

Exercise walk-through

6.4

The Effects of Government Intervention in Different Market Structures

AP Microeconomics

Can the same tax help one market and harm another?

Both cases have demand $100 - Q$ and private supply $20 + Q$. A **per-unit tax** of \$20 lowers private output from Q40 to Q30.

Starting conditions	Efficient Q	Tax Q	Welfare effect
Pollution cost \$20/unit	30	30	Removes DWL \$100
No external effects	40	30	Creates DWL \$100

Identify the social curves first. A tax does not universally create an additional efficiency loss.

A fixed charge and a marginal charge affect different choices

Lump-sum tax

A fixed charge

lowers profit but leaves MC and MR unchanged. A continuing firm's interior short-run operating choice can stay the same.

Lump-sum subsidy

A fixed

payment raises profit without directly changing marginal incentives. Participation, entry and exit can still change.

Do not extend a conditional short-run firm result into a promise of unchanged industry output forever. Demand and MR changes also matter.

Natural monopoly: reuse the Unit 4 network model

Given values per period

Demand $P = 100 - Q$; $MR = 100 - 2Q$; $TC = 1200 + 20Q$; $MC = 20$.

$ATC = 1200/Q + 20$ declines over the demand range: splitting output can sacrifice economies of scale.

Natural monopoly: reuse the Unit 4 network model

Given values per period

Demand $P = 100 - Q$; $MR = 100 - 2Q$; $TC = 1200 + 20Q$; $MC = 20$.

$$MR = MC$$

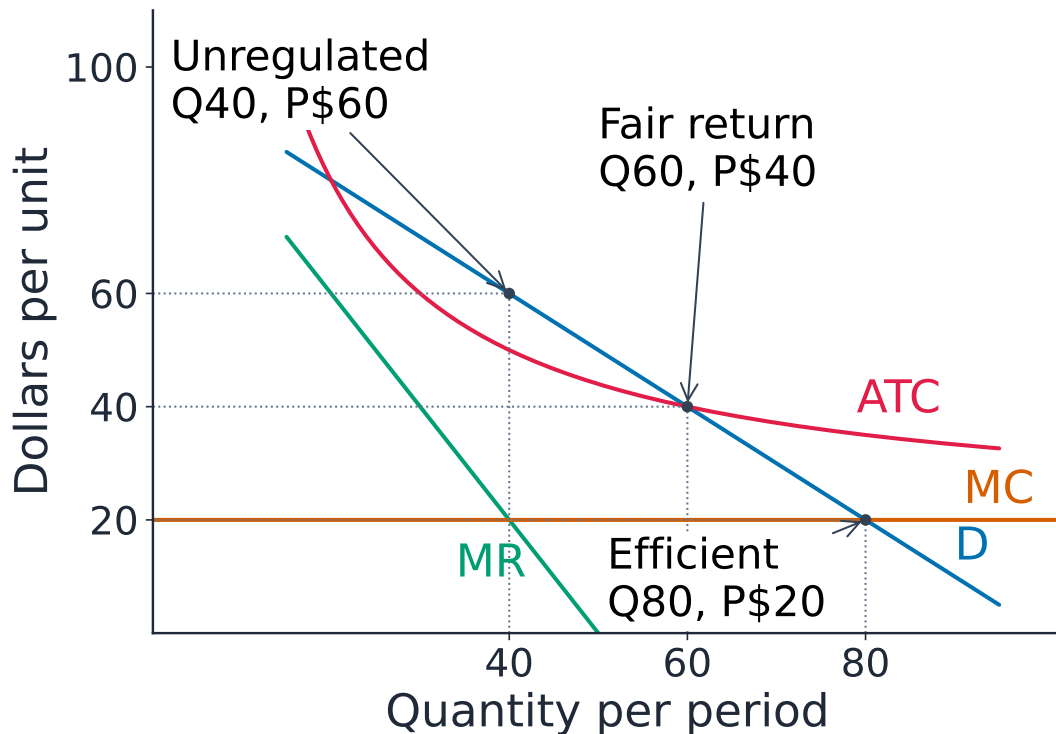
$$100 - 2Q = 20 \quad Q_m = 40$$

$$P_m = 100 - Q_m = 100 - 40 = \$60 \text{ per unit}$$

$$\pi = P_m Q_m - TC(Q_m) = 60(40) - [1200 + 20(40)] = \$400$$

$ATC = 1200/Q + 20$ declines over the demand range: splitting output can sacrifice economies of scale.

Regulation changes price, output and the funding question



Unregulated: $Q40/P60$.

Fair return: $Q60/P40$.

Efficient: $Q80/P20$.

$P=ATC$ covers costs.
 $P=MC$ reaches efficient output here, but leaves a loss.

Exercises 2.1-2.3

2.1 State the aim of antitrust policy.

[1]

2.2 State one way a government can regulate a natural monopoly's price.

[1]

2.3 Define government failure.

[1]

Exercises 2.1-2.3

2.1 State the aim of antitrust policy. [1]

2.1

- to limit market power and promote competition
-

2.2 State one way a government can regulate a natural monopoly's price. [1]

2.2

- marginal-cost pricing or average-cost pricing (any one)
-

2.3 Define government failure. [1]

2.3

- when government intervention itself leads to an inefficient or worse outcome

Exercises 3.1-3.2

3.1 Antitrust policy aims to

[1]

☐

A create monopolies

B limit market power and promote competition

C raise taxes

D fix exchange rates

3.2 Setting a natural monopoly's price equal to marginal cost is

[1]

☐

A profit-maximizing for the firm

B allocatively efficient

C a subsidy

D a tariff

Exercises 3.1-3.2

3.1 Antitrust policy aims to

[1]

- ☐ A create monopolies
B limit market power and promote competition
C raise taxes
D fix exchange rates

3.1 B

- limit market power and promote competition.

3.2 Setting a natural monopoly's price equal to marginal cost is

[1]

- ☐ A profit-maximizing for the firm
B allocatively efficient
C a subsidy
D a tariff

3.2 B

- allocatively efficient.

Exercise 3.3 (a)

3.3 A government breaks up a dominant monopoly and regulates the successor firms' prices.

(a) Name the policy that limits market power.

[1]

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(a)

- antitrust policy

Exercise 3.3 (b)

3.3 A government breaks up a dominant monopoly and regulates the successor firms' prices.

(b) State one benefit to consumers.

[1]

Exercise 3.3 (b)

3.3 A government breaks up a dominant monopoly and regulates the successor firms' prices.

(b) State one benefit to consumers.

[1]

(b)

- more competition and lower prices

Exercise 3.3 (c)

3.3 A government breaks up a dominant monopoly and regulates the successor firms' prices.

(c) Name the risk that the intervention itself is costly or misjudged. [1]

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(c)

- government failure