

LECTURE 10: MONOPOLISTIC COMPETITION

Today's Topics: Brands and Advertising

1. **Between Monopoly and Perfect Competition:** number of sellers? type of products? oligopolies, monopolistic competition.
2. **Monopolistic Competition:** competition in the short run, in the long run; compared with perfect competition, and efficiency.
3. **Advertising:** pros and cons, as a signal of quality, brand names.

1. BETWEEN TWO POLES

		Number of Sellers:		
		One	A Few	Many
Homogenous Product	<i>Pure Monopoly</i>		<i>Homogeneous Oligopoly</i>	<i>Pure Competition</i>
Differentiated Product			<i>Differentiated Oligopoly</i>	<i>Monopolistic Competition</i>

Assume: *Many Buyers*

**“I think it’s wrong only one company makes the game Monopoly”
— US humorist, Steve Wright**

1. BETWEEN TWO POLES

		Number of Sellers:		
		One	A Few	Many
Homogenous Product	Pure		<i>Homogeneous Oligopoly</i>	<i>Pure Competition</i>
	Monopoly		<i>Differentiated Oligopoly</i>	<i>Monopolistic Competition</i>
Differentiated Product				

Assume: *Many Buyers*

“I think it’s wrong only one company makes the game Monopoly”
— US humorist, Steve Wright

Oligopoly: a market structure in which only a few sellers offer similar or identical products. Often behave strategically. (Lecture 17.) Examples?

1. BETWEEN TWO POLES

		Number of Sellers:		
		One	A Few	Many
Homogenous Product	Pure	<i>Monopoly</i>	<i>Homogeneous Oligopoly</i>	<i>Pure Competition</i>
	Differentiated Product		<i>Differentiated Oligopoly</i>	<i>Monopolistic Competition</i>

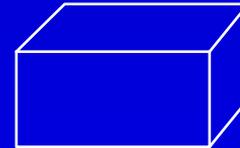
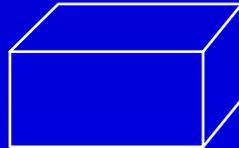
Assume: *Many Buyers*

“I think it’s wrong only one company makes the game Monopoly”
— US humorist, Steve Wright

Oligopoly: a market structure in which only a few sellers offer similar or identical products. Often behave strategically. (Lecture 17.) Examples?

Monopolistic Competition: a market structure in which many firms sell products that are similar but not identical.

DIFFERENTIATED PRODUCTS



DIFFERENTIATED PRODUCTS



HOMOGENEOUS
or

DIFFERENTIATED PRODUCTS



HOMOGENEOUS
or
DIFFERENTIATED?

DIFFERENTIATED PRODUCTS



HOMOGENEOUS
or
DIFFERENTIATED?

Degree of Substitutability?

Attributes:

DIFFERENTIATED PRODUCTS



HOMOGENEOUS
or
DIFFERENTIATED?

Degree of Substitutability?

Attributes:

- **Physical Attributes**

DIFFERENTIATED PRODUCTS



HOMOGENEOUS
or
DIFFERENTIATED?

Degree of Substitutability?

Attributes:

- **Physical Attributes**
- **Ancillary Services**

DIFFERENTIATED PRODUCTS



HOMOGENEOUS
or
DIFFERENTIATED?

Degree of Substitutability?

Attributes:

- **Physical Attributes**
- **Ancillary Services**
- **Geographical Location**

DIFFERENTIATED PRODUCTS



HOMOGENEOUS
or
DIFFERENTIATED?

Degree of Substitutability?

Attributes:

- **Physical Attributes**
- **Ancillary Services**
- **Geographical Location**
- **Subjective Image**

2. MONOPOLISTIC COMPETITION

For a firm with market power in a market with with other firms selling close substitutes,

2. MONOPOLISTIC COMPETITION

For a firm with market power in a market with with other firms selling close substitutes, there is competition as firms enter,

2. MONOPOLISTIC COMPETITION

For a firm with market power in a market with with other firms selling close substitutes, there is competition as firms enter, and change the prices of the close substitutes,

2. MONOPOLISTIC COMPETITION

For a firm with market power in a market with with other firms selling close substitutes, there is competition as firms enter, and change the prices of the close substitutes, which results in a shift to the left in the demand curve that our firm faces.

2. MONOPOLISTIC COMPETITION

For a firm with market power in a market with with other firms selling close substitutes, there is competition as firms enter, and change the prices of the close substitutes, which results in a shift to the left in the demand curve that our firm faces.

→ *Monopolistic Competition*

2. MONOPOLISTIC COMPETITION

For a firm with market power in a market with with other firms selling close substitutes, there is competition as firms enter, and change the prices of the close substitutes, which results in a shift to the left in the demand curve that our firm faces.

→ *Monopolistic Competition*

Examples?

CONDITIONS FOR MONOP. COMP.

CONDITIONS FOR MONOP. COMP.

1. ***Many sellers competing by selling differentiated (such as branded) products.***

CONDITIONS FOR MONOP. COMP.

1. ***Many sellers*** competing by selling differentiated (such as branded) products.
2. Because the ***products are differentiated*** (substitutes, but not perfect substitutes), each firm faces a downwards-sloping demand curve and has some market power to determine price.

CONDITIONS FOR MONOP. COMP.

1. ***Many sellers*** competing by selling differentiated (such as branded) products.
2. Because the ***products are differentiated*** (substitutes, but not perfect substitutes), each firm faces a downwards-sloping demand curve and has some market power to determine price.
3. ***Free entry or exit*** from the market: until zero economic profits for all.

CONDITIONS FOR MONOP. COMP.

1. *Many sellers* competing by selling differentiated (such as branded) products.
2. Because the *products are differentiated* (substitutes, but not perfect substitutes), each firm faces a downwards-sloping demand curve and has some market power to determine price.
3. *Free entry or exit* from the market: until zero economic profits for all.
4. *Firms do not collude or behave strategically*: they assume competitors' actions fixed.

CONDITIONS FOR MONOP. COMP.

1. *Many sellers* competing by selling differentiated (such as branded) products.
2. Because the *products are differentiated* (substitutes, but not perfect substitutes), each firm faces a downwards-sloping demand curve and has some market power to determine price.
3. *Free entry or exit* from the market: until zero economic profits for all.
4. *Firms do not collude or behave strategically*: they assume competitors' actions fixed.
5. Buyers are price takers; *no bargaining*.

IN THE SHORT RUN

IN THE SHORT RUN

1. **Prices of substitutes affect the demand curve, downwards-sloping. (imperfect substitutes)**

IN THE SHORT RUN

1. **Prices of substitutes affect the demand curve, downwards-sloping. (imperfect substitutes)**
2. **Assume that each firm takes others' actions constant & then sets sales (y_{SR}^*) so that**
$$MR(y_{SR}^*) = MC(y_{SR}^*) \quad (SR = \text{Short Run})$$
to maximize its profit ($y_{SR}^* \rightarrow P_{SR}^*$).

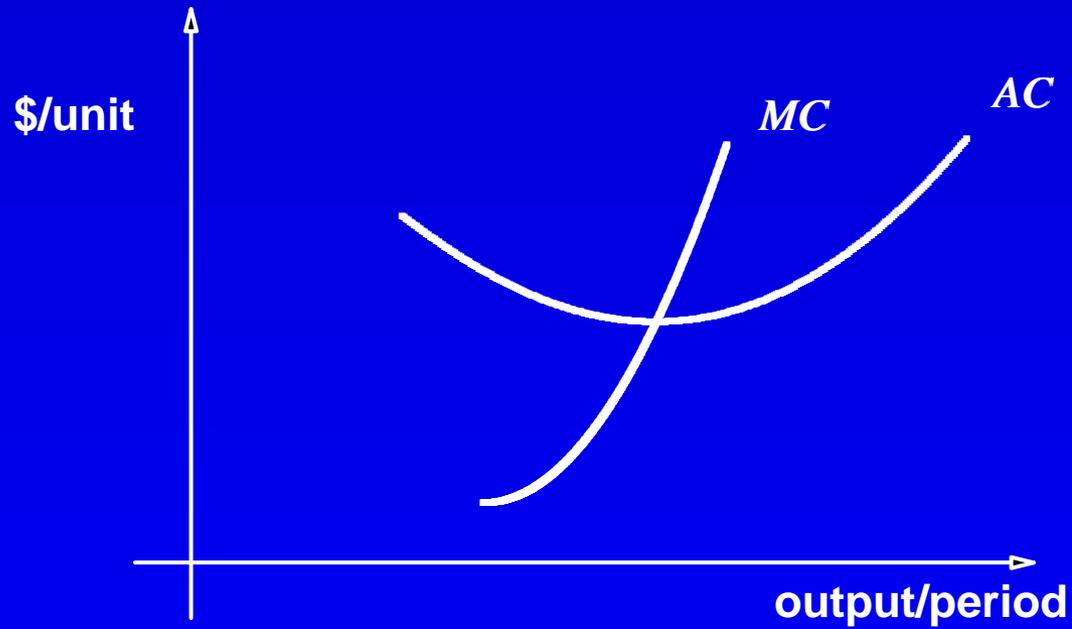
IN THE SHORT RUN

1. **Prices of substitutes affect the demand curve, downwards-sloping. (imperfect substitutes)**
2. **Assume that each firm takes others' actions constant & then sets sales (y_{SR}^*) so that**
$$MR(y_{SR}^*) = MC(y_{SR}^*) \quad (SR = \text{Short Run})$$
to maximize its profit ($y_{SR}^* \rightarrow P_{SR}^*$).
3. **In general, $P_{SR}^* > AC(y^*)$ for each firm, so that profit π is positive in the short run.**

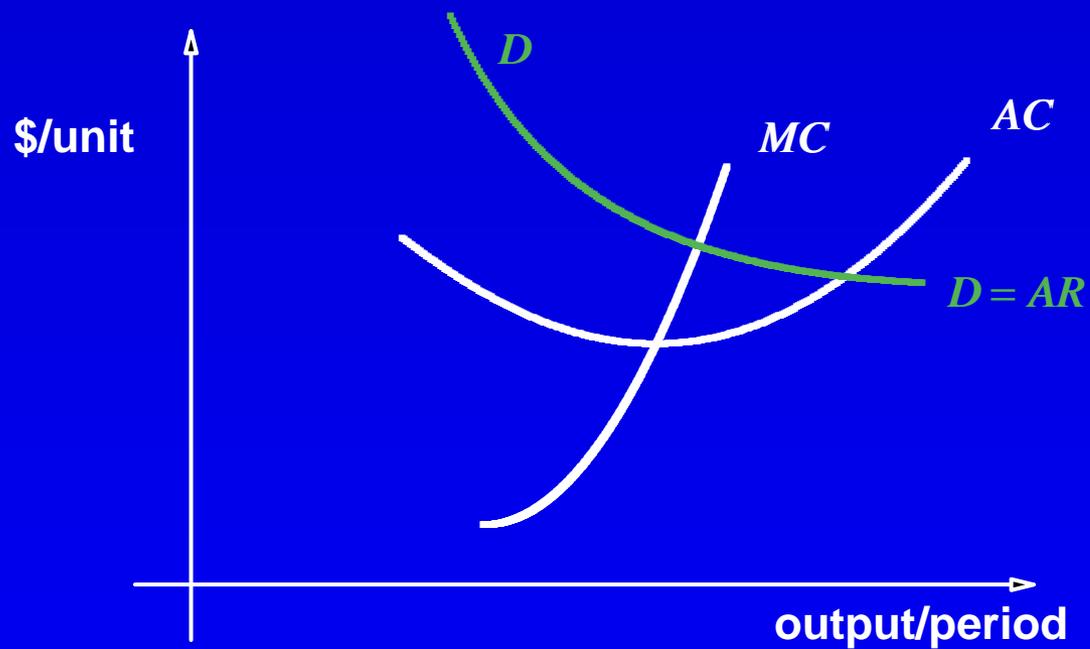
IN THE SHORT RUN

1. **Prices of substitutes affect the demand curve, downwards-sloping. (imperfect substitutes)**
2. **Assume that each firm takes others' actions constant & then sets sales (y_{SR}^*) so that**
$$MR(y_{SR}^*) = MC(y_{SR}^*) \quad (SR = \text{Short Run})$$
to maximize its profit ($y_{SR}^* \rightarrow P_{SR}^*$).
3. **In general, $P_{SR}^* > AC(y^*)$ for each firm, so that profit π is positive in the short run.**
 \therefore attractive for new firms to produce close substitutes in the long run.

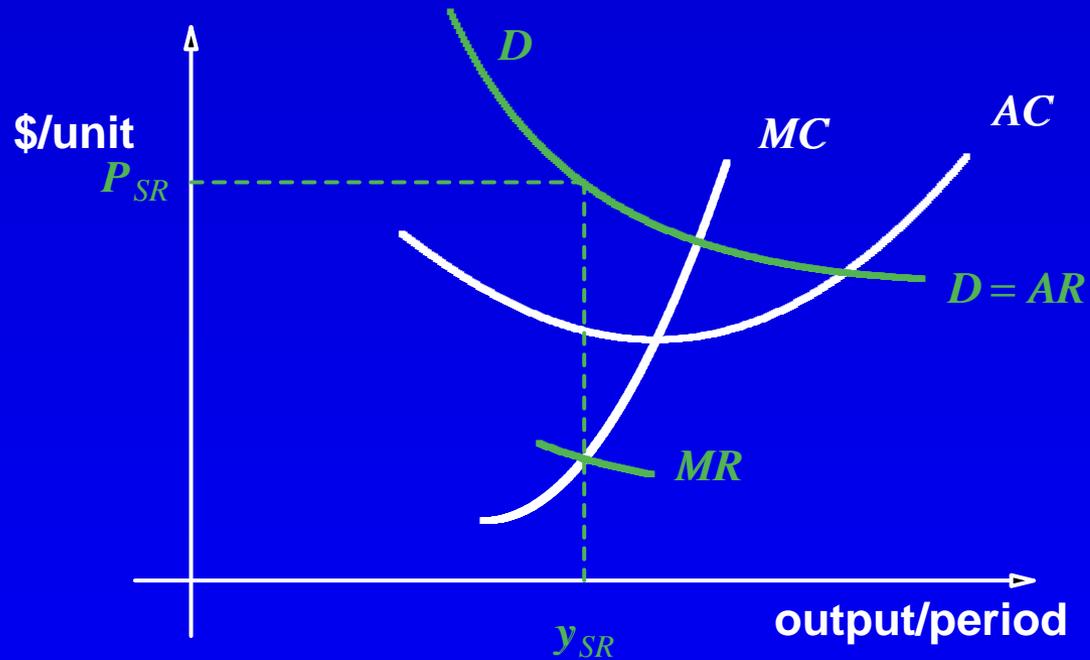
POSITIVE PROFITS



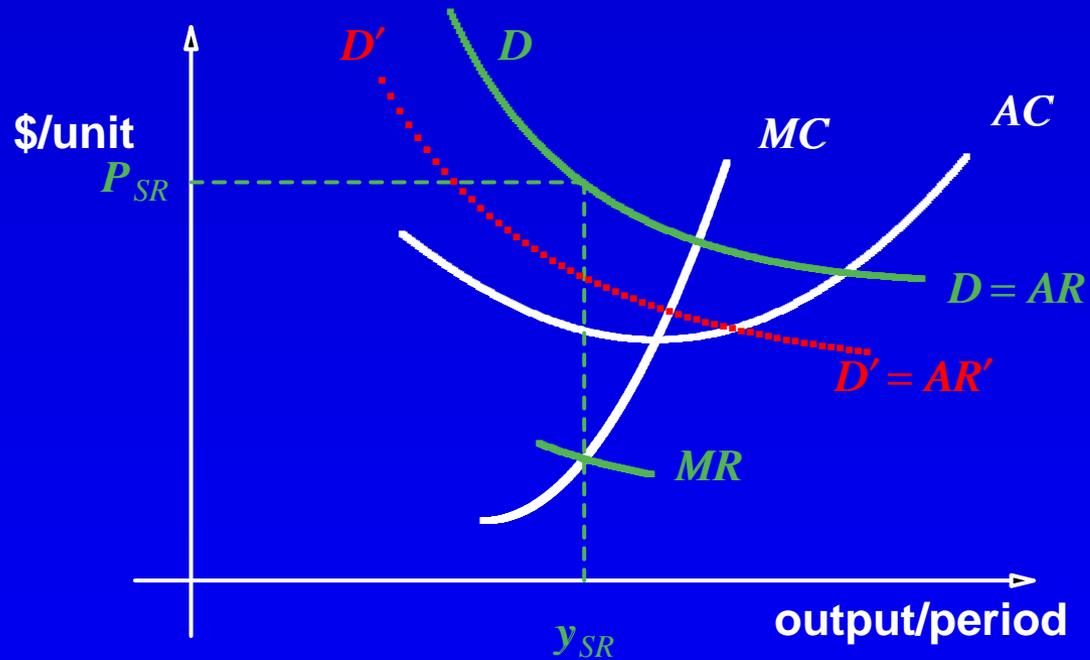
POSITIVE PROFITS



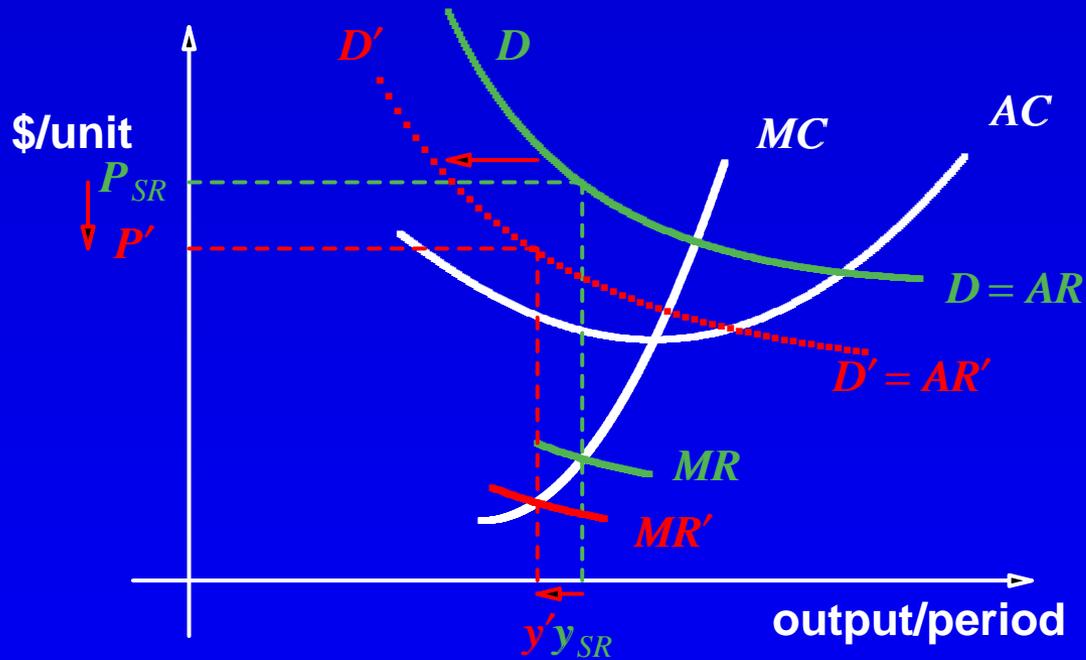
POSITIVE PROFITS



POSITIVE PROFITS

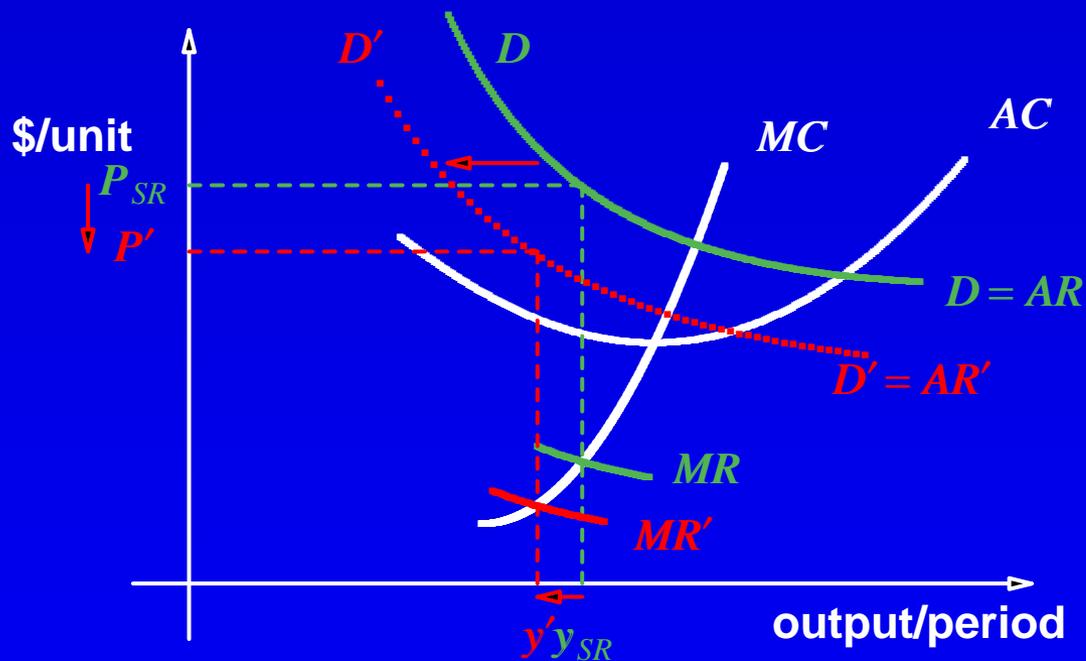


POSITIVE PROFITS



With demand D , profit attracts new entrants, which contracts the demand to D' .

POSITIVE PROFITS



With demand D , profit attracts new entrants, which contracts the demand to D' .

Profit falls, but still positive: $AR'(y') = P' > AC(y')$.

LONG-RUN EQUILIBRIUM

LONG-RUN EQUILIBRIUM

4. In the medium-to-long run, new entrants invest, and the original firms' demand curves move to the left, as their *market share* falls.

LONG-RUN EQUILIBRIUM

4. In the medium-to-long run, new entrants invest, and the original firms' demand curves move to the left, as their *market share* falls.

5. In the long run (*LR*), all profits will be bidden away for the marginal firm, with

$$AR = D \equiv P = AC \quad \therefore \pi = 0$$

and maximum (zero) profit point on demand curve

LONG-RUN EQUILIBRIUM

4. In the medium-to-long run, new entrants invest, and the original firms' demand curves move to the left, as their *market share* falls.

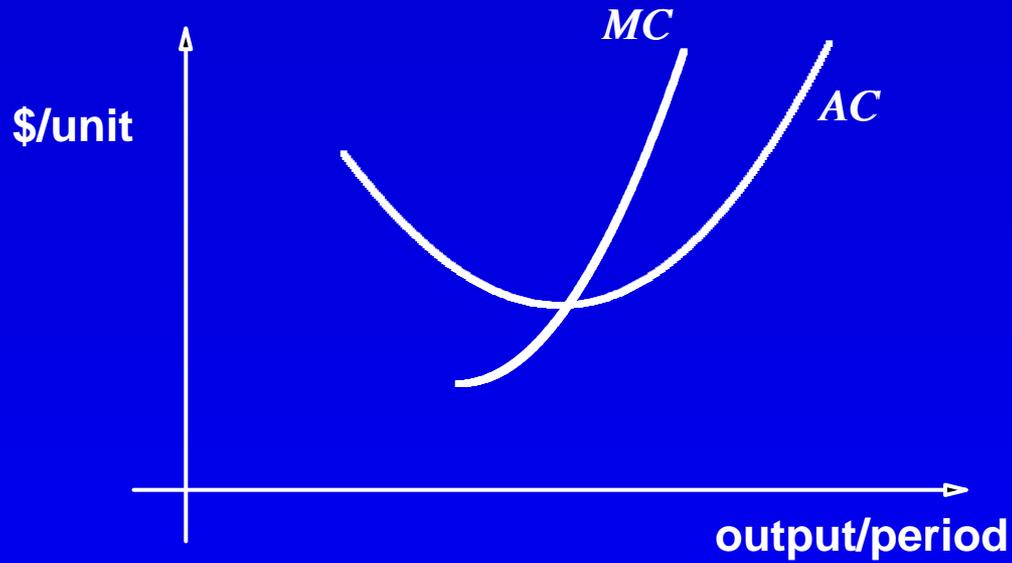
5. In the long run (*LR*), all profits will be bidden away for the marginal firm, with

$$AR = D \equiv P = AC \quad \therefore \pi = 0$$

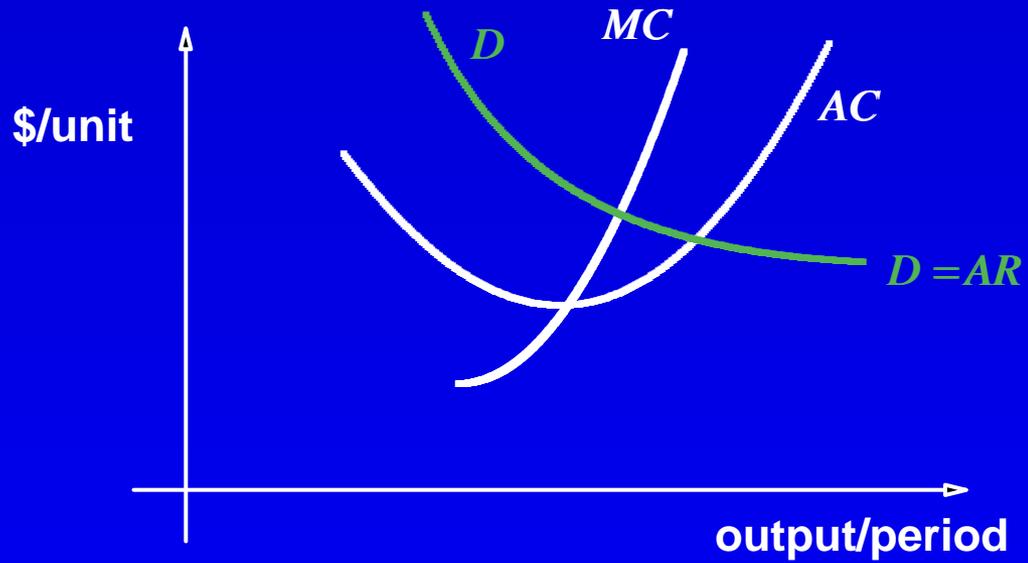
and maximum (zero) profit point on demand curve

\therefore the demand curve D'' must be tangent to the AC curve at the price & output chosen.

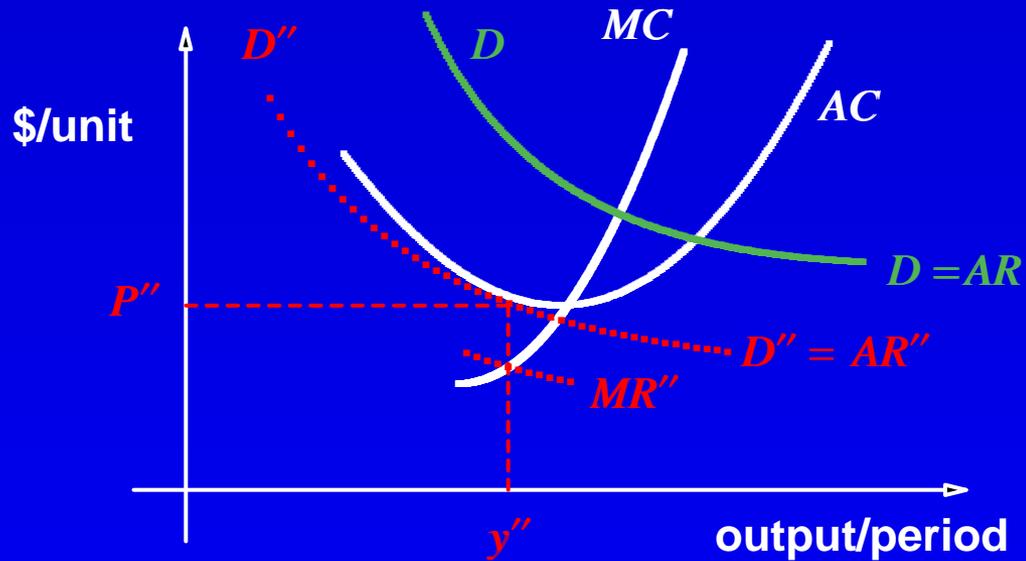
ZERO PROFITS



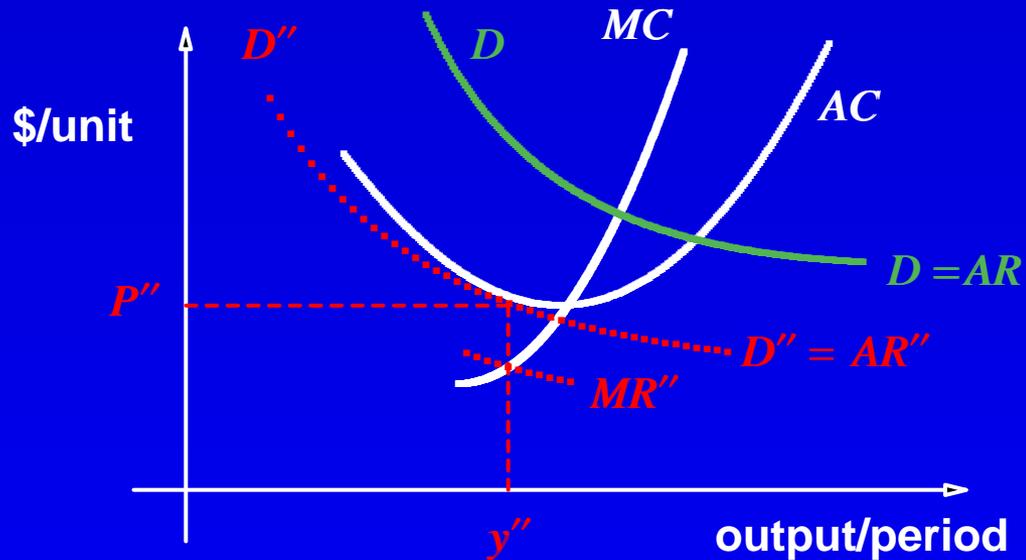
ZERO PROFITS



ZERO PROFITS

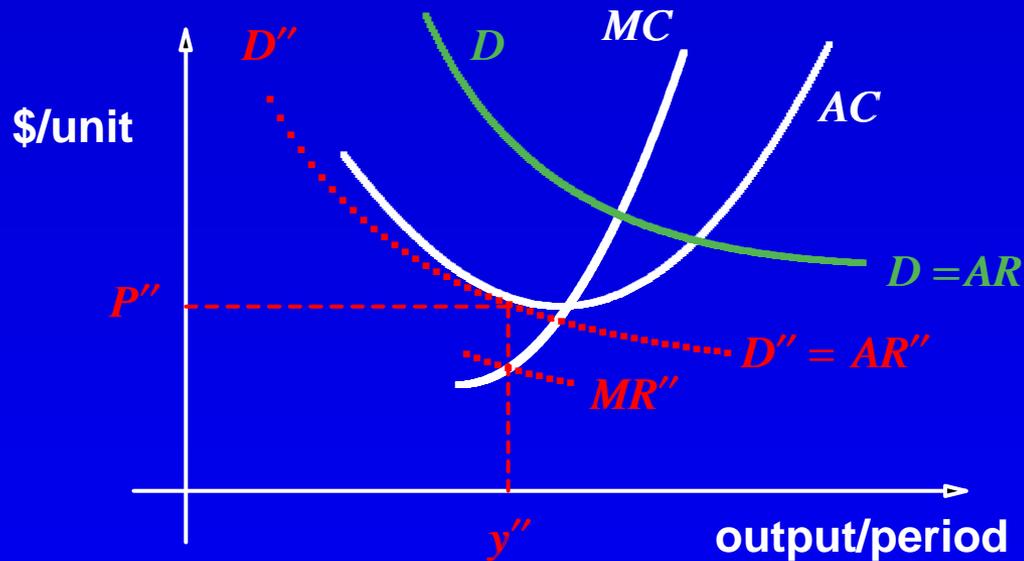


ZERO PROFITS



Long-run equilibrium at the margin.

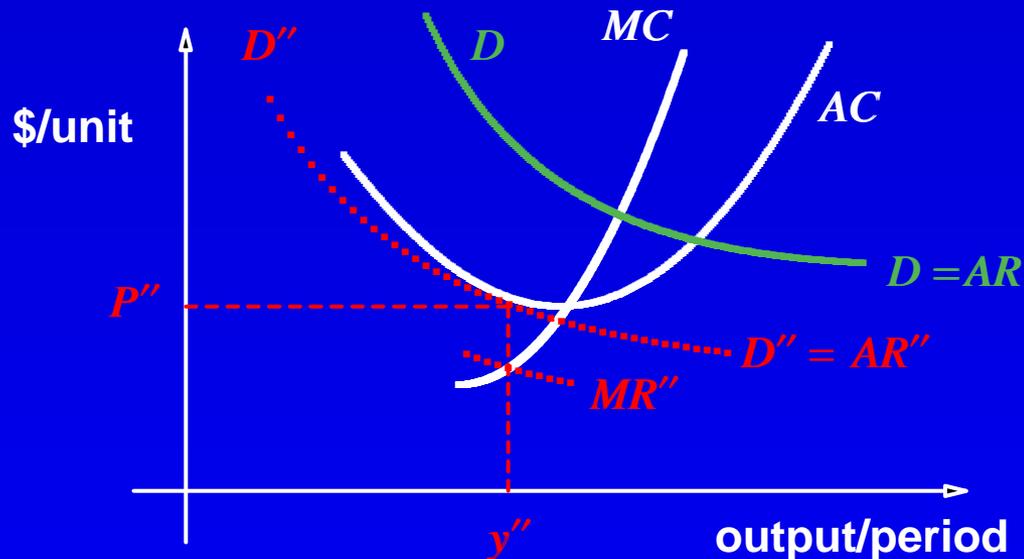
ZERO PROFITS



Long-run equilibrium at the margin.

At y'' , $AR''(y'') = P'' = AC(y'')$: zero profit.

ZERO PROFITS



Long-run equilibrium at the margin.

At y'' , $AR''(y'') = P'' = AC(y'')$: zero profit.

There will be excess capacity: firms will not operate at minimum AC, and so they could reduce AC by increasing output. Why don't they?

VERSUS PERFECT COMPETITION

VERSUS PERFECT COMPETITION

Higher average costs: zero profits, but firms are on the downwards-sloping part of the *ATC* curves, not at the minimum (Efficient Scale).

VERSUS PERFECT COMPETITION

Higher average costs: zero profits, but firms are on the downwards-sloping part of the *ATC* curves, not at the minimum (Efficient Scale).

Mark-up over marginal cost: price is always above *MC*, because the firm always has some market power, not $P = MC$.

VERSUS PERFECT COMPETITION

Higher average costs: zero profits, but firms are on the downwards-sloping part of the *ATC* curves, not at the minimum (Efficient Scale).

Mark-up over marginal cost: price is always above *MC*, because the firm always has some market power, not $P = MC$.

Note that $MC < AC$, since *AC* is falling, not $MC = AC$.

VERSUS PERFECT COMPETITION

Higher average costs: zero profits, but firms are on the downwards-sloping part of the *ATC* curves, not at the minimum (Efficient Scale).

Mark-up over marginal cost: price is always above *MC*, because the firm always has some market power, not $P = MC$.

Note that $MC < AC$, since *AC* is falling, not $MC = AC$.

Always eager to make another sale: an extra unit sold at the current price means more profit, not unwilling.

AND EFFICIENCY

Inefficient, but greater variety in the market.

Inefficiencies:

AND EFFICIENCY

Inefficient, but greater variety in the market.

Inefficiencies:

1. Mark-up: $P > MC$ \therefore the DWL of monopoly pricing: some consumers value it above MC but below the P charged.

AND EFFICIENCY

Inefficient, but greater variety in the market.

Inefficiencies:

- 1. Mark-up: $P > MC$ \therefore the DWL of monopoly pricing: some consumers value it above MC but below the P charged.**
- 2. Production y'' less than the Efficient Scale of production at minimum AC : excess capacity.**

AND EFFICIENCY

Inefficient, but greater variety in the market.

Inefficiencies:

1. **Mark-up: $P > MC$ ∴ the DWL of monopoly pricing: some consumers value it above MC but below the P charged.**
2. **Production y'' less than the Efficient Scale of production at minimum AC : excess capacity.**
3. **Too much or too little entry: individual entrant considers only its profit,**

AND EFFICIENCY

Inefficient, but greater variety in the market.

Inefficiencies:

1. **Mark-up: $P > MC$ ∴ the DWL of monopoly pricing: some consumers value it above MC but below the P charged.**
2. **Production y'' less than the Efficient Scale of production at minimum AC : excess capacity.**
3. **Too much or too little entry: individual entrant considers only its profit, *but* consumers gain CS with a new product,**

AND EFFICIENCY

Inefficient, but greater variety in the market.

Inefficiencies:

1. **Mark-up: $P > MC$ ∴ the DWL of monopoly pricing: some consumers value it above MC but below the P charged.**
2. **Production y'' less than the Efficient Scale of production at minimum AC : excess capacity.**
3. **Too much or too little entry: individual entrant considers only its profit, *but* consumers gain CS with a new product, *while* incumbents lose PS with the new competitor.**

3. ADVERTISING

**A natural feature of monopolistic competition:
each firm wants more sales.**

3. ADVERTISING

**A natural feature of monopolistic competition:
each firm wants more sales.**

Print media:	50%
Electronic media:	33%
Rest:	17%

3. ADVERTISING

**A natural feature of monopolistic competition:
each firm wants more sales.**

Print media:	50%
Electronic media:	33%
Rest:	17%

**How does the level of advertising vary over types
of goods and services?**

3. ADVERTISING

**A natural feature of monopolistic competition:
each firm wants more sales.**

Print media:	50%
Electronic media:	33%
Rest:	17%

**How does the level of advertising vary over types
of goods and services?**

**Highest advertising budgets for highly
differentiated consumer goods.**

3. ADVERTISING

**A natural feature of monopolistic competition:
each firm wants more sales.**

Print media:	50%
Electronic media:	33%
Rest:	17%

**How does the level of advertising vary over types
of goods and services?**

**Highest advertising budgets for highly
differentiated consumer goods.**

Examples?

PRO & CON

PRO & CON

Manipulation of tastes? Creating desires that otherwise wouldn't exist?

PRO & CON

Manipulation of tastes? Creating desires that otherwise wouldn't exist?

Higher prices (for two reasons)?

PRO & CON

Manipulation of tastes? Creating desires that otherwise wouldn't exist?

Higher prices (for two reasons)? Because $P > MC$, and

PRO & CON

Manipulation of tastes? Creating desires that otherwise wouldn't exist?

Higher prices (for two reasons)? Because $P > MC$, and by reducing consumers' price elasticity of demand (brand loyalty).

PRO & CON

Manipulation of tastes? Creating desires that otherwise wouldn't exist?

Higher prices (for two reasons)? Because $P > MC$, and by reducing consumers' price elasticity of demand (brand loyalty).

OR

PRO & CON

Manipulation of tastes? Creating desires that otherwise wouldn't exist?

Higher prices (for two reasons)? Because $P > MC$, and by reducing consumers' price elasticity of demand (brand loyalty).

OR

Conveys information (prices, locations, existence of new products) → better choices?

PRO & CON

Manipulation of tastes? Creating desires that otherwise wouldn't exist?

Higher prices (for two reasons)? Because $P > MC$, and by reducing consumers' price elasticity of demand (brand loyalty).

OR

Conveys information (prices, locations, existence of new products) → better choices? More competition, not less (think: Internet comparison browsing).

PRO & CON

Manipulation of tastes? Creating desires that otherwise wouldn't exist?

Higher prices (for two reasons)? Because $P > MC$, and by reducing consumers' price elasticity of demand (brand loyalty).

OR

Conveys information (prices, locations, existence of new products) → better choices? More competition, not less (think: Internet comparison browsing). Reduces brands' market power.

PRO & CON

Manipulation of tastes? Creating desires that otherwise wouldn't exist?

Higher prices (for two reasons)? Because $P > MC$, and by reducing consumers' price elasticity of demand (brand loyalty).

OR

Conveys information (prices, locations, existence of new products) → better choices? More competition, not less (think: Internet comparison browsing). Reduces brands' market power. Facilitates entry.

PRO & CON

Manipulation of tastes? Creating desires that otherwise wouldn't exist?

Higher prices (for two reasons)? Because $P > MC$, and by reducing consumers' price elasticity of demand (brand loyalty).

OR

Conveys information (prices, locations, existence of new products) → better choices? More competition, not less (think: Internet comparison browsing). Reduces brands' market power. Facilitates entry.

Empirical results:

PRO & CON

Manipulation of tastes? Creating desires that otherwise wouldn't exist?

Higher prices (for two reasons)? Because $P > MC$, and by reducing consumers' price elasticity of demand (brand loyalty).

OR

Conveys information (prices, locations, existence of new products) → better choices? More competition, not less (think: Internet comparison browsing). Reduces brands' market power. Facilitates entry.

Empirical results: Across 50 states: price of spectacles 20% lower when advertising allowed.

AS A SIGNAL OF QUALITY

AS A SIGNAL OF QUALITY

How much information?

AS A SIGNAL OF QUALITY

How much information?

**The firm's willingness to buy advertising
(especially for repeat-purchase, experience goods)
is a signal of quality?**

AS A SIGNAL OF QUALITY

How much information?

**The firm's willingness to buy advertising
(especially for repeat-purchase, experience goods)
is a signal of quality?**

Is what the advert says important?

AS A SIGNAL OF QUALITY

How much information?

The firm's willingness to buy advertising (especially for repeat-purchase, experience goods) is a signal of quality?

Is what the advert says important? Not much — just that it is expensive and paid for.

BRAND NAMES

Economics of brand names:

BRAND NAMES

Economics of brand names:

Perceived differences, not real — a rip-off, from advertising.

BRAND NAMES

Economics of brand names:

Perceived differences, not real — a rip-off, from advertising.

But:

Quality — firms use brands to convey signals about quality; and, firms must defend their brands' reputations (or *brand equity*) as high-quality products by maintaining quality.

BRAND NAMES

Economics of brand names:

Perceived differences, not real — a rip-off, from advertising.

But:

Quality — firms use brands to convey signals about quality; and, firms must defend their brands' reputations (or *brand equity*) as high-quality products by maintaining quality.

Rationality: irrational preference for brand names, or

BRAND NAMES

Economics of brand names:

Perceived differences, not real — a rip-off, from advertising.

But:

Quality — firms use brands to convey signals about quality; and, firms must defend their brands' reputations (or *brand equity*) as high-quality products by maintaining quality.

Rationality: irrational preference for brand names, or for good reason?

SUMMARY

- 1. Between monopoly and perfect competition lie most markets: oligopolies (few sellers) or monopolistic competition (many sellers).**
- 2. Monopolistic Competition: Neither perfect competition, nor pure monopoly: many sellers and zero profit, but a price mark-up.**
- 3. Many products → variety for consumers!**
- 4. Advertising to increase sales. Justified or not?**

APPENDIX

Under what conditions is it true that the slope of the *MR* curve ($\frac{dMR}{dQ}$) is twice that of the *AR* (i.e demand) curve ($\frac{dP}{dQ}$)?

$$R = Q \cdot P(Q)$$

$$\therefore MR = \frac{dR}{dQ} = P(Q) + Q \frac{dP}{dQ} = P \cdot \left(1 + \frac{1}{\eta}\right).$$

The slope of the *MR* curve is given by:

$$\frac{dMR}{dQ} = 2 \frac{dP}{dQ} + Q \frac{d^2P}{dQ^2}$$

So it is only true in general for linear demand curves, for which $\frac{d^2P}{dQ^2} = \frac{d}{dQ} \left(\frac{dP}{dQ}\right) = 0$, because their slopes are constant (but not, of course, their elasticities).