

MARKET FAILURES AND PUBLIC POLICY

Jean Tirole, December 8, 2014

Nobel Lecture in Economic Sciences

Dedicated to the memory of Jean-Jacques Laffont

I. INTRODUCTION

II. RESTRAINING MARKET POWER

III. TWO-SIDED MARKETS

IV. INTELLECTUAL PROPERTY

V. CONCLUDING REMARKS

Industrial organization's long tradition

- French engineer-economists Cournot (1838) and Dupuit (1844)

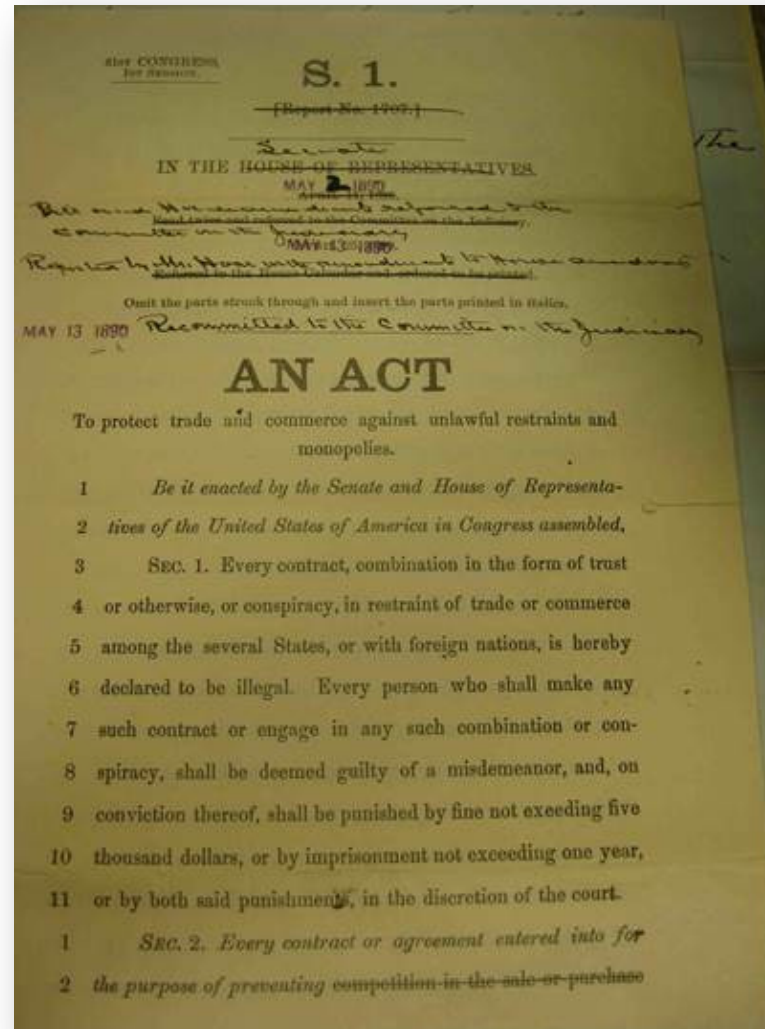


Antoine Augustin Cournot



Jules Dupuit

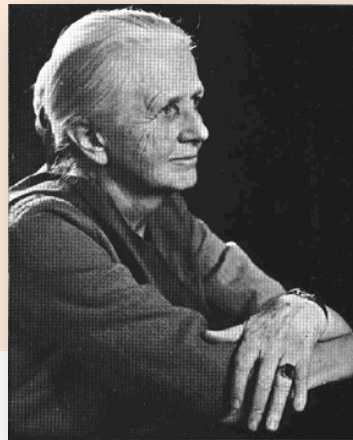
- Antitrust revolution post Sherman Act (1890)...



- ...comforted by Harvard Structure-Conduct-Performance paradigm (1930-1970)



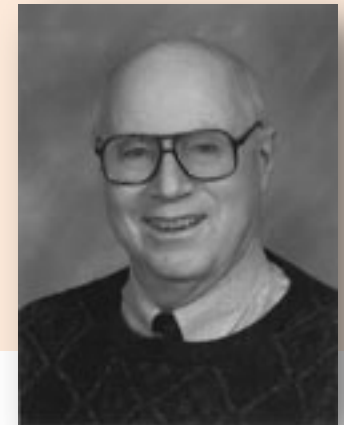
Ed Chamberlin



Joan Robinson



Joe Bain



Michael Scherer

- Chicago school critique (“empiricism without theory”) and counterrevolution (1960-1980)



George Stigler



Harold Demsetz



Richard Posner

A collective effort

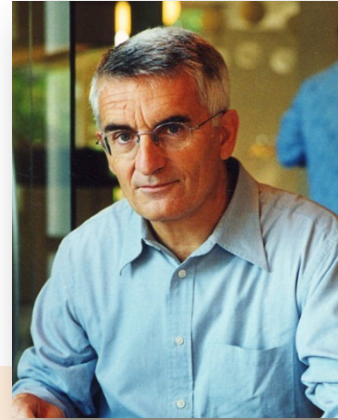
- Closest collaborators on the Prize's awarded field



Drew Fudenberg



Eric Maskin



Jean-Jacques Laffont



Patrick Rey



Jean-Charles Rochet



Paul Joskow



Josh Lerner

- And a global research environment



A stroke of good fortune

- My awakening to industrial organization at MIT
- Breakthroughs in game theory and information economics
- Growing awareness of inefficiency of old style public utility regulation
- Independent agencies and an increased attention to economic reasoning



The economist's social responsibility

(Case-by-case) “rule of reason” right approach, but daunting informational requirements for the regulator. Economists must

- (1) develop a rigorous analysis of how markets work, accounting for
 - specificities of industries
 - what regulators do and do not know
- (2) participate in policy debate.

I. INTRODUCTION

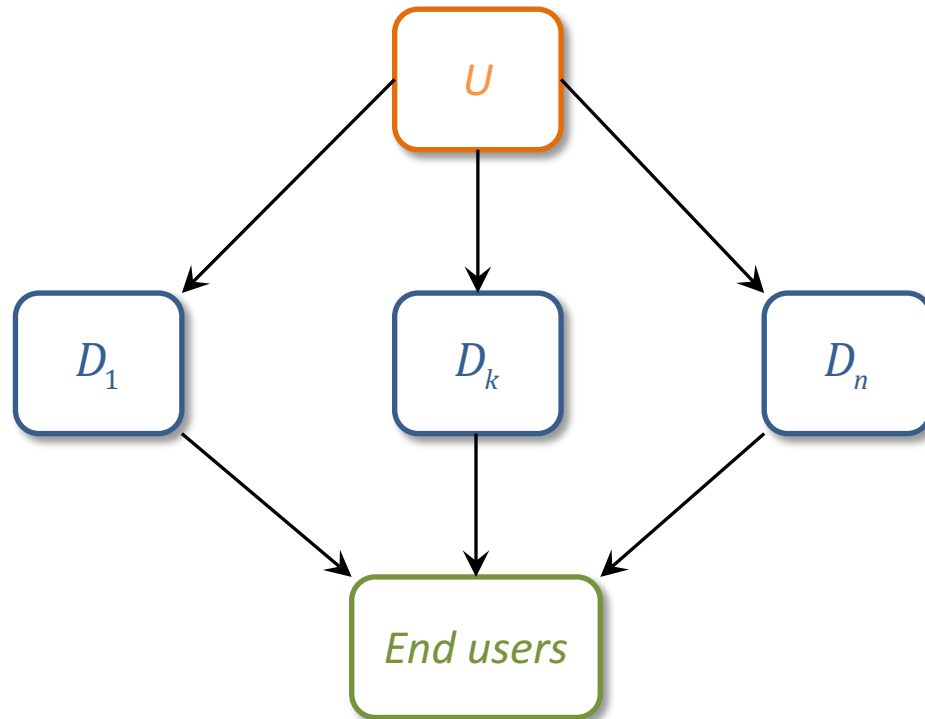
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Illustration: the foreclosure doctrine (1)



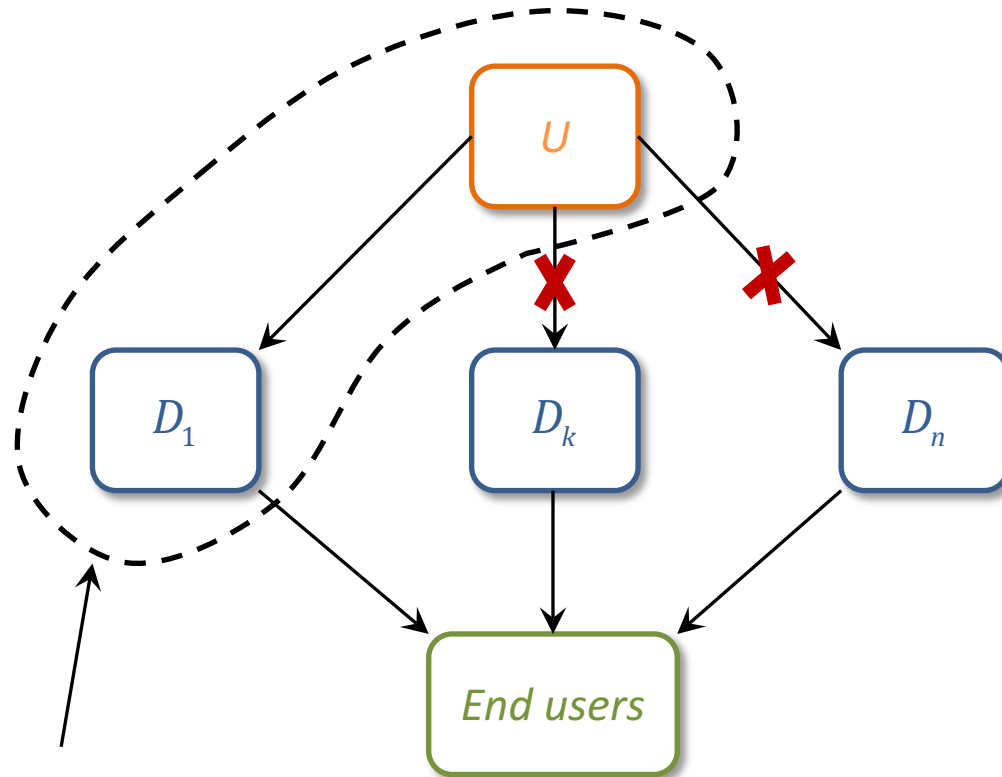
railroad infrastructure, power grid,
key patent...

train operators, power producers,
technology implementers...

passengers/freight, electricity
consumers, technology users...

Fair access creates downstream competition and low prices for end users.

Illustration: the foreclosure doctrine (2)



railroad infrastructure, power grid,
key patent...

train operators, power producers,
technology implementers...

passengers/freight, electricity
consumers, technology users...

vertical integration
or sweet deal

Hart-Tirole (1990), Rey-Tirole (2007)...

Common sense prescription about handling market power

Market power is

deserved

undeserved

Common sense prescription about handling market power

Market power is

	deserved	undeserved
concession	competitive, well-designed auction	unpaid-for legal monopoly

Common sense prescription about handling market power

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Common sense prescription about handling market power

Market power is

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concession	competitive, well-designed auction	unpaid-for legal monopoly
intellectual property	major innovation	obvious, not novel innovation
utility regulation	investment/effort	lucky cost and demand conditions

Handling the firm's informational superiority (1)

about

- its environment: technology/demand (“adverse selection”)
- its actions: effort to reduce cost, increase demand, give access to rivals (“moral hazard”)

Principle #1: reduce informational asymmetries: data collection, benchmarking, auction.

Handling the firm's informational superiority (2)

Principle #2: one size does not fit all; offer menu of options, e.g.

- cost plus: high cost and low profit
- fixed price: low cost and high profit.

Implications of efficiency/rent extraction trade-off

Can't have cake and eat it too. Incentives generate rents.

Implications (knowing them could have avoided some wishful thinking):

1. Carefully monitor quality
2. Promote regulatory commitment
3. Beware capture by industry

Latter two call for agencies that are independent w.r.t. politics and industry.

Be careful about tinkering with price structure, use decentralized information

- Curbing market power constrains price *level*. What about the price *structure*?
- Firm has more information than regulator, administered pricing dangerous. Besides, it is much less obvious that firm has conflicting objective with regards to price structure.

Message:

- regulate price level
- don't tinker with price structure without in-depth analysis.

- Ramsey-Boiteux: business oriented (what the market can bear)

price charged to i -segment

marginal cost of i -segment

$$\frac{p_i - c_i}{p_i} = \frac{\theta}{\eta_i}$$

elasticity of demand on segment i

where $0 < \theta < 1$

($\theta = 1$: unregulated firm

$\theta = 0$: first best (no budget constraint))

- Well-designed global price cap (constraint on firm's weighted average price) as way of implementing Ramsey-Boiteux pricing

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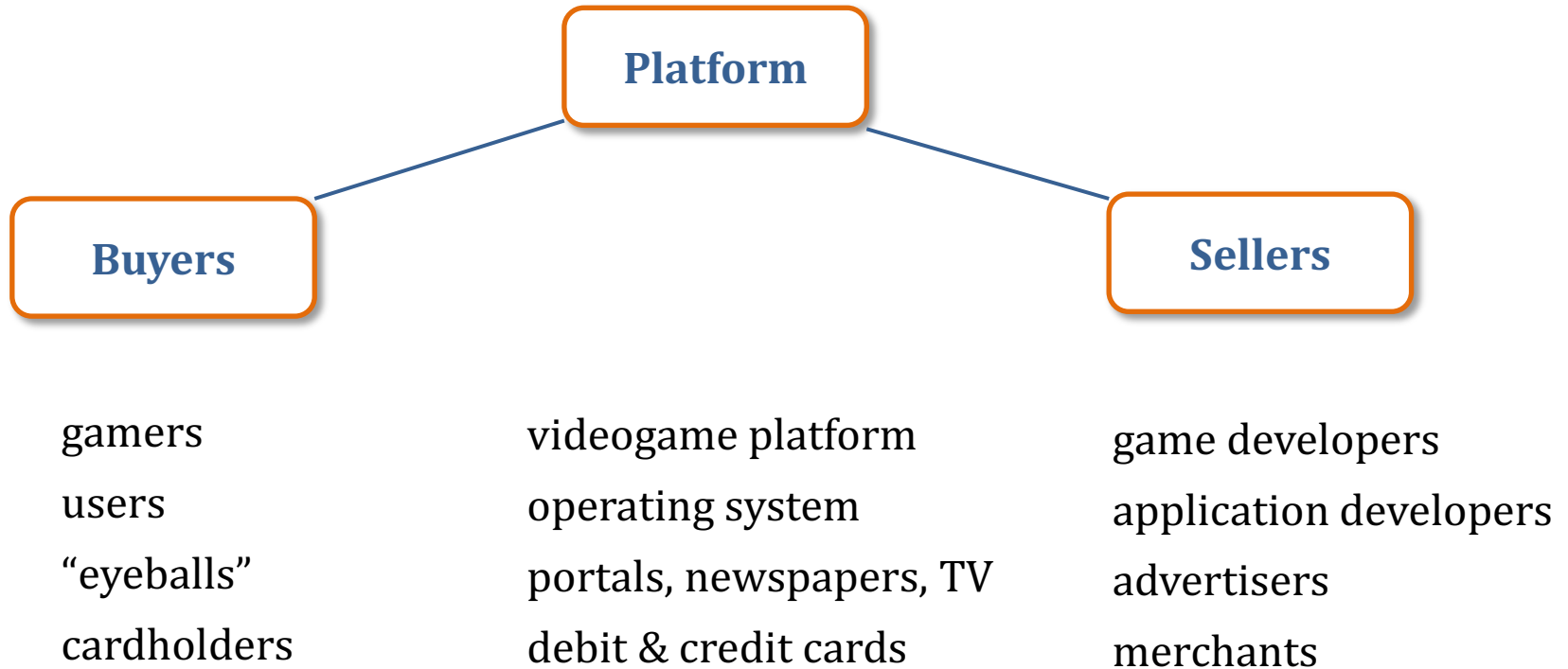
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Two-sided markets



Pricing

platform's cost per transaction

price charged to side i

side j 's willingness to pay to interact with a side - i user

$$\frac{p_i - (c - v_j)}{p_i} = \frac{1}{\eta_i}$$

elasticity of demand

$c - v_j$: "opportunity cost"

Caillaud-Jullien (2003), Rochet-Tirole (2003, 2006), Armstrong (2006)...

Two-sided platforms' business model

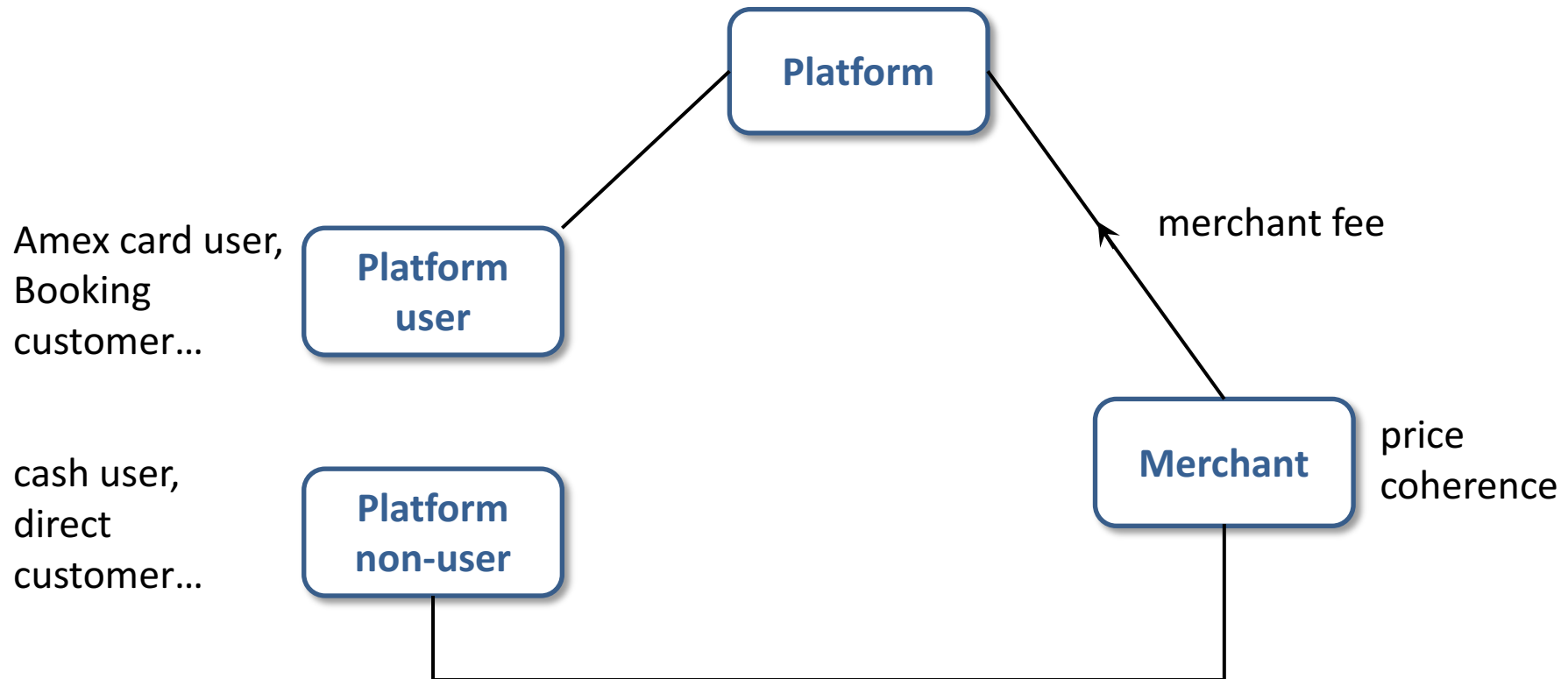
Two-sided platforms account for what each side can bear and for externalities → very skewed pricing patterns

low-price side	high-price side
consumers (search engine, portal, newspaper)	advertisers
cardholders	merchants

Wither antitrust for two-sided markets?

Optimal regulation of must-take cards, must-join platforms

card payment system, online booking system...



Rochet-Tirole (2002, 2011), Edelman-Wright (2014)...

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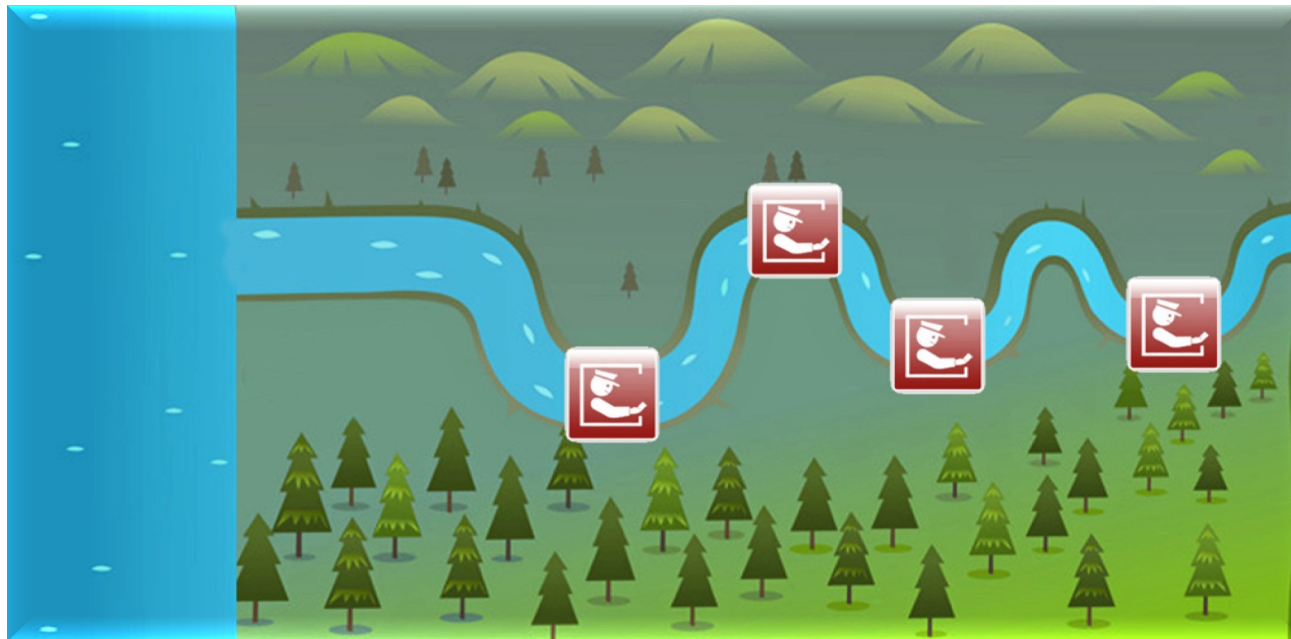
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Search for “information-light” rules when available

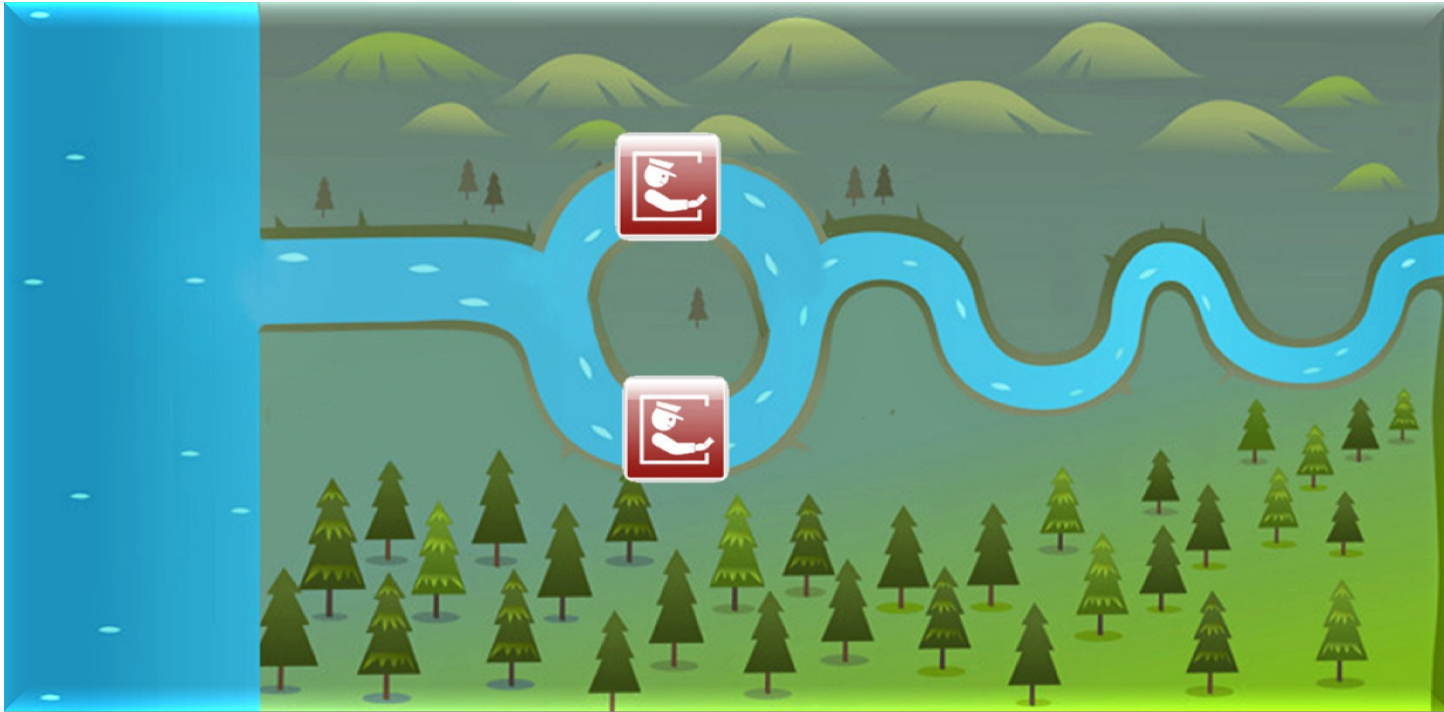
Example: patent pools (co-marketing of patent licenses by multiple patent owners)

Royalty staking hinders the diffusion of technologies. Analogy:



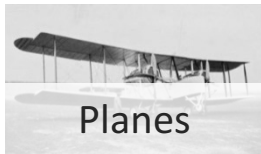
Co-marketing is desirable

Harmful co-marketing



Akin to merger to monopoly

Brief history of patent pools



1945

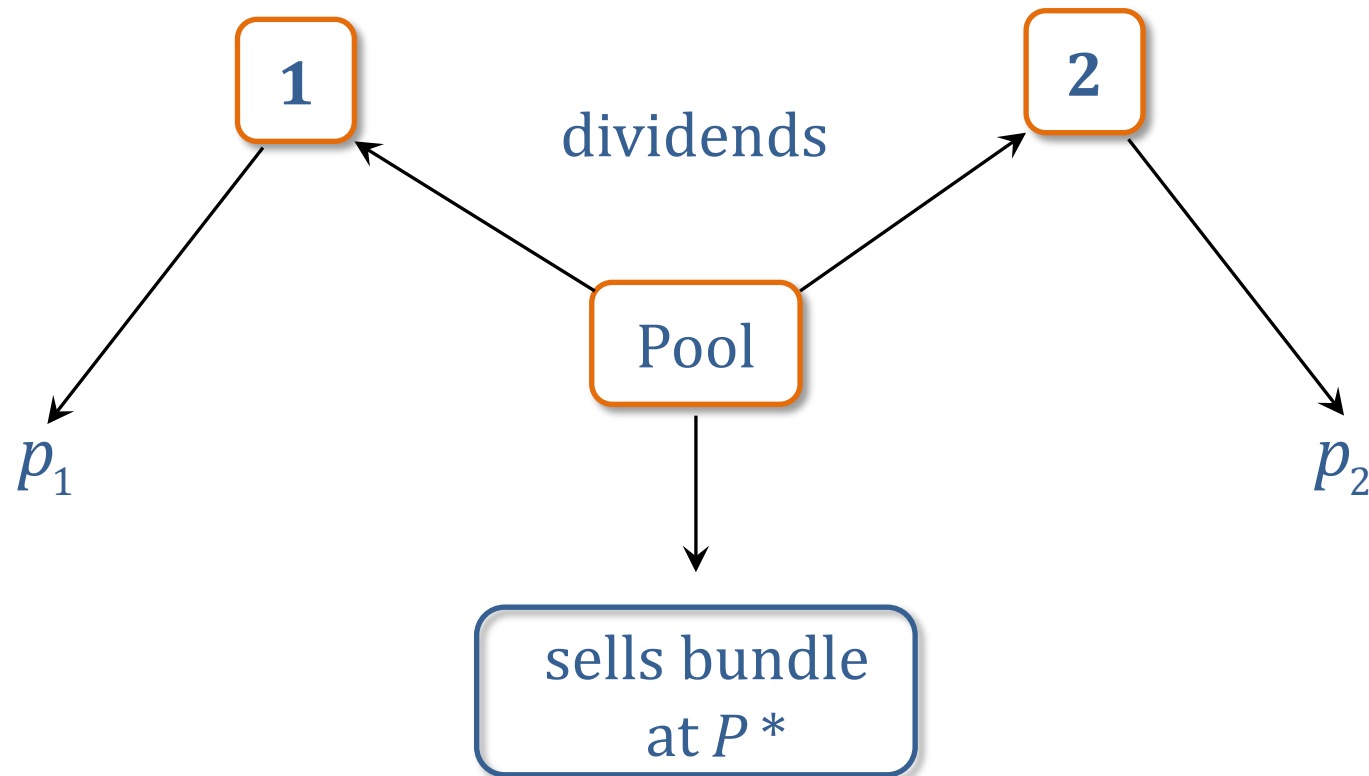
1997

Revival (mainly in IT)



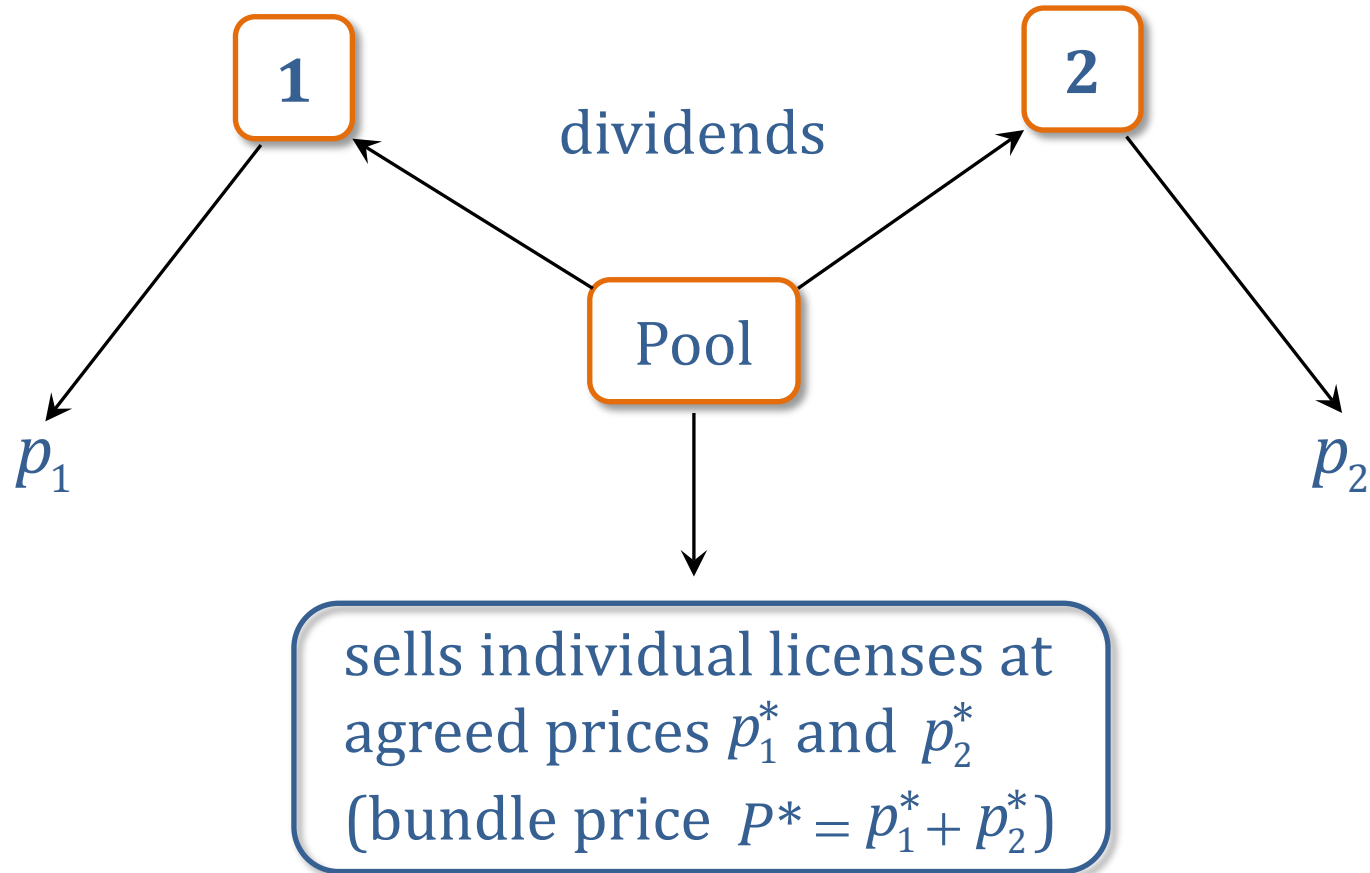
How do we tell good and bad co-marketing arrangements apart?

Individual licensing



Lerner-Tirole (2004)

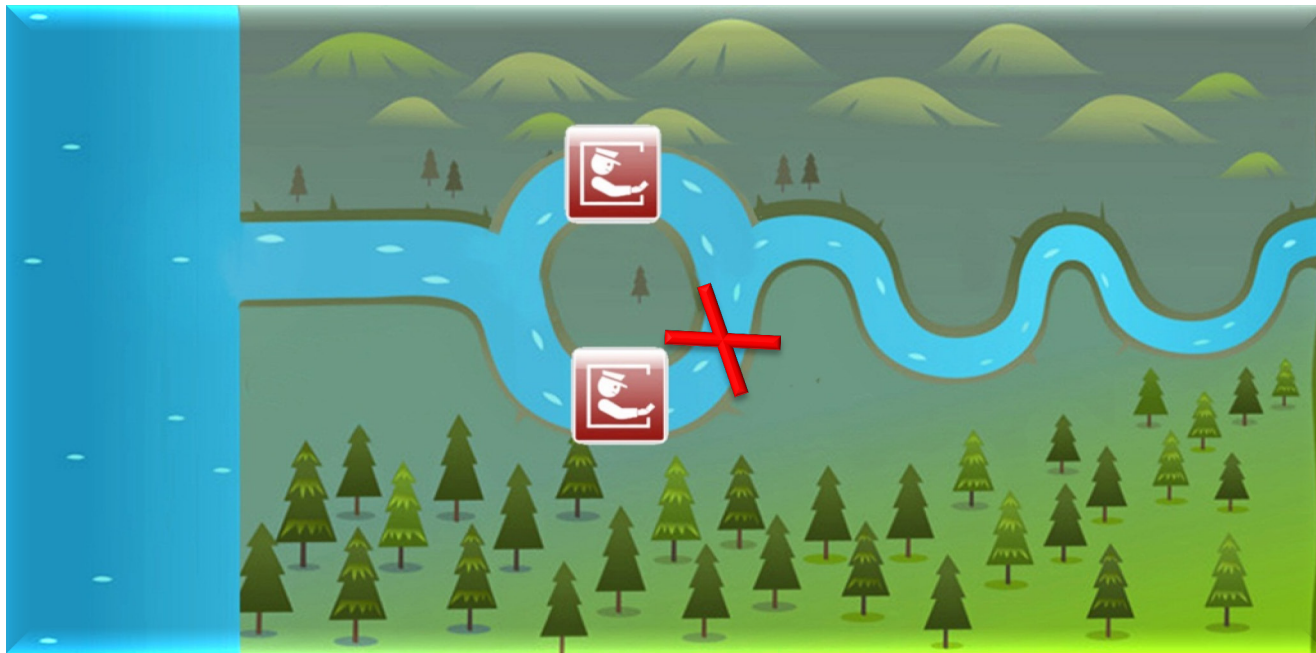
Cum unbundling



Standard-essential patents

Multiple routes to solving a technological problem prior to standard.

Standard selects a particular route.



Creating a real commitment (not vague promise of fair, reasonable and non-discriminatory – FRAND – licensing).

Lerner-Tirole (forthcoming)

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Roger Guesnerie



Bengt Holmström



Drew Fudenberg



Roland Bénabou



Mathias Dewatripont



Josh Lerner



Patrick Rey



Olivier Blanchard



Philippe Aghion



Bernard Caillaud



Paul Joskow



Patrick Bolton



Emmanuel Farhi



Jean-Charles Rochet



Oliver Hart



Jean-Jacques Laffont



Eric Maskin

... and many, many others.

Thank you !