoters and the ticket buyers by providing a platform to buy and sell tickets. Exclusive agreements with event promoters for events at key venues such as the Esplanade and Singapore Indoor Stadium had no choice but to sell their tickets through SISTIC. Event attendees too had no choice but to book through SISTIC. SISTIC's market share was estimated to be between 85% to 95% of the market in 2009.

Note: In this case, diagram should be **(typical) MONOPOLY**; the average cost (AC) curve falls over the entire range of demand due to high fixed costs and substantial EOS.

[Healthcare]

The healthcare market consists of a mix of large and small healthcare providers catering to different segments of the consumers and different needs. There is a potential for a few dominant healthcare providers to take over the entire market in the long run. In the event this happens, there is a likelihood that they will consequently raise prices and restrict output. This is especially so for specialized clinics and hospitals in Singapore when there are a few large healthcare providers like Raffles Medical Group and Parkway Shenton.

Explain allocative inefficiency

Allocative efficiency: Achieved when the current combination of goods and services produced and consumed maximizes societal welfare.

To maximise profit, the firm produces output Q_m where $MR=MC$ and charges price P_m . Here, $P>MC$ (or $MSB>MSC$)¹. However, the socially optimal level of output is Q_s where $P=MC$ (or $MSB=MSC$). Since $Q_m < Q_s$, market eqm output is lower than optimal, fewer than optimal resources are allocated, resulting in allocative inefficiency, which leads to welfare loss to society

Furthermore, there is also the potential for these large healthcare providers to be complacent due to the lack of competition and thus become lax in their cost controls leading to P(i)E. As such, the government needs to intervene to ensure that these inefficiencies are minimized.

Explain productive inefficiency

Productive efficiency: Achieved when firm chooses the least cost combination of inputs to produce the maximum level of output possible from these inputs

Besides firms become complacent due to the lack of competition and become lax in cost controls. For instance, firms may be reluctant to invest in maintenance proactively, resulting in more faults/ disruptions/ breakdowns in future, which will require more money to repair and replace, if the damage is severe, increasing cost incurred by the firm. This means that they will not produce at a point on the AC curve, but will instead produce at a point above the AC curve. This leads to productive inefficiency, although firms are capable of producing on the AC curve.

Conclusion

The government intervenes due to the inefficient allocation of resources in the free market.

Market Failure Evaluation Points

Standard EV for MF essays: Government failure

When the government does not have access to good quality and complete information, when deciding which policy measures to adopt and the extent of policy changes required, government intervention may introduce further inefficiencies into the market due to high administrative cost, information gaps, and time lags from red tape and bureaucracy. In these circumstances, government intervention results in greater market inefficiencies.

Choice of intervention measures depends on the nature of the country, availability of an efficient system to execute the initiatives and government objectives. E.g. Amount of indirect taxes required for successful reduction/ elimination of positive externalities may differ from developed to less developed countries.

¹ In other words, society values the good at a higher price than what it costs the monopolist (society) to produce it in terms of the opportunity costs of the resources required to produce it.