

Corruption | Development Economics

The concept of corruption

Corruption:-

- Sale by government officials of government property for personal gain.
- Goods are not demanded for the sake of government officials but rather enable private agents to pursue economic activity they could not pursue otherwise.
- In developing countries, corruption does form a large part of GDP
- Most studies on corruption are based on **principal agent model** where the principal is the top level of government and an agent is the official who takes the bribe from a private individual.

Modelling corruption- Principal Agent Model

- One government produced good (say passport); the good is homogeneous
- Demand curve for the goods $D(p)$ from private agent
- Assume goods sold by officials who had the opportunity to refuse sales (assumed for simplicity)
- Assume no risk of rejection
- From this we can say government official is a monopolistic selling the good with the objective to maximise the value of the bribes .
- Let the official price be p .
- We assume the cost of producing the good is immaterial to the official (this is a restrictive assumption)

Case without theft

Turns over the official price to the government and keeps the bribe

$$MC=p$$

Price paid by the buyer would be more than p (i.e. $p + \text{bribe}$)

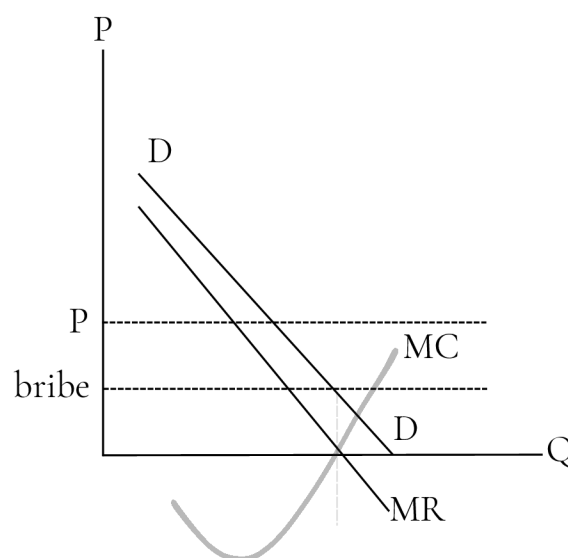
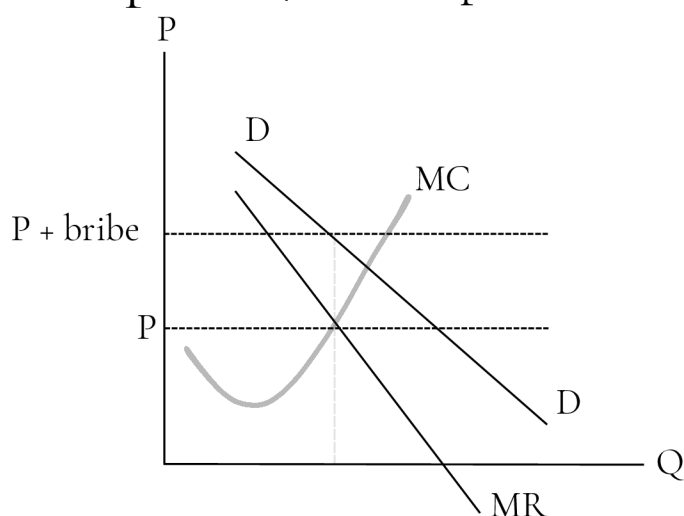
Case with theft

Do not give anything to the government (simply hides the sale)

$$MC=0$$

Price paid by the buyer would be equal or even lower than official price p .

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Penalizing corruption

- It changes the level of bribe he demands but does not change the essence of the problem.
- If the probability of detection and penalty are independent of bribe and of the number of people who pay it, officials charge the same bribe provided that the penalties are not so high.
- If the expected penalty increases with the level of a bribe, then he will reduce bribe and raise output.
- If the expected penalty increases with the number of people who charges a bribe, then he will reduce supply and raise a bribe
- Competition between officials ensure that maximum bribes are collected.
- Corruption spread and competition between buyers in a case with theft: If buyer A can buy the government service more cheaply than buyer B, then he compete buyer B in the product market. So if buyer A bribes an official to reduce his costs, his competitors must also.
- Corruption with theft spread because observance of law doesn't survive in a competitive environment. This suggests that the first step to reduce corruption should be to create an accounting system that prevents theft from the government.
- The above model has strong assumptions: 1. A buyer needs only one government good to conduct his business. 2. The official is a monopolist in the supply of this good.
- Issues arise when these assumptions does not hold. In many cases a private agent needs several complimentary government goods to conduct business. The different agencies that supply the complementary goods might collude, sell different goods independently or even compete in the provision of some goods.

Types of corruption schemes

The model of the previous section is appropriate only for monarchies. There are alternatives to the monarchy corruption scheme. One of the prominent alternatives is corruption system prevalent in Africa, India and post-communist Russia where sellers act independently. Following are the different schemes.

Type1: Joint Monopolist Agency

- Formally, consider first a joint monopolist agency that sets the bribe prices at P_1 and P_2 . Let x_1 and x_2 be the quantities of goods sold. Let the official prices equal to the monopolists' marginal costs denoted as MC_1 and MC_2 .
- The per unit bribe would be $P_1 - MC_1$ and $P_2 - MC_2$
- The joint monopolist agency sets P such that $MR_1 + MR_2 \cdot dx_2/dx_1 = MC_1$
- Obviously, since x_1 and x_2 are compliments, $dx_2/dx_1 > 0$
- So at optimum, $MR_1 < MC_1$
- The monopolist agency keeps the bribe on good 1 down to expand the demand for complimentary good 2 and thus raise its profit from bribes on good 2. For the same reason, this agency keeps down the price of good 2 low.

Type2: Independent Monopolists

- Suppose alternatively, that good 1 and 2 are allocated by independent agencies. $dx_2/dx_1 = 0$ implies per unit bribe is higher and output lower than at the joint monopolist optimum ($MR_1 = MC_1$).
- Because, the independent agency ignore the effect of its raising bribe on demand for complimentary permits and hence the other agency sets a higher bribe which results in a lower output and lower aggregate level of bribe. So it hurts both agencies and buyers.
- This problem is worse in countries of free entry into collection of bribes. It is because the list of complimentary good is not fixed and agencies tend to expand when profitable corruption opportunities stimulate entry (since property rights are not completely transferred to the buyer)
- Total bribe will rise to infinity and sale of bribes down to zero.

Type 3: Competing Supplying Agencies

- Market for each government supplied good is competitive i.e. each one of the several complimentary government goods can be supplied by at least two government agencies.
- Since collusion between different agents is difficult, bribe revenue tends to zero. and output would be highest.

Summary

	TYPE 1	TYPE2	TYPE3
Level of bribes	Intermediate	Highest	Lowest
Revenue from bribe	Higher	Lower	Lowest
Output	-	Lower	Highest

Competition is best, joint monopoly second best and independent monopoly worst for efficiency.

Corruption and Secrecy

Optimal level of corruption might be positive.

Existing corruption levels are detrimental to development and developed countries are less corrupt. Costs of secrecy in addition to inefficiency created by bribe is the hostility to innovation and change.

Bribery Vs Taxes

Taxes are the markup on price that goes into the treasury and bribes are the markup that goes into the pocket of monopolist charging bribe.

Example of Green cars and Red cars

Let import price be 5M USD and demand is 10 cars.

Consumer valuation stands at 15 USD for red and 10 USD for green cars

(a) With free imports=> only red cars => $CS = (15-5) \times 10 = 100$

(b) Import tax of 10 USD=> Price of import=15; Green cars cost 15USD but valuation is at 10 and the same stands at 15 for red cars=> $CS = (15-15) \times 10 = 0$ and Govt. revenue= $10 \times 10 = 100$. Thus no efficiency loss, just redistribution to government.

(c) If import of red cars are banned

Then 5USD can be collected as bribe to give free import license for green cars

Hence green cars will be imported

Total bribe = $5 \times 10 = 50$ (social surplus and declines=> inefficiency)