Chapter 4 Valuing Benefit and Cost in Primary Markets

Primary Markets: Directly affected by a policy or project

Secondary Markets: Indirectly affected
(as side effect or spillover effect)

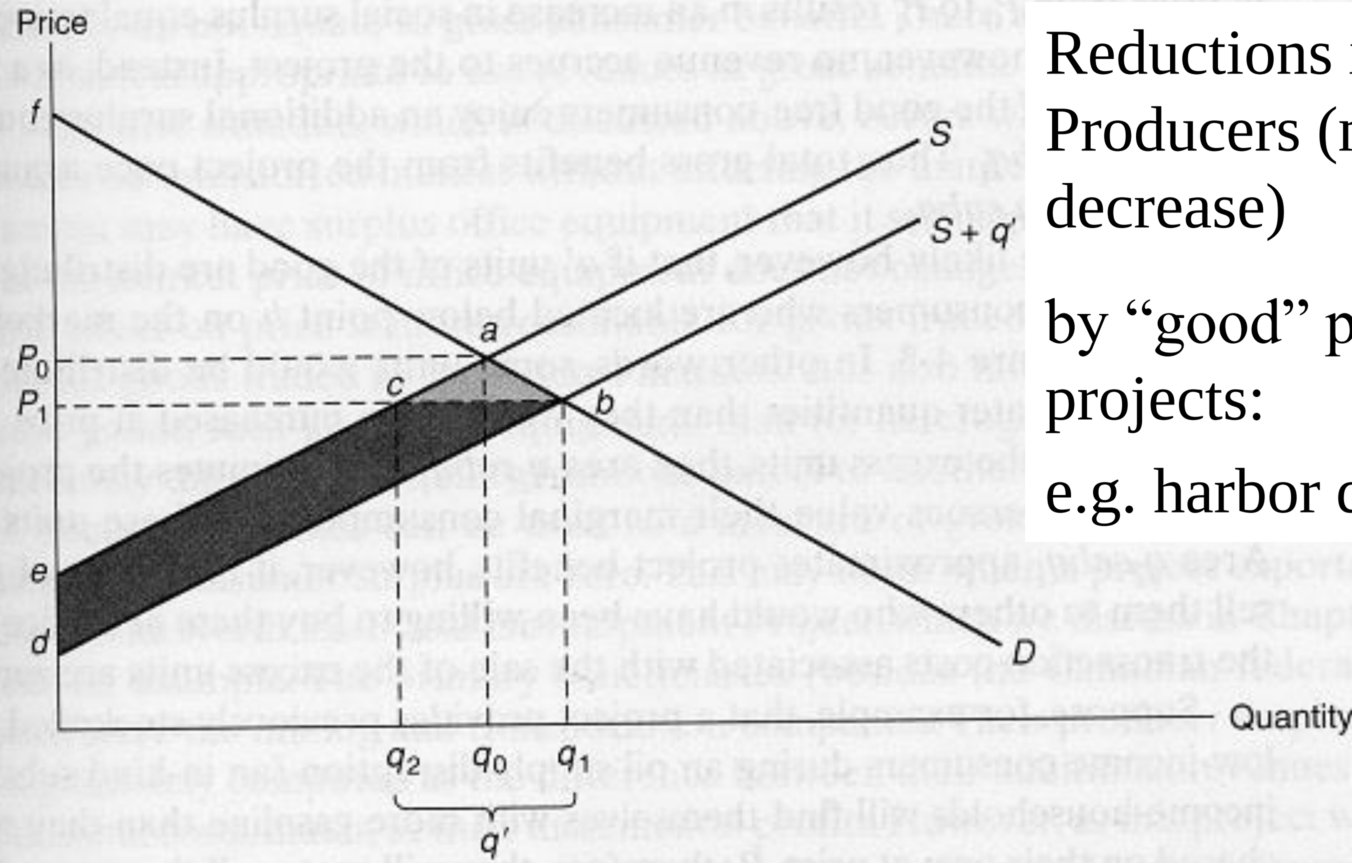
Competitive Market (Perfect Competitive):

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 (marginal cost decrease)

by “good” public-sector projects:

e.g. harbor deepening

Monopoly

Monopoly: Only one firm in the market

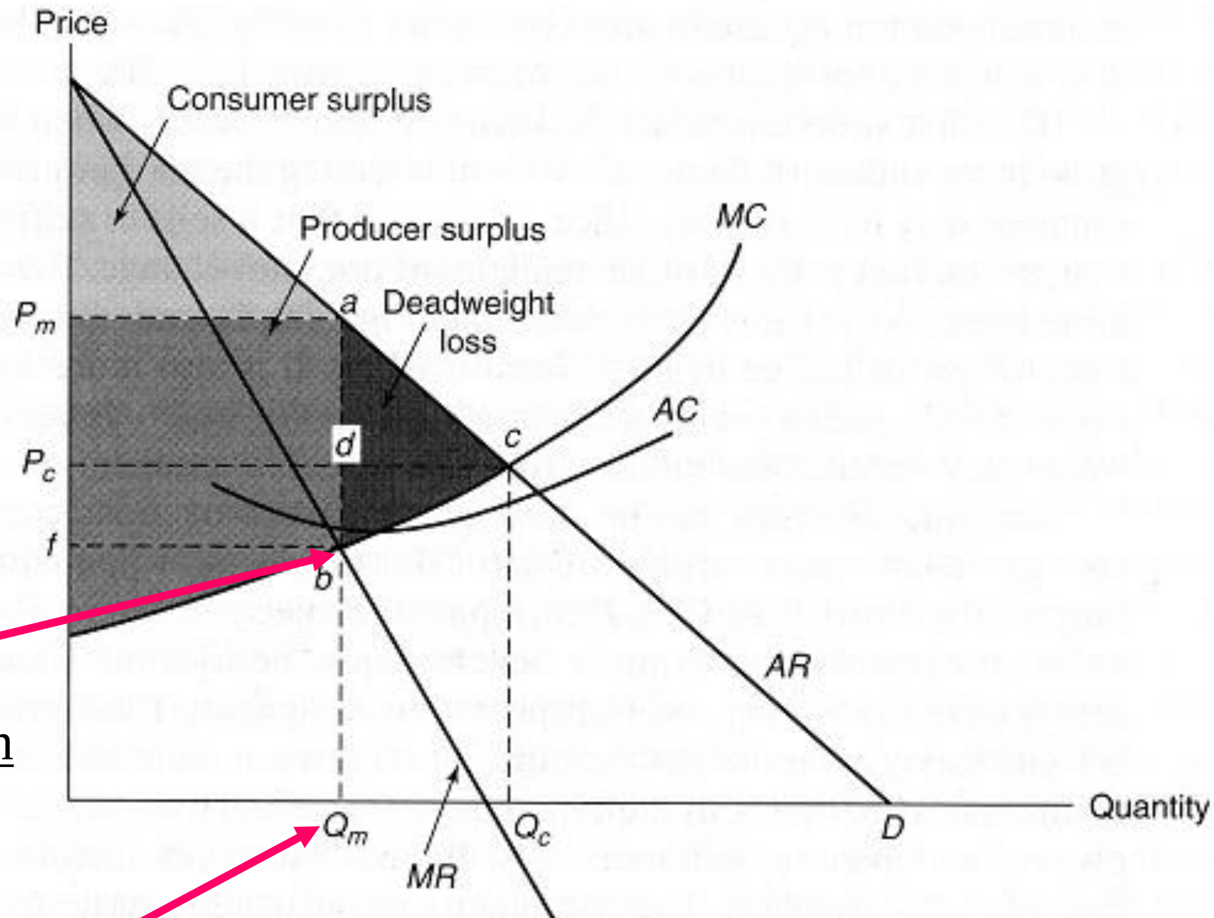
Monopoly firm can choose the level of <u>price</u> and <u>output</u>.

MR > MC

should produce more output.

MR < MC

should stop produce.

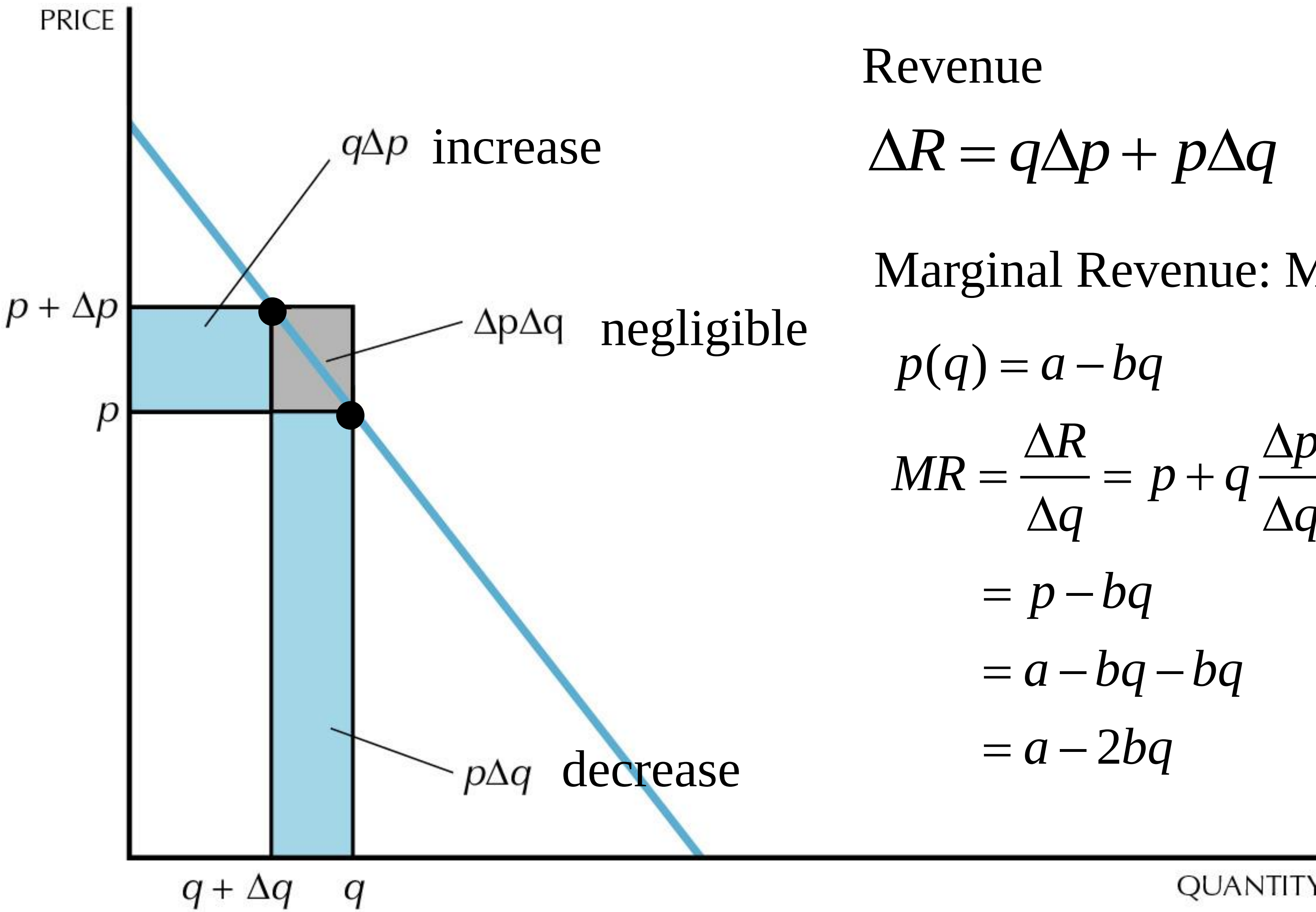


MR = MC

<u>for Profit maximization</u>

Profit Maximizing Output

Revenue and Marginal Revenue



Revenue

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

Marginal Revenue: MR

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

$$\begin{aligned} MR = \frac{\Delta R}{\Delta q} &= p + q\frac{\Delta p}{\Delta q} \\ &= p - bq \\ &= a - bq - bq \\ &= a - 2bq \end{aligned}$$

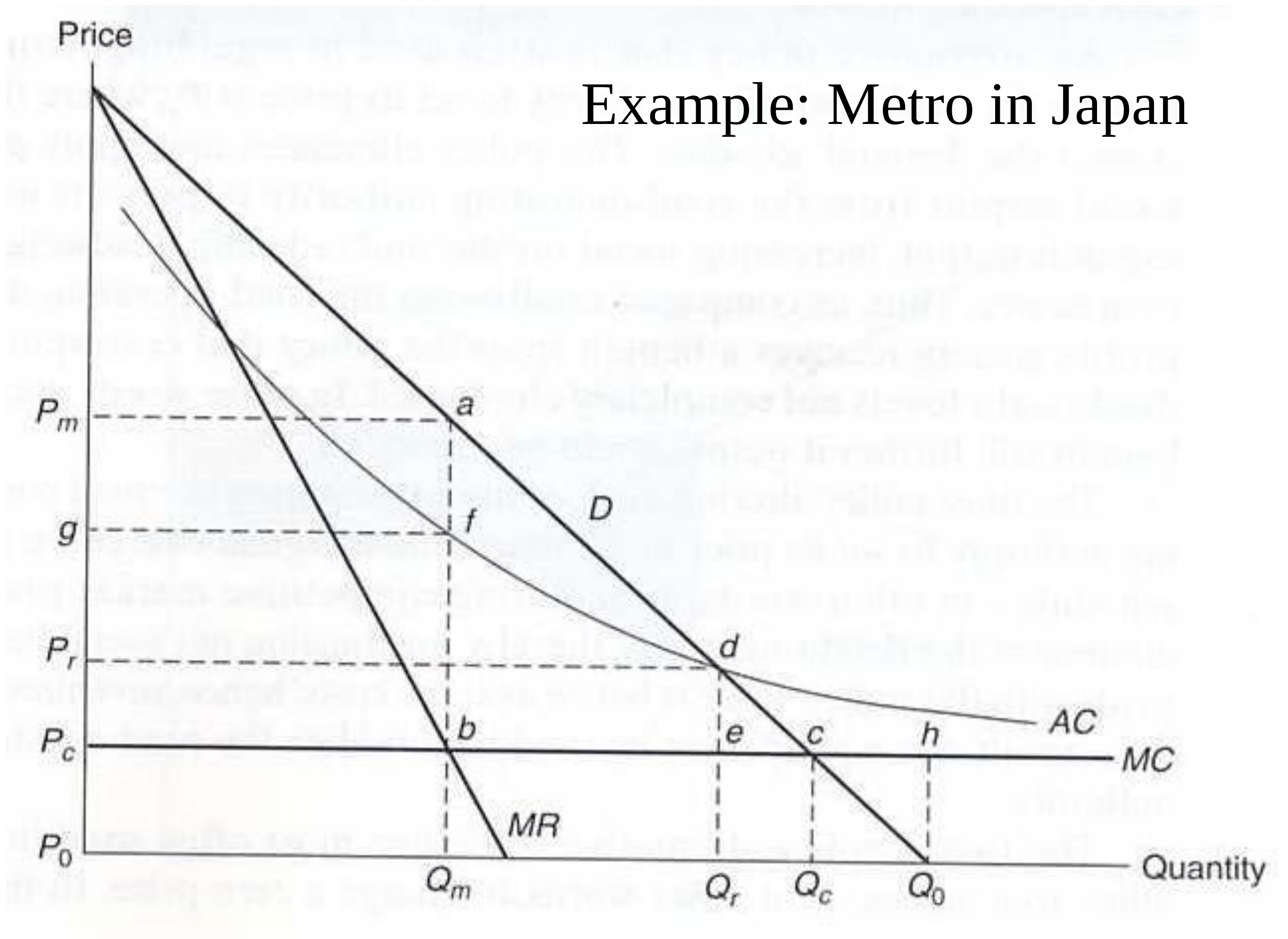
Natural Monopoly

<u>Large fixed costs and small variable cost</u> → Subsidy
Regulation

e.g. **Public utilities** (roads, railway, bridges, gas, electricity)

Effect on *Economies of Scale*

Example: Metro in Japan



Externalities

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

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