

Econ 510 Advanced Micro

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Outline of the Course

1. Competition Policy: History, Objectives and the Law
2. *Market definition and the Assessment of Market Power*
3. *Market Concentration and its Consequences*
4. *Collusion and Horizontal Agreements*
5. *Horizontal Mergers*
6. *Vertical Control*
7. *Predation*

Introduction

Competition Policy: History, Objectives and the Law

Competition Policy: Introduction

What is Competition Policy

Brief history of competition laws

Objectives of competition policy

Relationship with other public policy objectives

What is competition policy?

- *Definition:* Competition Policy aims at ensuring that competition in the marketplace is not restricted in a way that is detrimental to society.
- *Why do we need a competition policy?*
Market failure also in markets without natural monopoly features .
Even if entry is possible, dominant positions might persist, due to:
 - sunk costs industries
 - Patents and leadership positions
 - lock-in effects and switching costs
 - network effects

What is competition policy, II

We need competition policy also because un-monitored, firms may resort to actions that increase their profits, but harm society, such as:

- Collusion
- Mergers which lessen competition
- Predatory behaviour
- Exclusionary behaviour

Competition policy vs. regulation

Both justified by market failures, but they differ by:

- *Procedures and control rights*
 - Regulation: more extensive powers (price, investments, products...), intervenes on market structure.
- *Timing of oversight*
 - C.P.: ex-post; regulation: ex-ante.
 - Occasional vs. continuous intervention.
- *Information intensiveness*
 - Industry-specific for regulation.

Demarcation lines become fuzzier

Despite these differences, the distinction between competition and regulation is less clear-cut:

- Merger control: preventive authorization system.
- Merger remedies (Structural vs. behavioral remedies).
- Exploitative abuses (EU: article 82; not US).

Also: overlapping competence in several areas

History of competition laws: the US

End of XIX Century in the US:

- Revolution in transportation and communication, which lead to a single US market.
 - Technological innovations, more advanced capital markets, new managerial methods.
- ➔ economies of scale and scope to be reaped: firms' size increases (also through mergers).

History of US law, II

- Market instability in the end of the 19th century, due to macroeconomic crises and price wars; firms are able to lower prices because they can exploit economies of scale.
- ➔ a reaction to price wars: collusion by forming cartels and trusts.
- ➔ negative effects on farmers and small firms, who lobbied for a change in federal law.

1890: Sherman Act

- Section 1: Conspiracies
- Section 2: Monopolisation

Sherman Act (1890)

Section 1. Conspiracies.

Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared illegal.

Section 2. Monopolizing trade a felony; penalty

Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony

Initially the act was not very strictly enforced. Act covers agreements between independent firms. Firms could circumvent the Act by merging.

1914: Clayton Act - mergers, price discrimination - and Federal Trade Commission Act

The Clayton Act prohibits mergers that are capable of reducing competition and other practices such as price discrimination and interlocking directorates. This act introduced treble damages, that is money to be paid by an offender to the victims of unlawful conduct.

The Federal Trade Commission Act introduced an agency whose purpose is to regulate unfair trade practices and to enforce anti-trust law (together with the department of justice).

History, III: Enforcement in the US

1897: first Supreme Court decisions against trusts (in the railway industry): Per se prohibition of price agreements.

1911: Standard Oil broken into 34 firms.

1933: Appalachian Coals v. US, an exception (justified by Great Depression).

1950-60s: (too) active enforcement.

1970s: efficiency criteria begin to play a role.

1980s: (Reagan): laissez-faire...

History, IV: Germany

End XIX Century: cartels (enforceable contracts) as a means to control instability created by cut-throat competition.

1923: Cartel law as reaction to hyperinflation.

1930: Great Depression: compulsory cartel participation in sensitive sectors.

Nazi regime: cartels to prepare the war apparatus

After '45: Programme to break economic concentration (stopped with Cold War).

1957: Competition Law (*ratio*: protection of freedom of contract); Bundeskartellamt

History, V: UK

Profiteering Act of 1919: main aim is to avoid excessive prices after WW1

Towards the end of WW2 competition rules were discussed, with the aim of promoting a high level of employment.

Monopolies and Restrictive Practices Act 1948

A number of changes

Competition Act 1998

Prior to that, the system lacked tools for enforcing the act (like penalties).

The competition act (among other things) impose fines up to 10% of the firm's UK turnover

History, VI: European Community

Paris Treaty: (ECSC): no trade barriers, no discrimination.

- Rationale: equal access to resources; principles of free competition.
- Predecessor of current EU Competition Law:
 - Art. 65: prohibits agreements that distort trade.
 - Art 66: prohibits abuse of dominant position.
 - Art. 66: concentrations.

History, VI: European Comm. (cont.)

Treaty of Rome (now Amsterdam): articles 81, 82 (and 83-89).
Merger Regulation.

Which objectives of Competition Law in the EU?

- Competition as an **intermediate objective** (towards the primary objective: to foster economic progress and welfare of European citizens).
- European Market Integration (elimination of national discriminations in the economic system).

Article 81 of the EC Treaty

The following shall be prohibited as incompatible with the common market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market, and in particular those which:

(a) directly or indirectly fix purchase or selling prices or any other trading conditions; (b) limit or control production, markets, technical development, or investment; (c) share markets or sources of supply; (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

(Continue, p.t.o.)

Article 81, cont.: 81(2) and 81(3)

Any agreements or decisions prohibited pursuant to this Article shall be automatically void.

The provisions of paragraph 1 may, however, be declared inapplicable in the case of:

- any agreement or category of agreements between undertakings;
- any decision or category of decisions by associations of undertakings;
- any concerted practice or category of concerted practices, which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which does not: (a) impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives; (b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.

A single article, but different agreements

Article 81 does not distinguish between agreements between competitors (**horizontal agreements**) and agreements between firms which operate at successive stages of the production process (**vertical agreements**).

Economics: horizontal and vertical agreements should be treated in a different way.

1. Cartels and horizontal agreements
2. Vertical agreements

Article 82 of the EC Treaty

Any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market insofar as it may affect trade between Member States.

Such abuse may, in particular, consist in:

- (a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;
- (b) limiting production, markets or technical development to the prejudice of consumers;
- (c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
- (d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

Possible objectives of Comp. Law

Economic Welfare (Total Surplus)

Definition: $W=CS+PS$.

General Principle: If price falls, welfare rises.

Size of the pie, not how slices are distributed.

Dynamic aspects important (future W matters).

Consumer Surplus

CS v. W: lobbying arguments; who owns the firms?; If price equals marginal cost, who pays the fixed costs?; Who innovates and invests?

Anyhow: usually, W and CS move together

Other possible objectives

Defence of smaller firms.

Promoting market integration.

Protection of economic freedom.

Fighting inflation.

Fairness and equity.

Public policy considerations affecting competition:

Social, political, environmental reasons

Strategic reasons (trade and industrial policies)

Market power, competition, and welfare

1. Allocative efficiency
2. Productive efficiency
3. Dynamic efficiency
4. Public policies, and incentives to innovate
5. Will the market fix it all?

1. Allocative efficiency

Definition of market power: the ability of a firm to profitably raise price above marginal costs.

Inverse relationship between market power and welfare

- The deadweight loss (see Figure 2.1)
- An additional loss of monopoly: *rent-seeking activities* (see Figure 2.2)

A matter of degree, not of existence!!!

Figure 2.1. Welfare loss from monopoly

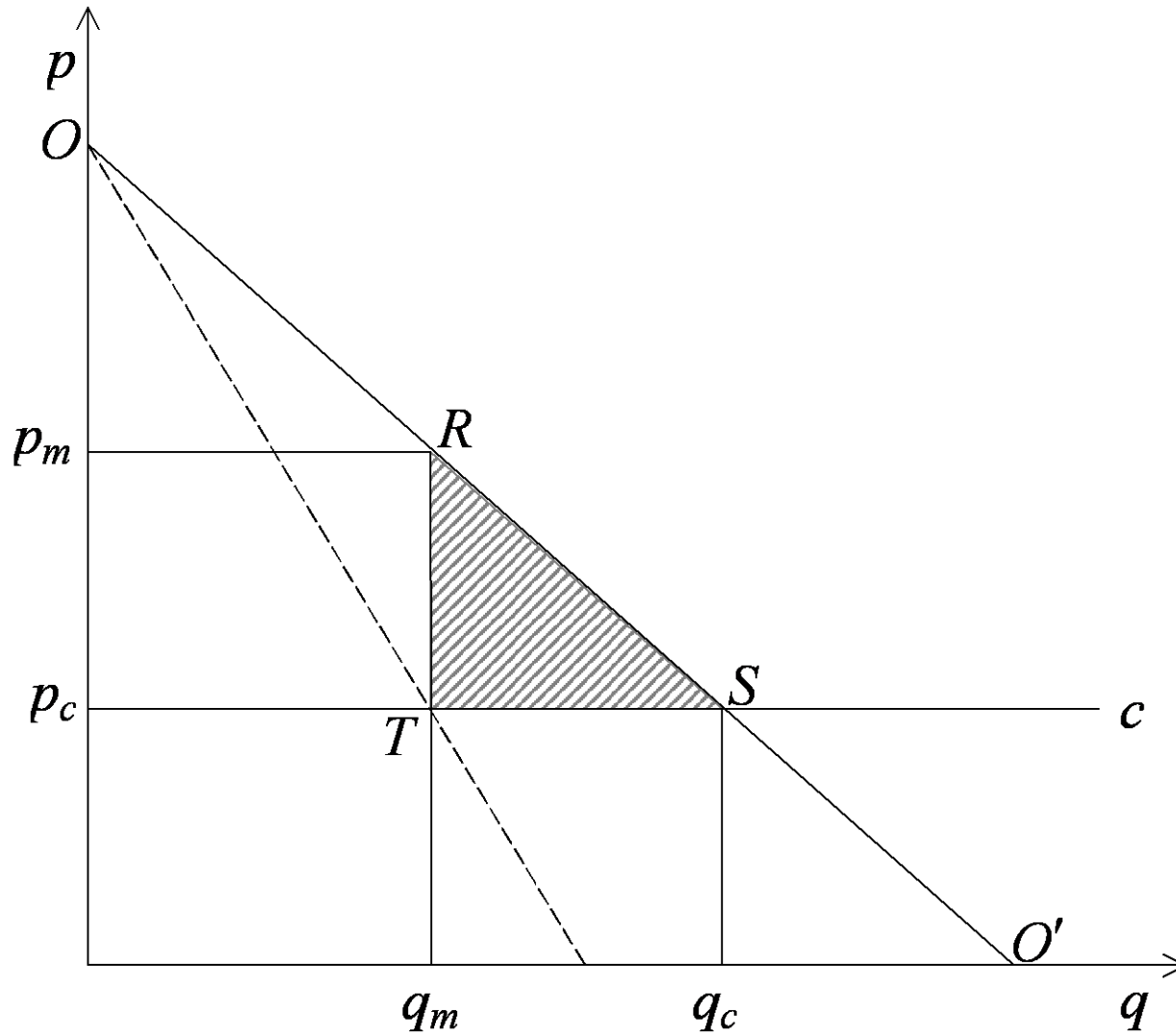
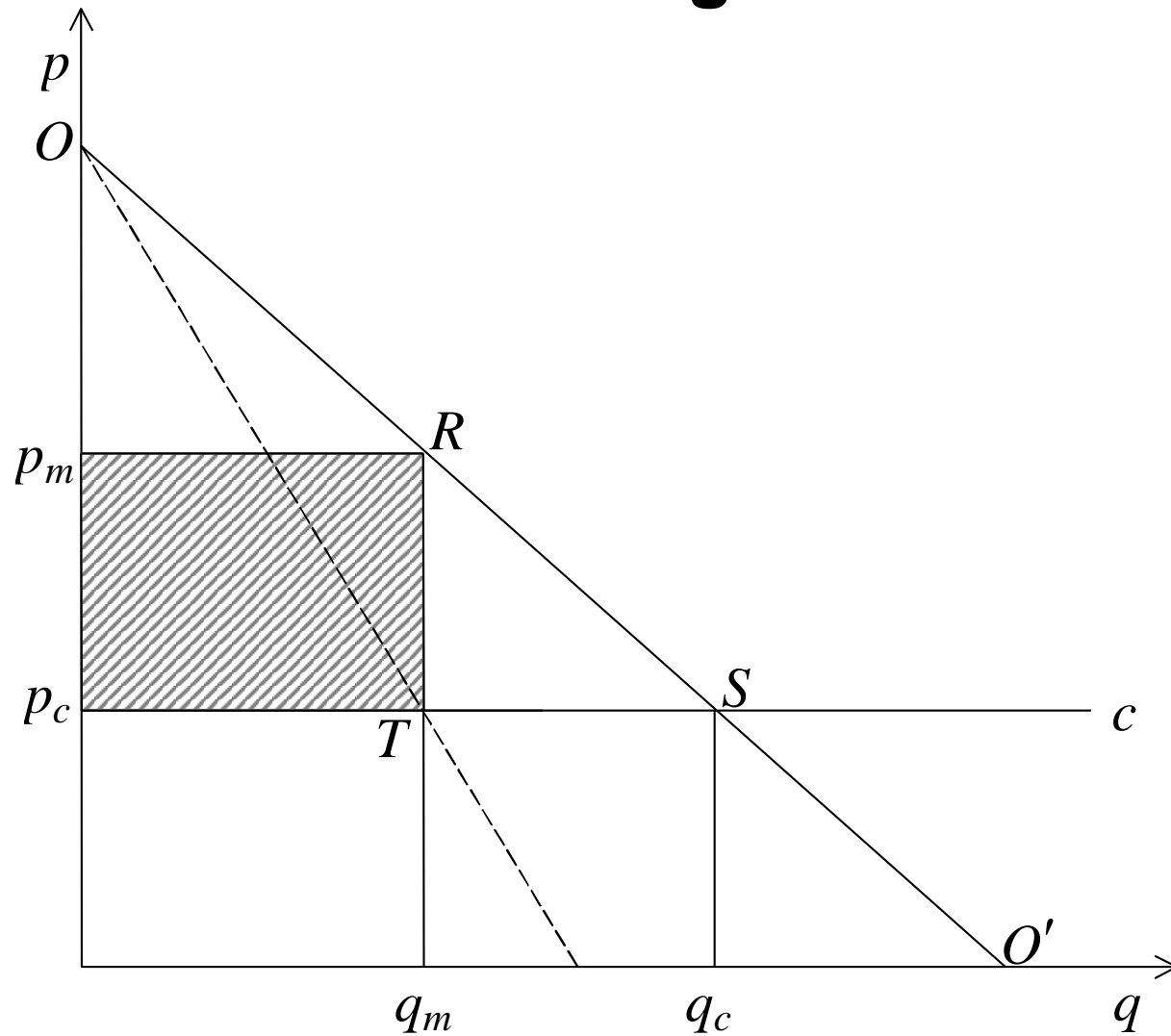


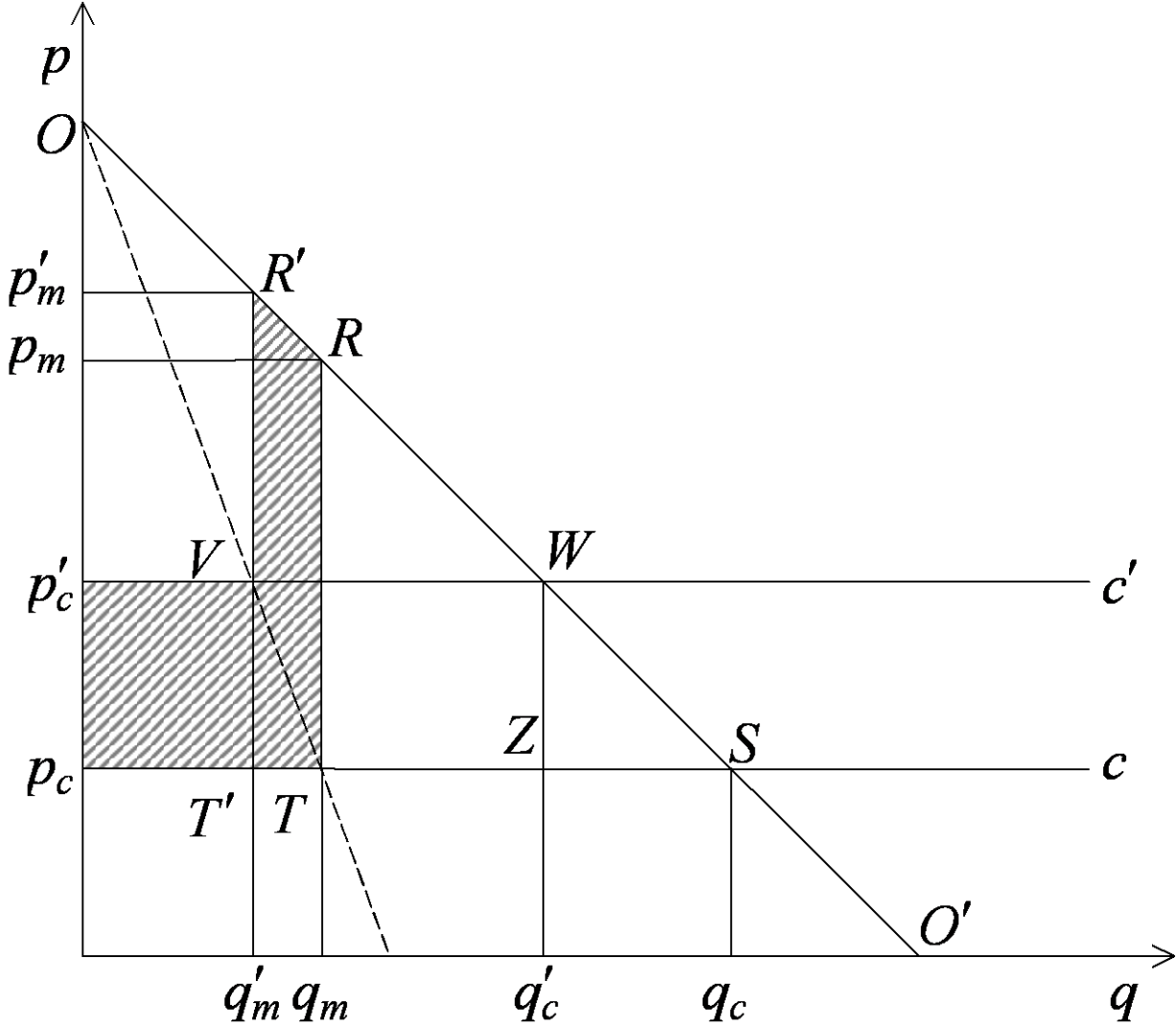
Figure 2.2. Possible additional loss from rent seeking



2. Productive efficiency

- Additional welfare loss if monopolist has higher costs (see Figure 2.3).
- “Quiet life” and managerial slack
Principal-agent models: market competition helps.
Nickell et al.: individual firms’ productivity higher in competitive industries.
- Darwinian arguments: competition selects more efficient firms
Olley-Pakes, Disney et al.: industry productivity mostly increases through entry/exit

Figure 2.3. Additional loss from productive inefficiency



Productive efficiency, II

As number of firms increases, market power decreases.

Number of firms and welfare: trade-off between allocative efficiency and productive efficiency (duplication of fixed costs).

→ Net effect on welfare a priori ambiguous (Mankiew-Whinston- business stealing effect).

Important: defending competition, not competitors!

3. Dynamic efficiency

- Lower incentives to innovate of a monopolist:
 - innovation introduced if *additional* profits higher than costs
- However, appropriability matters:
 - no (little) innovations if no patent protection, compulsory licensing etc...
- U-shaped relationship between market power and welfare
 - trade-off between appropriability and competition in R&D investment

4. Public policies and incentives to innovate

- Ex ante (**incentives**) v. ex post (**diffusion**):
 - IPR protection guarantees market power
- Essential facilities (indispensable, non-reproducible inputs)
 - Ex.: airport slots, port installations, local loop...
 - Law not settled in U.S., no Supreme Court Decision
 - European Commission (EC) embraced “EF doctrine”: owner of EF should make it available to competitors.
 - but European Court of Justice (ECJ) (*Bronner* case): important to preserve incentives to innovate!



Apply EF doctrine only when owner has not invested to create the facility

5. Will the market fix it all?

Contestable market theory: does free entry eliminate all concerns about market power of incumbents?

Persistence of dominance under free entry:

- Network externalities
- Switching costs
- Endogenous sunk costs industries: finiteness property
- Predatory and exclusionary practices = when a firm drives a rival out of the market by making it incur enough losses and then raises prices

Contestable markets

- An incumbent I and a potential entrant E are equally efficient and produce homogenous goods.
- Cost of production is $F+cq$

Baumol et al (1982): at equilibrium I will not set monopoly price, but p equal AC: $p=c+F/q$

Proof (a contrario):

- If $p > AC$, firm I would make profits; E would be attracted into the industry, set $p' = p - \varepsilon$ and earn positive profits
- If $p < AC$, firm I would make losses.

Contestable markets: discussion

- Strong implications: if entry is free, we should not care about monopolists, as efficient outcome is reached.
 - But the theory hinges on two strong assumptions:
 - Unrealistic timing of the game (I cannot change price as E enters the market)
 - No fixed sunk costs of entry (hit-and-run strategy not profitable for E if some costs are non-recoverable)
- ➡ But the theory has the merit to stress the role of free entry in limiting market power: crucial in merger analysis.

Network effects: miscoordination

- Assume that consumers value a network good i as:

$$U_i = v_i(n) - p_i,$$

Where $v_i(n)$ is valuation if n consumers buy good i .

- $v_i(n)$ is non-decreasing and concave, with $v_i(1) = 0$ and $v_i(z) = v_i(z+j)$ for any $j > 0$
(all externalities exhausted at size z)
- There are an incumbent I and an entrant E , with $c_E < c_I$.
Networks of equal quality (if equal size).
- There are z 'old' consumers, who have bought network good I , and z 'new' consumers.

The game

1. Active firms set (uniform) prices, p_I and p_E
2. The z 'new' buyers decide btw. network I and E

Assume the two networks are incompatible.

This game admits two types of equilibria:

- "Entry equilibria", where the entrant serves
- "Miscoordination equilibria", where the inefficient incumbent remains a monopolist (despite the fact that the entrant is assumed to have zero entry cost!)

Entry equilibria

There is an entry equilibrium where $(p_I, p_E) = (c_I, c_I)$, and all z new consumers join E 's network.

Proof.

A consumer would have no incentive to deviate. At (candidate) equilibrium, its surplus is $v(z) - c_I$. By deviating and buying from I , it also gets $v(z) - c_I$.

Firm I has no incentive to deviate (zero profits also if it raises price, negative profits if reduces it).

Firm E neither: zero profits if it raises price, lower profits if it reduces it.

Miscoordination equilibrium

There is a miscoordination equilibrium where I sets monopoly price $p_I=v(z)$, E sets $p_E < p_I$ and all z new consumers join I's network.

Proof.

Suppose the entrant sets a price even as low as c_E . A consumer would have no incentive to deviate. At (candidate) equilibrium, its surplus is 0. By deviating and buying from E, it gets $v(1)-c_E < 0$.

Firm I has no incentive to deviate (zero profits if it raises price, lower profits if reduces it).

Exclusion in network markets

Incumbents can use their customer basis to exclude more efficient entrants. For instance:

- By using price discrimination the incumbent can exclude more easily (Karlinger and Motta, 2005)
- Making a product/network not compatible with other product/networks.
- Since coordination of consumers play important role, incumbent may manipulate expectations so as to deter entry