# Economics of Compulsory Licensing

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# OUTLINE

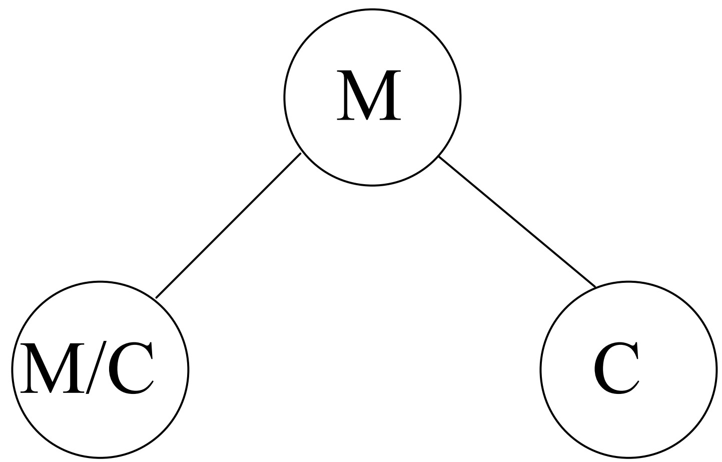
- Vertical foreclosure and the *Essential Facility* doctrine
- IP rights and competition policy

# I. VERTICAL FORECLOSURE

- *Framework*

"upstream"
monopoly segment

"downstream"
complementary, potentially
competitive segment



# I. VERTICAL FORECLOSURE

• *Conventional wisdom*

upstream monopolist restricts downstream competition by limiting access to its upstream good, with the aim to *extend its market power* from the monopolized segment to the complementary segment

- vertical integration + refusal to deal /incompatibility / high wholesale prices / tie-ins...

- no vertical integration, but exclusive dealing, price discrimination…

# I. VERTICAL FORECLOSURE

- *Chicago critique (Posner 1976, Bork 1978, …)*

Bottleneck good is

an *input* into the downstream production process

sold on a *stand-alone* basis (and complementary with other good)

"Only *one* profit: how can bottleneck owner earn more than one profit?"

"Competition in downstream market makes upstream product more attractive; thus M has no incentive to reduce competition in downstream market."

# I. VERTICAL FORECLOSURE

- *Response to Chicago critique*

  - bottleneck is an input: restore, rather than extend market power (Hart-Tirole 1990, McAfee-Schwartz 1994, Rey-Tirole 1997, ...)

    *Upstream monopolist cannot exercise monopoly power without exclusion*

  - bottleneck sold as a stand-alone good:
    - leverage market power into an independent market (Whinston 1990) (requires commitment to bundling)
    - prevents entry in monopolized markets by deterring entry in adjacent complementary markets (Carlton-Waldman 2000)

# I. VERTICAL FORECLOSURE

- *Example 1: "Cournot competition"*
  - Suppose

    1) each downstream firm orders from the monopolist

    2) downstream firms compete in prices for the final customers

    → it is optimal for each downstream firm to order and for the monopolist to supply a quantity that is the "best reaction" to the production by the other downstream firms.

    → yields "Cournot" outcome (quantity competition); as number of competitors increases, price goes down to cost (competitive pricing, no market power)

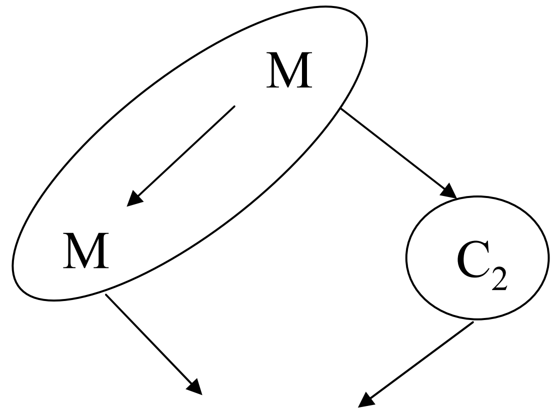
- *Example 2: licensing*
  - Value of first license decreases when awarding additional licenses
  - Value of licenses goes down to zero as number of competing licensees increases

# I. VERTICAL FORECLOSURE

- *Incentives to restore market power*

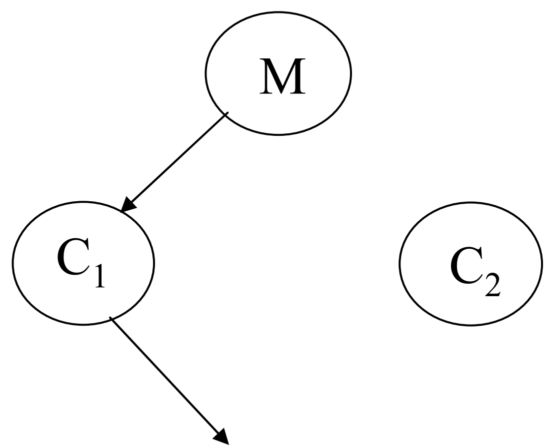
  - Vertical integration

    "refuse first license"



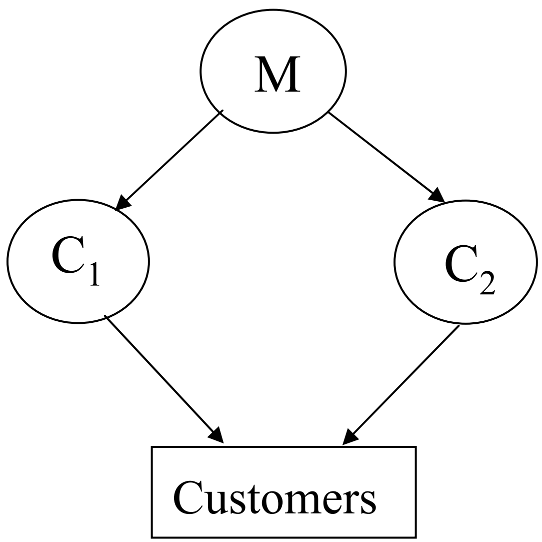

  - Exclusive contracts

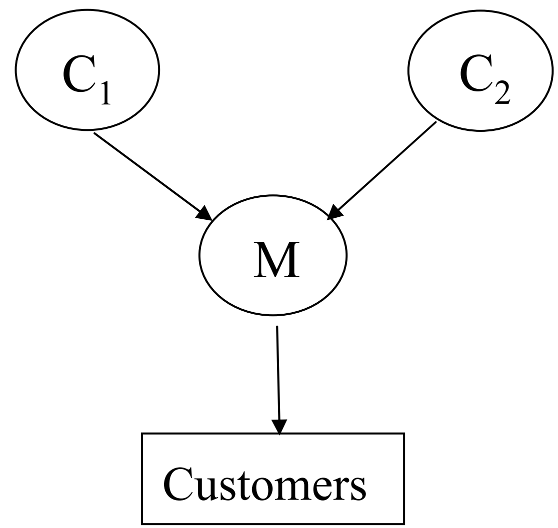
    "refuse second license"



# I. VERTICAL FORECLOSURE

- *Remarks*
  - Vertical integration / exclusive dealing
  - Partial exclusion
  - Upstream / Downstream bottleneck




  - One / Two markets
  - "New" product / additional competitor

# I. VERTICAL FORECLOSURE

- *Efficiency defenses*

  - benefits from vertical integration
  - cost of increasing capacity
  - protection of reputation
  - investment and innovation

Regulation of access to bottleneck segment

= regulation of rate of return on that segment

# II. IP AND COMPETITION POLICY

- *The "long-term" view*
  - ex ante incentives / ex post competition

    competition in product markets, competition in innovation markets
  - division of tasks
    - "advocates" ("judge"?)
    - comparative advantage
      - patent system: investment (non obviousness), social value (novelty)

        problems: multiple paths, lock-in → same social value but different rents
      - competition policy: natural impulse to expropriate inventor
    - complementarity
      - profit affected by patent breadth and antitrust
      - but patent breadth also affects imitation → needs both tools

# II. IP AND COMPETITION POLICY

- *Technology diffusion*
  - competition policy also affects the diffusion of technology
  - affects both ex ante incentives and future innovation

- *IP and market power*
  - OECD 1989 report on CP and IPR
    - survey of licensors
    - no close substitutes: 27%
    - >10 substitutes: 29%
  - *when* IP is “essential facility”
    - rate of return regulation requires fine economic analysis
      - social cost of excessively high and excessively small rents
      - scope for “efficiency” (investment, innovation) defence
      - uncertainty, multiple paths, lock in
    - courts’ involvement in access pricing