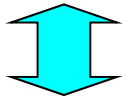
Chapter 4 Valuing Benefit and Cost in Primary Markets

Primary Markets: Directly affected by a policy or project

Secondary Markets: Indirectly affected

Competitive Market (Perfect Competitive):

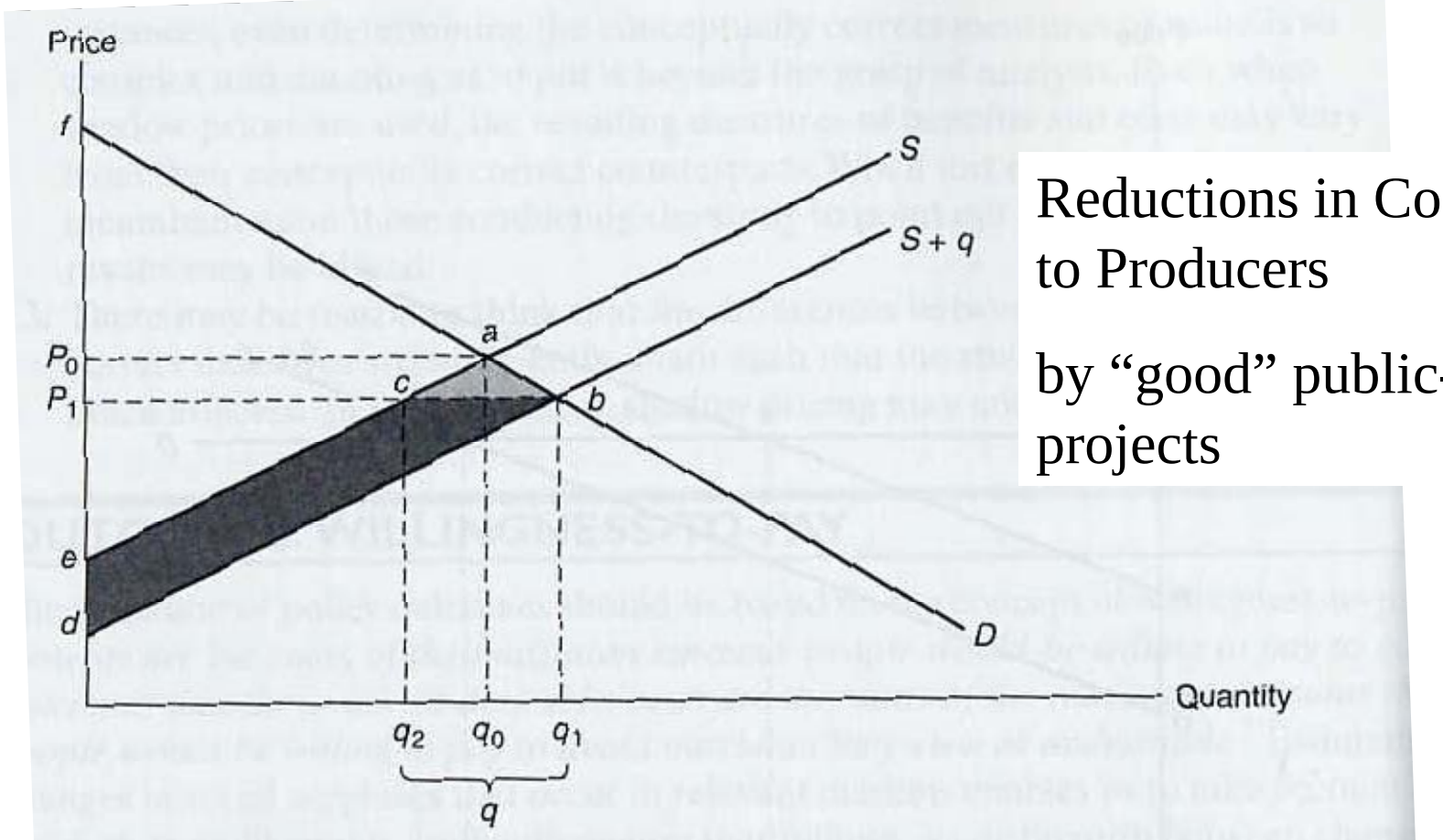
Pareto Efficiency: Ideal Market based on Microeconomics Theory



Distorted Markets (Market Failures or Government Failures)

Pareto Inefficiency: **Monopoly,** Information Asymmetry, **Externalities**, Public Goods and so on.

Measuring Benefits in (Pareto) Efficient Markets



Social surplus change (ignoring costs of project inputs to the government):

Project (a): Direct increase in supply of q —gain of triangle *abc* plus project revenue equal to area of rectangle q_2cbq_1

Project (b): Supply schedule shift through cost reductions for producers—gain of trapezoid *abde*

Reductions in Cost (q) to Producers

by “good” public-sector projects

Monopoly

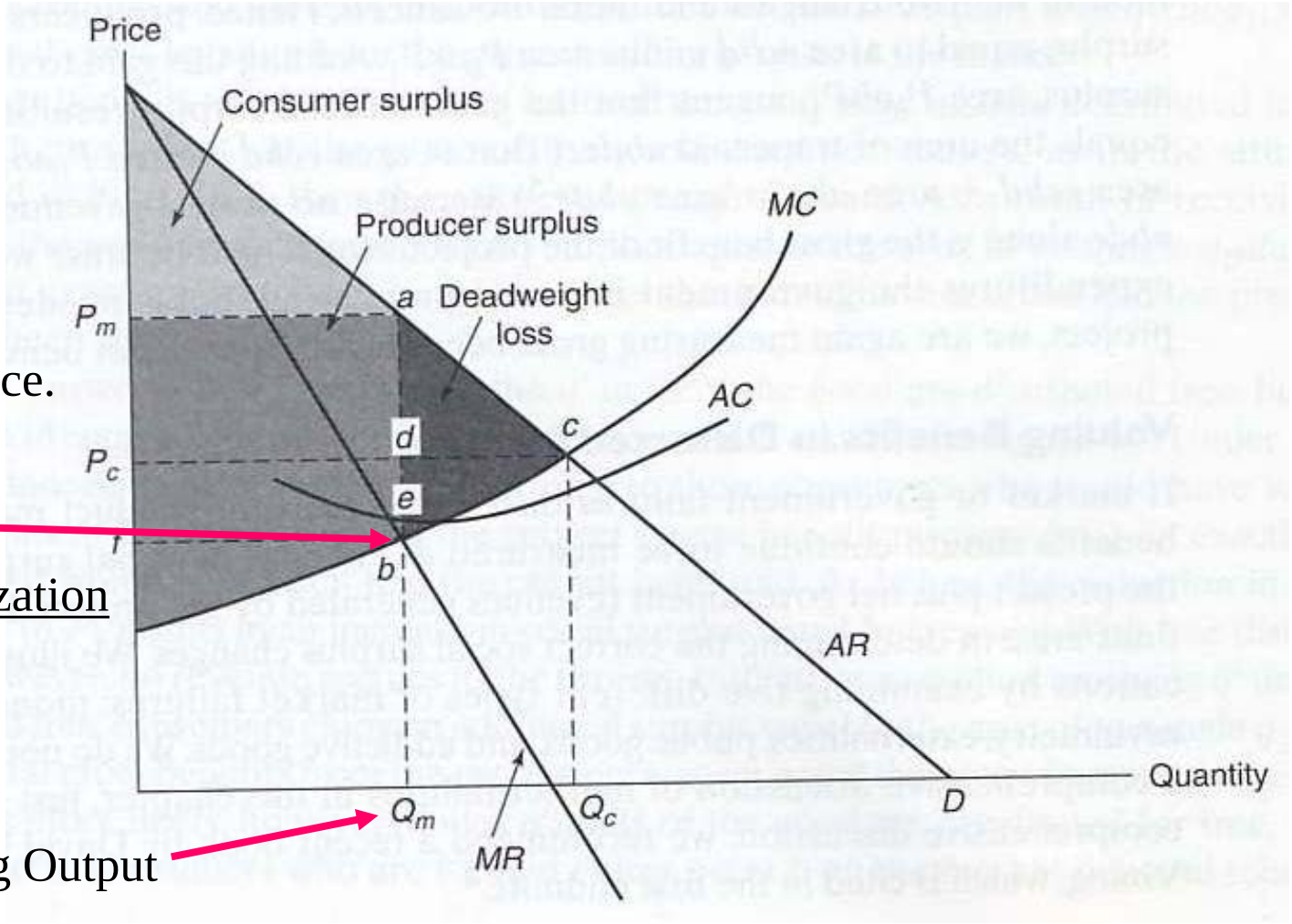
Monopoly: Only one firm in the market
Monopoly firm can choose the level of price and output.

MR > MC
should produce
more output.

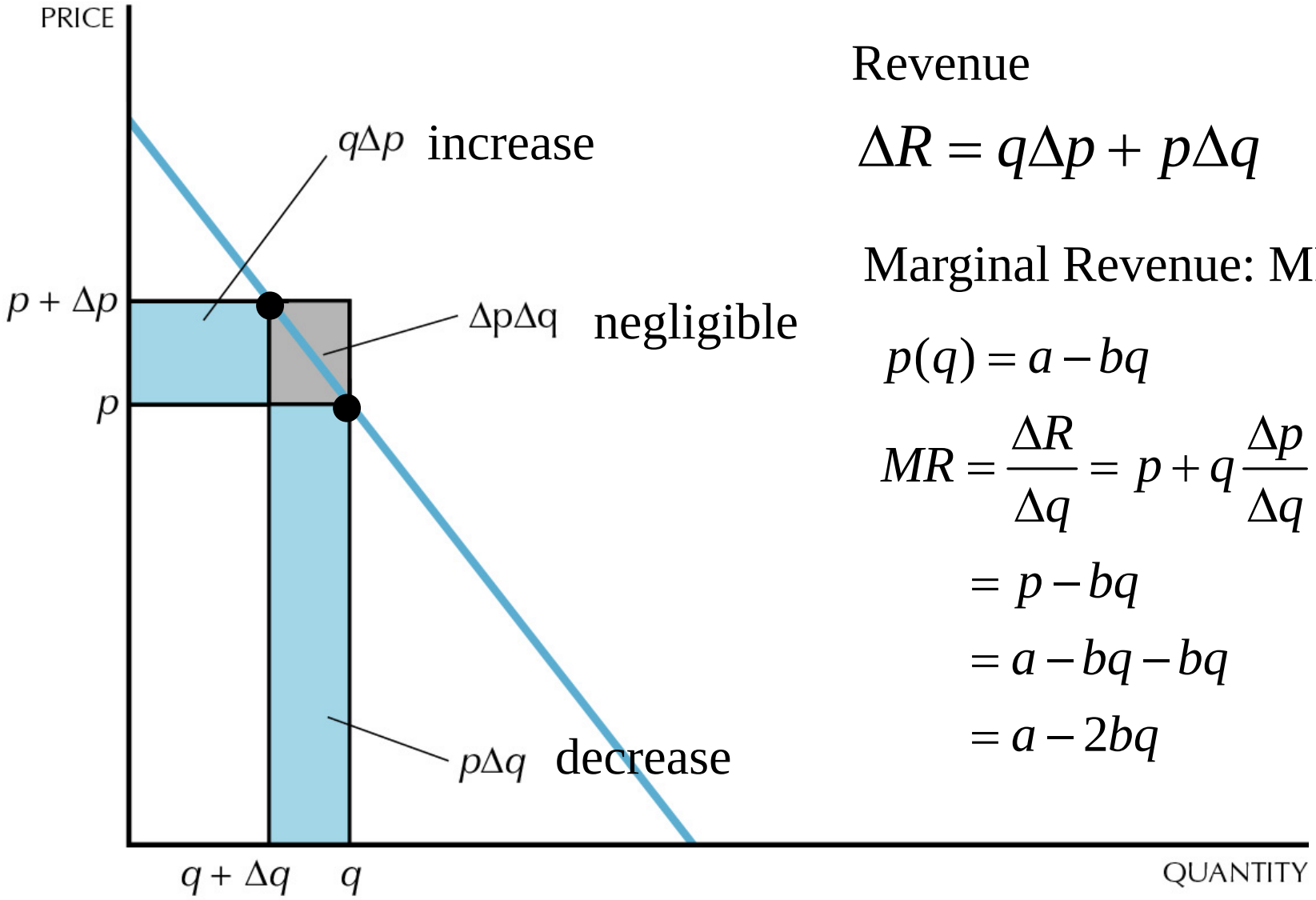
MR < MC
should stop produce.

MR = MC
for Profit maximization

Profit Maximizing Output



Revenue and Marginal Revenue



Revenue

$$\Delta R = q\Delta p + p\Delta q$$

Marginal Revenue: MR

$$p(q) = a - bq$$

$$MR = \frac{\Delta R}{\Delta q} = p + q\frac{\Delta p}{\Delta q}$$

$$= p - bq$$

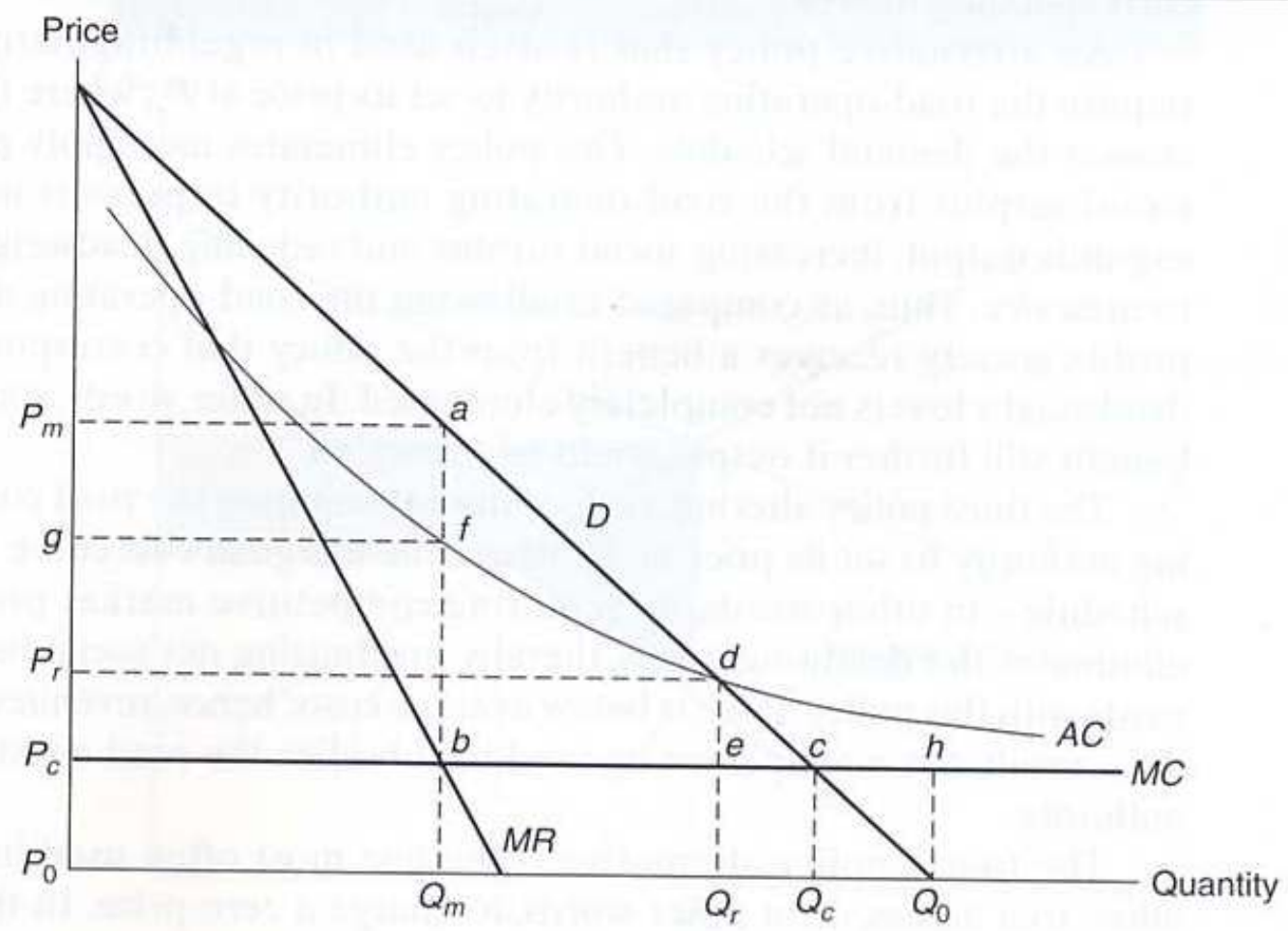
$$= a - bq - bq$$

$$= a - 2bq$$

Natural Monopoly

Large fixed costs and small variable cost → Subsidy
Regulation

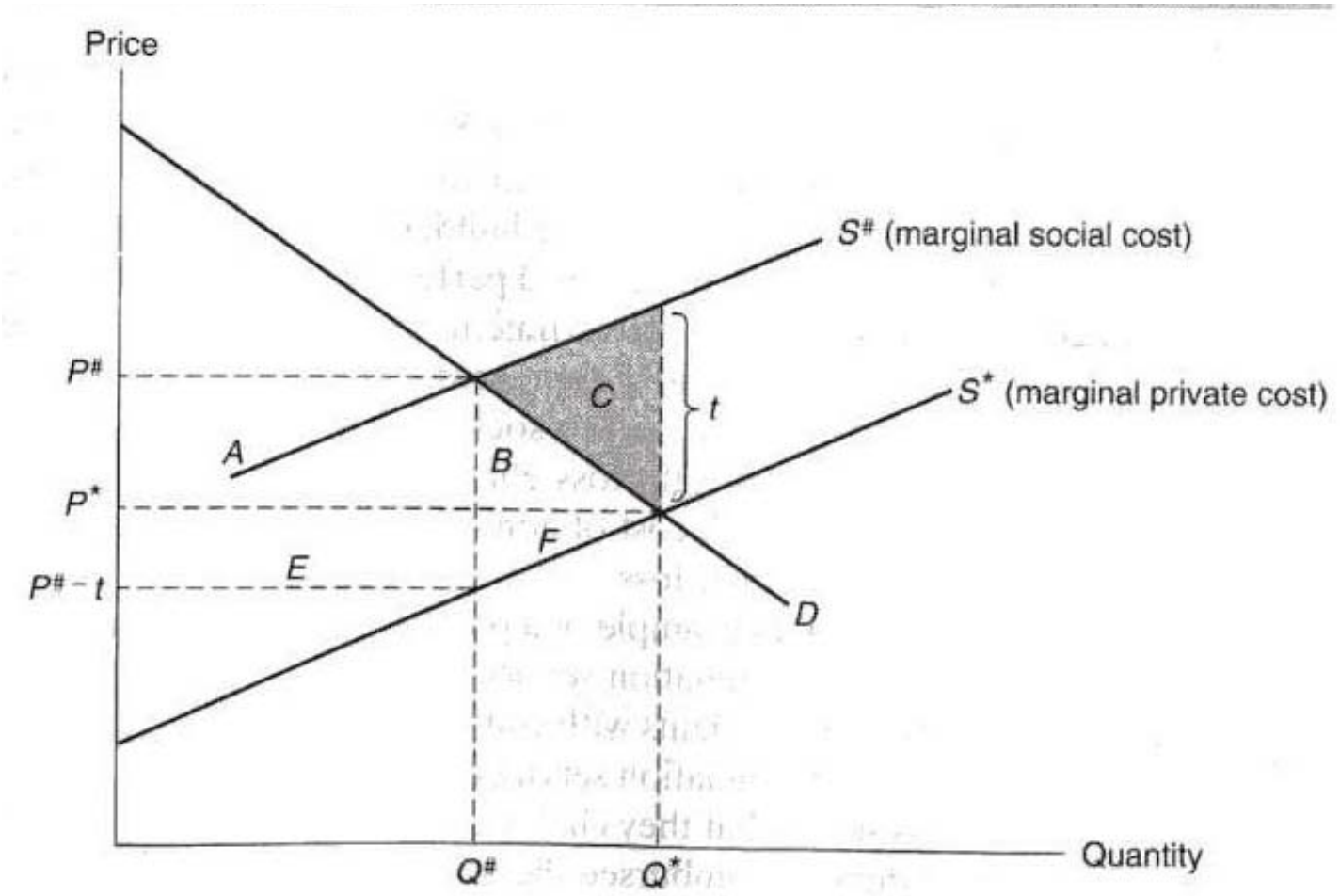
Public utilities (roads, railway, bridges, gas, electricity)



Externalities

Goods, but <u>not sold on markets</u> (positive and negative)

➡ **Social Cost** = private cost + impose on other agents



Monopoly

Profit maximization **MR = MC**

Competitive market $\Delta R = p\Delta y + y\Delta p = p\Delta y$

Price is fixed (as price takers)

$$MR = \frac{\Delta R}{\Delta y} = p \longrightarrow p(y) = MC(y)$$

Monopoly market

$$\Delta R = p\Delta y + y\Delta p$$

$$MR = \frac{\Delta R}{\Delta y} = p + \frac{\Delta p}{\Delta y} y = p\left[1 - \frac{1}{|\varepsilon|}\right] \longrightarrow p(y)\left[1 - \frac{1}{|\varepsilon|}\right] = MC(y)$$

$$\varepsilon = (\frac{\Delta y}{\Delta p})(\frac{p}{y}) \quad \frac{p}{\varepsilon} = \frac{\Delta p}{\Delta y} y$$

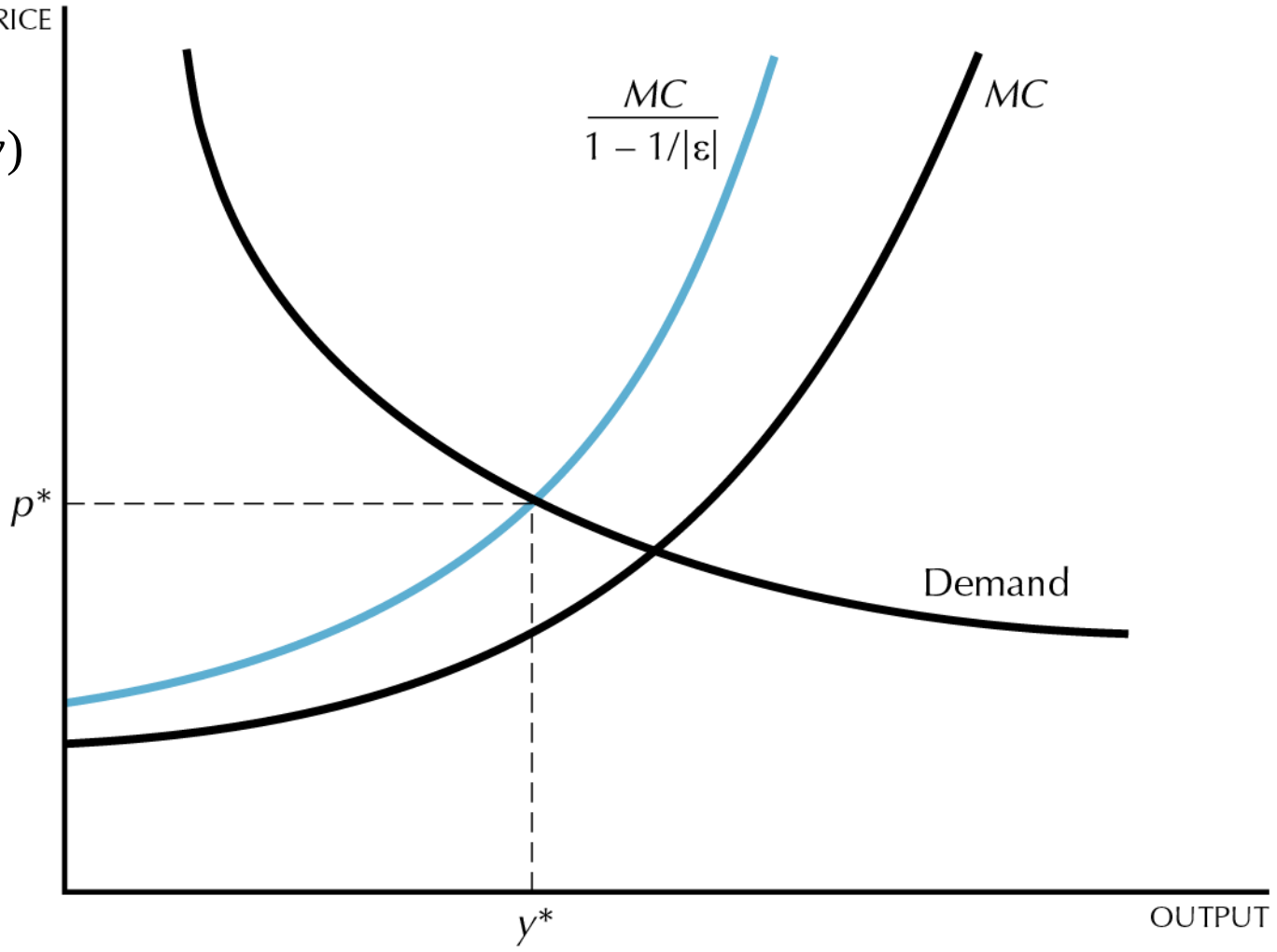
Markup Pricing for Monopoly

$$p(y)\left[1-\frac{1}{|\varepsilon|}\right]=MC(y)$$

$$p(y)=\frac{MC(y)}{\left[1-1/|\varepsilon|\right]}$$

$$0<[1-1/|\varepsilon|]<1$$

Markup > 1



Chapter 5 Valuing Benefit and Cost in Secondary Markets

Secondary Markets: Indirectly affected

Second-round, *spillover*, *side*, *pecuniary*, *indirect effect*, etc..

1. The increased traffic would cause vibrations that crack the walls of adjacent houses.
2. Profits of gasoline at filling stations that are located along the route would increase.
3. The property values of these stations would also increase.
4. Traffic on adjacent streets would decline. Therefore, the remaining motorists would experience quicker and cheaper journeys.
5. Air pollution along the route would increase.
6. The increased auto traffic would require the city to hire three more police officers to enforce traffic regulations.
7. The greater number of motorists would lead to an increased number of traffic violations, and the resulting fines would mean that the city receives increased revenue.
8. Fewer people would ride buses; as a consequence the bus company would lay off 10 bus drivers.
9. Widening the road would necessitate cutting down a number of trees. These trees would then be sold to a nearby sawmill.