

-Higher incentive to lower cost:

- More x-efficient.
- Allows private sector firm to lower the price and increase their consumer surplus (higher allocative efficiency).

3. Natural monopolies:

-Improving production techniques lowers your average cost (economies of scale):

- They can therefore charge a lower price.

-Low duplication of resources.

Problems of privatisation:

1. No impact on competitiveness:

-Public sector monopolies become private sector monopolies.

2. Transport essential service:

-Transport is part of fundamental economic and social well-being.

3. Lower concern for environment:

-Private companies do not tend to care about the environment and negative externalities.

4. Profit maximising motive:

-If it is a service the private company may not concentrate on improving the service, but only producing short term supernormal profits, rather than long term investment.

5. Higher prices:

-Low-income groups punished higher than higher income groups:

- May be less allocatively efficient.

Depends on:

1. The firms motive.

2. If it price discriminates:

-Higher profit:

- Different prices for different consumers allows them to increase producer surplus and get more revenue.

-Incentive for cross-subsidisation if it price discriminates:

- Using the profits from high-profit goods to finance low-profit goods (still provided even if it is private sector).
- Benefits the economy still (more allocatively efficient).

Privatization of rail industry:

-In 1946 the UK rail industry was nationalized and operated by a public corporation called British Rail

-In 1996 Rail Industry was privatized and split into four sections:

1. Infrastructure
2. Passenger Operations (TOCs)
3. Freight operations
4. Rolling Stock Companies (own trains)

-Train Operating Companies are firms with a time limited franchise (usually 8 years) awarded by the Department of Transport to operate passenger train services (done by bidding).

Evaluation of UK Transport Industries

1. Buses:

2. Place a monetary value on each cost and benefit:
 - Using normal market prices or shadow prices to value externalities.
3. Take account of the timing of costs and benefits:
 - Costs and benefits of a project last many years (difficult to measure).
4. Take account future risk and uncertainty:
 - Best and worst case scenarios.
5. Establishing the net present value:
 - This involves adding up the benefits and deducting costs.
 - If benefits exceed costs net benefits are positive and the the project is worth undertaking (governments may have low budgets).

Benefits:

-A clear/easy to use:

- NPV (Net Present Value) and BCR (Benefit Cost Ratio) present the results of CBA in monetary value (a number).

-Used universally:

- Allows comparisons.

Challenges:

-Identify:

- Which costs and benefits are best included or left out.

-Value:

- Lost time and loss of life has no market price.

-Predict:

- How accurate is input data?

-Projects usually create 'winners and losers'

- Society may gain but what is costs fall mainly on the disadvantaged while the benefits are enjoyed by the privileged (inequity).

How to calculate it:

-Value turns into a Present Value using a discount factor (what could change):

$$x \rightarrow PV(x)$$

$$NPV = \sum PV(B) - \sum PV(C)$$

$$BCR = \frac{\sum PV(B)}{\sum PV(C)}$$

Comparing NPV and BCR:

-Although both show a cohesive representation, they should not be look at separately but rather together looking at the ratio and the total left over benefit received, if there is any at all.

-When NPV is positive it is done, when BCR has a ratio of more than 1 the project should go ahead usually except when e.g. the area is a natural habitat.

COBA

COBA: compares the costs and benefits of a project so that the government can decide whether to go forward or not with the project for road building.

Total benefit split into 3 main components:

-Time savings.

-Accident cost savings.

-Vehicle operating cost savings:

- Direct cost to road users of fuel cost savings.
- Saving through there being less damage on moving parts such as brake.

Two main cost components:

-Capital costs:

- Early phase of any major road project.
- Include construction costs, land purchase, design costs etc.

-Maintenance costs:

- Annual costs to cover the costs of lighting, cleaning and routine resurfacing work.

User costs:

-Represent the actual user benefits of constructing a new road scheme.

Disadvantages:

-Difficult to understand COBA model:

- Limits ability of the public to participate fully when there are public inquiries into new road schemes.

-Does not recognise all benefits and costs involved:

- User-based method of appraisal
- Does not seek to put a monetary value on the external or indirect costs and benefits involved.

-Environmental effects not adequately addressed:

- Problem of putting a monetary value on environmental costs.

-Value judgements need to be made:

- Value of time is difficult to be measured

-Only applies to roads:

- A method needed that applies to all forms of transport.

-Can be long and expensive

- e.g. Newbury bypass COBA took 20 years.

Obtaining monetary values to the external costs

Methods:

1. Compensation:

-The cost to repair damage done as a result of an accident.

2. Accident costs:

-Loss of output that the person would have produced if they had lived.

-Monetary valuation of the police time used at the scene of the accident.

-A value for the cost imposed upon the NHS.

3. Congestion costs:

-How many working hours a year are lost due to road congestion:

- Multiplying this by the average hourly wage.

4. Relative external benefits:

-Multiplier effects.

-Environmental benefits of e.g. greater bus/train use.

5. Simple price comparisons:

-Used to see the decline in value as an external cost.

Evaluation:

1. Attaching values to uncertainties:

	-Takes low amount of freight compared to ships.
Ships	-Can take a large amount of freight compared to trucks, so less CO ₂ and renewable resources per unit of freight carried (large capacity). -Reduce congestion.

Sustainable modes of transport:

-Bus/train/low emission airplane passenger transport is sustainable:

- Mass transit nature, allows them to exhibit much lower externalities than cars.
- Less market failure arising from negative externalities.
- Higher allocative efficiency.

-Freight by rail/larger vehicles:

- Reduce emissions per output.
- Lower negative externalities.
- More efficient allocation of scarce resources.

Unsustainable modes of transport:

-Car use:

- High congestion.
- Too many scarce resources used, so over-consumption of cars (negative externality).

-Air flights:

- Passengers will not take in to account the full social cost of their actions and will therefore overconsume (negative externality).

Road Pricing

Aims:

-Increase the private cost of car (discourage driving).

- Incentivising people to use buses and trains (mass transport).

-Decrease negative externalities (internalise external cost):

- CO₂.
- Urban congestion.
- Noise.
- Stress.
- Accidents.

-Potential **hypothecation**:

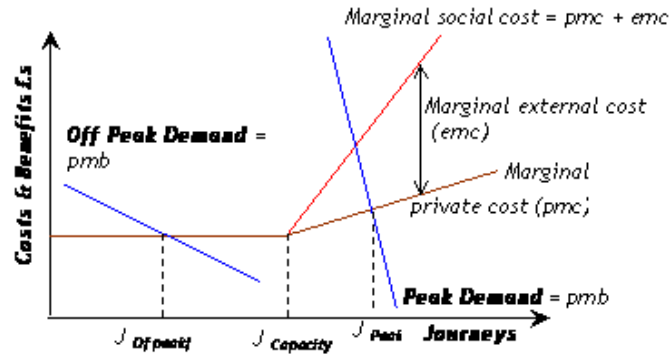
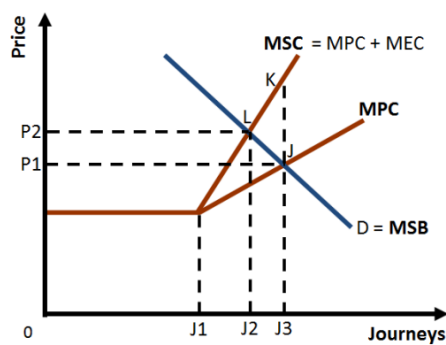
Hypothecation: a situation where revenue from a tax is directly allocated to some other purpose.

- Used for the improvement of public transport.
- Lower fares and higher quality of services encourage shift from car to buses and trains.

-Forms of road pricing include **road user charging** and **congestion charging**.

Road user charging: a form of road pricing where a flat-rate charge is made for the use of stretch of road or access into a designated charging zone.

Congestion charging: a direct charge for access to designated urban zone where the main purpose of the charge is to reduce congestion.



At J_{offpeak} $MSC = MSB = MPB$.

After J_{capacity} the MSC and MPC curves become more inelastic as there is a higher necessity to use the transport and there are less substitutes.

Less than J_{Capacity} is where off-peak is and more than that is where peak is.

At J_{peak} the $MPC < MSC$, so too many scarce resources are being used (negative externality).

$MSC = MPC + MEC$.

Disadvantages:

-Difficult to measure external cost so difficult to set road pricing:

- If too low it will have little impact on supply/demand.
- If too high they may have too much of an impact on supply/demand.

-Possible displacement on to smaller roads, which are not covered by road pricing:

- Congestion moved elsewhere.

-Burden of taxation falls more heavily on low income drivers:

- Regressive taxation (Individuals & small businesses)

-Hypothecation may involve a time lag before any reduction in car use occurs.

-Is charging a one-off fee good fair?

-High set up costs, so there is a significant opportunity cost to the government of introducing such schemes.

Depends on:

-PED:

- If inelastic, road pricing will have a very small impact on their demand.

-PES:

- If inelastic, road pricing will have a very small impact on their supply unless set at a very high level.

-XED:

- Road price is only effective if there is a close substitute (high XED).
- Without this people will not switch to other modes of transport.

London Congestion Charge:

-Not the first city to adapt congestion.

-Stated aim: to encourage people to use greener modes of transport.

-Started 2003.

-2004: traffic cut by 18%, delays decreased by 30%.

-London's bus service had improved dramatically:

- 29000 more people using service.

-Trains/tubes had a 10% increase in passengers.

Preview from Notesale.co.uk
 Page 33 of 42

- 70% of people were against the charge in 2006, now in 2011 70% were in favour.
- No significant increase in congestion on non-charged routes.
- Most of the revenue is being used to support enhancements to roads outside congestion charge zone:
- Very important for acceptance by people of Stockholm.

Possible Alternatives to Road Pricing

1. Rationing road use:

-Alternate plate driving days:

- Cars allowed to be used every other day depending on last digit of their license no.

-Athens tried it but car ownership actually went up:

- Drivers bought 2nd-hand cars with different plates so they could drive everyday.

Advantages:

-Simple to implement.

Disadvantages:

-Very inconvenient to people in a rush/emergency.

-Must have close substitutes otherwise people won't be able to get to work, make deliveries etc.:

- Negative economic impact.

2. Raising the driving age:

Advantages:

-Simple with low set-up costs.

-Easy to control/monitor (don't issue licenses).

Disadvantages:

-Is it fair?

-Economic impacts:

- Young people in rural areas can't get to jobs causing a decrease in the mobility of labour.

3. Increase in fuel price:

Advantages:

-Polluter pays.

-Easy to implement.

-Generates revenue.

-Disincentive to drive (encourages modal shift of transport).

Disadvantages:

-Regressive tax (high effect on passengers and small businesses).

-Price of fuel very high.

-Have no viable substitute so it is unfair.

4. Traffic management:

-Dedicated lanes for high-occupancy vehicles will decrease journey time.

-Improvements of existing roads e.g. widening of roads to increase capacity.

Disadvantages:

-Expensive.

Preview from Notesale.co.uk
Page 35 of 42

Private Finance Initiatives

-PFI encourages a private investor to manage, build and finance the operation of public transport.

e.g. Crossrail – Bombardier

How it works?

-Government offers the contract and takes bids.

-Contract: construction, services and maintenance.

-Government pays back costs over time.

Why we do it?

-Efficient.

-Higher incentive to be dynamic and therefore better and cheaper.

-May not be paid until delivered and complete (depends on contract).

-Benefits of investment, as some projects may not be done without it.

It transfers risk away from the taxpayer.

Disadvantages:

-Government vs private debt:

- Private debt over 3% more expensive.

-Contracts can be complex, are inflexible and are very costly to change.

-Who wins?

- The government holds the risk and companies get the money.

It depends on:

-How much they need to borrow.

-If the government can be “disciplined” (wholly public procurement) then the premium does not have to be paid and before public provision would be better:

- If they are disciplined they would pay less due to lower interest rates.

Example of PFI breakdown:

Crossrail:

- Bombardier initially won the contract to supply the trains but it was ‘sacked’.

Government issues on deciding who to provide transport:

-Workers less or more motivated.

-Objectives of a firm:

- Profit maximization or service provision.

-Efficiency:

- Profit maximizing vs. x-inefficiency.

-Market failure vs. Government failure.

-PFI:

- Less or more opportunity cost.

-Economies of scale of government vs. Private Natural Monopoly.

Objectives of transport policy in the UK

Overall objective: