Antitrust and Innovation. The AT/IP Interface

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Topics for discussion

1. Growth, Productivity, Innovation
2. Structure of the U.S. Antitrust Laws
3. Market power and market definition
4. Refusals to deal, compulsory licensing
5. U.S. v. Microsoft, exclusion and tying
6. Should IP be abolished?
7. Anatomy of a license agreement
8. Cross-licensing, patent pools, and SSOs
9. Settlement of Patent Disputes

Class 01: Growth, Productivity, Innovation

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August 27, 2007

Growth and technological innovation

How much do you value economic growth?

- Which standard of living would you prefer?
  - $46,326/year in 2005 or in 1905?
  - $46,326 in 1905 have the purchasing power of $1,060,664 in 2005
- In 1905 you would have a house with servants, the very best of everything
- But, you would have to live with 1905 technology
  - No Linux, no Internet, no TV, no antibiotics, no (real) cars, no air traffic, no central heat, no AC, etc.

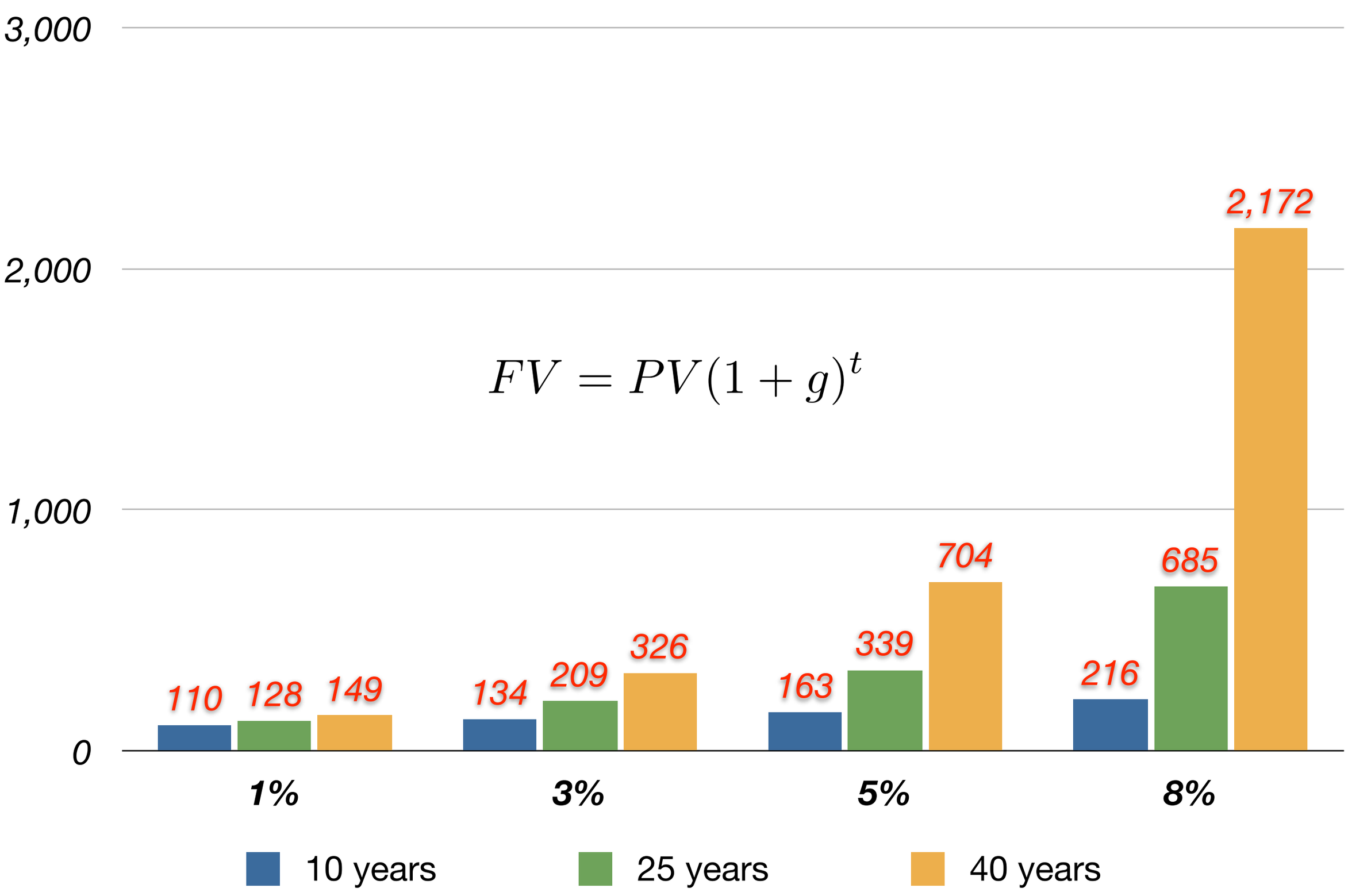
http://www.measuringworth.com/ppowerus/

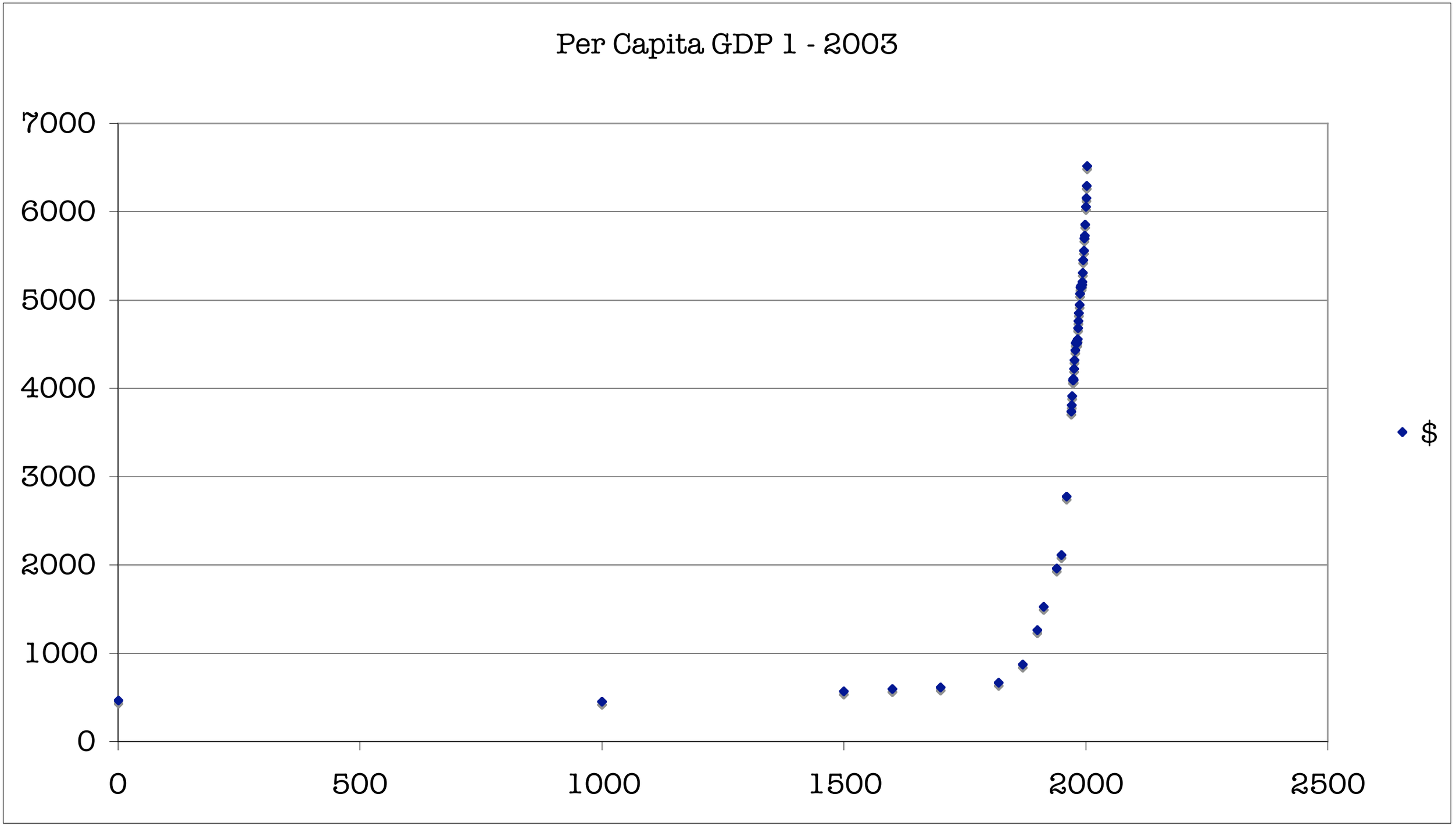
Economic growth

- Most significant measure for standard of living (real GDP)
- Compounds over time
- Small changes in growth rate make a huge difference in the standard of living within one generation or two
- In the long run, the only thing that really matters to the "wealth of a nation" is economic growth
  - But note the problem with all highly aggregated measures such as GDP. It tells us little about distribution. This is what Krugman calls the "Bill Gates walks into a bar effect." The average wealth in the bar increases while the median scarcely moves.

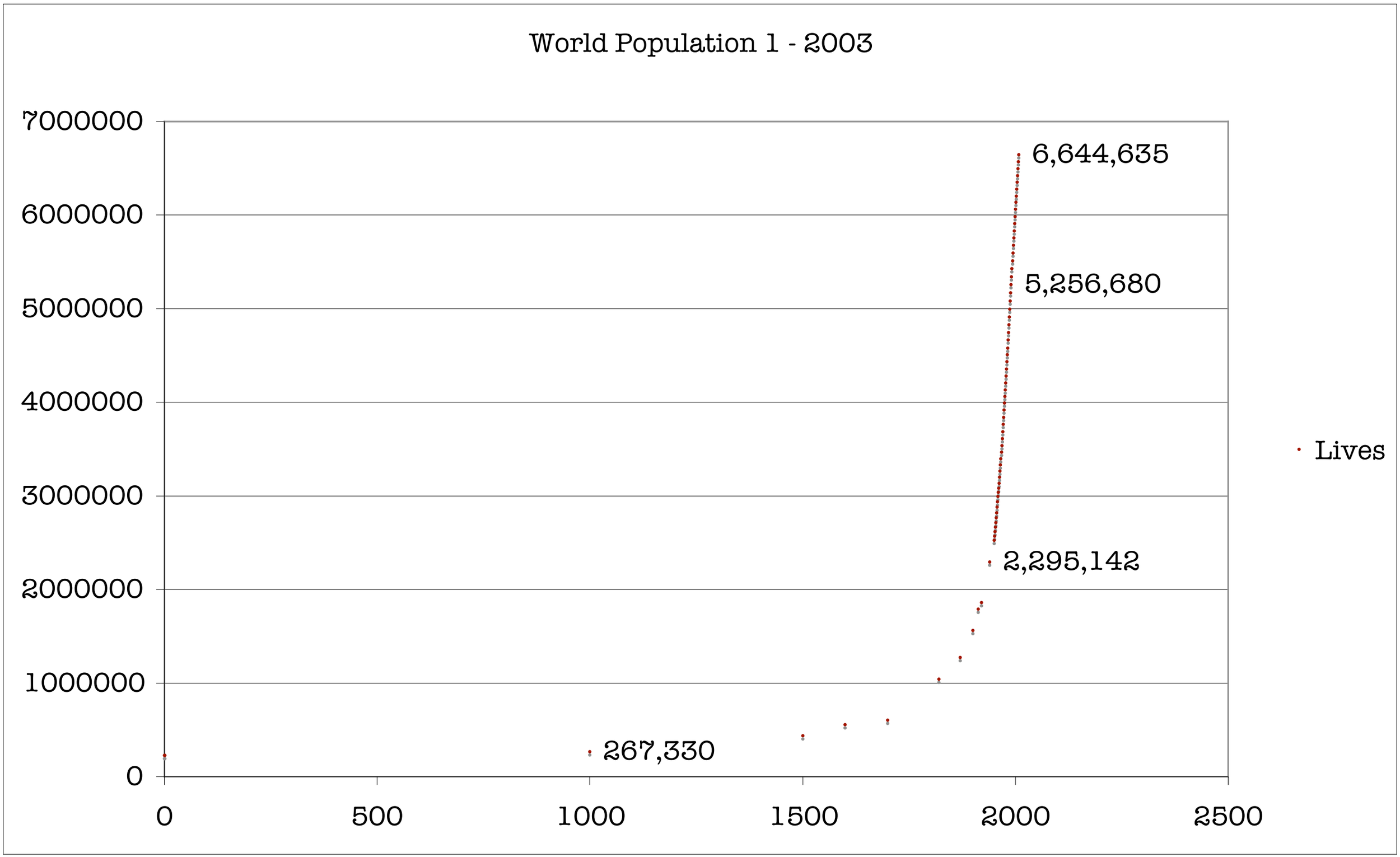
Annual Growth Rate of per capita GDP

$$FV = PV(1+g)^t$$





Source: Angus Maddison, http://www.ggdc.net/maddison/

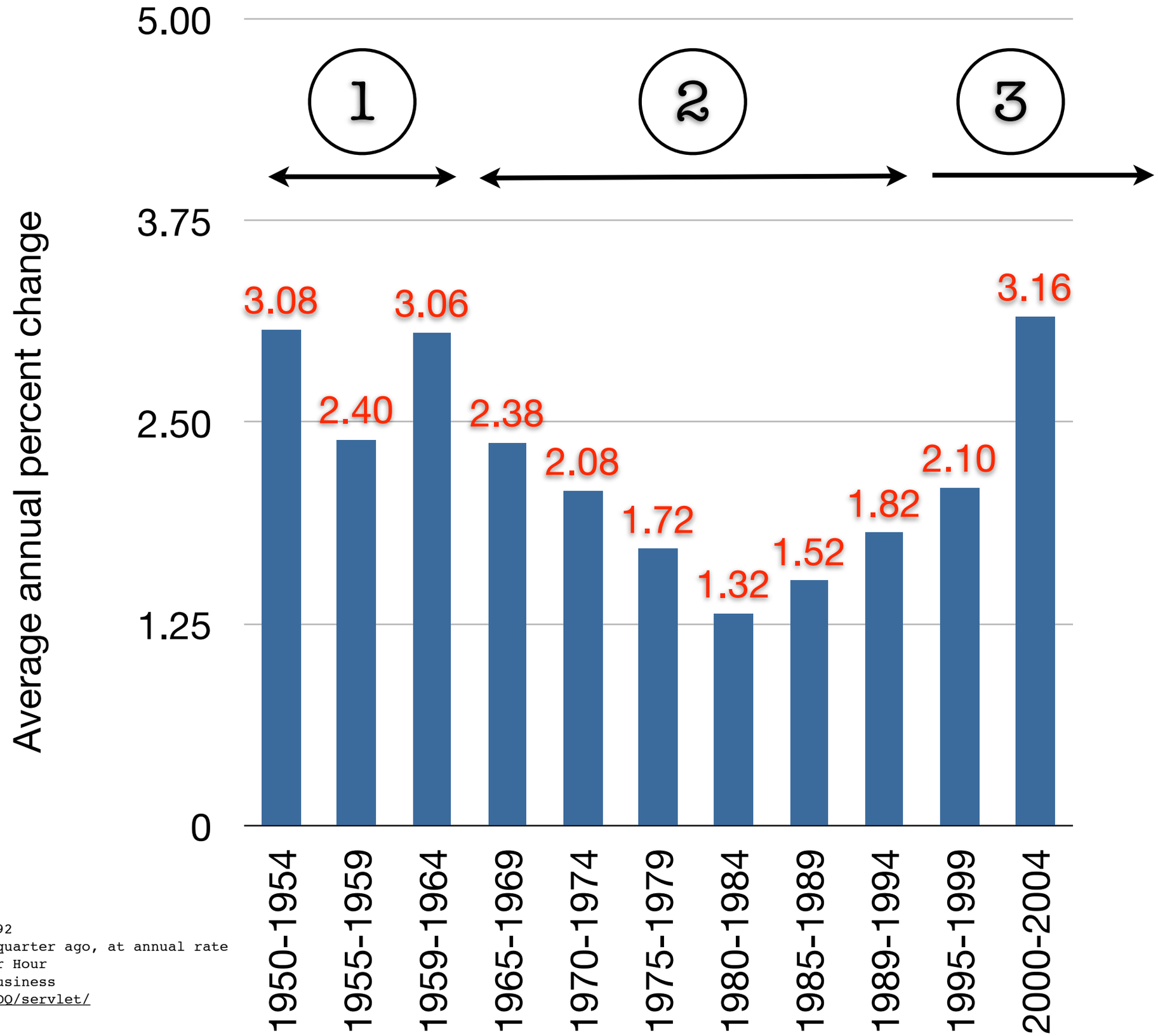


Source: Angus Maddison, http://www.ggdc.net/maddison/

Real GDP growth depends on productivity growth

- Productivity (output/hour)
  - (1) Capital goods (investments, tools)
  - (2) Human capital (education, experience)
  - (3) Technology
- In developed nations, (1) and (2) each explain 25% of GDP growth, (3) about 50%
- In poor nations, (1) and (2) together explain almost 100% of GDP growth

Productivity change in the nonfarm business sector, 1950-2004



Series Id: PRS85006092
Duration: % change quarter ago, at annual rate
Measure: Output Per Hour
Sector: Nonfarm Business
http://data.bls.gov/PDQ/servlet/SurveyOutputServlet

Innovation: Incentives and ability

L. Cabral, Industrial Organization (2000) Chapter 16

Top 20 Global R&D Spenders

	Firm	R&D spent	% of revenues	Industry	Headquarters
1	Microsoft	$7,779	21	Software	North America
2	Pfizer	$7,684	15	Health	North America
3	Ford	$7,400	4	Car	North America
4	DaimlerChrysler	$7,032	4	Car	Europe
5	Toyota	$7,025	4	Car	Japan
6	General Motors	$6,500	3	Car	North America
7	Siemens	$6,159	7	Technology	Europe
8	Matsushita	$5,726	7	Technology	Japan
9	IBM	$5,673	6	Computing	North America
10	Johnson & Johnson	$5,203	11	Health	North America
11	GlaxoSmithKline	$5,200	14	Health	Europe
12	Intel	$4,778	14	Computing	North America
13	Volkswagen	$4,719	4	Car	Europe
14	Sony	$4,670	7	Computing	Japan
15	Nokia	$4,640	13	Computing	Europe

http://www.boozallen.com/media/file/151786.pdf

(1) “As soon as we get into the details and inquire into the individual items in which progress was most conspicuous, the trail leads not to the doors of those firms that work under conditions of comparatively free competition but precisely to the doors of the large concerns.”

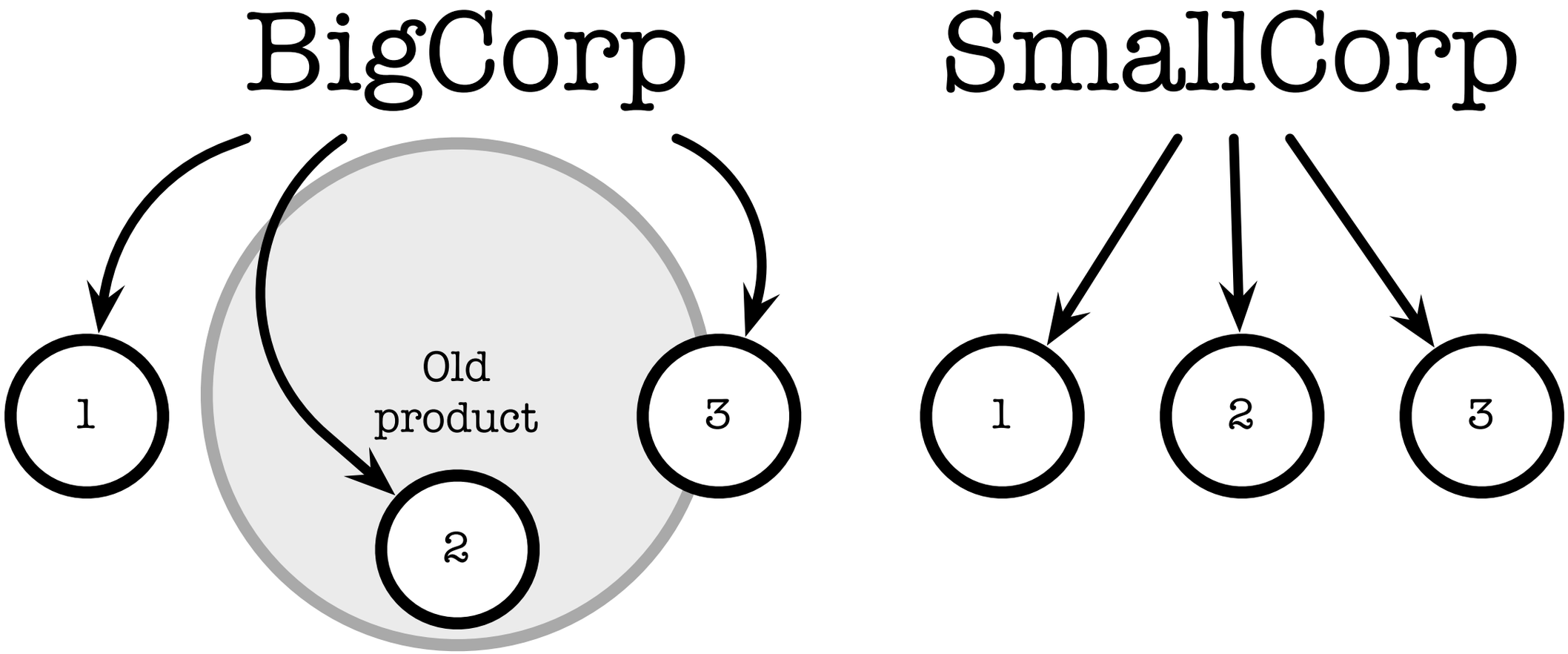
(2) “Perfect competition is not only impossible but inferior, and has no title to being set up as a model of ideal efficiency.”

J. Schumpeter, Capitalism, Socialism, and Democracy (2nd. ed.). New York: 1950, p.86

Incentives to Innovate: Small firms

- If a monopolist introduces a new invention, it replaces some of its pre-invention monopoly sales ("replacement effect")
  - Chris Paine, Who killed the electric car? (2007)
- Firms without market power have relatively greater **incentives** to innovate

Replacement effect



1 > 3 > 2

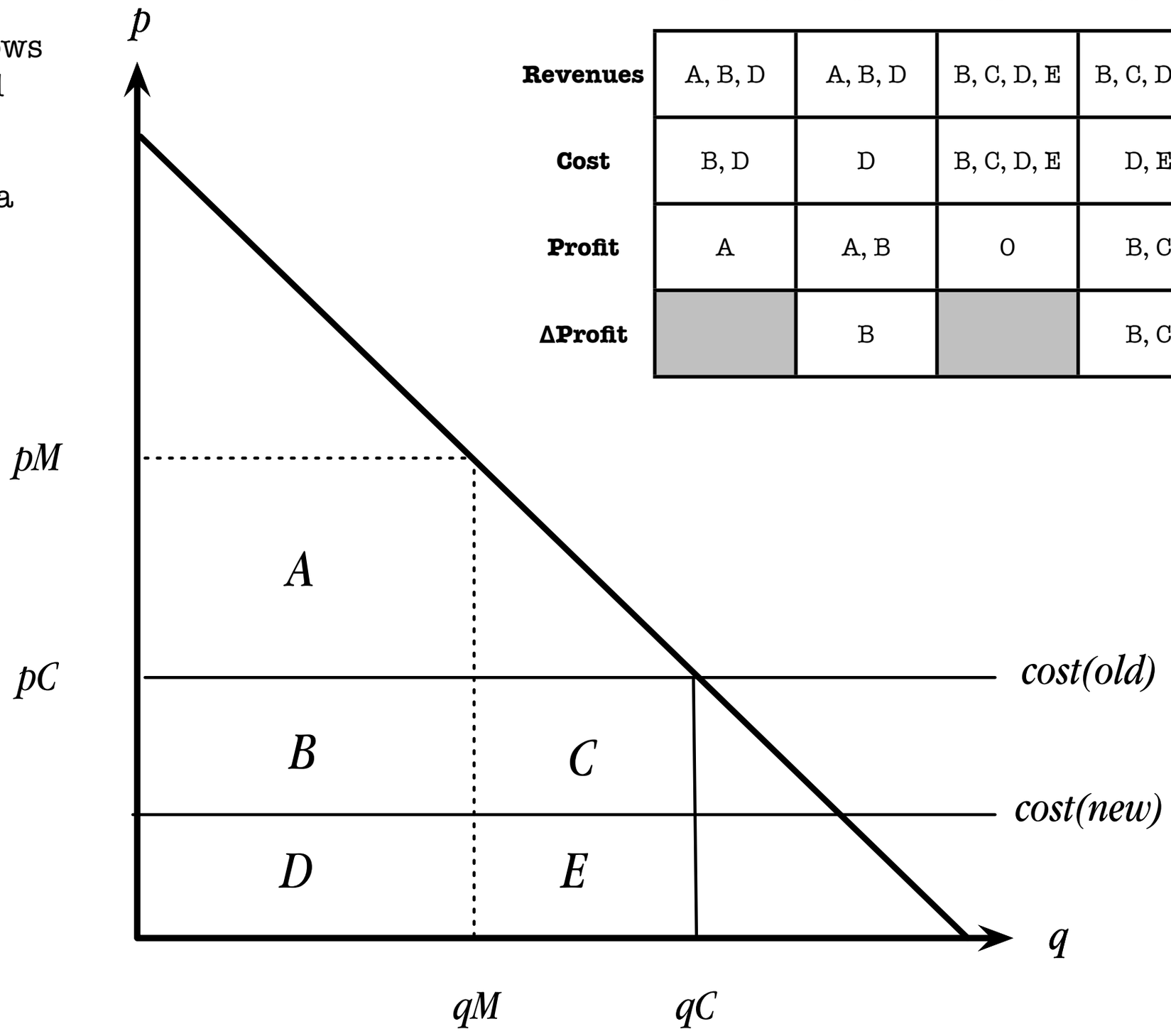
1 = 2 = 3

SmallCorp has greater incentives to introduce new products 2 and 3

Replacement effect

A process innovation allows a firm to reduce marginal cost from cost(old) to cost(new). What is the value of the invention to a monopolist M and to a perfect competitor C?

	M (pre)	M(post)	C(pre)	C(post)
Revenues	A, B, D	A, B, D	B, C, D, E	B, C, D, E
Cost	B, D	D	B, C, D, E	D, E
Profit	A	A, B	0	B, C
ΔProfit		B		B, C



Ability to innovate: Large firms

- Monopolists (or large firms) are better **able** to self-finance R&D
  - No disclosure problem (small firms have to disclose their ideas to VCs)
  - Risk spreading
  - Scale and scope
  - Learning curve advantage (e.g., Boeing)

Dynamic competition: "Creative destruction"

(1) A operates in a competitive market (Competition)

(2) A makes a process invention that lowers A's cost dramatically (Invention)

(3) For a while, A captures significant profits (Market power)

(4) A's competitors imitate the process (Imitation and market power erosion)

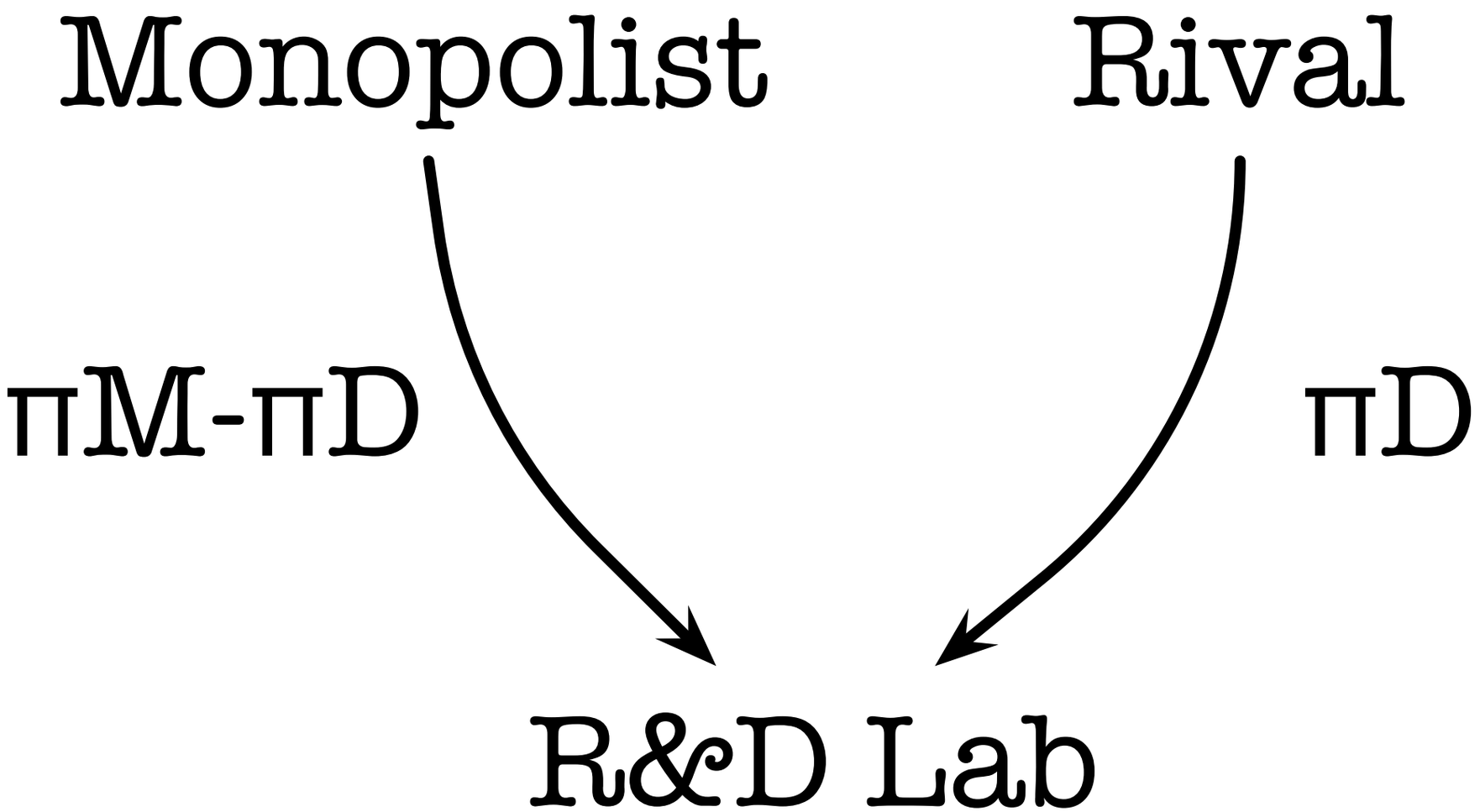
The dynamics of R&D competition

Efficiency and replacement effects, gradual and radical inventions

- Incumbents have a greater incentive than entrants to perform R&D toward a gradual innovation, because the incumbents have relatively more (present monopoly profits) to lose.
- If there is uncertainty regarding the threat of entry or if the innovation is radical, then entrants may have greater incentives for R&D than incumbents.

L. Cabral, Industrial Organization (2000), p.298

Who has the greater incentives to invest in R&D?



How much would M and R pay to acquire R&D lab? It depends!

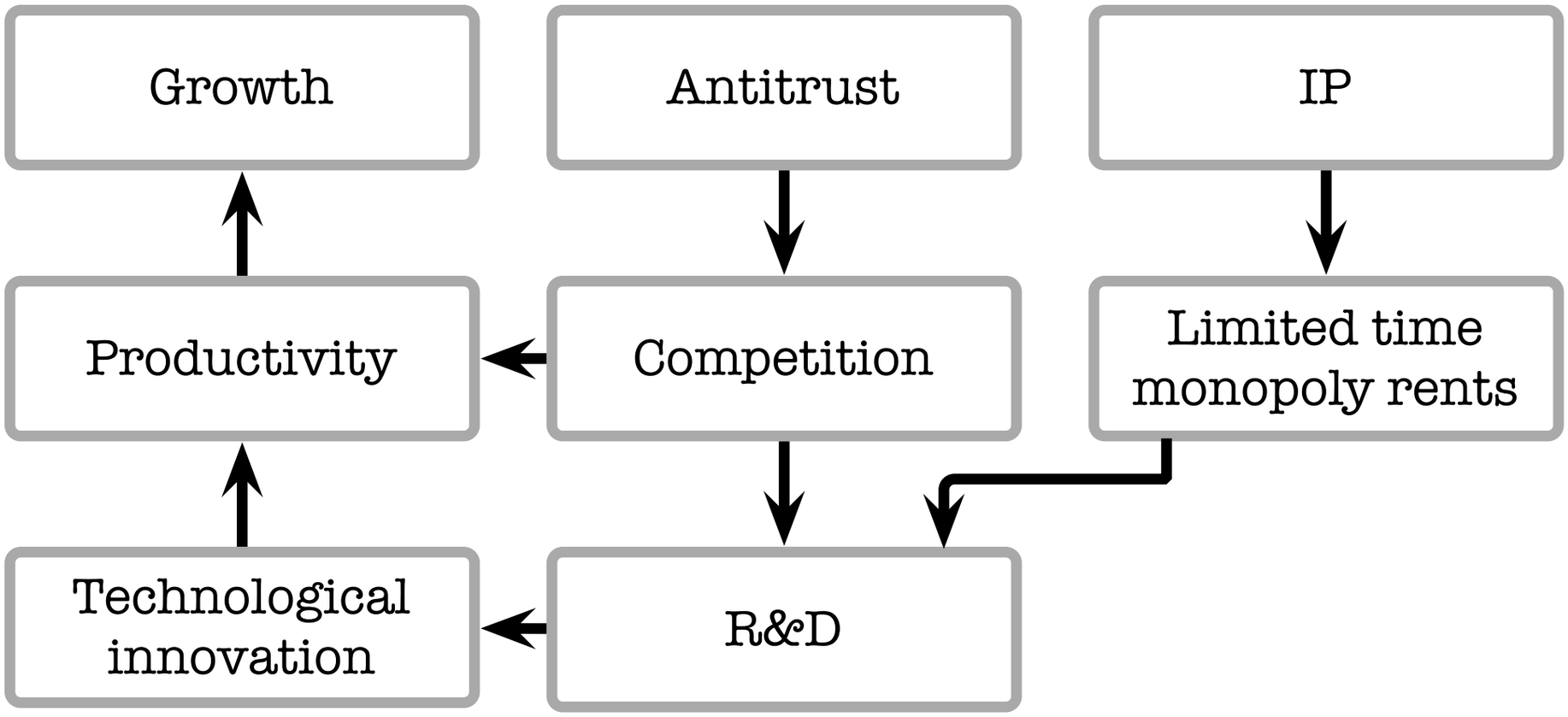
Innovation	M's pre-entry profits (= monopoly profit)	Probability of entry by R	M's post-entry profits (= duopoly profit)	M's willingness to pay	R's willingness to pay
Gradual, certain entry	$100 = πM	100%	$40 = πD	$60 = πM-πD	$40 = πD
Gradual, uncertain entry	$100 = πM	50%	$70 [¬entry] + [entry] ($100*.5) + ($40*.5)	$30	$40 = πD
Radical, uncertain entry	$100 = πM(old)	90%	$10 [¬entry] + [entry] ($100*.1) + ($0*.9)	$90	$100 = πD(new)

Leaders play it safe, followers don't

- Low risk strategy: low value R&D, high probability
- High risk strategy: high value R&D, low probability

- Microsoft (XP, Vista) ensured backward compatibility. Apple (OS X) didn't.
- Microsoft (Xbox 360) and Sony (PS3) played it safe. Nintendo (Wii) didn't.

Growth, productivity, innovation and antitrust/IP policy

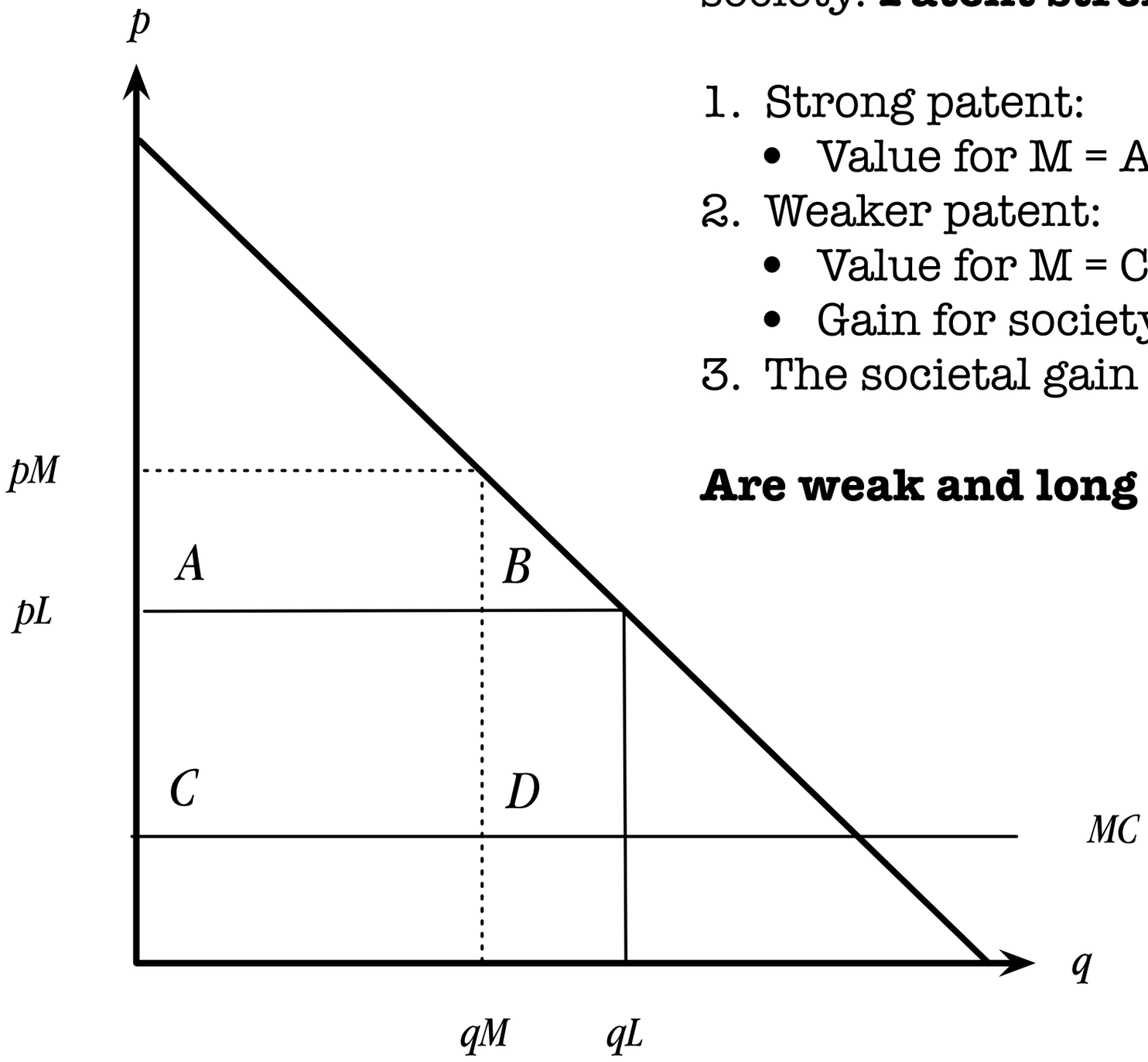


Innovation policy: IP and AT

Levers for innovation policy

- Direct funding of R&D (firms, universities, national champions, tax breaks, etc.)
  - One of the great success stories of government R&D funding is the post-WW II/Cold War DOD funding of basic research that laid the foundations for much of the IT revolution

    See Robert Reich, Supercapitalism (2007)
- Creating market incentives for R&D
  - **Stronger IP protection**. Increased incentives for innovation, decreased post-innovation competition and increased post-innovation costs of new innovation. (Basic trade off.)
  - Balancing competition and **cooperation**.



Patent length: Value to M equals loss to society. **Patent strength** is a different story.

1. Strong patent:
   - Value for M = A + C
2. Weaker patent:
   - Value for M = C + D
   - Gain for society = B + D
3. The societal gain exceeds the loss for M

Are weak and long IP rights optimal?

Class 02: Structure of the U.S. Antitrust Laws

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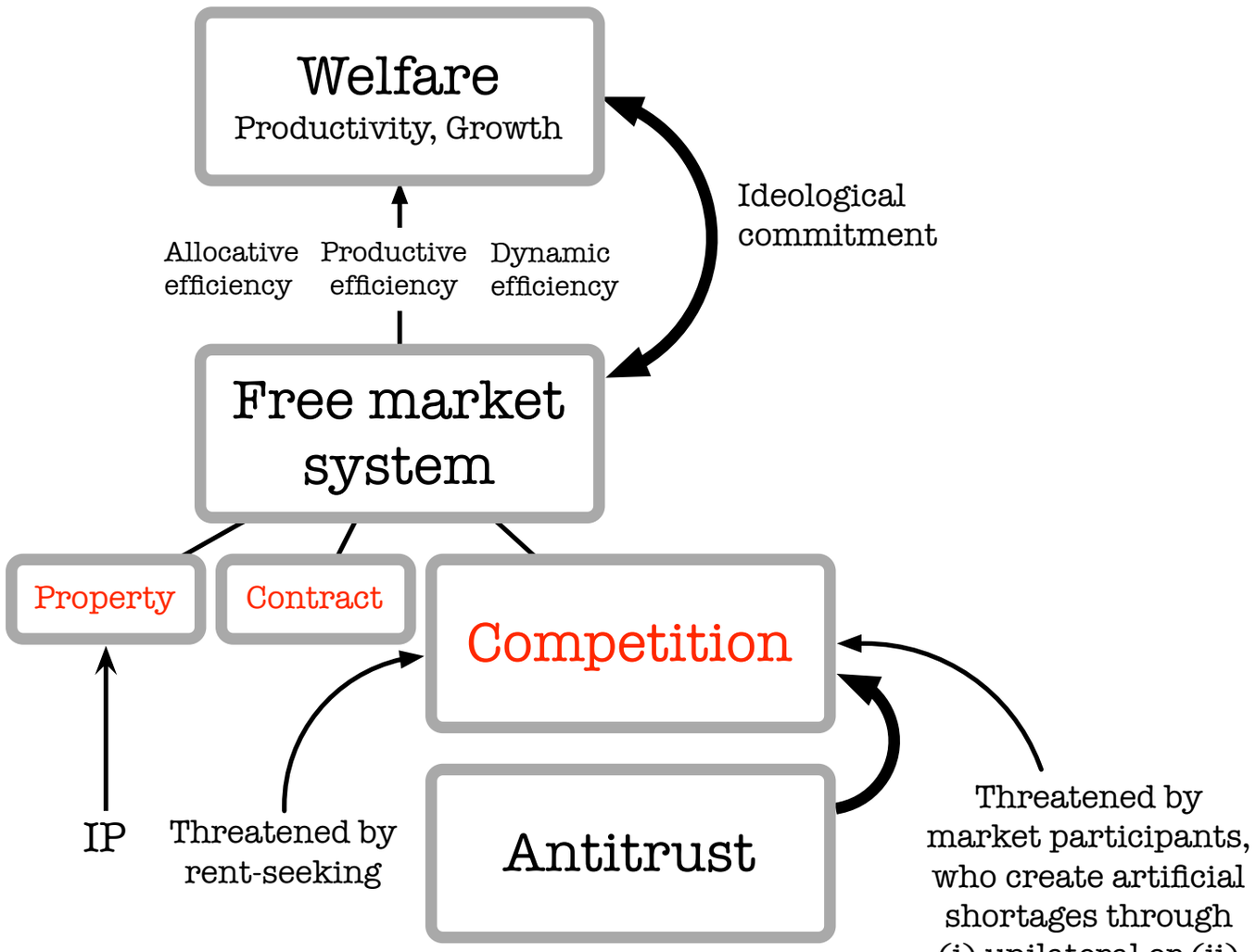
September 04, 2007

The goals of antitrust regulation

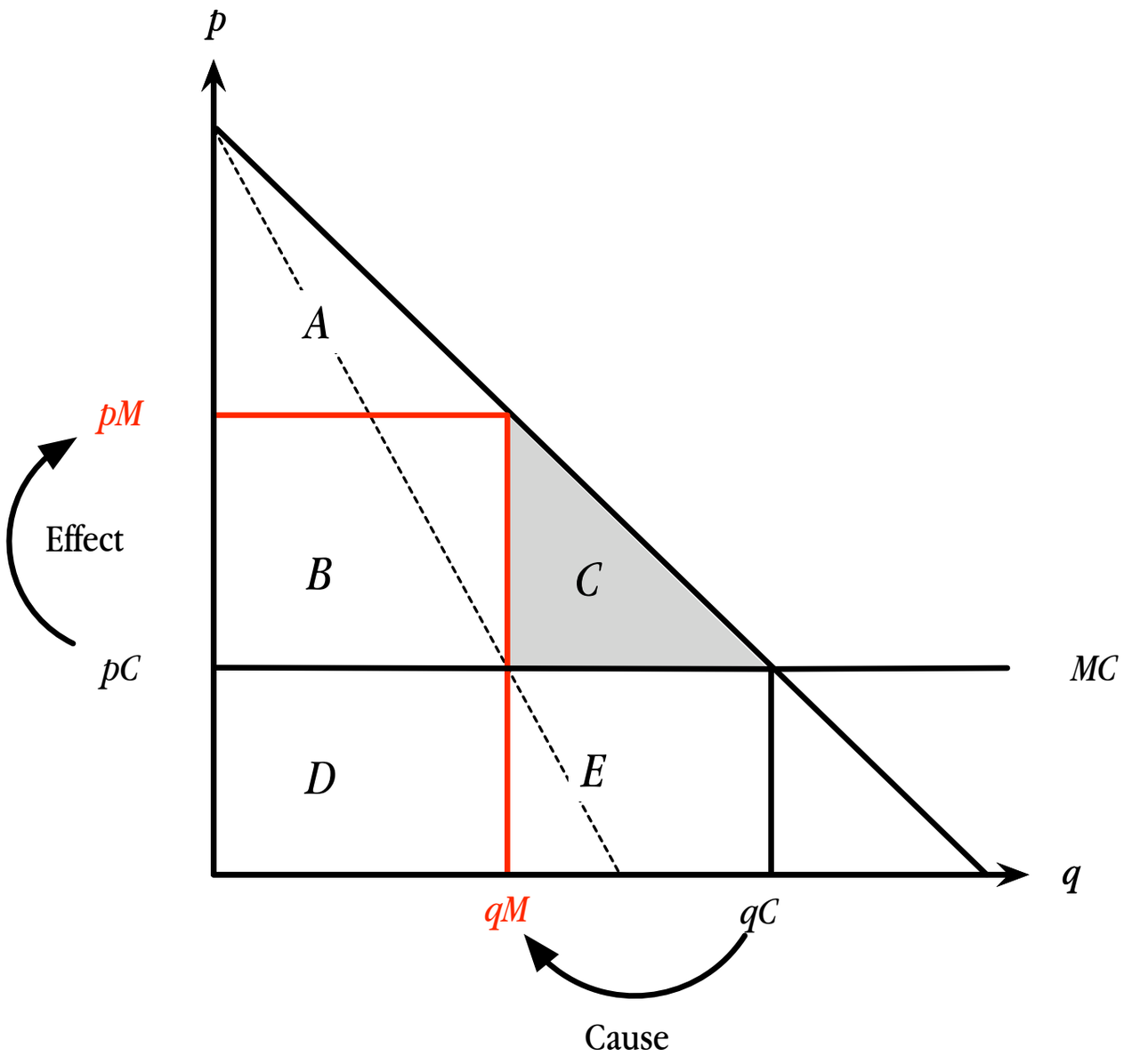
Antitrust protects competition from market participants



"The only reason that private decisions produce efficient results is that they are disciplined by the marketplace, so that the many greedy, short sighted, and just plain stupid decisions businesses make every day end up hurting those businesses but not consumers, who can always turn to a smarter or better-informed rival." M. Lemley, A New Balance Between IP and Antitrust (2007)

"Production at the competitive rate of output maximizes the [producer's] personal profits, but it is also the socially efficient output." H. Hovenkamp, The Antitrust Enterprise, p.18.

The deadweight loss of monopoly: Foregone profitable trades



Deadweight Loss
Deadweight loss (C) is loss of allocative efficiency. Goods that but for the monopoly would travel to higher valued uses can't make that journey and everyone is worse off.

Allocative Efficiency
A has an apple, B has an orange. A values her apple at $1 and B values his orange at $1. The total value of goods in our mini-economy is $2. Because the grass is always greener on the other side, A values an orange at $2 and B values an apple at $2. A and B trade the apple for the orange. Now, the total value of goods in our economy is $4 even though nothing has been produced. The welfare increase is solely the result of trade, which improves allocative efficiency.

Unilateral conduct

Every person who shall monopolize, or attempt to monopolize ... shall be deemed guilty of a felony. (§2)

Unilateral v. coordinated conduct

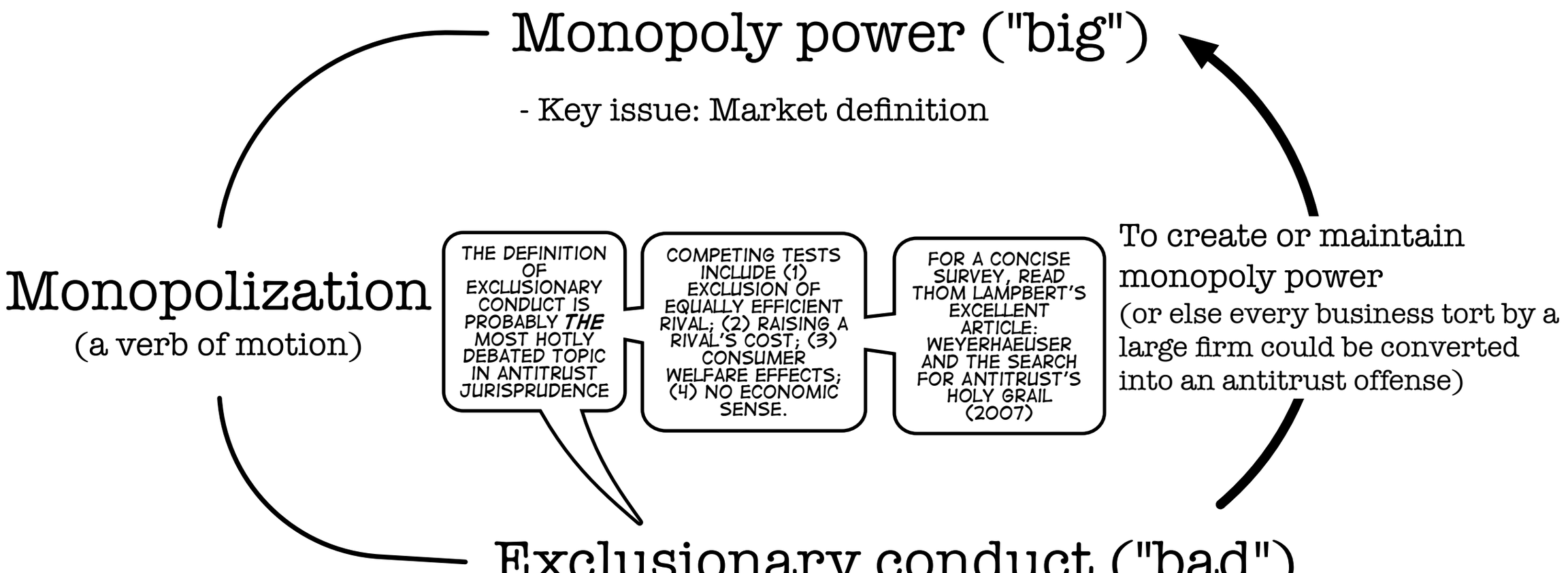
- The unilateral v. coordinated conduct distinction is antitrust's most fundamental conceptual divide
- Most business conduct is unilateral conduct, almost all of which is competitively benign (price setting, introducing new products, marketing, etc.)
- Despite the draconian language in §2, unilateral conduct is evaluated under a lenient, quasi-rule of reason standard

Monopoly is lawful, monopolization is not

The mere possession of monopoly power, and the concomitant charging of monopoly prices, is … an important element of the free-market system. The opportunity to charge monopoly prices – at least for a short period – … induces risk taking that produces innovation and economic growth. To safeguard the incentive to innovate, the possession of **monopoly power** will not be found unlawful unless it is accompanied by an element of **anticompetitive conduct**."

Verizon Communications, Inc. v. Law Offices of Curtis V. Trinko, 540 U.S. 398 (2004)

Monopolization: Elements



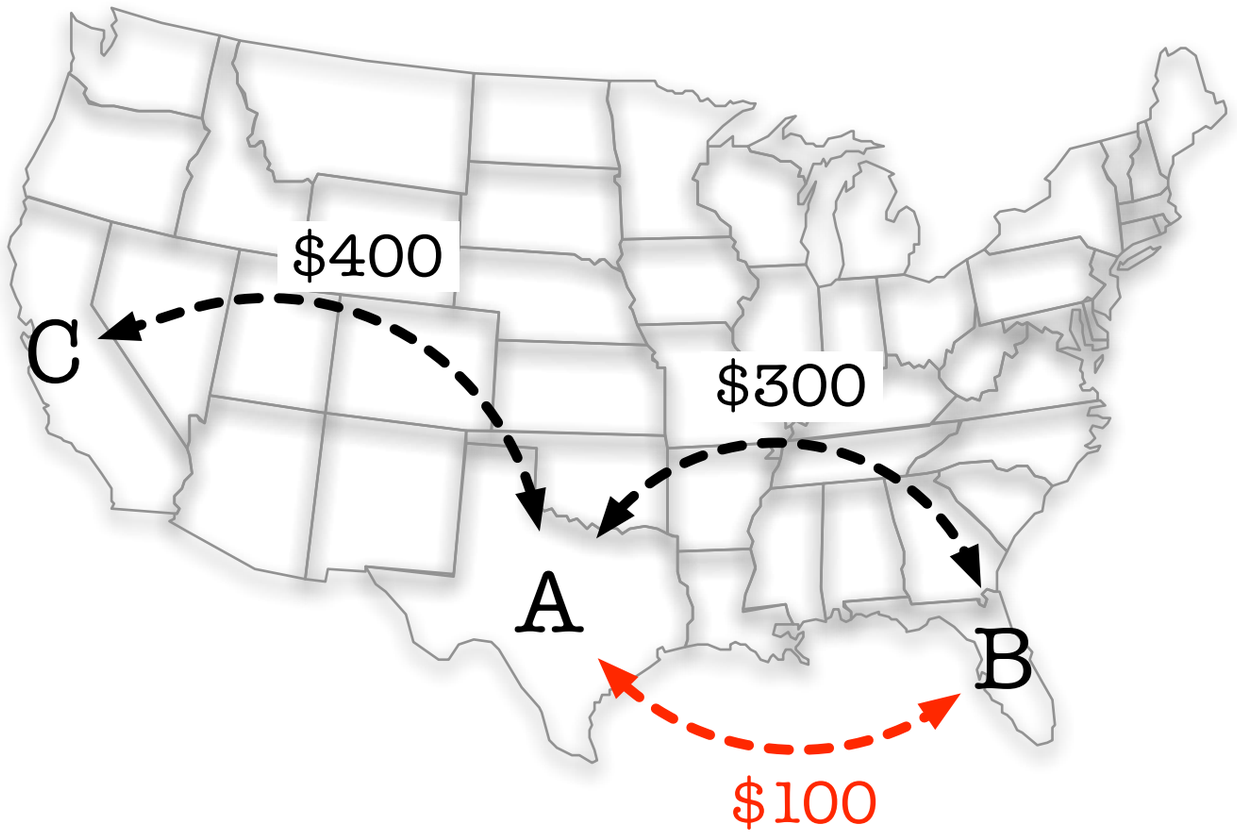
Monopolization: On being big & bad

§2	Big	Bad	Comment
+	+	+	Ill-behaved monopolist
-	+	-	Well-behaved monopolist
-	-	+	Ill-behaved little guy
-	-	-	Well-behaved little guy

Example: Predatory Hot Dogs
Hot dog vendor A embarks on a devious plan to take over the hot dog vending market in New York city by selling dogs below cost for $0.25. Unilateral conduct, no monopoly power, no antitrust issue. Get a cheap dog while you can.

Example: Cure for cancer
Pharmaceutical company A is the only seller of a patented cure for cancer. A is making billions, selling the drug at the (high!) monopoly price. Those who can afford the treatment live and those who can't die. Monopoly power, but no exclusionary conduct. As Justice Scalia put it bluntly in Trinko: "[T]he charging of monopoly prices, is ... an important element of the free-market system." One legitimate question is whether such results are morally justifiable.

Monopolization: Predatory pricing



- **Example 1**: Black Air, a major national operator with a hub in A serves the A-B city pair for $300.
- Red Air, a low cost, limited service airline enters the market, charging $100, which is very close to Red's cost. What happens next?

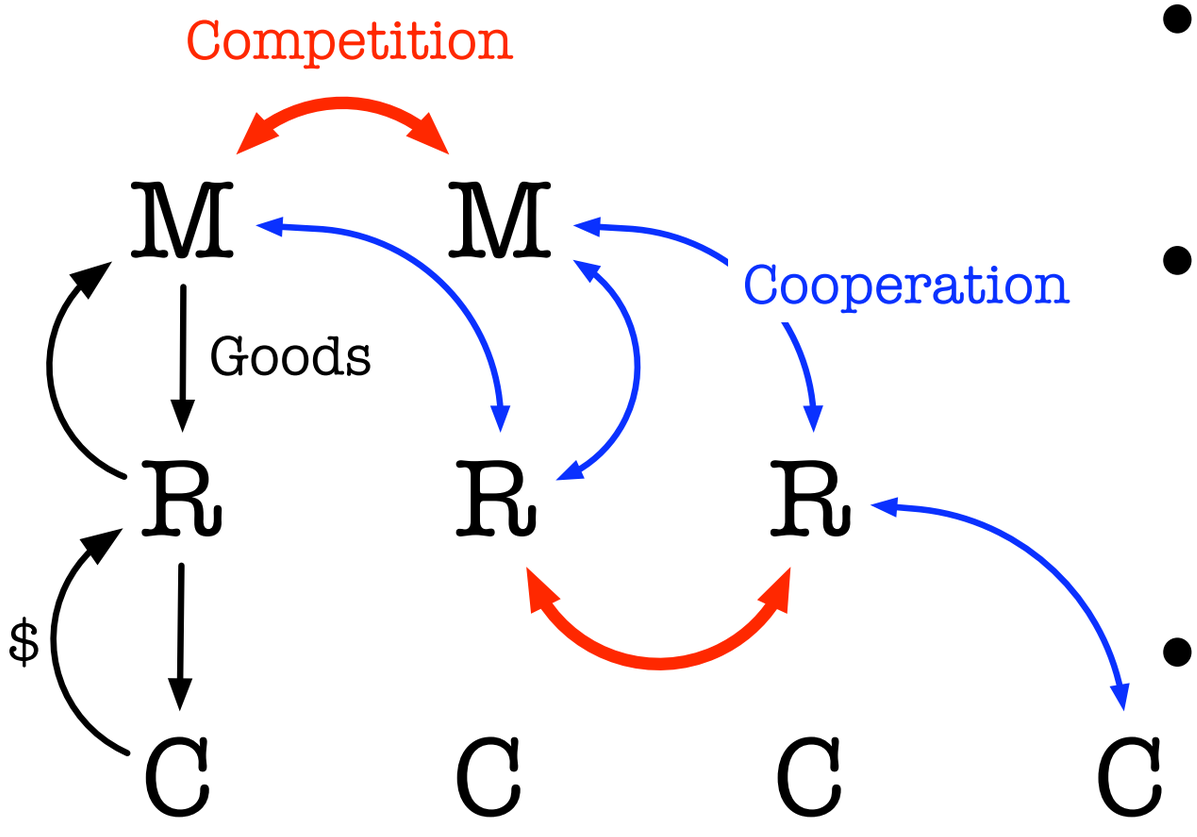
- Black Air undercuts Red Air with below-cost prices (subsidized by profits from other routes such as A-C), drives Red from the market and raises prices back to $300 upon Red's exit. Black's conduct harms rivals without benefitting consumers. **That's a §2 violation**.

- **Example 2:** Black Air can't lower its prices below $150 on the A-B route and thus cedes the market to Red. Red, having driven Black from the market raises prices to $175. Did Red violate §2? No, because its conduct, while harmful to Black, was efficient and benefitted consumers.

Coordinated conduct

Every contract, combination ..., or conspiracy, in restraint of trade or commerce ... is declared to be illegal. (§1)

Coordination: Horizontal and vertical

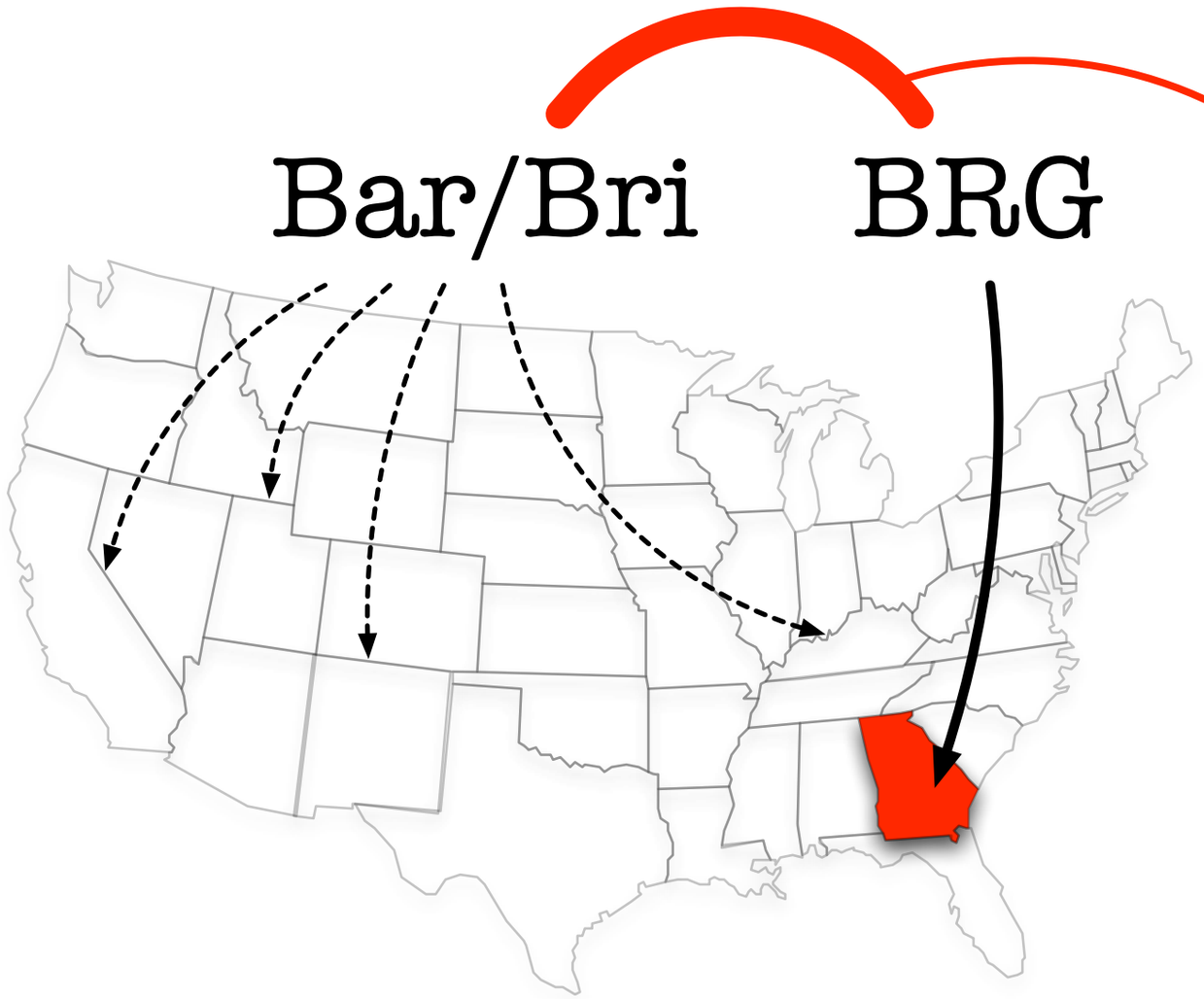


- As a rule, firms are supposed to compete horizontally ("red") and coordinate vertically ("blue")
- Default legal treatment of "restraints on trade"
  - Vertical = lenient (ROR)*
  - Horizontal = harsh (ROR, per se)**
- **Horizontal** = Parties would have been competitors but for the license (§3.3 LG)
  - Depends on scope of IP
  - Depends on relationship of IP (rivalrous, complementary)

* Tying is a per se/ROR hybrid
** With significant exceptions for efficient conduct

Horizontal market allocation (by geography, customer, or time)

BRG and Bar/Bri competed in Georgia, when they entered into a market allocation (and price fixing) agreement. Within weeks, prices in Georgia went from $150 to $400. **Per se illegal**.



BRG gets Georgia, Bar/Bri the rest of the U.S.
Market sharing

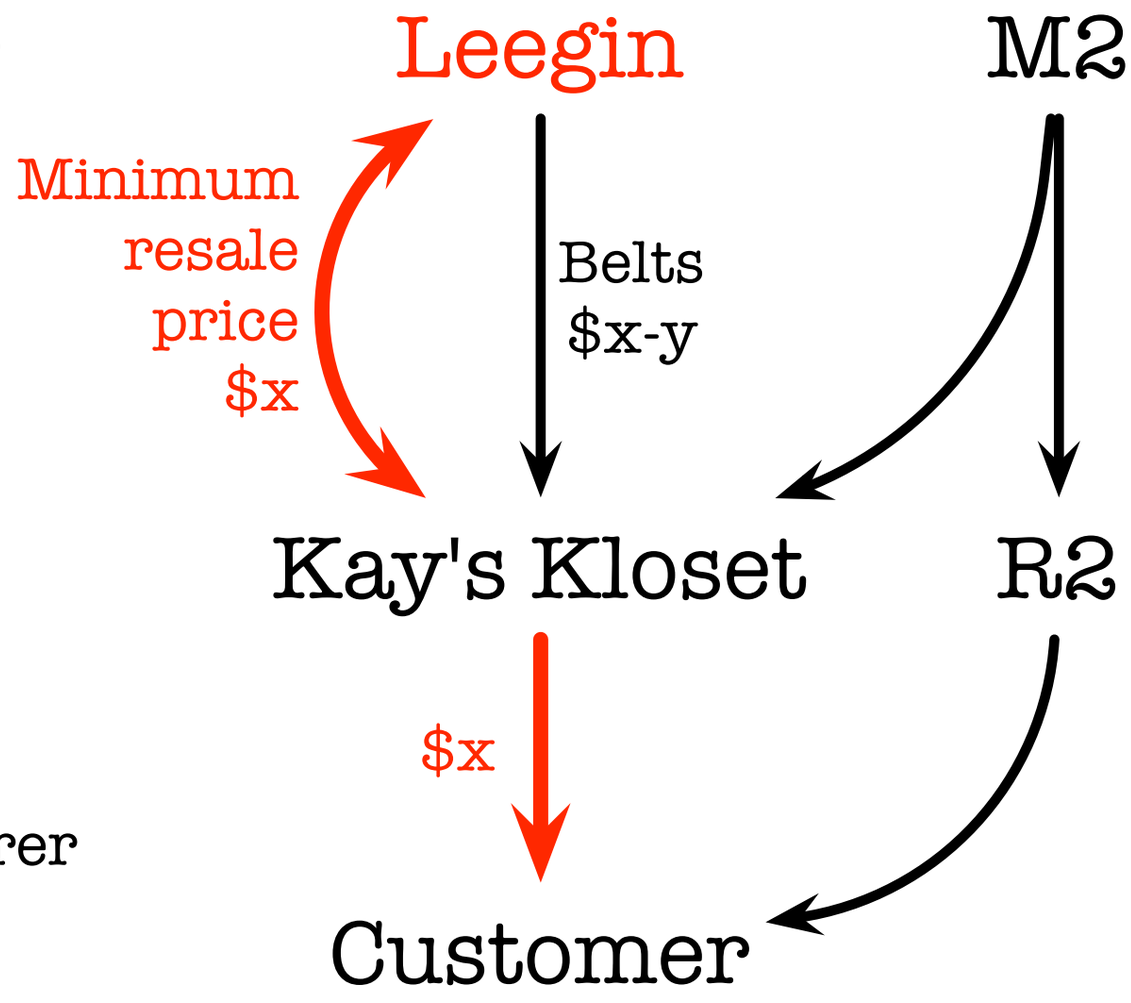
BRG pays $100 per student to Bar/Bri.
Price floor.

Above $350, BRG pays 40% of every dollar to Bar/Bri.
Share gains, discourage entry-inducing prices.

Palmer v. BRG of Georgia, 498 U.S. 46 (1990)

Vertical intrabrand restraints

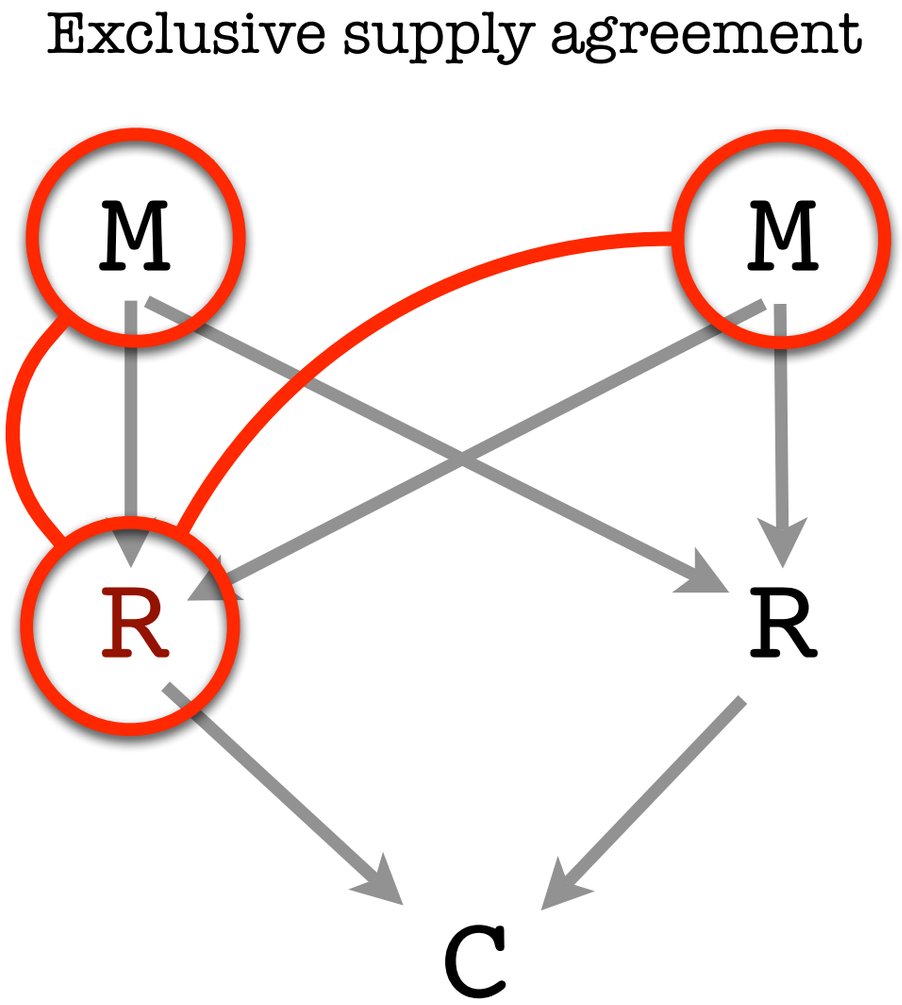
- Intrabrand restraints are about controlling how your dealers distribute your products
- Examples: Exclusive territories, exclusive customers (e.g., sales to schools only), resale price maintenance
- Rule of reason
- Almost always benign if initiated by the manufacturer
- Potentially troublesome if initiated by downstream retailers (retailer cartel)



Leegin Creative Leather Products, Inc. v. PSKS, Inc. 127 S.Ct. 2705 (2007)

Vertical interbrand restraints

- Interbrand restraints are about controlling how your dealers distribute a rival's product
- Examples: Exclusive dealing, requirements contract, bundling, tying
- Rule of reason
- Level of concern depends on the degree of market foreclosure



Rule of reason and per se illegality

§ 1 doesn't mean what it says

- Agreement (express or implied)
  - Conscious parallelism is not sufficient, e.g., two gas stations across from each other track each others' price movements and make their own judgments with the anticipated reaction of the other in mind. No "agreement."
- In unreasonable or net restraint of trade
  - Compare anticompetitive effects (AE) with procompetitive effects (PE)
- Modern reading of § 1: "Every agreement for which AE > PE is unlawful."

Per se illegality

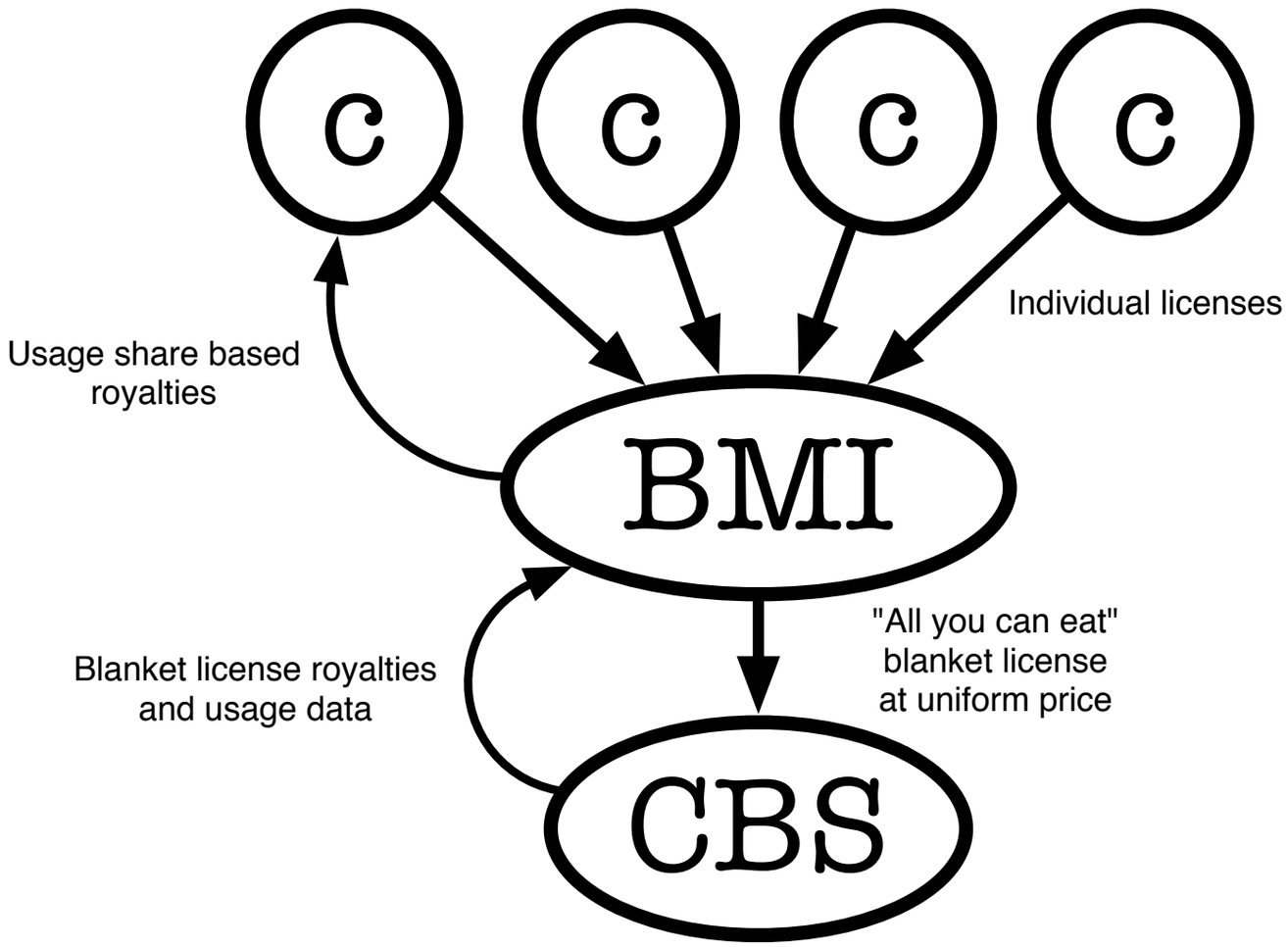
- For certain categories of hardcore restraints, the law conclusively presumes that AE > PE
  - Price fixing, market division (territory, customer, time), naked output restraint, group boycott to defend a cartel
- The courts will consider neither PE nor whether there are, in fact, any AE (Northern Pacific Railway)
  - In other words: If two hot dog vendors in Central Park agree to charge §4/dog, they engage in a per se illegal price fixing conspiracy, even though it has virtually no effect.

Northern Pacific Railway Comp., v. U.S., 356 U.S. 1, 5 (1958)

[T]here are certain agreements or practices which because of their pernicious effect on competition and lack of any redeeming virtue are conclusively presumed to be unreasonable and therefore illegal without elaborate inquiry as to the precise harm they have caused or the business excuse for their use.

Sometimes it's hard to tell whether the per se rule applies

BMI v. CBS, 441 U.S. 1 (1979)



- Literally "price fixing" by a composer cartel, but:
- The restraint is absolutely necessary for the venture to work
  - w/o the blanket license, costs for composers to monitor outlets and cost for outlets of finding composers would be excessive
  - The flat rate ensures that stations report usage truthfully
- The venture also involves the creation of a new product, with which the composers don't compete
- New market option added, output increased: ROR

The ancillary restraints doctrine is a good criterion

- "To be ancillary … an agreement eliminating competition must be subordinate and collateral to a separate, legitimate transaction. The ancillary restraint is subordinate and collateral in the sense that it serves to make the main transaction more effective in accomplishing its purpose."
- If the restraint is ancillary, then ROR applies
- If the restraint is not ancillary (or "naked"), then the per se rule applies.

Rothery Storage & Van Co. v. Atlas Van Lines, 792 F.2d 210, 224 (D.C.Cir. 1986)

Ancillarity can be strong or weak

- Assuming that the rivals are engaged in a bona fide productive venture or sale (the "primary transaction"), and:
  - The restraint is a conditio sine qua non for the primary transaction (e.g., CBS v. BMI), then ROR applies.
  - The restraint promotes the primary transaction (e.g., partnerships; seller non-compete clause in the sale of a business), then ROR applies.
  - The restraint is basically unconnected to the primary transaction (Palmer v. BRG) – then we're dealing with a "naked restraint" and the per se rule applies
  - Exception: Self-regulation of professionals comes under the ROR (Professional Engineers; Indiana Fed. of Dentists); except price fixing/boycotts (Trial Lawyer's Ass'n)

The ROR is the default standard

- Actually balancing AE and PE is extremely difficult and time consuming
- The original ROR was an unweighted, multi-factor test (Chicago Board of Trade)
- The modern ROR employs a structured, burden shifting approach (Calif. Dental)

The structured ROR

1. Plausible theory of harm (motion to dismiss)
   a. π: Plausible AE
      - AE without market power (< 30% share) are not plausible
   b. Δ: Plausible PE for which the restraint is reasonably necessary

2. Proof of harm (summary judgment)
   a. π: Proof of AE (direct or circumstantial, i.e., market power)
   b. Δ: Proof of PE and that the restraint is reasonably necessary to achieve them

3. Balancing (trial)
   a. Court: AE > PE?

See Elhauge & Geradin, Global Antitrust, p.190-91 (2007)

Collusive and exclusionary effects

Firm conduct can limit competition in one of two (related?) ways

Conduct in question

Limits competition between the parties

Direct, collusive effect ("one punch")

Consumer exploitation

Limits competition from others

Indirect, exclusionary effect ("one-two punch")

Competitor exclusion

Derivative offense, if eliminating competitors is a concern only if it results in consumer exploitation

Independent offense if market structure and rivalry are protected as such

Collusive and exclusionary effects

- Effects from **collusion** are direct and immediate ("**One punch**"). A and B fix prices, competition ceases, and consumers are being exploited.
  - Collusion targets the customer directly.
- Effects from **exclusion** are indirect and delayed ("**One-two punch**"). Sawmill A locks up all lumber suppliers in the region, denying B access to inputs. B goes out of business. Once A is the only remaining seller, A charges monopoly prices.
  - Exclusion targets a rival directly and harms the consumer indirectly.

For details, *see* Fox, What is Harm to Competition, 70 Antitrust L.J. 371 (2002)

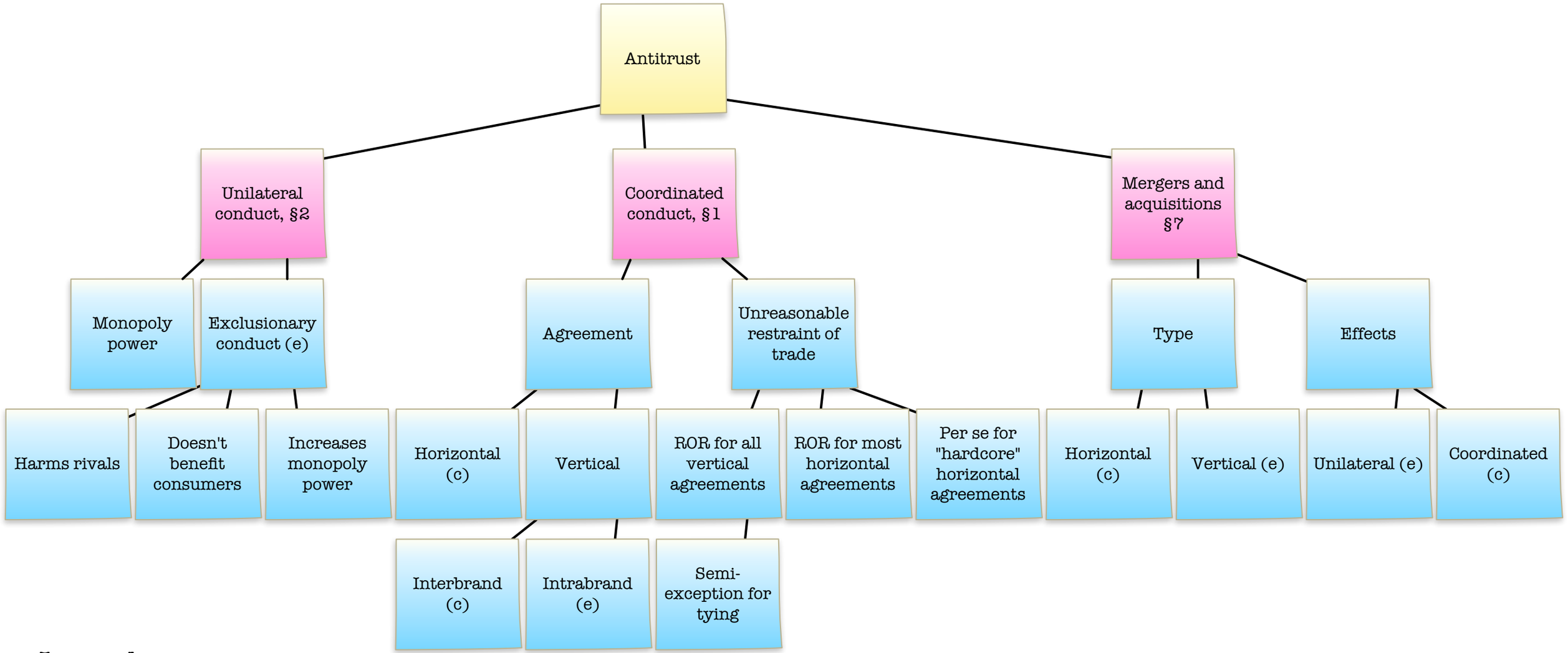
Mergers

Coordinated and unilateral effects

- **Coordinated effects**: After the merger, collusion among the remaining competitors to raise prices is more likely than before.
  - Ask: "Imagine that today the VPs of Sales of companies A, B, C, and D get together and try to set up a cartel. Would that work? Now imagine the same thing after A merges with D. Would it work? Would it be easier?"
- **Unilateral effects**: After the merger, the combined company will be able to profitably raise prices all by itself.
  - Ask: "If you controlled the price for both product A and product B, could you raise prices for your product A in a way that you can't today? How about for their product B?"

Summary

Taxonomy of the U.S. antitrust laws



Legend:

e = exclusionary effect

c = collusive effect

Does not include the Robinson-Patman Act

Class 03: Market power and market definition

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September 11, 2007

Product market: HM, SSNIP, and own elasticity

Not profitable
Not a market

10% price increase
30% drop in quantity

P1

Step 1: The hypothetical monopolist (HM) raises prices by 10% and loses 30% of its customers. The price increase is not profitable. (Price elasticity of demand = 3). P1 is not a relevant product market.

Not profitable
Not a market

10% price increase
20% drop in quantity

P1
P2

Step 2: We add another product, P2. The HM increases price for P1 and P2. Still not profitable.

Not profitable
Not a market

10% price increase
15% drop in quantity

P1
P2
P3

Step 3: Yet another product, P3. The HM increases price for P1, P2, and P3. Still not profitable.

Profitable
= Market

10% price increase
8% drop in quantity

P1
P2
P3
P4

Step 4: Finally, after adding P4, a price increase over P1, P2, P3, and P4 would be profitable. (Price elasticity of demand = 0.8). The relevant product market consists of P1, P2, P3, and P4.

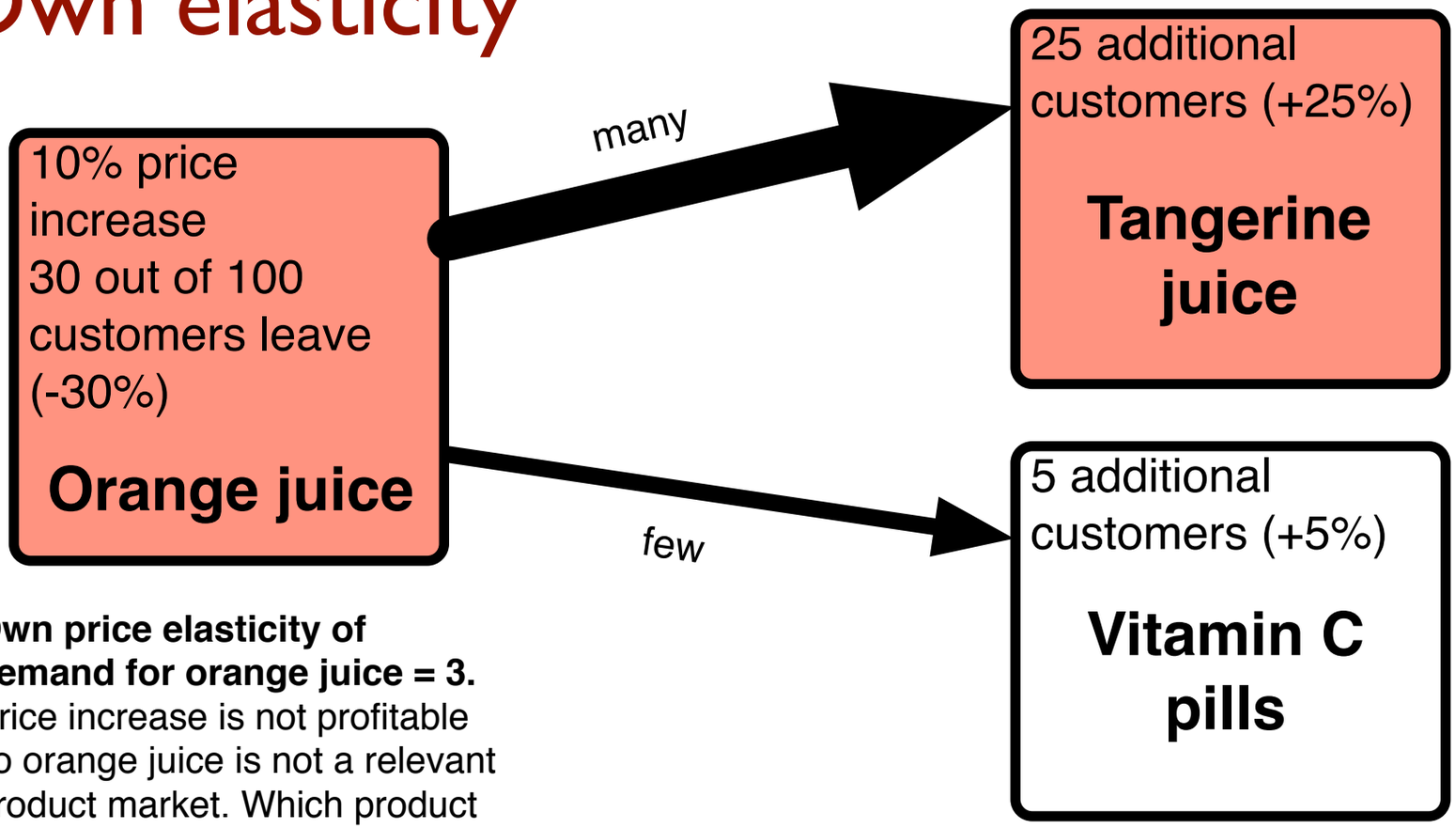
Note that the focus on revenues is only the first step. The question of profitability also depends on costs. A complete analysis would have to calculate the *critical loss*.

How do we know which products to add?

- The hypothetical monopolist (HM) + SSNIP test identifies relevant markets using the own price elasticity of demand for the HM's products (P1, P2, P3, P4)
  - The own price elasticity only tells us that if prices go up by p%, then q% of the customers go elsewhere. It doesn't tell us where they are going. That's where cross-elasticity of demand comes in.
- Cross elasticity helps us identify products to add to the candidate markets (P2, P3, P4)
  - E.g., high cross-elasticity suggests adding tangerine juice (P2) but not milk to orange juice (P1)

Using own and cross price elasticity of demand

Own elasticity



Own price elasticity of demand for orange juice = 3. Price increase is not profitable so orange juice is not a relevant product market. Which product should be added to the candidate market for the next HM + SSNIP iteration?

If price for orange juice goes up by 10%, quantity demanded of tangerine juice goes up by 25%. **Cross-price elasticity of demand for tangerine juice = 2.5.** Tangerine juice should be included in the next candidate market, consisting of orange and tangerine juice.

If price for orange juice goes up by 10%, quantity demanded of vitamin C pills goes up by only 5%. **Cross-price elasticity of demand for tangerine juice = 0.5.** Vitamin C pills should not be included in the candidate market (*at least not yet!*)

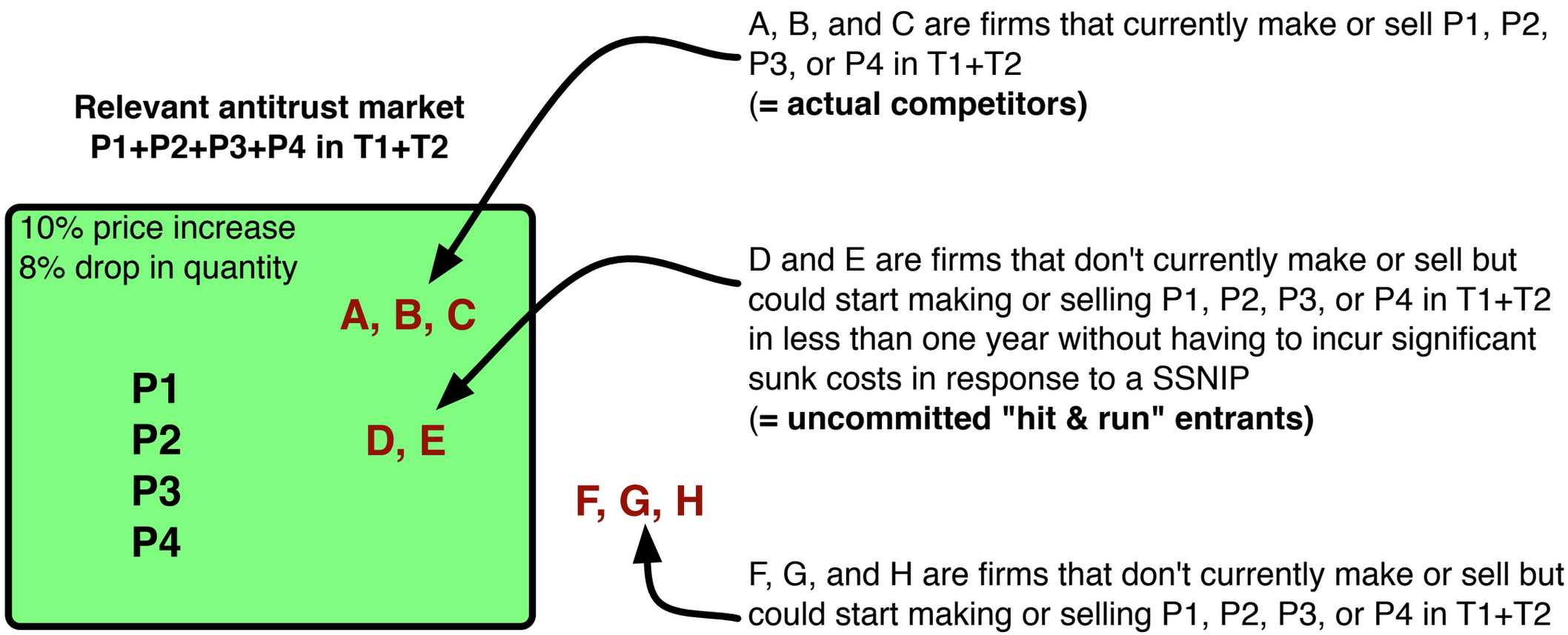
Cross elasticity

Note: The 30 customers = 30%, 25 customers = 25%, etc. numbers are for illustration only. What counts are the %, not the absolute numbers. Similarly, what's significant is the decrease in *quantity demanded*. Losing "customers" is just a commonly used shorthand for a drop in quantity demanded..

Geographic market definition: Same test

- Take the set of relevant products (P1, P2, P3, P4)
- Start with the smallest reasonable candidate territory (T1). Would a SSNIP by the HM for P1, P2, P3, and P4 in T1 be profitable?
  - Depends on how many customers who are presently purchasing from within T1 would switch to sources located outside of T1 (own price elasticity of demand)
- If not, expand the territory (T1, T2...Tn) and repeat, until the price increase would be profitable

Identifying market participants



Beware of the Cellophane fallacy

U.S. v. E. I. du Pont de Nemours, 351 U.S. 377 (1956)

- Δ's argue: "Because P2 is a good substitute for P1, there is no market power for P1." (Cellophane fallacy)
  - The mere fact that demand for P2 goes up by 20% in response to a 10% price increase of P1 (= high cross elasticity of demand) doesn't imply that P2 is a good substitute for P1 at the competitive price. It only tells us that at the prevailing price P2 is a good substitute for P1.
  - The prevailing price, however, may well be the monopoly price!
- The Cellophane fallacy is less of a problem in ex ante merger analysis, because of its focus on incremental market power gains from the proposed merger

Classes 04,05: Refusals to deal, compulsory licensing

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August 27, 2007

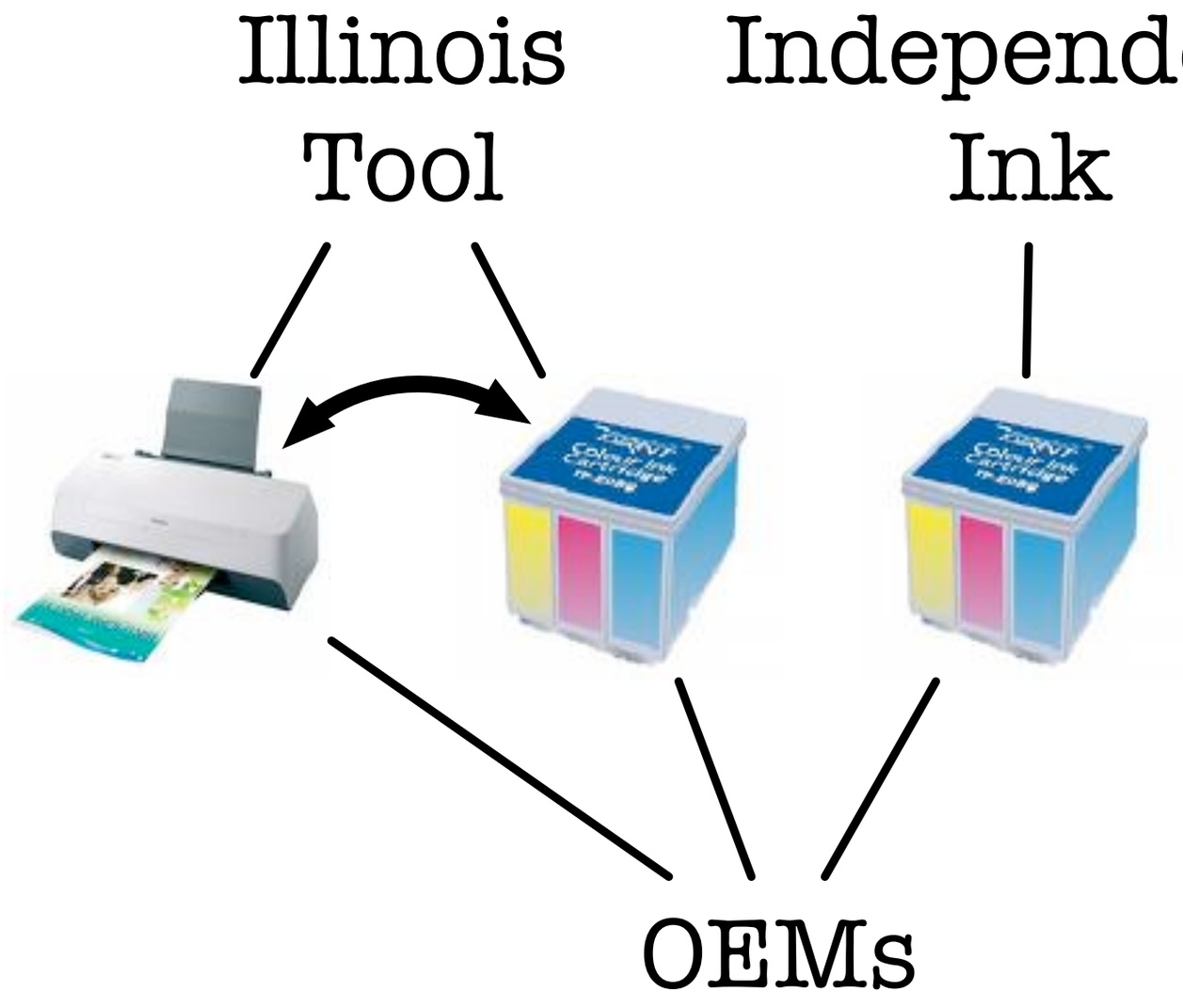
Outline

- Refusals to deal
  - Unconditional = Conduct element of a monopolization claim
  - Conditional = Tying
    - Kodak I (1992) (“market power”)
    - Kodak II (1997) (“conduct”)
    - CSU (2000) (“conduct”)
    - Microsoft v. Commission (2007)

Unconditional refusals to deal

- Monopolist M terminates its contract with competitor C
  - As a rule, the Sherman Act "does not restrict the long recognized right of [a] trader or manufacturer ... freely to exercise his own independent decision as to the parties with whom he will deal." U.S. v. Colgate & Co., 250 U.S. 300, 307 (1919).
  - Exception: Termination of a profitable course of dealing, which suggests a "willingness to forsake short-term profits to achieve an anticompetitive end." Verizon v. Trinko, 540 U.S. 398, 409 (2004)
- Antitrust issues are usually easy to avoid
  - No liability for not entering into a contract in the first place (Possible exception: essential facility; different in the EU!)
  - Charging a really high price often achieves the same result

Tying (preview)

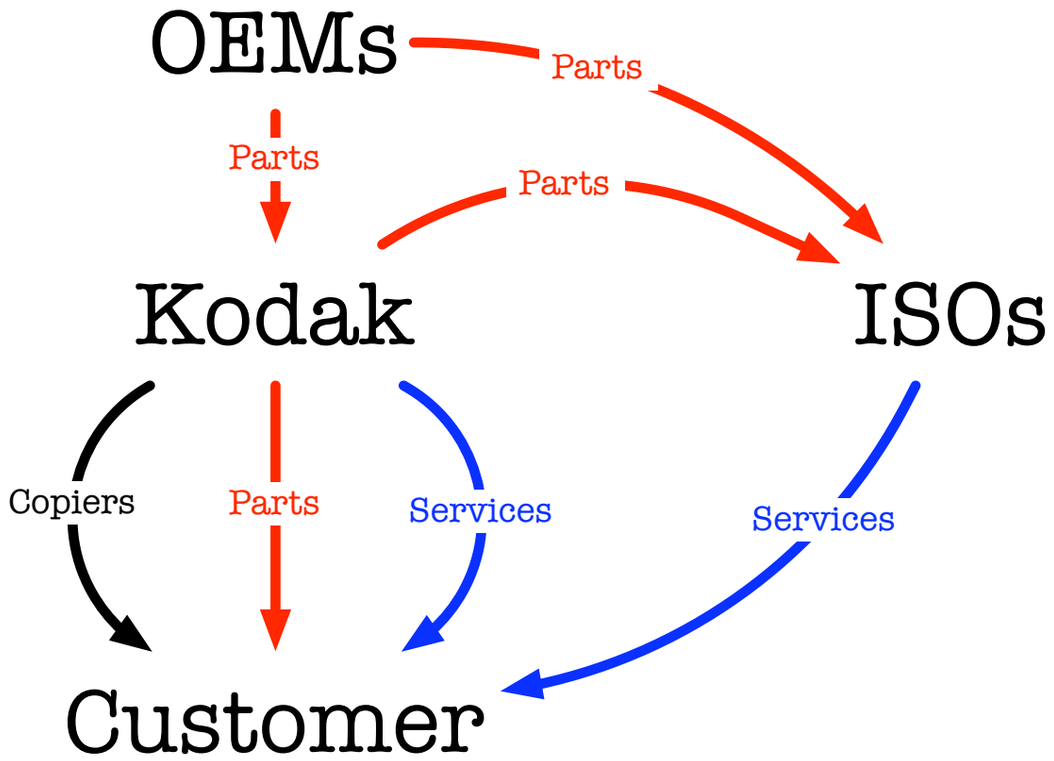


Elements of a tying claim

1. Separate products (A, B)
2. Tie (A+B)
3. Market power in **tying** product market (A)
4. Some foreclosure in **tied** product market (B)

Illinois Tool Works Inc. v. Independent Ink, 547 U.S. 29 (2006)

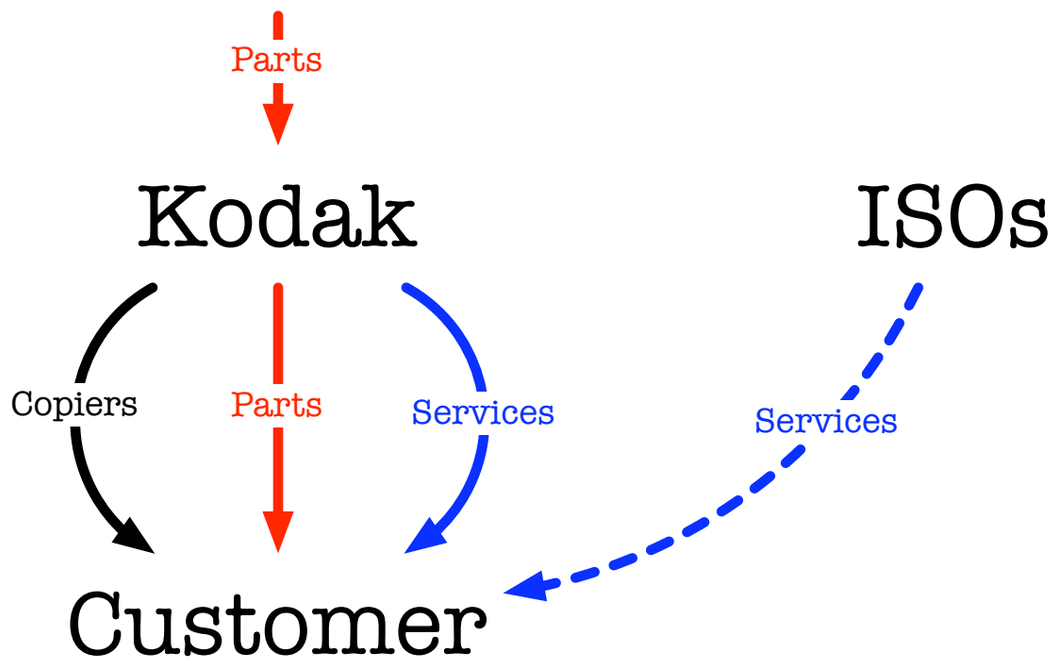
Kodak I: Creation of derivative aftermarkets by a "system" seller



- Kodak sells copiers, parts, and repair services
- OEMs make parts for Kodak
- The ISOs provide repair services in competition with Kodak, for which they need Kodak parts
- Many customers prefer ISO service to Kodak service

Eastman Kodak v. ITS, 504 US 451 (1992) ("Kodak I")

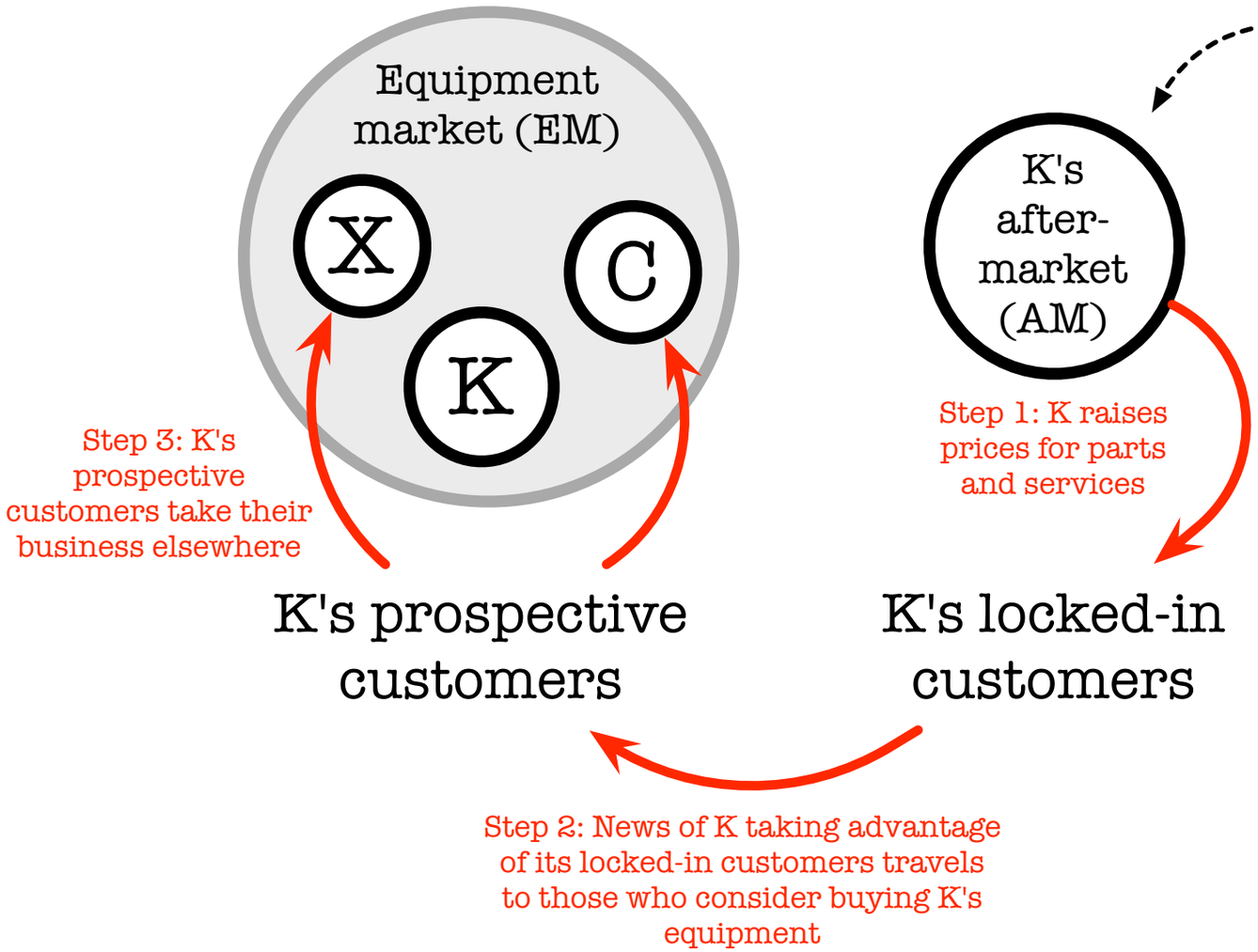
Kodak I: Exclusionary conduct in the derivative aftermarkets



- Kodak stops selling parts to ISOs
- Kodak makes the supply agreement with the OEMs exclusive
- Most ISOs are forced out of business
- "[C]ustomers were forced to switch to Kodak service." (Id., 2078)
- ISOs sue Kodak for tying and monopolization
- Key issue: Does Kodak have market power in the parts market (tying) and the services market (monopolization), even though it has no market power in the copier market?

Eastman Kodak v. ITS, 504 US 451 (1992) ("Kodak I")

It is an empirical question to what extent competition in the EM constrains market power in the AM



- Kodak's theory: "If Kodak raised its parts or service prices above competitive levels, potential customers would simply stop buying Kodak equipment." (Id., 2084)
- The court: "Kodak has market power to raise prices and drive out competition in the aftermarkets, since respondents offer direct evidence that Kodak did so." (Id., 2088)
- Kodak is not entitled to SJ. A full trial on the merits is required.

Eastman Kodak v. ITS, 504 US 451 (1992) ("Kodak I")

Why would Kodak want to refuse selling parts to the ISOs?

- "Surprise," i.e., ex-post exploitation of locked-in buyers?
  - If Kodak wanted to exploit the installed base, it could have raised prices for parts. There's no need to refuse sales to ISOs.
- Quality control?
  - No evidence that ISO service was, in fact, inferior
- "Costly information," i.e., equipment buyers don't consider aftermarket costs?
  - All sellers will underprice the equipment and overprice aftermarket parts. The only harm is inefficient substitution.
- "Price discrimination," i.e., higher prices for those who value the equipment more
  - Aftermarket sales as metering devices. Requires elimination of ISOs who could arbitrage. Welfare effects ambiguous.

Carl Shapiro, Aftermarkets and Consumer Welfare: Making Sense of Kodak, 63 Antitrust L.J. 483 (1995)

The creator of a system does not "own" its derivative aftermarkets

- BLACKMUN: "The dissent "argues that because Kodak has only an 'inherent' monopoly in parts for its equipment, the antitrust laws do not apply to its efforts to expand that power into other markets. The dissent's proposal to grant per se immunity to manufacturers competing in the service market would exempt a vast and growing sector of the economy from the antitrust laws." (Id., 2089, FN 29).
- SCALIA: "By permitting antitrust plaintiffs to invoke §2 simply upon the unexceptional demonstration that a manufacturer controls the supplies of its single-branded merchandise, the Court transforms §2 from a specialized mechanism for responding to extraordinary agglomerations ... of economic power to an all-purpose remedy against run-off-the-mill business torts." (Id., 2101).

Eastman Kodak v. ITS, 504 US 451 (1992) ("Kodak I")

Practical significance of Kodak I

- The Kodak I decision is important for the "market power" prong
- Kodak I rejects any a priori approach and requires empirical evidence
- It holds that aftermarket power exists, if competition in the equipment market does not sufficiently constrain pricing in the aftermarket vis-a-vis locked in customers

On remand, the 9th. Circuit applies Kodak I ("Kodak II")

- Monopoly power (+): Kodak's power in the aftermarket for parts was not constrained by competition in the equipment market.
- Exclusionary conduct (+): "Like the Supreme Court in Aspen Skiing, we are faced with a situation in which a monopolist [Kodak] made a conscious choice to change an established pattern of distribution to the detriment of [ISO] competitors." (1211).

Image Technical Services v. Eastman Kodak, 125 F.3d 1195 (9th. Cir. 1997) ("Kodak II")

Kodak II: Exclusion of rivals without more is insufficient for exclusionary conduct

- "Our conclusion that ... Kodak has both attained monopoly power and exercised exclusionary conduct does not end our inquiry. Kodak's conduct may not be actionable if supported by a legitimate business justification." (1212)
  - The "legitimate business justification" inquiry is really about whether the conduct that harmed the rivals was efficient and benefitted consumers

Image Technical Services v. Eastman Kodak, 125 F.3d 1195 (9th. Cir. 1997) ("Kodak II")

The IP/AT tradeoff: Paying for long term consumer benefits with short term consumer harm

- Kodak's key business justification: The parts were patented and the manuals copyrighted.
  - "[W]e adopt a modified version of the rebuttable presumption created ... in Data General, and hold that 'while exclusionary conduct can include a monopolist's unilateral refusal to license [patent or] copyright,' or to sell its patented or copyrighted work, a monopolist's desire to exclude others from its [protected] work is a presumptively valid business justification for any immediate harm to consumers." (1218)
  - In other words, short term ("immediate") harm to consumers from refusals to license IP is acceptable, because of the long term benefits to consumers from increased innovation.

Image Technical Services v. Eastman Kodak, 125 F.3d 1195 (9th. Cir. 1997) ("Kodak II")

The IP-backed refusal to deal must be intended to promote innovation and long term consumer benefits

- In the present case, however, the presumption was rebutted (and Kodak did not have a legitimate business justification), because it was pretextual.
  - Kodak never mentioned IP as a justification all through the Kodak I litigation.
  - "Kodak ... equipment requires thousands of parts, of which only 65 were patented. Unlike the other cases involving refusals to license patents, this case concerns a blanket refusal that included protected and unprotected products." (Id., 1219).

Image Technical Services v. Eastman Kodak, 125 F.3d 1195 (9th. Cir. 1997) ("Kodak II")

Image Technical Services v. Eastman Kodak, 125 F.3d 1195 (9th. Cir. 1997) ("Kodak II")

Monopoly power in the parts aftermarket (+)

Exclusionary conduct (+)

Kodak II addresses the conduct prong

Exclusion of rivals (+)

Creation or maintenance of market power (+)

No consumer benefits (+)

Kodak I addresses the monopoly power prong:

Monopoly power in single product, single brand aftermaket may exist if unconstrained by competition in the equipment market.

If refusal to license is based on IP rights, rebuttable presumption that refusal is long-term beneficial to consumers

|

Pretext: Kodak's IP rights only covered 65 out of thousands of parts. No presumption applies.

No short term benefits (+)

Image Technical Services v. Eastman Kodak, 125 F.3d 1195 (9th. Cir. 1997) ("Kodak II")

CSU v. Xerox Corp., 203 F.3d 1322 (Fed. Cir. 2000)

- Same facts as in Kodak, different outcome
  - Xerox makes and sells copiers (= copier market), spare parts (= parts market), and provides repair services (= service market). CSU is an ISO, competing with Xerox in the service market. In 1984, Xerox established a policy of not selling spare parts, manuals, and software to ISOs in order to maintain its position in the service market. Xerox policies were stringent and even included an "on-site end-user verification," i.e., ISOs only get parts to the extent that they own and operate Xerox copiers. (1324).
  - CSU sued for §§1, 2 violations and for patent and copyright misuse. CSU lost in the district court. On appeal to the Federal Circuit, CSU lost again.

CSU creates a patent immunity to the antitrust laws in the Fed. Cir.

- Monopoly power (+)
- Exclusionary conduct (-)
  - Exclusion of rivals (+)
  - No consumer benefits (+)
  - Maintains monopoly power (+)
  - IP exemption: "A patent owner who brings suit to enforce the statutory right to exclude others from making, using, or selling the claimed invention is exempt from the antitrust laws, even though the suit may have an anticompetitive effect." (1326)

    Unless patent obtained by fraud or sham litigation.

Refusals to license under §2

Monopoly power

- No "patent equals market power" presumption (Independent Ink)
- Aftermarket power unless sufficienctly constrained by competition in equipment market (Kodak I)

Exclusionary conduct

- Harm to rivals
- Maintains or creates monopoly power
- Consumer harm aka "legitimate business justification"

Patent

Irrebuttable presumption. "A patent owner who [enforces the patent] is exempt from the antitrust laws, even though such a suit may have an anticompetitive effect," unless the plaintiff proves fraud or sham. Independent Service Organization v. Xerox, 203 F. 3d 1322, 1326 (Fed. Cir. 2000)

Rebuttable presumption. "[A] monopolist's refusal to license a [patent or] copyright ... is a presumptively valid business justification for any immediate harm to consumers." Image Technical Services v. Kodak, 125 F.3d 1195, 1218 (9th Cir. 1997)

- Intent of pretext rebuts the presumption for refusal to license patents, Image Technical Services v. Kodak, 125 F.3d 1195 (9th Cir. 1997).
- Showing that the refusal was motivated solely by a desire to maintain the (aftermarket) monopoly rebuts the presumption. Data General v. Grumman, 36 F.3d 1147, 1188 (1st Cir. 1994).

Copyright

Rebuttable presumption. "[A]n author's desire to exclude others from use of its copyrighted work is a presumptively valid business justification for any immediate harm to consumers." Data General v. Grumman, 36 F.3d 1147, 1187 (1st Cir. 1994).

Classes 6-7: U.S. v. Microsoft, exclusion and tying

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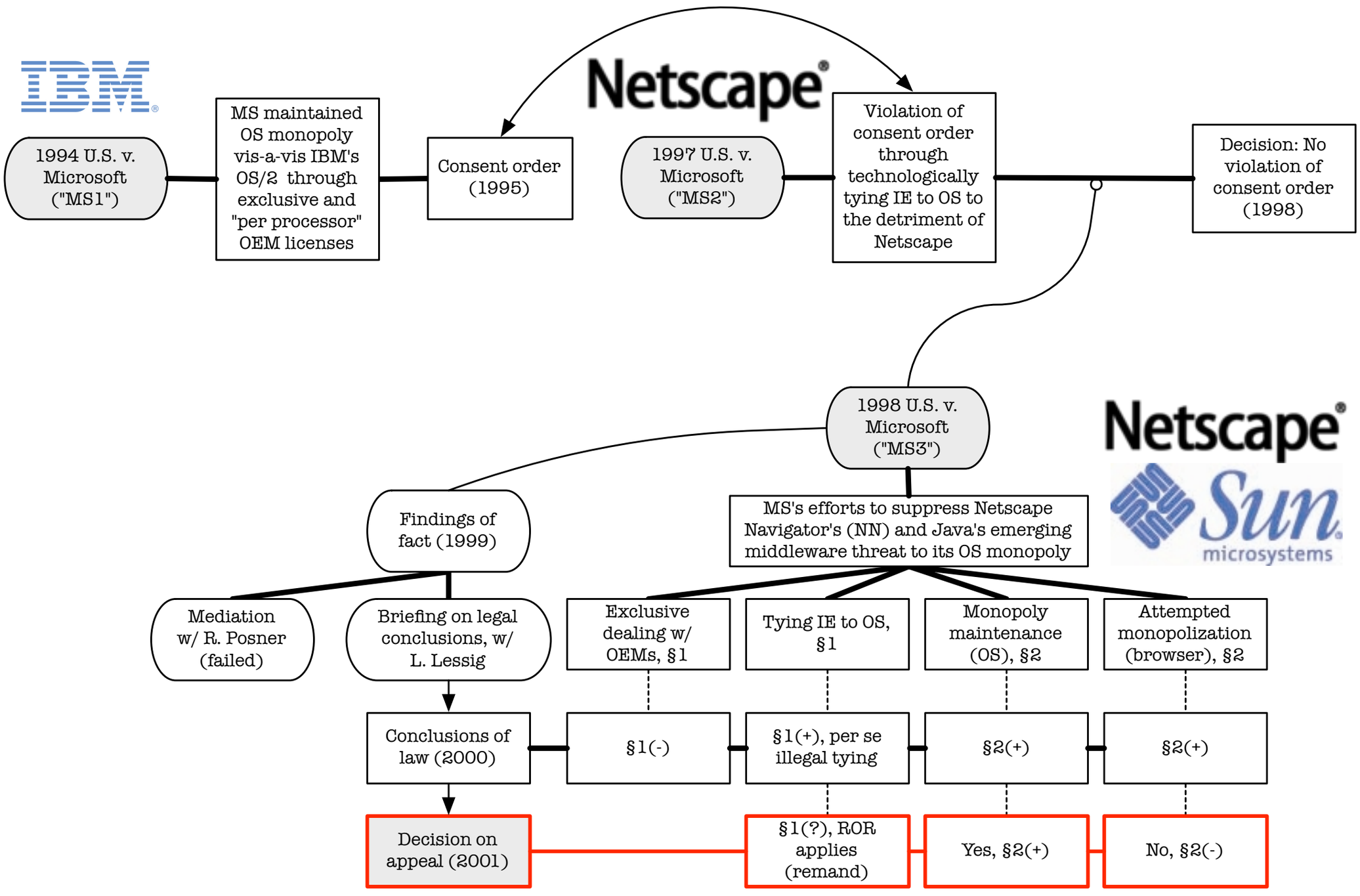
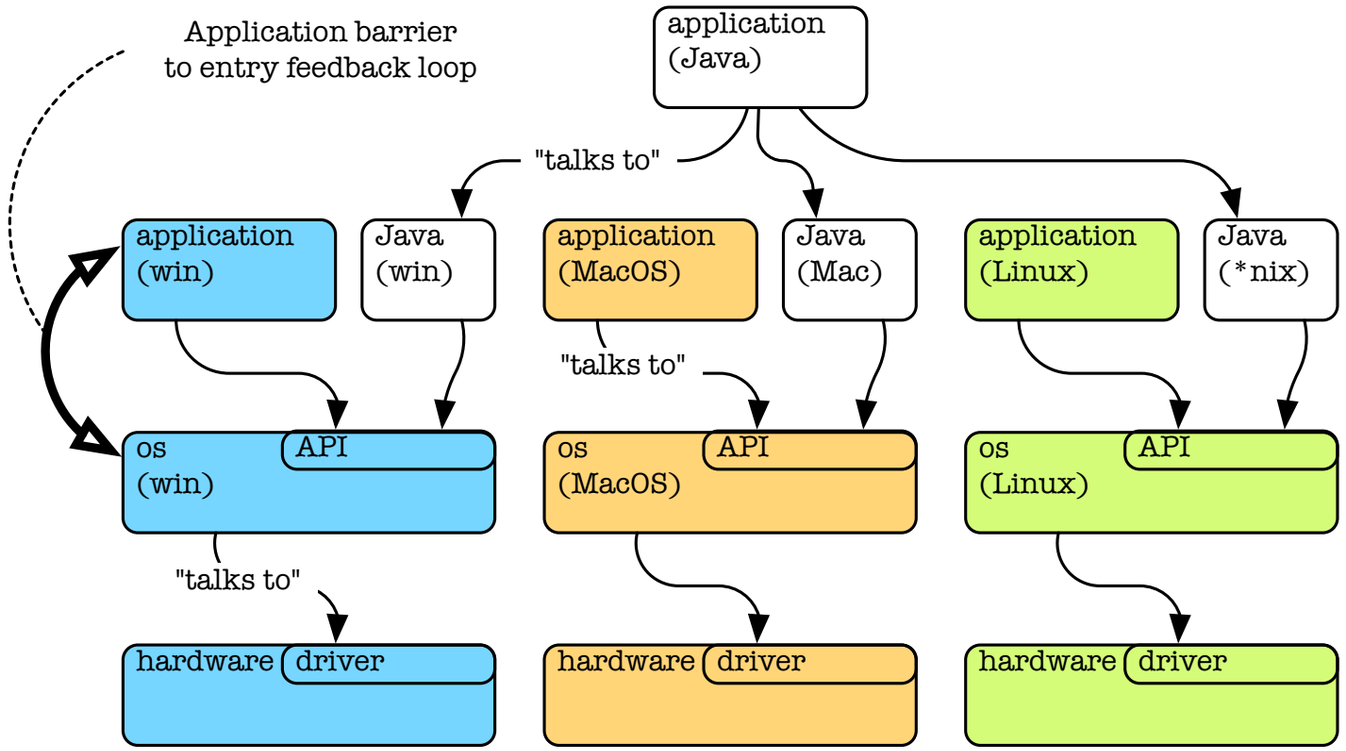
October 8, 2007

The U.S. v. Microsoft universe



Why is middleware such as Java a threat to MS's OS monopoly?

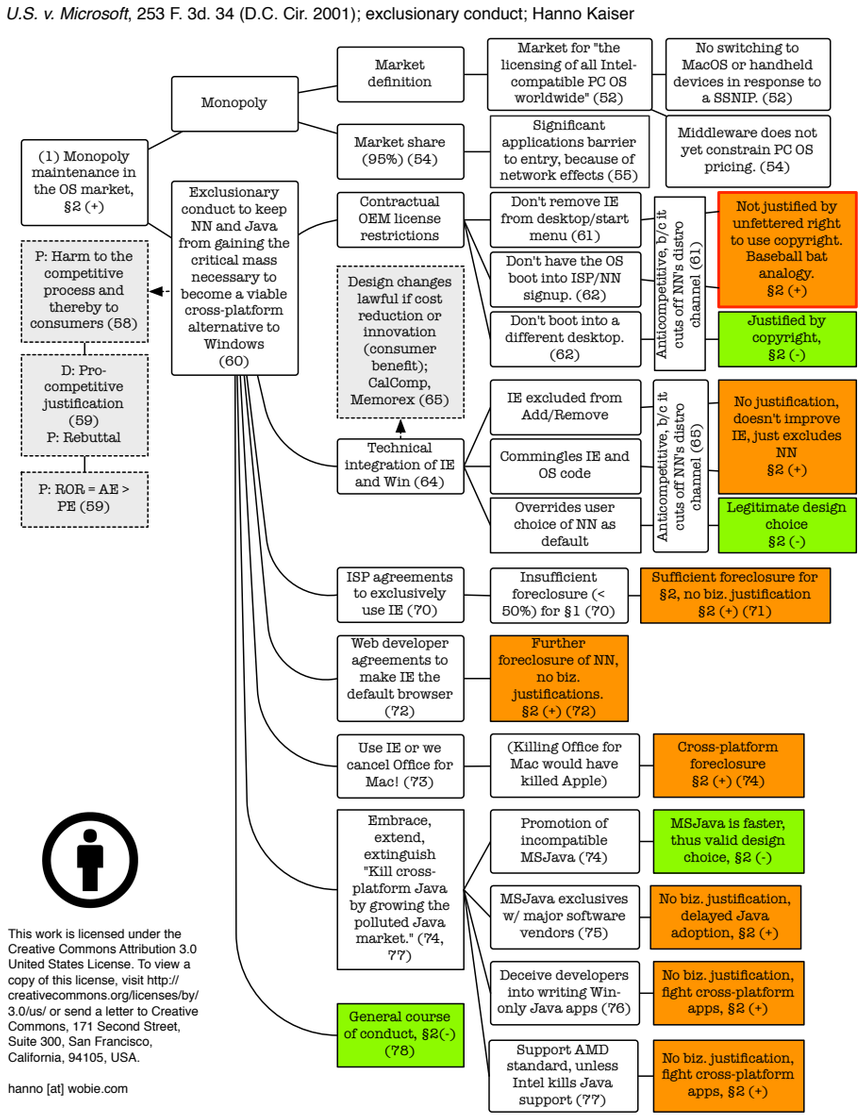


- MS's OS monopoly is based in large part on the "applications barrier to entry."
  - The more apps there are, the more attractive and ubiquitous the OS. The more widespread the OS, the greater the incentives to develop apps. ("network effect")
- OS-agnostic, cross-platform apps break the OS–apps positive feedback loop
  - Why buy Windows (MacOS, etc.) if your Java app runs on any OS?
- Modern web apps (e.g., Google docs, AJAX) are OS agnostic

Microsoft III

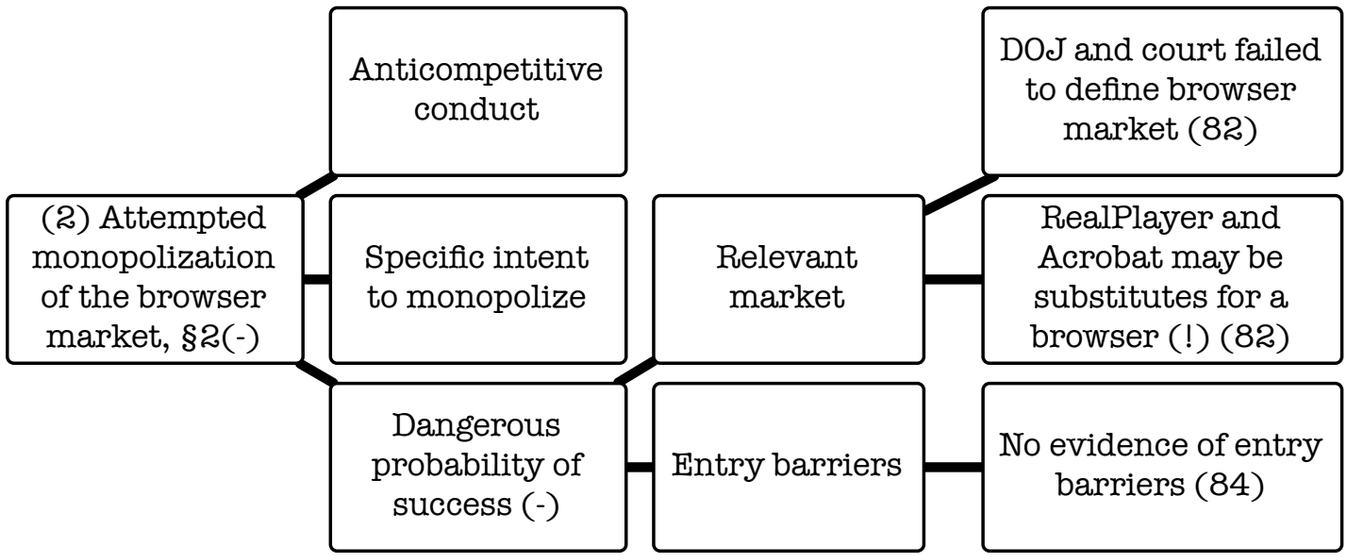
(2001)

Claim 1: Monopolization of the OS market (+) [1-2]



Please download the full-size chart:
http://www.hannokaiser.com/files/lawschool/msft_exclusion.pdf

Claim 2: Attempted monopolization of the browser market (-)



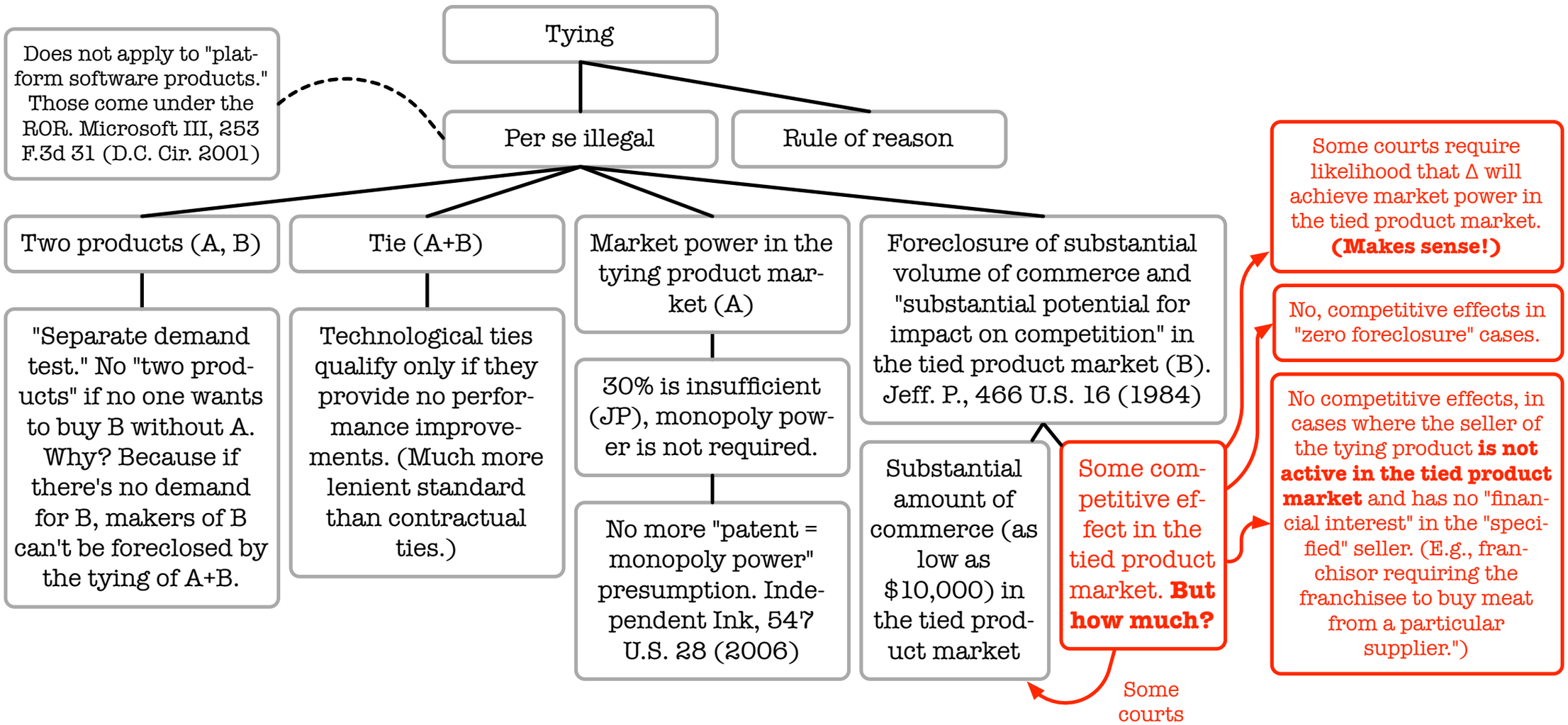
- The court makes short work of the attempted monopolization claim, finding no dangerous probability of success.
- Is there an inconsistency?
  - Microsoft monopolized the OS market by way of stunting the growth of NN and Java
  - As to NN, MS pushed IE into the browser market before it could tip in Netscape's favor
  - How come that MS was able to achieve that goal without a "dangerous probability of success" in monopolizing the browser market?

Claim 3: Tying of OS and IE (remand)

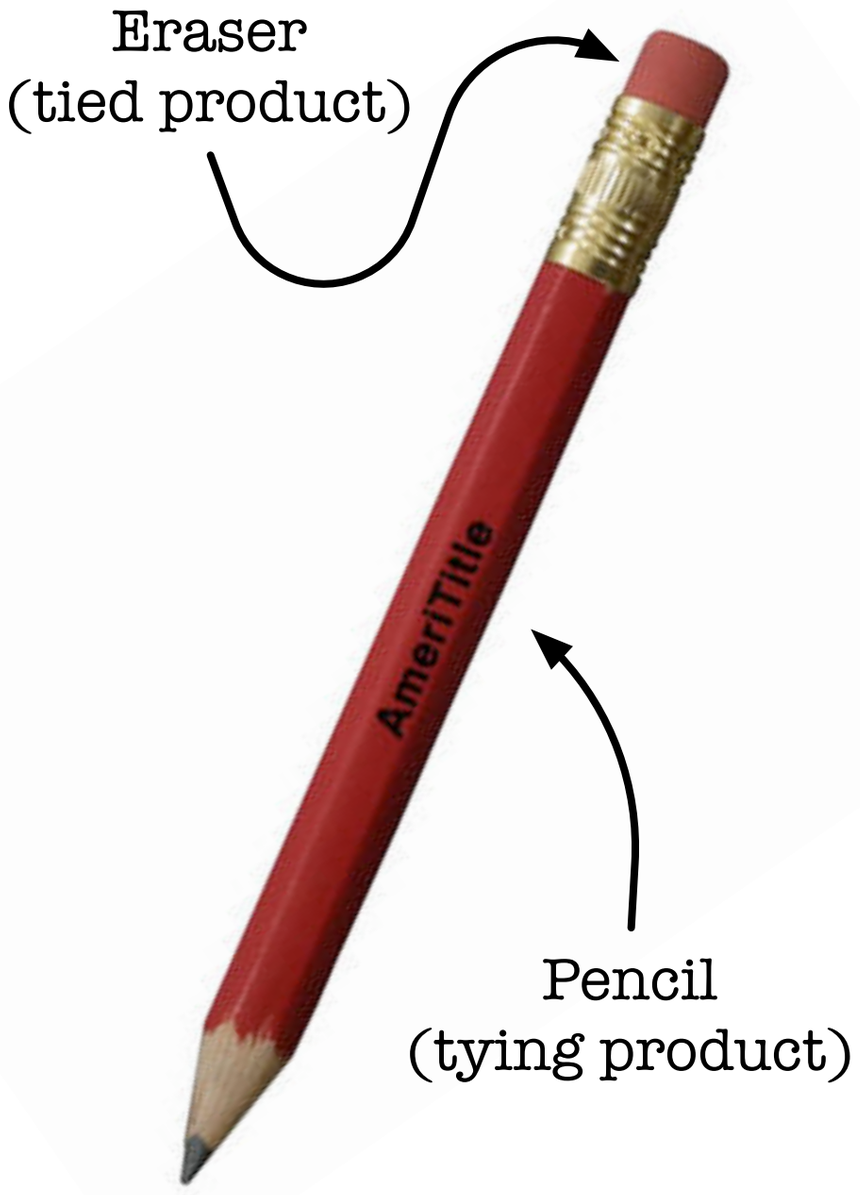
- Per se illegal tying of OS and IE (-)
  - Separate products (+) (see next slide)
  - Contractual and technological ties (+)
    - (1) OEMs must license OS + IE
    - (2) OEMs must not uninstall (“unbundle”) OS + IE
    - (3) Consumers cannot (easily) uninstall IE
    - (4) OS (sometimes) overrides the consumer’s browser default choice
  - Market power in the tying market (OS) (+)
  - Foreclosure in the tied product market (unclear)
- ROR tying claim (remand)

Tying

Tying after Jeff. Parish (1984), MS III (2001) and Ind. Ink (2006)



Separate products and software integration



- Separate products requires "separate demand" for products A and B

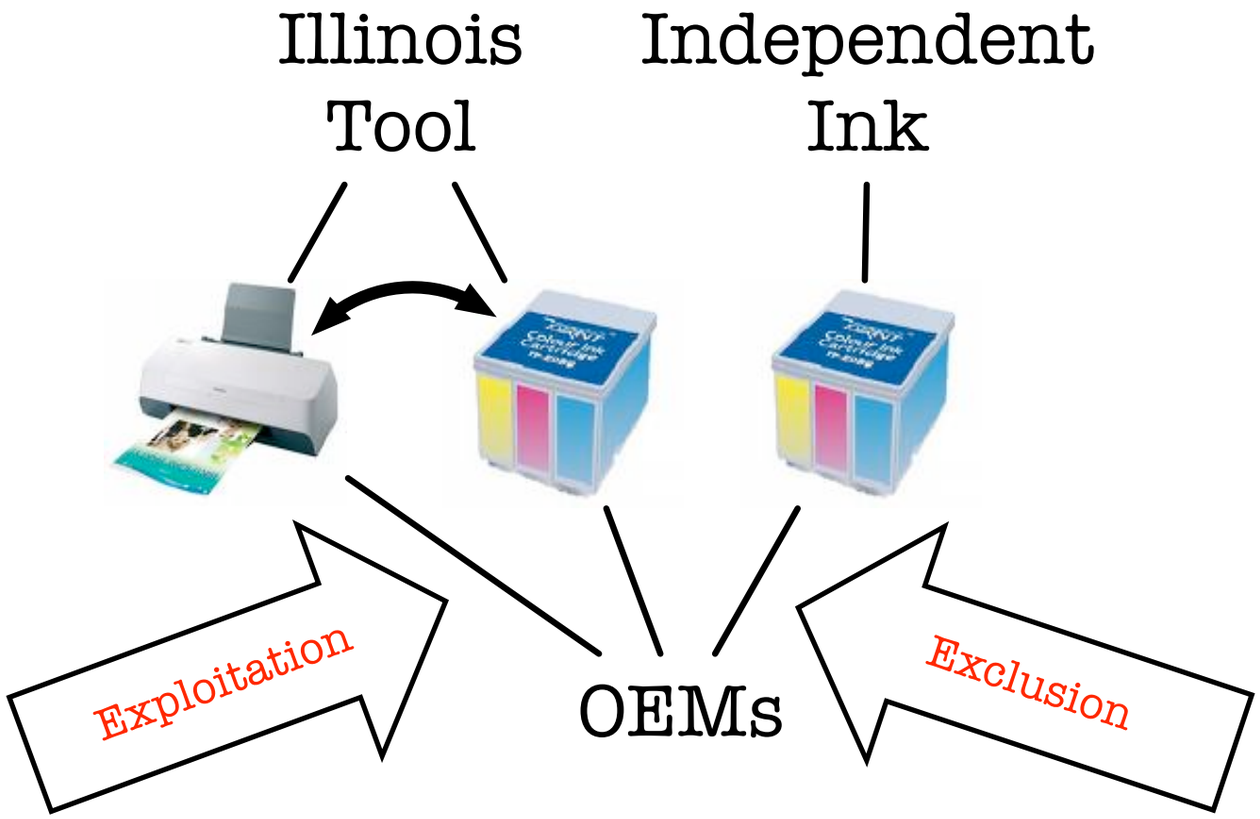
  If there is no separate demand, then there can be no tie (right/left shoes)

- But "separate demand" is a backward-looking proxy

  "The separate-products test is a poor proxy for net efficiency from newly integrated products. Under the per se analysis the first firm to merge previously distinct functionalities (e.g., the inclusion of starter motors in automobiles) or to eliminate entirely the need for a second function (e.g., the invention of the stain-resistant carpet) risks being condemned … because at the moment of integration there will appear to be a robust 'distinct' market for the tied product." (Id., 92).

- As a result: ROR applies

Economics of tying: Exploitation and Exclusion

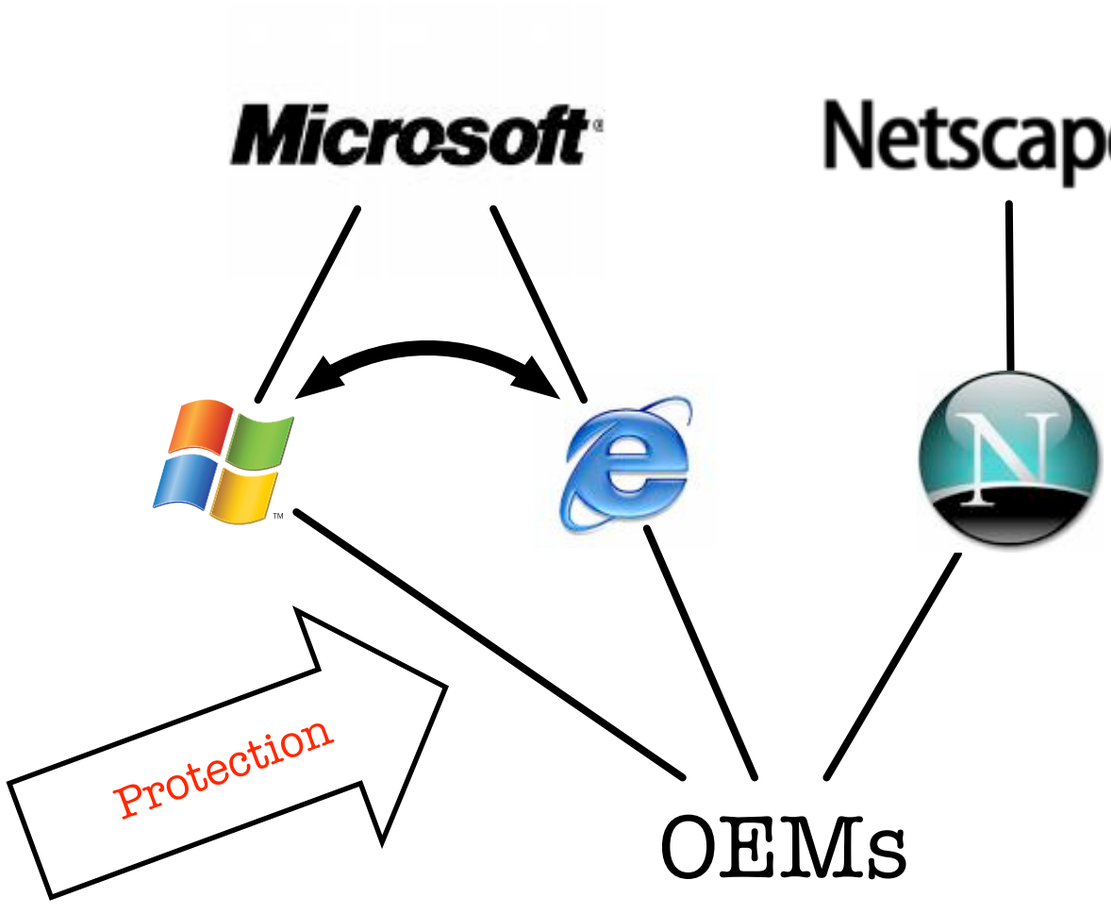


- Customer exploitation in the tying product market?
  - Forcing the OEMs to buy an unwanted product (ink) with the tying product (printer) is the equivalent of a price increase for the printer.
  - If the seller was able to "force" the buyer to purchase the unwanted product, why didn't the seller simply raise the price for the wanted product?
  - Largely discredited theory
- Competitor exclusion in the tied product market?
  - Tying cuts off suppliers of the tied product from their customers
  - Requires market power in tying and tied product markets

Exploitation and exclusion in the courts

- **Exploitation:** "Our cases have concluded that the essential characteristic of an invalid tying arrangement lies in the seller's exploitation of its control over the tying product to force the buyer into the purchase of a tied product that the buyer either did not want at all, or might have preferred to purchase elsewhere on different terms." (Jefferson Parish, at 12).
- **Exclusion:** "Direct competition on the merits of the tied product is foreclosed when the tying product is sold only in a bundle. … [A] consumer buying the tying product becomes entitled to the tied product; he will therefore likely be unwilling to buy a competitor's version of the tied product even if, making his own price/quality assessment, that is what he would prefer." (Microsoft III, at 87).
- Note that **diminished consumer choice** underlies both exploitation and exclusion (Microsoft III, at 87).

Economics of tying: Protecting the tying product market?



- Microsoft had a monopoly position in the OS market (tying)
- Tying of OS and IE cut off Netscape from its customers
- The weakening of Netscape and Microsoft's resulting dominance of the browser market (tied), protected the OS monopoly by preventing Netscape and Java to evolve into an OS independent application platform.

Possible economic effects from tying

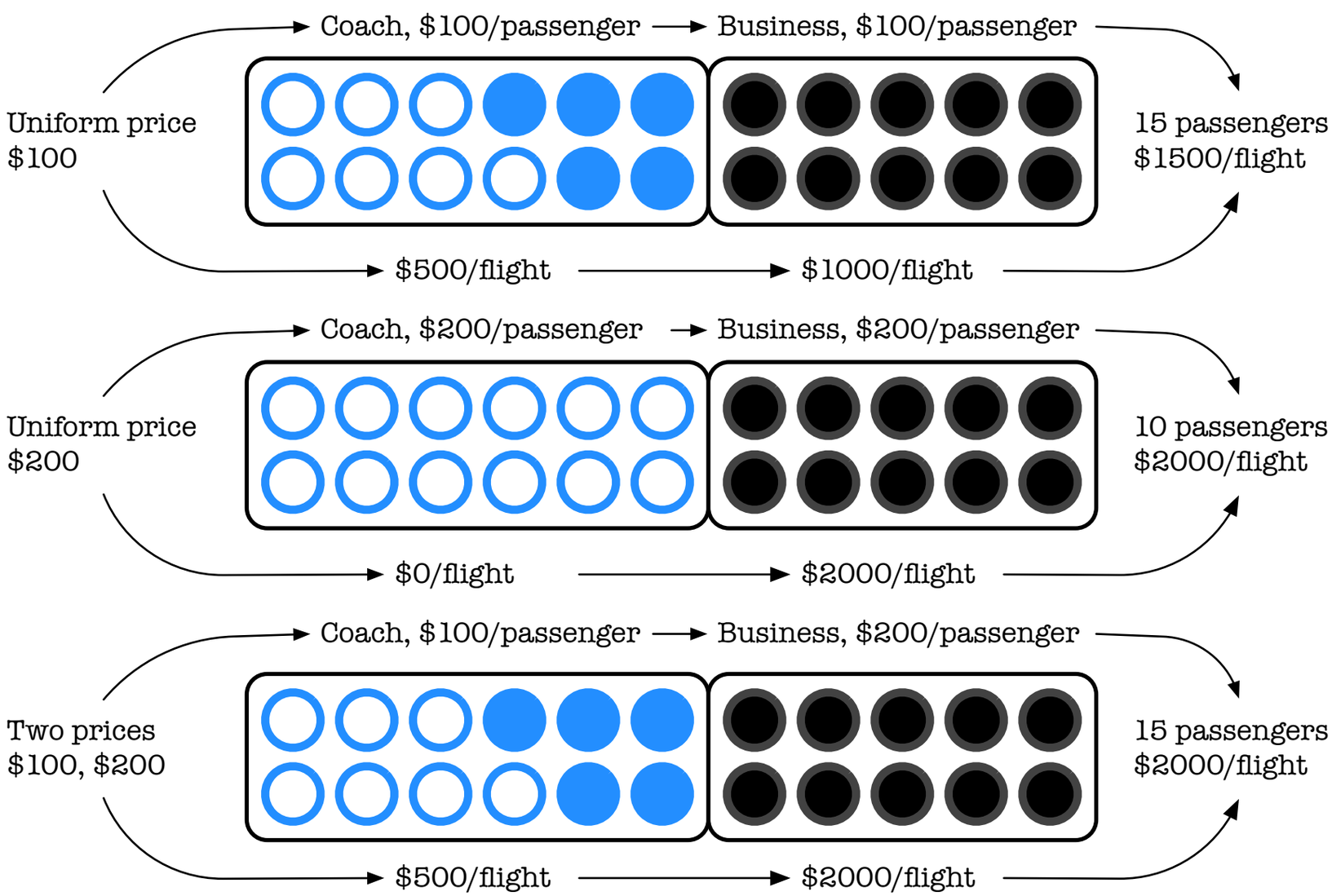
Anticompetitive	**Procompetitive**	**Ambiguous**
Higher prices (unwanted product B)	Lower prices (A+B) (distribution and transaction costs)	Price discrimination(A); metering (B)
Diminished consumer choice (B)	Quality assurance (A) (tying product)	
Exclusion of competitors (B)	Greater value (A) (e.g., universal spell check)	
Protection of tying product monopoly		

A = tying product; B = tied product

Price discrimination or non-linear pricing

- Goal: Charge each customer up to his or her individual reservation price
- Selling product P to customer groups A and B at different margins requires:
  - Ability to **sort** customers (e.g., women's haircut, business travel, frequent gambler, heavy user, etc.)
  - Ability to **charge** different prices (e.g., coupons, rebates, comps, metering, etc.)
  - Ability to **prevent** arbitrage (e.g., service on premises, contract, technological tie, "security" regulation pretext, etc.)

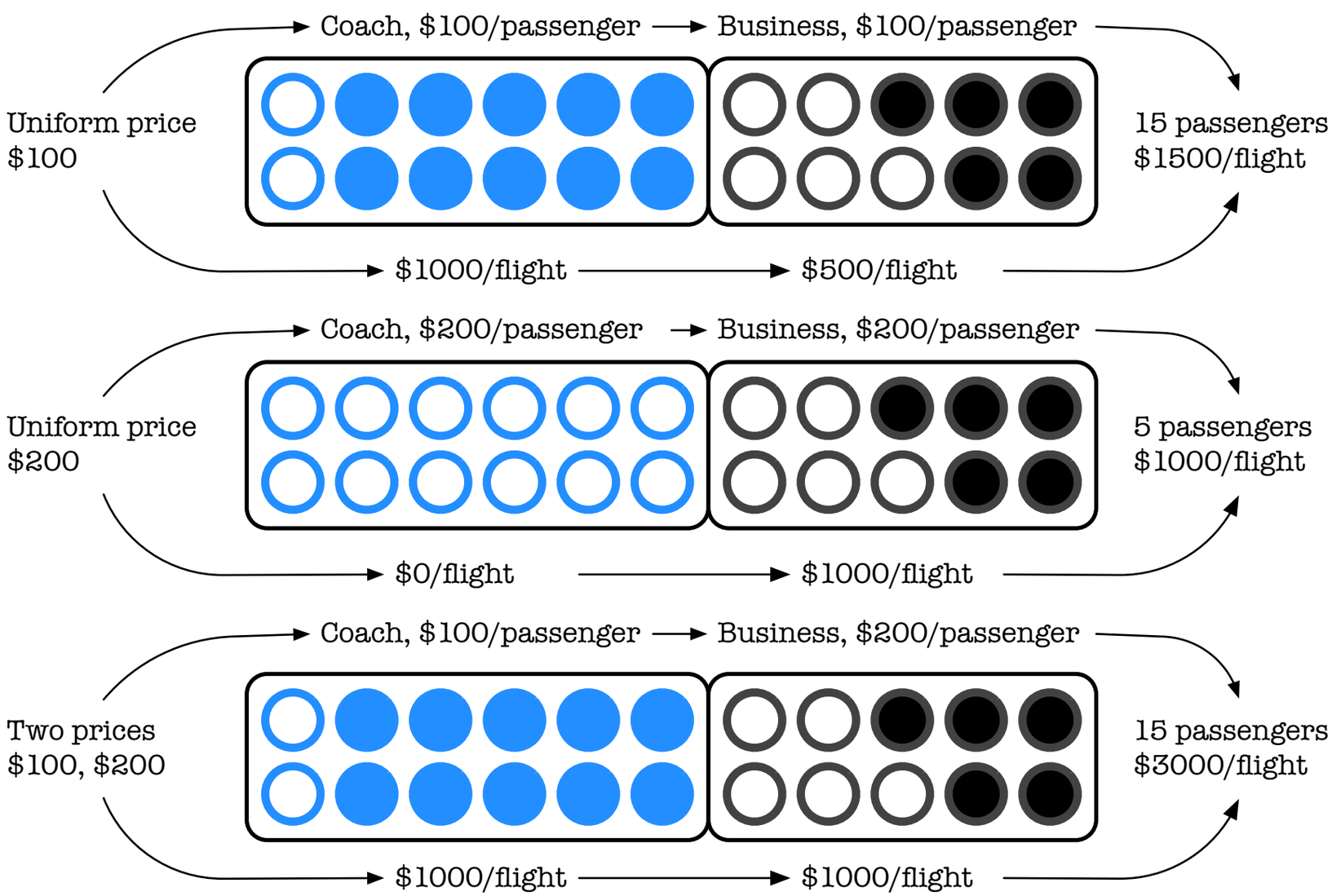
The typical flight carries 5 leisure and 10 business travelers



Price discrimination is net beneficial.

Based on Gavil, Kovacic, Baker, Antitrust Law in Perspective (2003), p. 760-61.

The typical flight carries 10 leisure and 5 business travelers



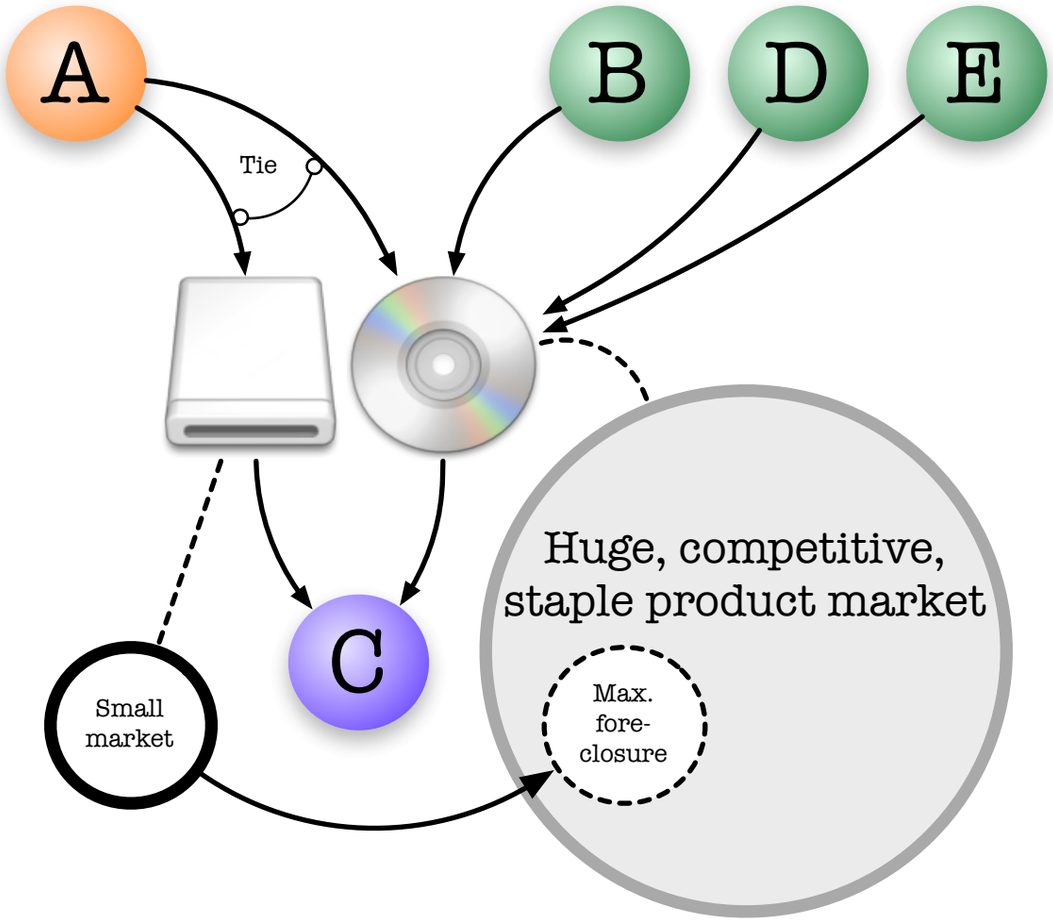
Price discrimination is **not** net beneficial.

Based on Gavil, Kovacic, Baker, Antitrust Law in Perspective (2003), p. 760-61.

How likely are anticompetitive effects from tying?

- The ubiquity of tying in competitive markets proves that it is generally net beneficial.
  - "[T]ying arrangements serve hardly any purpose beyond the suppression of competition." Standard Oil Co. of California v. U.S., 337 U.S. 293, 306 (1949). **Wrong**.
  - "It is clear, however, that every refusal to sell two products separately cannot be said to restrain competition." Jefferson Parish v. Hyde, 466 U.S. 2, 11 (1984). **Better**.
  - "[F]irms without market power will bundle two goods only when the cost savings from joint sale outweigh the value consumers place on separate choice." U.S. v. Microsoft, 253 F.3d 24, 87 (2001). **Correct.**
- Without market power in the tying and the tied product market, there can be no anticompetitive effects in either market.

Per se tying should require market power in the tied product market



- The degree of foreclosure in the tied product market depends on the size and the market power in the tying product market
- Example: A is a monopolist seller of a specialized lab tool that uses CD-ROMs. A requires its customers to buy standard CD-ROMs only from A (metering).
- Even if A has market power in the tying product market, the tie won't make a dent in the huge, competitive market for CD-ROMs.
- In those cases, per se tying should not depend on A's market power in the tying product market and on arbitrary dollar measures in the tied product market.

What kinds of ties are there?

- Contractual tie ("If you want A, you must also buy B.")
  - Reinforced (e.g., patent license) and held in check (e.g., first sale limits on click-wrap agreements, misuse) by IP law. Policed by antitrust law (tying).
- Economic tie ("A is $100. A + B is also $100.")
  - Some checks provided by antitrust law (tying, bundling).
- Technological tie ("A's printer only works with A's 'genuine' toners.")
  - Attempts to reinforce via DMCA have been curtailed by the courts. Antitrust is generally permissive of pure technological ties.

Meanwhile in Brussels
(a brief look at the MSFT case)

Microsoft v. Commission

- The Commission fined Microsoft almost $500 million for abusing its dominant position in PC and Server operating systems
- The abuse consisted of:
  - Tying of Windows Media Player to the sale of the Windows OS
  - Refusal to license information required to interconnect client PCs with servers and servers with servers (Active Directory)
- The CFI affirmed the Commission decision in all relevant aspects

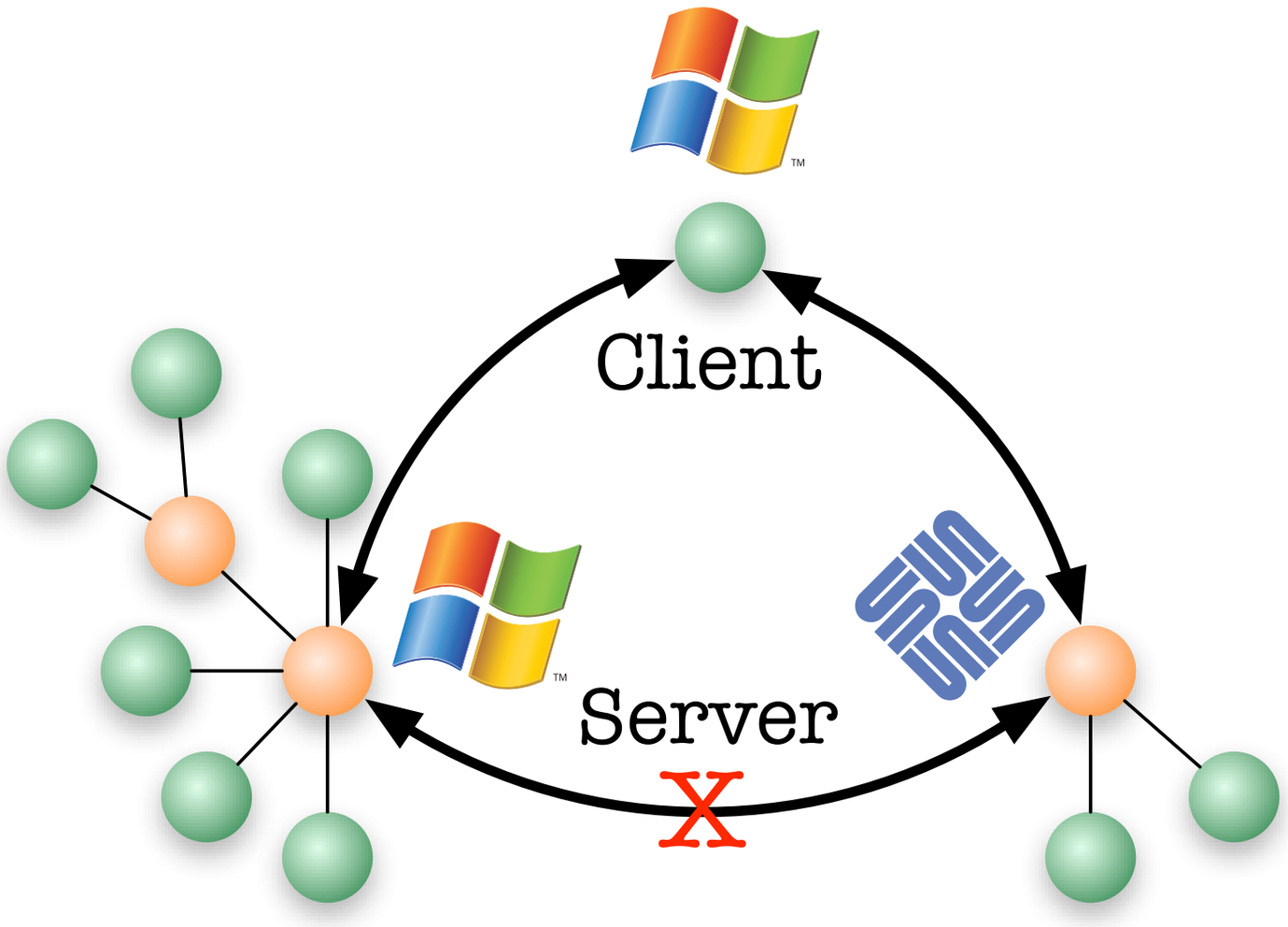
Tying of Windows Media Player

- The Commission required MS to offer a version of Windows without media functionality
- It named the product "Windows XP-N" for "not with media functionality."
  - This is not a joke
- The first product ever designed by an antitrust regulator was a huge hit with the public.
  - This is a joke
  - XP-N sold 1,747 copies
  - XP sold > 400 million copies (Jan. 2006)

Elements of the tying claim before the CFI

1. Separate products (WMP/OS)
2. Tying
   - One cannot get Windows w/o WMP, but one can easily uninstall WMP (after the U.S. consent order, that is). The CFI did not credit the user's ability to "break the tie."
3. Foreclosure of competition in the tied product market (Media Players)
   - Default bundling gave MSFT unparalleled access to users, but by 2007, WMP "only" got to about 50% market share (by some counts). The tech-savvy could - and did - get rid of WMP and thus created demand for alternatives.
4. No objective justification

The MSFT monopolization case was abut MSFT's failure to license server-server information



- MSFT has dominant positions in (1) PC OS and (2) server OS
- MSFT licensed interoperability information for client-server interaction
- MSFT did not license server-server info (including active directory)
- As a result, a user could not deploy mixed server installations

"Refusal to start supplying an input" as an abuse of dominance

1. Dominant position
2. Abuse
   a. Classification of conduct: Refusal to supply an input
   b. The input is indispensable for a downstream market and cannot reasonably be duplicated
   c. The refusal is likely to eliminate downstream competition and forestalls the emergence of a new product
3. No objective justification

Art. 82 discussion paper; MSFT; IMS; Bronner; Magill; see also: Larouche, The European Microsoft Case at the Crossroads of Competition Policy and Innovation (2008)

Application of the IMS standard in MSFT (1-2)

1. Indispensability (no duplication)

- MSFT did publish client-server info, thus enabling competition for the entire client domain. But no competition for each server within a customer domain, b/c MSFT did not publish server-server info. Is the former sufficient?

- Commission/CFI: No. Competition for the domain is not enough. Normative decision to favor “competition in the market” over “competition for the market.”

2. Elimination of downstream competition

- Yes, for individual servers

(...)

Application of the IMS standard in MSFT (2-2)

3. Forestalling the emergence of a new product

   - How "new" does the downstream product have to be? A "me too" product is not enough (IMS). But the TV Guide in Magill was not exactly a paradigm shift either.
   - CFI (MSFT): More than "me too," less than breakthrough. Here, too, the CFI favors incremental competition in the market over breakthrough competition for the market.

4. No objective justification

   - CFI dismisses MSFT's argument about long run disincentives to innovation as speculative, focus on lack of short run efficiencies.
   - But note that a violation can be proven with long run and short run effects. Imbalance?

Class 08: Should IP be abolished?

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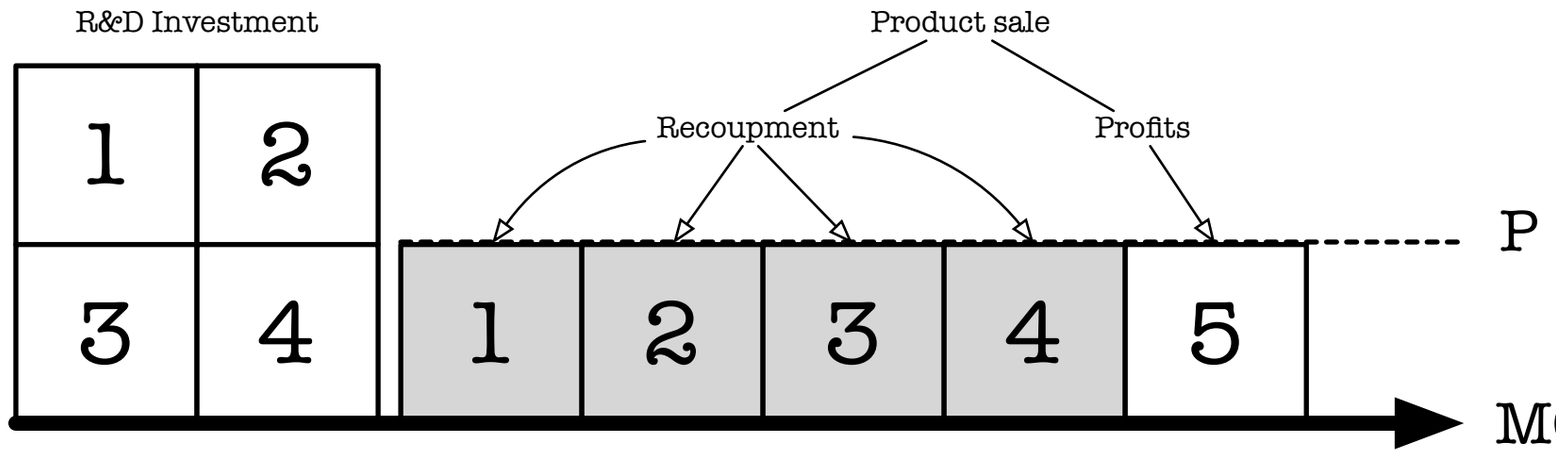
October 22, 2007

The present consensus: IP and competition share the same goal

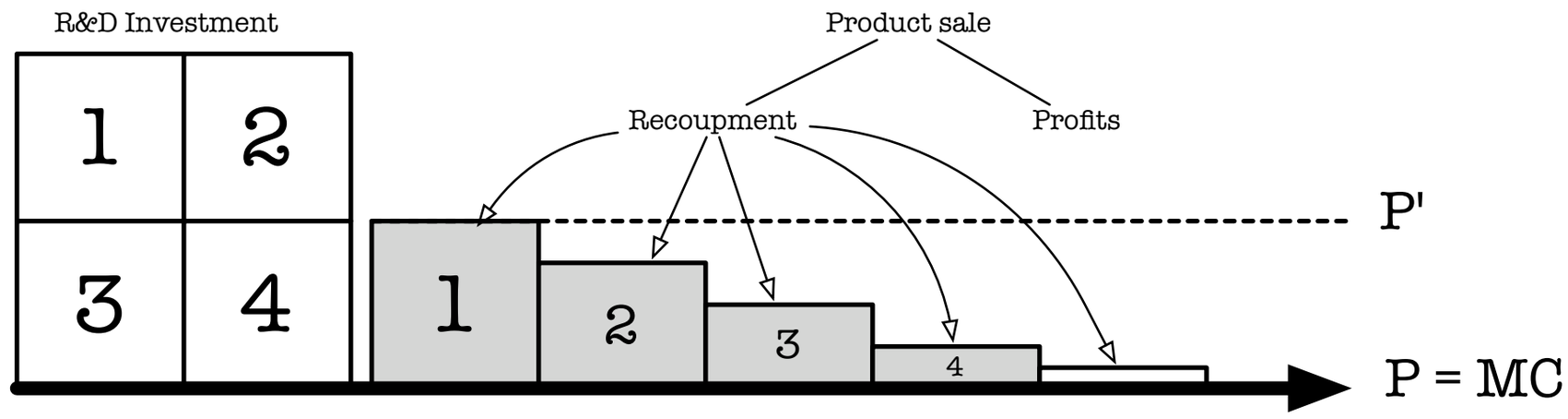
- The common goal is economic growth through innovation
- Competition spurs innovation. If everyone wants to "buy cheap and sell dear," I can only make a profit by being more efficient than you are, or by selling something that you don't yet offer. To get there, I have to innovate.
- IP spurs innovation, because it provides inventors with added incentives to invest in the creation of new products.
- In most instances, competition and IP complement each other
- The tension in means is confined to instances in which competition, but for IP protection, would have generated (greater) short-run efficiency gains. ("True conflicts")

The common justification for IP rights: Incentives for innovation



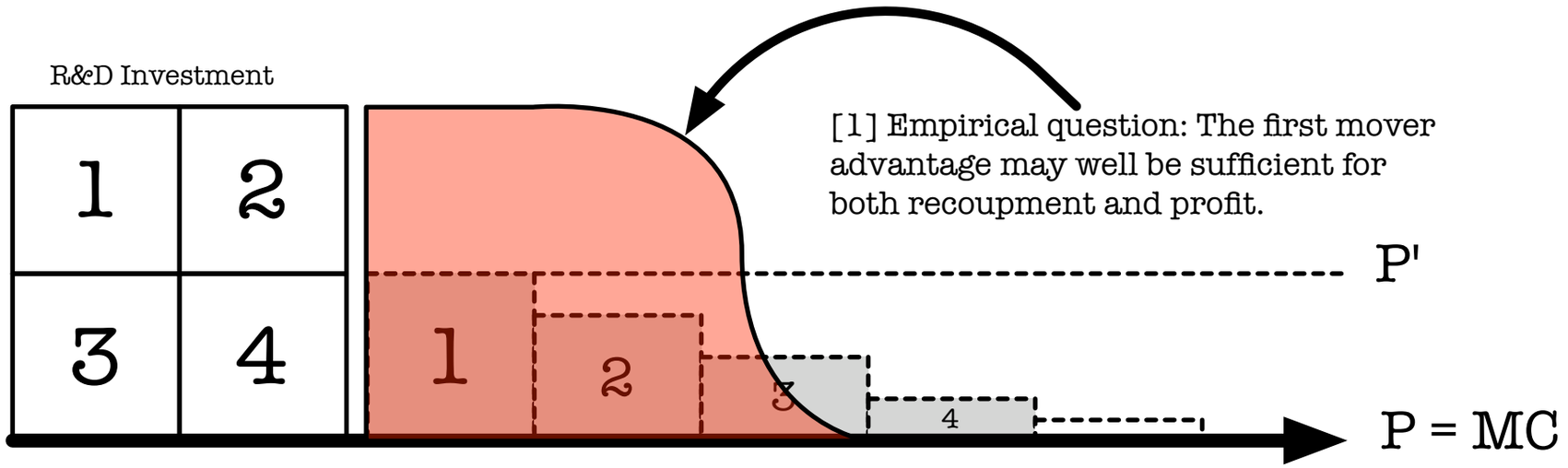
- The inventor of a new idea incurs fixed costs (FC) through years of R&D investment (1, 2, 3, 4)
- Recouping FC (1, 2, 3, 4) and making a profit (5) requires that P > MC for the sale of the product embodying the idea ("market power")

But for IP rights, creators cannot recover their fixed costs

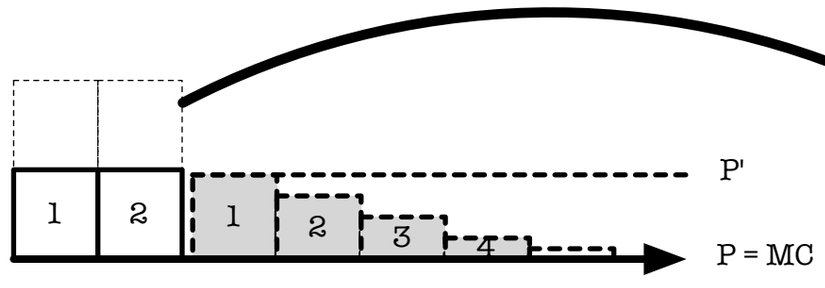


- Free competition in the sale of the product, from customers and imitators who don't have to recoup FC (1, 2, 3, 4), would quickly drive down P to MC (P = MC)
- Thus, investing in innovation is a losing proposition, while imitation is profitable. The result is a lower than optimal rate of innovation ("public goods problem")
- Patents and copyrights ensure that P' > MC, thus rewarding the innovator and overcoming the public goods problem

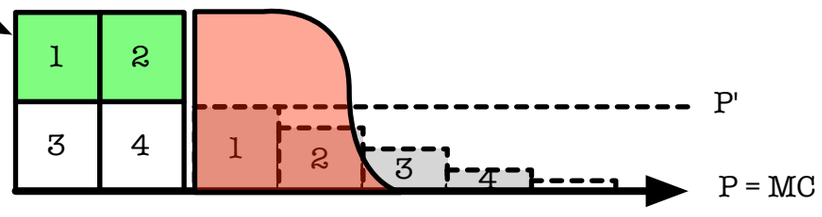
Are the assumptions of the standard model correct?



[2] In the absence of IP protection, we would expect reallocation of resources to products with relatively better first mover recoupment opportunities. There is no a priori reason to believe that the net welfare effect would be negative.



Low first mover advantage product, reduced production



High first mover advantage product, increased production

Common arguments for limiting patents and copyrights

- The stronger the incentives for creating new IP, the weaker the rights of users of past and present IP
- IP raises the costs for subsequent creations (e.g., inventing around a patent, copyright clearance for documentaries)
- The award of exclusivity (and thus $) is often random
  - Many inventions are independent and simultaneous (e.g., steam engine, airplane, telephone, radio, TV, etc.)
  - Why allow parodies, not sequels? Why favor engineers over mathematicians? Etc.
- Treating patents and copyrights as “property” is misleading, because “ideas are non-rivalrous.”
- Strong IP protection interferes with the use of tangible property
  - E.g., I can no longer use my computer to write code embodying someone else’s patented idea, DRM gives “them” control over my PC

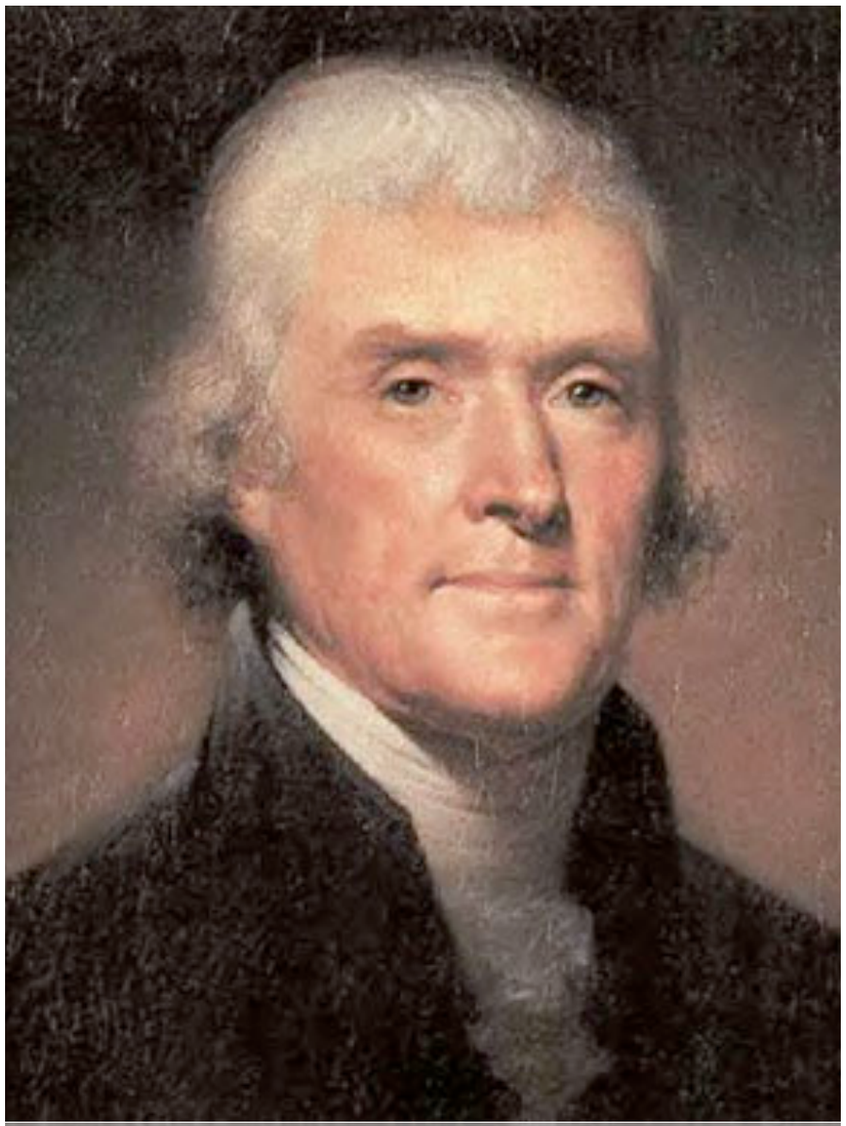
IP conservative

"Next came the Patent laws. These began in England in 1624; and, in this country, with the adoption of our constitution. Before then, any man might instantly use what another had invented; so that the inventor had no special advantage from his own invention. The patent system changed this; secured to the inventor, for a limited time, the exclusive use of his invention; and thereby added the fuel of interest to the fire of genius, in the discovery and production of new and useful things."

Abraham Lincoln, Second Lecture on Discoveries and Inventions, Delivered to the Phi Alpha Society of Illinois College at Jacksonville, Illinois, February 11, 1859.—Vol. 3 COLLECTED WORKS OF ABRAHAM LINCOLN 357 (Roy P. Basler, Ed., 1953)., quoted in Gary Myers, The Intersection of Antitrust and Intellectual Property, West (2007)

IP revolutionary

“[An idea's] peculiar character … is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me. That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature, when she made them, like fire, expansible over all space, without lessening their density in any point, and like the air in which we breathe, move, and have our physical being, incapable of confinement or exclusive appropriation. Inventions then cannot, in nature, be a subject of property. Inventions then cannot, in nature, be a subject of property.”



Thomas Jefferson, Letter from Thomas Jefferson to Isaac McPherson (Aug. 13, 1813), quoted in Gary Myers, The Intersection of Antitrust and Intellectual Property, West (2007)

Notable critics of the present IP regime (more or less radical)

Who	What	Where
Thomas Jefferson	Founding father	http://en.wikipedia.org/wiki/Thomas_Jefferson
Michele Boldrin & David K. Levine	Economists	http://www.dklevine.com/general/intellectual/against.htm
Richard Stallmann	GNU mastermind, FSF founder	http://www.fsf.org/
Eben Moglen	Legal historian, FSF GC	http://emoglen.law.columbia.edu/
John Perry Barlow	Lyricist for the Dead, EFF co-founder	http://homes.eff.org/~barlow/
David Gilmore	EFF co-founder	http://www.toad.com/gnu/
Fred von Lohmann	EFF senior staff attorney	http://www.eff.org/about/staff/
Cory Doctorow	SF author, blogger, copyright activist	http://craphound.com/
Lawrence Lessig	Law professor, Creative Commons founder	http://www.lessig.org/
Yoachi Benkler	Law professor	http://www.benkler.org/
Bruce Abramson	Technologist, lawyer, economist	http://www.theinformationist.com

A “first principles” look at tangible and intellectual property

Functions of property law

	Define who owns what	**Incentives to maintain and improve**
Tangible property	Title	1. Exclusion 2. Sale 3. Purchase
IP	Work Invention Mark	1. Exclusion 2. Sale 3. Purchase 4. Control of downstream use

- Both tangible and IP law define property rights
- Critically important for well functioning markets
- Both tangible and IP is exclusive to its owners, and may be bought and sold by them
- Critically important incentive
- Only IP law allows the rights holder to control downstream use

The two aspects of intellectual property

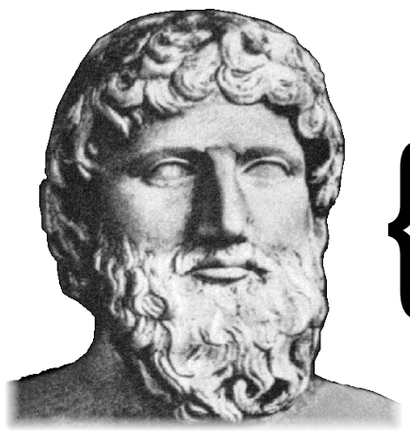
1. The right to control my copy of the idea (exclude, buy, sell)
   - This aspect is uncontroversial and identical to exclusive rights in tangible property
2. The right to control your copy of the idea
   - There are no parallels in the world of tangible property, except for tightly controlled real property servitudes
   - The IP default is a universal, downstream non-compete with effect against third parties ("downstream use control"). That is the root of the "intellectual monopoly" problem.

Why should we grant downstream use control to IP holders?

- No business wants to compete with its customers and imitators. Every manufacturer wants to control secondary markets. Why favor the IP holder?
- Sunk costs of first-unit production are not unique to IP
- Ease of appropriation is not much different for business ideas, services, agriculture, etc.
- Similar default restraints on real property were curbed in the 17th Century
- We usually don't grant monopolies and exclusive rights to create incentives
- Policing of ideas is more invasive than the policing of things (e.g., DRM).
  - Link between IP, antitrust, and privacy (consumer protection) law.
- Massive incentives for rent seekers (e.g., Copyright Act)
- A patent diminishes the use of everyone else's tangible property without their consent

Boldrin & Levine, Against Intellectual Monopoly (2007)

The questionable ontology of intellectual property rights



(1) The inventor claims and receives title to a "plot of land" (B) in the Platonic heaven of ideas (IP = property/homesteading analogy)

{ A B C D E ... }

b1 b2 c d b3

(3) Everyone else who makes use of the idea (B), here by creating instantiation (b3) "trespasses" on the inventor's plot of land (B) in the heaven of ideas.

IP-rights holder

(2) Products (b1) and (b2) make use of and are thus instantiations of idea (B).

Everyone else

Unit of analysis: From rights to ideas to rights to copies of ideas

- The proper unit of IP analysis is not the idea but the copy (or instantiation) of an idea
- Transferring a copy of idea from A to B is an act of production. Before the transfer, only A had a copy, after the transfer, A and B each have a copy. (Jefferson)

Boldrin & Levine, Against Intellectual Monopoly (2007)

Innovation under competition refutes the "IP is necessary" claim

- Books (e.g., Shakespeare, 9/11 report)
- Software (e.g., Apache, Linux)
- News reporting (novelty is self protecting)
- Distribution (mail order, chain stores)
- Business models (franchising)
- Agriculture (breeders sell to farmers who grow and resell)
- Financial markets (derivatives, investment banking)
- Design (products, garments)
- Science
- Blogging

Boldrin & Levine, Against Intellectual Monopoly (2007)

Further evidence of innovation under (low-IP) competition

- Large innovators "opt out" of the patent system through cross licensing agreements (while keeping out the fringe)
- Survey evidence suggests that secrecy, lead time, complementary manufacturing and services are more significant to monetizing inventions than patents and other legal protections, except for the pharmaceutical industry.

Boldrin & Levine, Against Intellectual Monopoly (2007)

No evidence that stronger IP rights increase the rate of innovation

- Only a handful of natural experiments to compare the rate of innovation in the same industry in high and low-IP regimes
  - Production of music from 1770 - 1870. No evidence of increased production in (c) territories
  - Databases, which are expensive to produce and cheap to copy, enjoy protection in the EU, not in the US. US firms are more innovative (and profitable) than EU firms.
- Effects of differences in patent protection
  - Stronger patent rights lead to more patents, markets in patents, legal and technical services required to enforce them
  - Stronger IP-rights lead to increased direct foreign investment in IP-sensitive industries
  - Patents influence the direction of innovation, towards products in which secrecy is hard (e.g., machinery)
  - No clear impact on rate of innovation (the number of patents issued is no indicator for the relative rate of innovation)

Boldrin & Levine, Against Intellectual Monopoly (2007)

Is abolition of IP the modern fight for free trade?

- Fifty years ago, "free trade" was political anathema (economic disaster, cheap copies, cheap labor, etc.) We now understand that trade barriers are rent seeking devices. The explosion of wealth from globalization is in large part the result of free trade.
- The idea of trade barriers (or mercantilism) is to buy "their" products cheap and to sell "our" products dear.
- The problem is that, as a result, "we" also have to buy "our" products dear!
- Free trade requires that "we" compete with "them," so that "we" can only make a profit if "we" are more efficient than "them." Everybody wins.
- IP protection is modern-day mercantilism. "They" make manufactured goods that "we" want cheap. "We" make IP that we want to sell dear. Thus, "we" require free trade in exchange for strong IP protection (TRIPS).
- But "we" also have to buy "our" IP dear.

Boldrin & Levine, Against Intellectual Monopoly (2007)

Proposals for reform

- Phased abolition
- Reform
  - Shorter terms (patents and copyrights)
  - Challenge to patents before they are granted
  - Independent invention defense (patents)
  - Renewal requirements (patents and copyrights)
  - Registration requirements (copyright)
  - Mandatory licensing
- Non-IP incentives
  - Subsidies
  - Prizes (Stiglitz)

Boldrin & Levine, Against Intellectual Monopoly (2007)

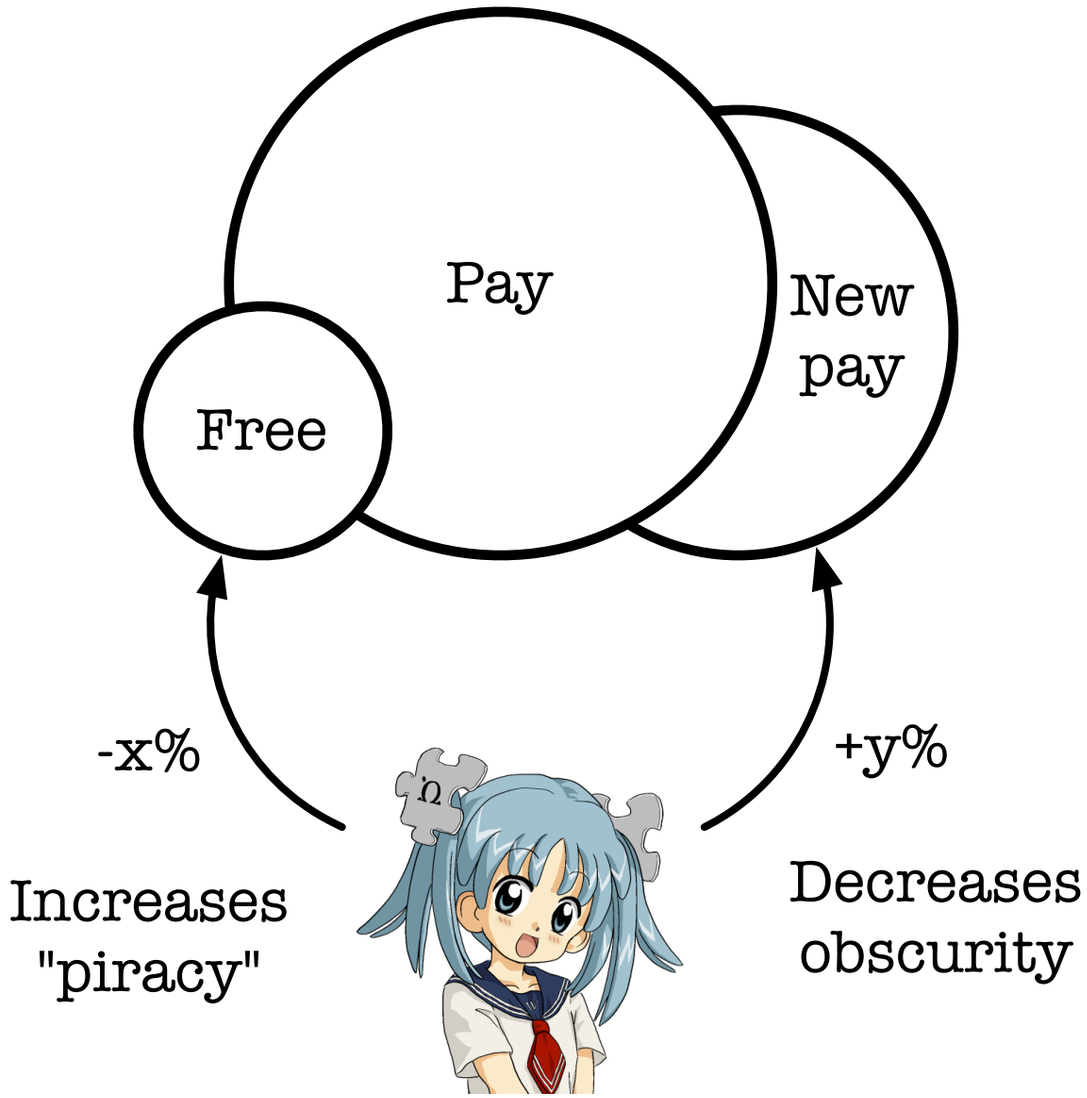
Is there a non-consequentialist basis for IP rights?

- Consequentialist theories: An action or policy is good if it maximizes a contingent good (action based, forward looking)
  - IP is a stimulus to create useful goods that increase net social welfare (e.g., Posner)
  - Main criticism: Consequentialism violates the separateness of persons principle
- Rights-based theories: An action or policy is just, if it respects the rights of all affected (actor based, backward looking)
  - Fair reward for intellectual labor (e.g., Locke)
  - IP is the extension of one's personality (moral rights)

Notes on J. P. Barlow's Economy of Ideas (1993)

- Digital technology is detaching information from the physical plane, making it more like thought
  - Niklas Luhmann: Convergence between minds and social systems, thoughts and communication.
- Information is an activity (the dance, not the dancer)
- Information is a life form ("meme")
  - "Information wants to be free", evolves, is perishable
- Information is a relationship
  - Time replaces space (possession) as the main value determinant.
- How to get paid
  - "Real artists ship." (Execution is self-protecting.)
  - Performance, service (e.g., lawyers), patronage

“Obscurity is a far greater threat … than piracy.” Tim O’ Reilly



- Simultaneous release of for-pay book (P) and free electronic download (F)
- Some customers substitute F for P (x%) (“cannibalization”)
- Some customers buy P because became aware of it through F (think Google, costless recommendations, etc.) (y%)
- As long as y% > x%, the publisher is better off
- Very likely a winning strategy for writers in the “long tail.”
- Also applicable to music, where F is a better substitute for P? (Radiohead, Nine Inch Nails)

Class 9: Anatomy of a license agreement

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October 29, 2007

Fundamental principles of IP licensing and antitrust

- IP is comparable to any other form of property
- IP is not presumed to create market power
- IP licensing is generally procompetitive
- The DOJ & FTC 2007 “IP2” report and the Supreme Court’s 2006 Independent Ink decision affirm the validity of the 1995 Guidelines analytical framework.

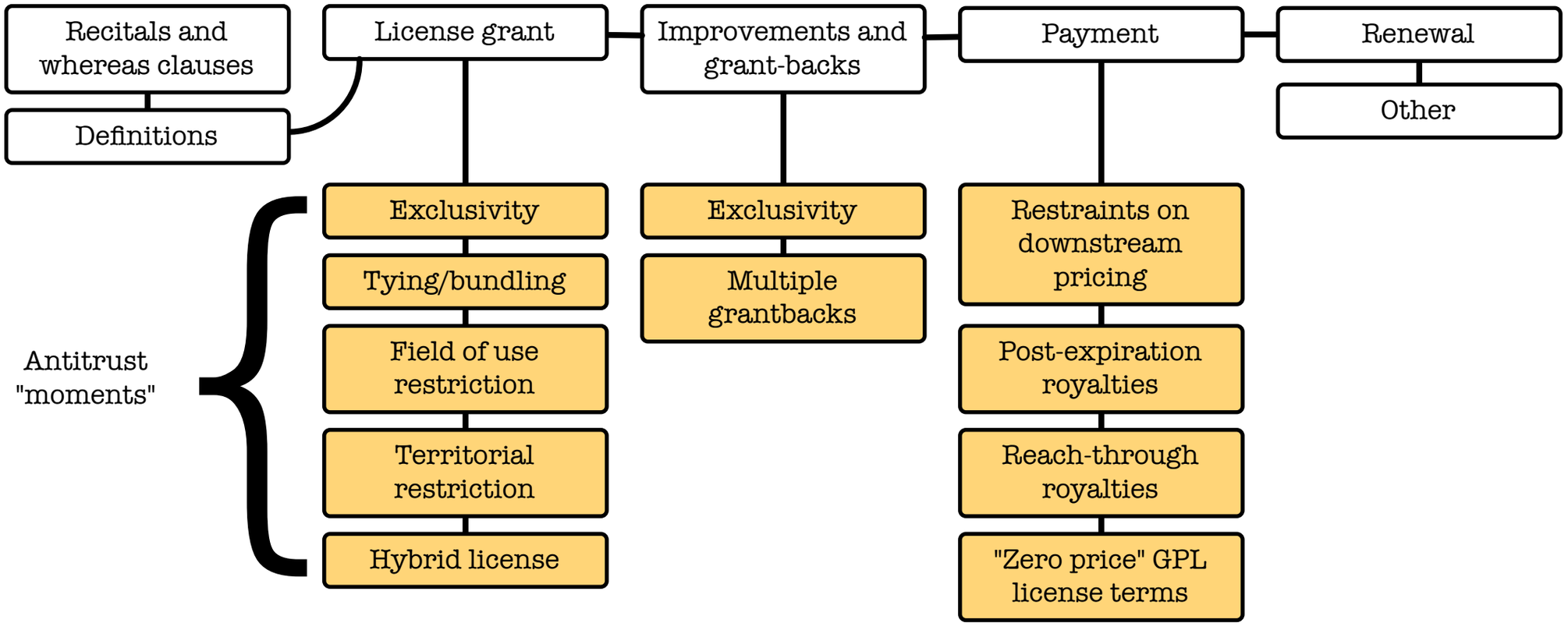
Analytical framework

1. Are the parties competitors?
2. Do the parties have market power?
3. What's the anticompetitive harm?
4. What are the procompetitive benefits?
   (Unless the conduct is unlawful per se)

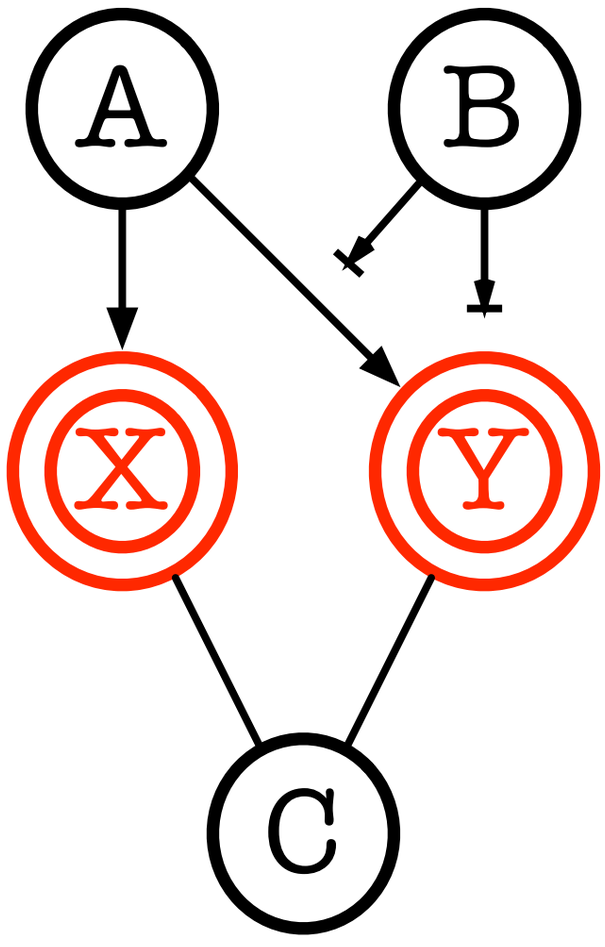
Are the parties competitors?

- Every license agreement (LA) is "vertical" in the sense that there is an upstream licensor and a downstream licensee
- The question is thus, whether a LA is also horizontal
- Yes, if there is less actual or potential competition between the parties in the post-LA world than in the pre-LA world
  - Depends on the relationship of the parties' IP rights (substitute, complementary, blocking)
  - Depends on the scope of the claims

Anatomy of a license agreement

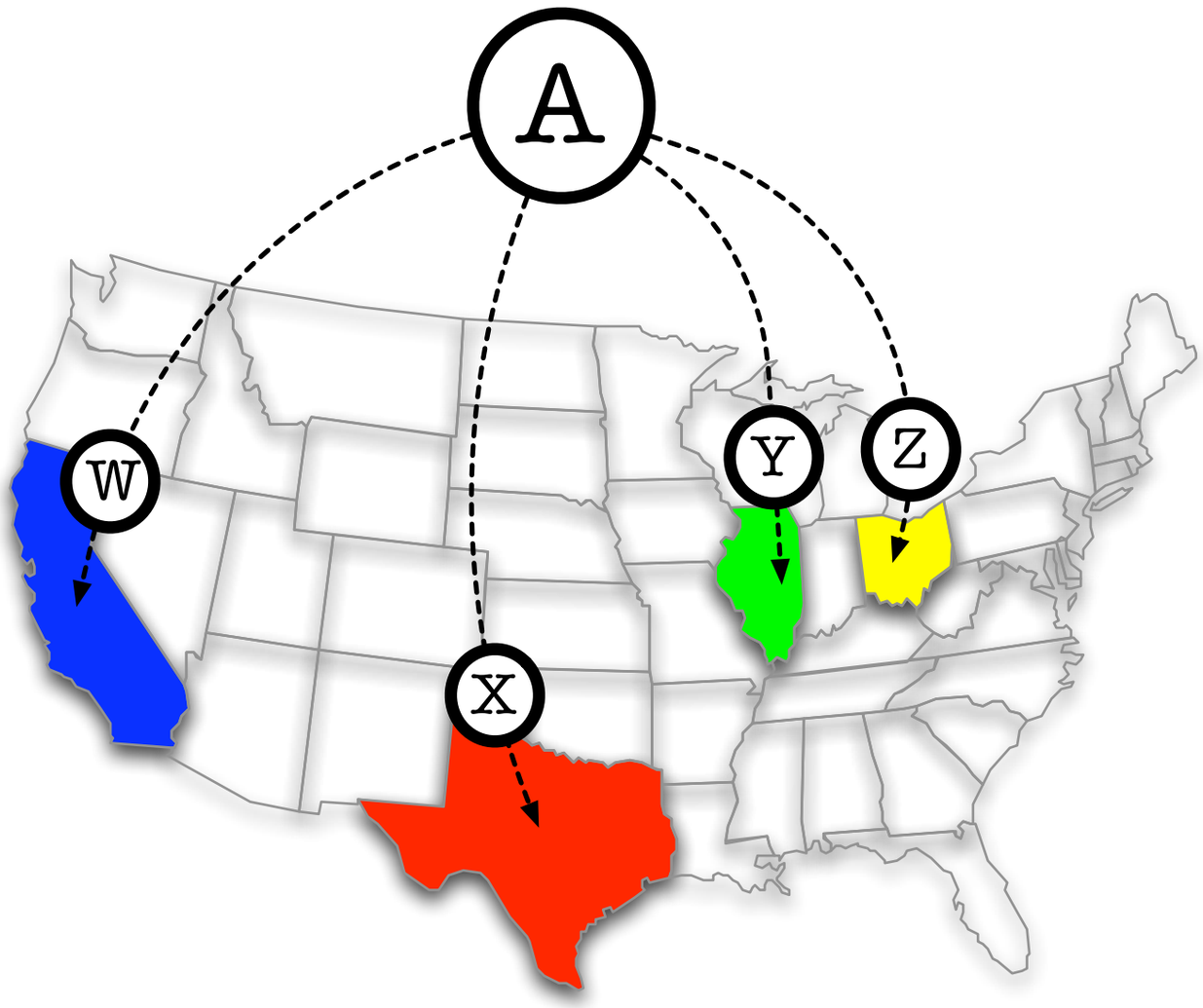


Exclusive license agreements



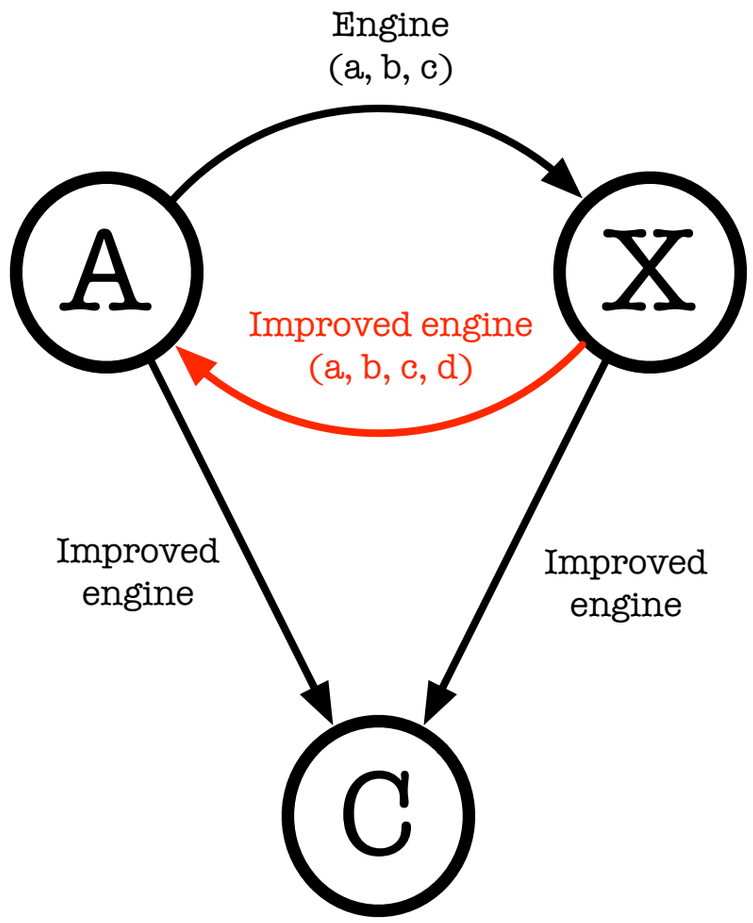
- Vertical interbrand restraint, ROR
- Procompetitive efficiencies
  - Incentive for the licensee to invest and fully exploit the IP right; protection from free-riders, including the licensor
- Anticompetitive effects
  - Exclusionary effects, if exclusivity is mutual. I.e., in exchange for an exclusive license from A, licensee X agrees not to license competing technology from B.
  - If A enters into similar agreements with a number of key licensees (X, Y), B may be denied access to market and can't reach minimum viable scale.

Territorial, field of use, and customer restraints



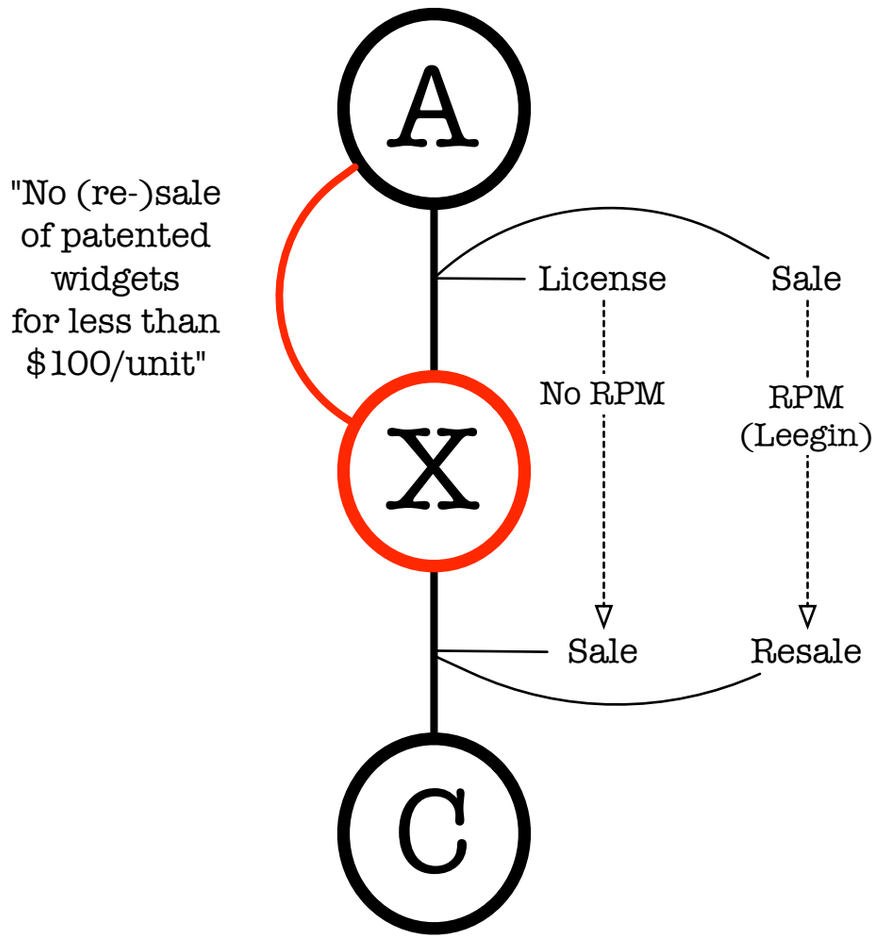
- Vertical intrabrand restraint, ROR
- Procompetitive efficiencies
  - Incentive for licensees (W–Z) to invest and better exploit the IP; protection from free-riders
- Anticompetitive effects
  - None, as long as the restraint is imposed by A; expressly permitted by §261 Patent Act
  - Collusive effects if the restraints are imposed at the request of the licensees (W–Z), in which case A may simply facilitate a per se illegal territorial division in a licensee cartel
- The same logic applies to customer and FOU restraints
  - E.g., X sells to educational institutions and Z to businesses

Grantbacks



- Vertical restraint, ROR
- Procompetitive efficiencies
  - Increases A's incentives to license its technology
  - Non-exclusive grantbacks enable both A and X to make and sell the improved products
- Anticompetitive effects
  - Reduced incentives for licensee (X) to innovate, in particular if grantback is exclusive
  - If A has exclusive grantback agreements with a number of licensees, all improvements will "come back to A," and increase A's market power

Controlling the downstream price of (patented) products after Leegin

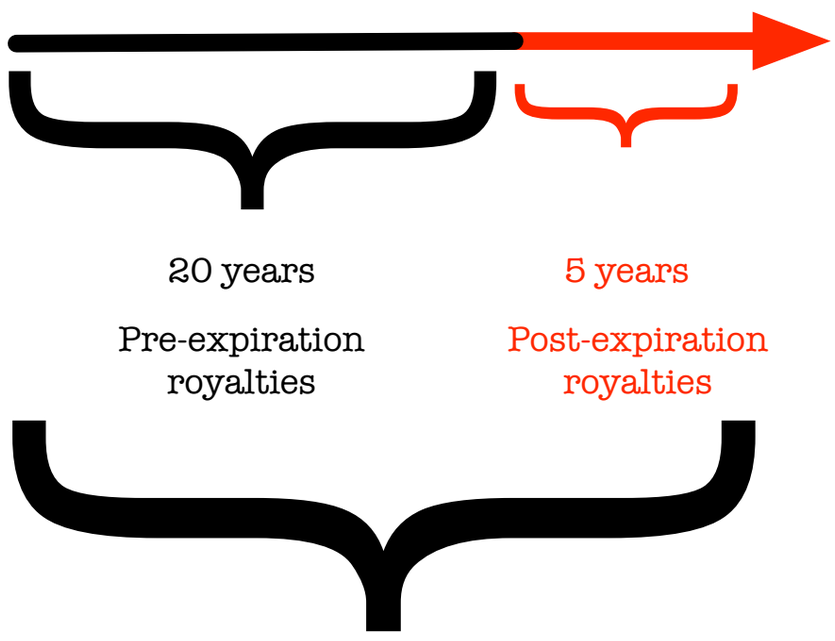


- Vertical intrabrand restraint, ROR
  - RPM (sale, resale) now governed by the ROR (Leegin)
  - Downstream price restraints in license agreement ("don't sell the patented widgets for less than $100/unit") also governed by ROR
- Leegin made obsolete the complex case law carving out exceptions to illegal RPM agreements
  - E.g., GE v. Westinghouse and its progeny

Evolution of antirust standards for horizontal and vertical restraints

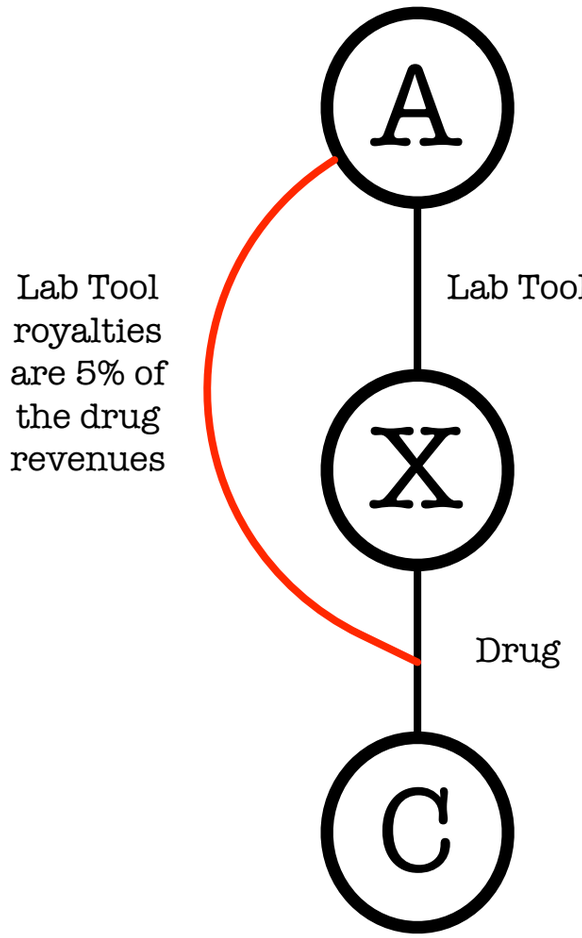
#	Time	Treatment of horizontal and vertical restraints	Relevant distinctions
1	pre Sylvania - 1977	1. Horizontal agreements on price and territory = per se illegal. 2. Vertical agreements on price and territory = per se illegal	None
2	pre Kahn 1977 - 1997	1. Horizontal agreements on price and territory = per se illegal 2. Vertical agreements a. On price = per se illegal b. On territories = rule of reason	1. Horizontal/vertical 2. Price/non-price
3	pre Leegin 1997 - 2007	1. Horizontal agreements on price and territory = per se illegal 2. Vertical agreements a. On price i. Minimum = per se illegal ii. Maximum = rule of reason b. On territories = rule of reason	1. Horizontal/vertical 2. Price/non-price 3. Maximum/minimum
4	post Leegin 2007 -	1. Horizontal agreements on price and territory = per se illegal 2. Vertical agreements on price and territory = rule of reason	1. Horizontal/vertical

Post-expiration royalties



- Charging post-expiration royalties is per se patent misuse
  - Brulotte v. Thys Co, 379 U.S. 29 (1964)
  - The antitrust laws analyze post-expiration royalties under the ROR
- Irrational rule
  - Charging low royalties for a longer period of time may well be pro-competitive (if, for example, the licensee could not afford higher royalties during the patent period)
  - Post-expiration royalties do not “extend the patent monopoly,” because once the patent expires, anyone can enter the market

Reach through license



- Reach through licenses (RTL) are analyzed under the ROR
- Procompetitive efficiencies
  - RTLs solve the ex ante valuation problem. (When X licenses the tool at the beginning of its R&D cycle, it is impossible to determine how valuable the tool will be. That depends entirely on the success of the drug developed with the tool.)
  - RTLs are risk-sharing devices (if the drug flops, A gets little to nothing)
- Anticompetitive effects
  - Royalty stacking if X needs to license multiple tools, as a result diminished incentives to innovate

Classes 10,11: Cross-licensing, patent pools, and SSOs

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Syllabus

- Setting the stage
  - Component products, patent thickets
  - Double marginalization, hold up, hold out, transaction costs
- Cross license agreements
  - Focus on blocking patents (design freedom)
- Patent pools
  - Focus on complementary patents (double marginalization)
- Standard setting
  - How do avoid both standards wars and industry-wide holdups

Setting the stage: Of component products, patent thickets, hold outs, and holdups

Component products + broad IP rights = patent thicket

- The patent system was designed with a "one product, one patent," or 1:1 paradigm in mind

  "A hundred years ago, if you put technology in a bag and shook it, it would make some noise." R. Merges (1999)

- In some industries, the 1:1 ratio (or something close to it) still holds
  - Pharmaceuticals, e.g., Valley Drug; Tamoxifen; etc.
- In other "component product" industries, we encounter 1:100, 1:1,000, or even 1:10,000 ratios
  - Software, telecommunications, semiconductors, Internet ("IT")
  - A manufacturer has to clear all rights to be able to bring a product to market
- The result is a "patent thicket"

Patent thickets cause problems for almost everyone

- Design freedom

  (1) A wants to enter the x86 CPU design space. The (two) incumbents hold tens of thousands of patents. There is no way that A can invent around those patents, nor are the incumbents willing to grant A the required licenses. (“Entry barrier”)

  (2) A and B are both active in designing GPUs (graphic chips). Their competing technologies are based on hundreds of patents, some of which, arguably, the other firm infringes with every new product release. A and B constantly fight over their respective patent rights. At some point, neither A nor B can introduce a new product for fear of patent infringement litigation. (“Blocking patents,” “standoff”)

- Transaction costs

  A wants to license all patents essential to creating a new signal processing software package. A needs to do an exhaustive patent search and then negotiate with dozens if not hundreds of licensors, which is costly and time consuming. (“Transaction costs”)

- Complements pricing

  Aka double marginalization, see below

- Hold out

  Strategic refusal to deal, see below

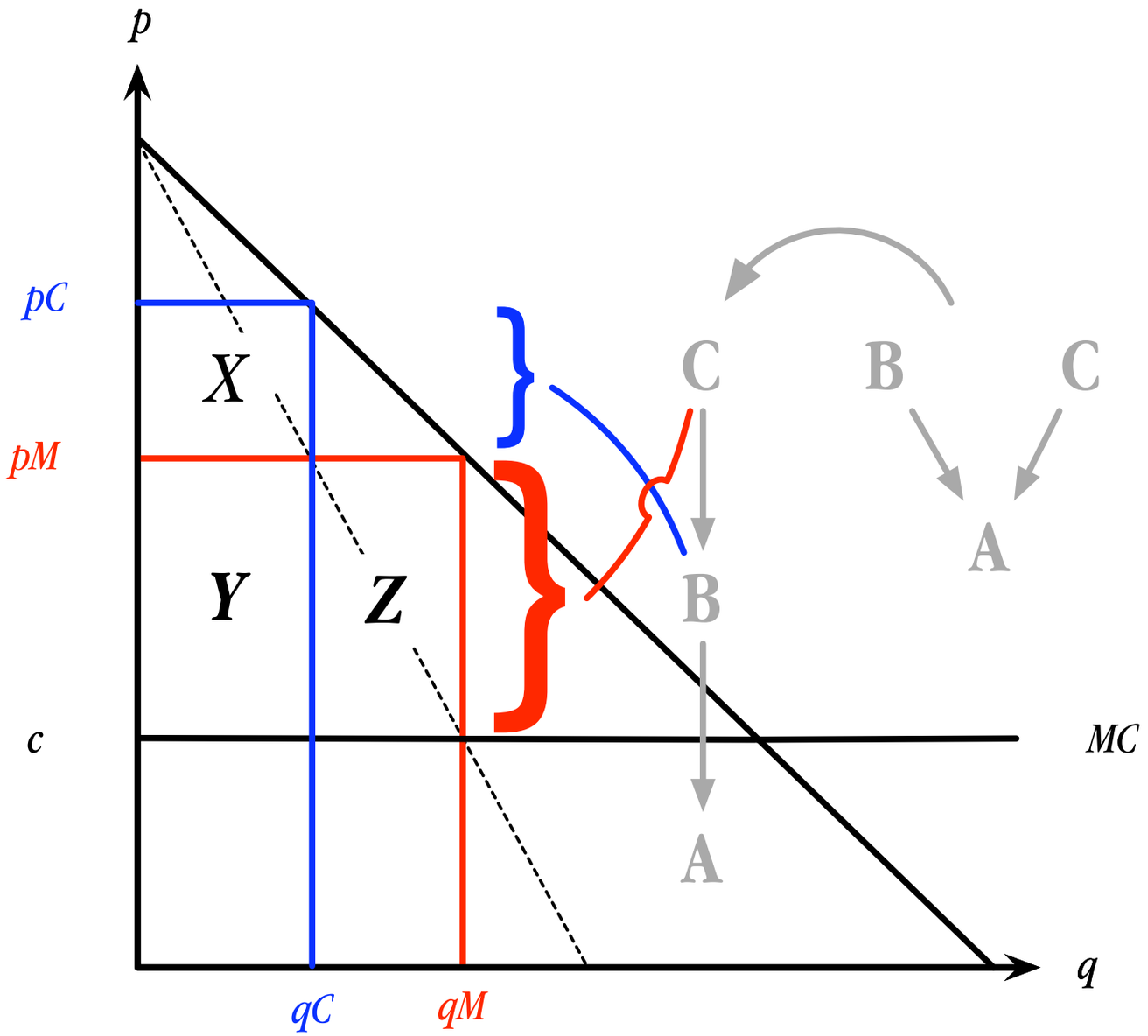
- Hold up

  Aka opportunistic behavior, see below

The theory of complements and double marginalization

- A makes brass, for which it requires copper and zinc in equal proportions. B is a copper monopolist and C is a zinc monopolist. Would A be worse off if B and C were to merge?
- No, A, B, and C would all be better off. A single monopolist would charge one monopoly rent. Two monopolists charge two (smaller) monopoly rents.
  - Lower output, higher prices, lower profits for the monopolists
  - Similar to the well-known "double marginalization" problem
- The "complements problem" is amplified where a licensee requires many essential patents
- Solution: Create a single licensor

The complements problem and double marginalization



- Suppose that B buys zinc from C to offer a "brass mix" to A. The complements situation is now a vertical chain: C – B – A
- If C owns B, C will maximize joint profits by selling the mix at pM. C's profits are "Y + Z"

  1st monopoly rent = (pM - c)*qM
- If C and B are separated, pM ("1st rent") is B's MC. B will sell where MR intersects MC, resulting in pC ("2nd rent").

  2nd monopoly rent = (pC - pM)*qC
- Under separation
  - A is worse off, because pC > pM
  - C is worse off, because Y < Y+Z
  - Society is worse off, because qC < qM

Hold outs and hold ups

- A hold out is someone who refuses to agree to a bargain for strategic reasons ("last in line")

  A firm sets aside a budget for 5 licenses, essential for a new product. E waits until A–D licensed their IP and then demands the remainder of the budget, which will often exceed what E could have obtained had E not been the last to sell an essential input.

- A hold up is the opportunistic exploitation of someone else's irreversible, specific commitment

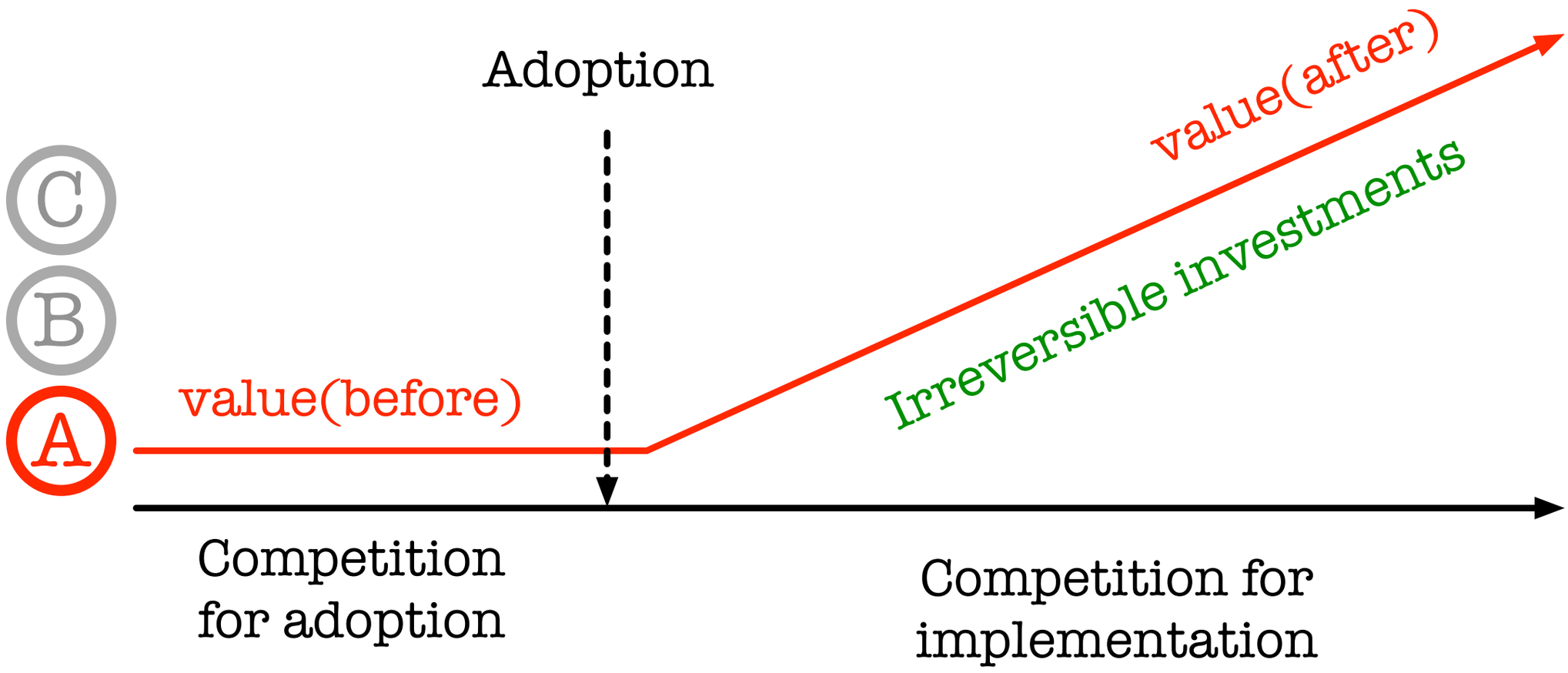
  (1) A supplies B with auto bodies. B promises A a $1,000/unit contract for 500,000 units if A builds a new factory specifically designed to supply B's new car model. A builds the factory, which cannot be used for anything else, for $50 million. As soon as the factory is up and running, B renegotiates the contract down to $600/unit.

  (2) After A designed a new CPU, built two fabs, and received orders for 1 million units, B sues A for patent infringement. If B gets an injunction, A's investment is rendered worthless. In settlement negotiations, B is able to get not only the value of its inventive contribution in license fees, but also the "hold up" value, up to what A expects to make from its irreversible investment.

The hold up problem is pervasive

- In a holdup, there are two values that depend on time and the extent of the irreversible investment
  - V1 = What A is willing to pay to B for a patent license before A made irreversible investments (depends on A's ex ante options)
  - V2 = What A is willing to pay to B for a patent license after A made irreversible investments (depends on A's ex post options)
  - The holdup value is V2 – V1
- In component technologies, holdups are common and often unavoidable
  - Patent searches are imperfect (patents have no clear boundaries)
  - Patents may issue long after the investment
  - The greater the number of patents and the number of firms making irreversible investments (standard!), the greater the problem

Post-adoption increase in market power often results from irreversible investments



If you are an inventor, how do you get out of a patent thicket?

- License
  - Problem: Competitors may be unwilling to license. “Royalty stacking” if multiple licenses are required, hold out, hold up
- Invent around
  - Problem: Expensive, time-consuming, uncertain, only works if patents are known (or issued) ex-ante, can’t claim that product is fully standard compliant
- Litigate
  - Problem: Expensive, time-consuming, uncertain
- Cross-license, create patent pool
  - Problem: Only available to the patent “haves”, exclusion of non-participants (entry barriers)

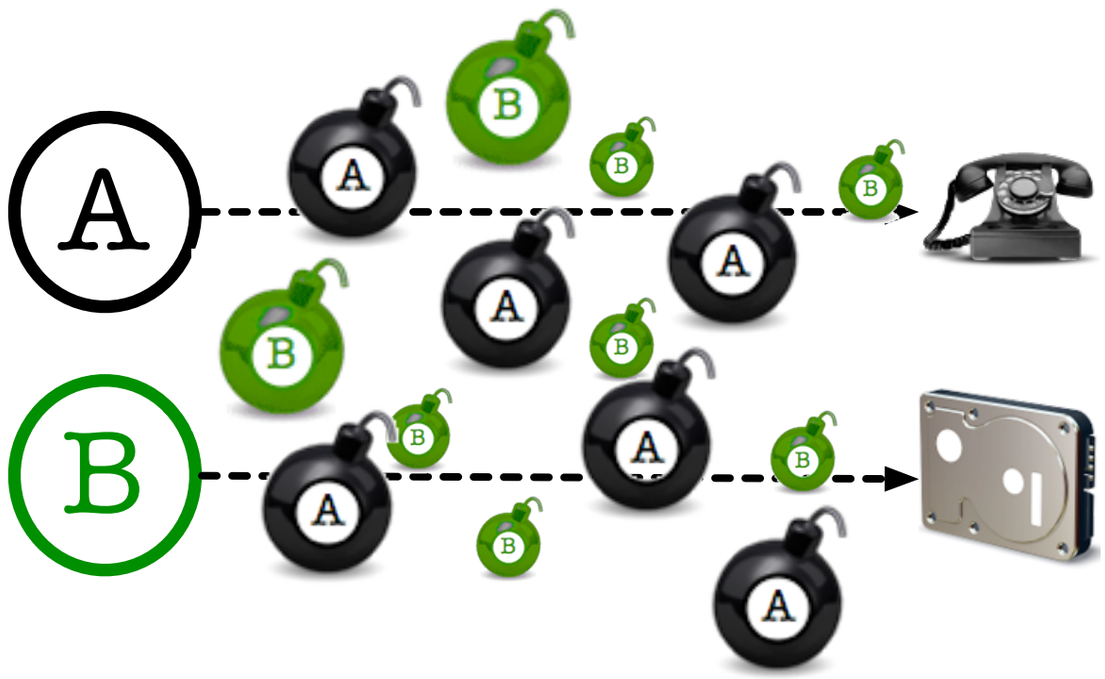
Richard Stallman, The Danger of Software Patents (2002)

Cross licensing agreements

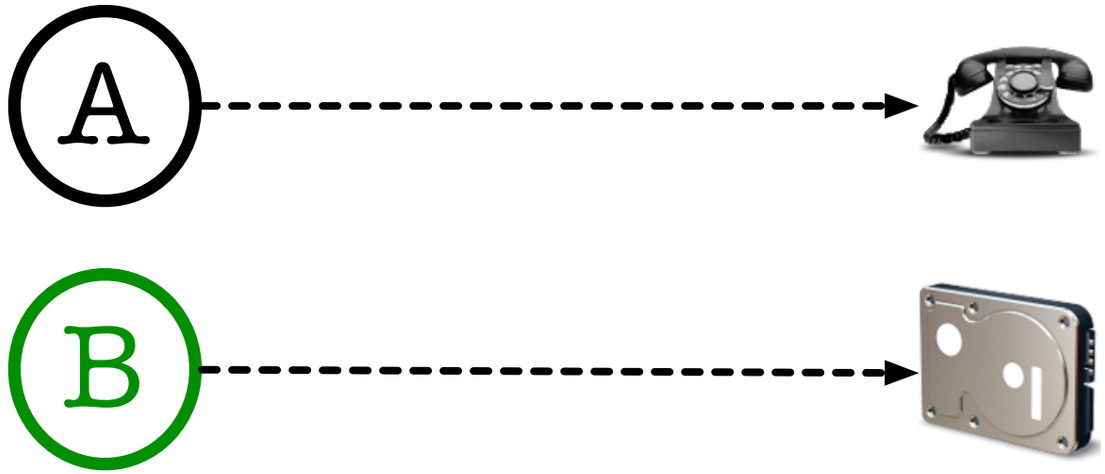
Cross licensing agreement

- Manufacturers A and B each have blocking patents, that is, A can't make PA without infringing B's patents and B can't make PB without infringing A's patents (standoff)
- Without a cross-license, neither PA nor PB get made. Any cross-license is therefore an output enhancing way to restore design freedom
  - Optimal from an output point of view: royalty-free cross license – freedom to innovate without per-unit royalties
  - Common: Territorial and field of use restraints, carve outs, and past/present/future patent clauses
  - Common tool for settling patent disputes

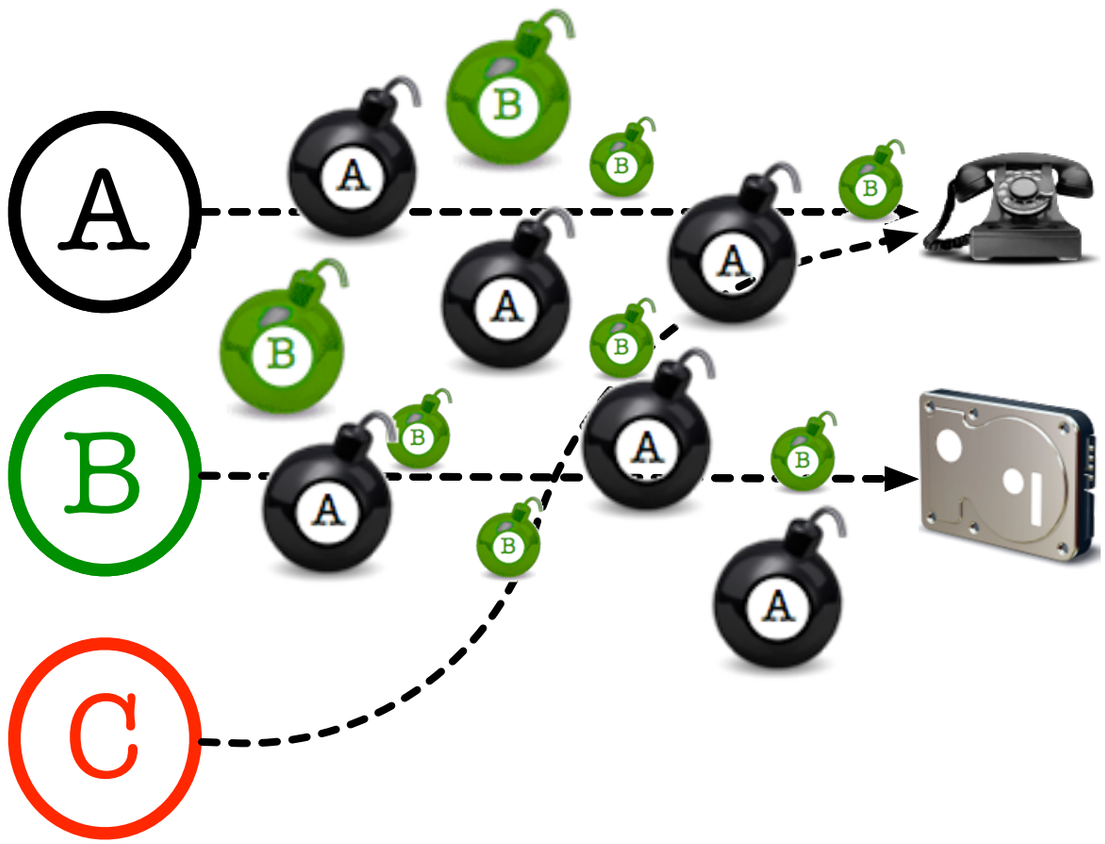
Bilateral patent portfolio cross-licensing agreement: before



Bilateral patent portfolio cross-licensing agreement: after



No “patent peace” vis-a-vis third party competitors?



Cross licenses are analyzed under the rule of reason

- Procompetitive efficiencies
  - Spurs innovation ("patent peace," design freedom for the parties)
  - Eliminates risk of infringement litigation (injunction)
  - Portfolio licensing reduces transaction costs
- Potential anticompetitive effects
  - Collusive effects: Running royalties to fix downstream prices.

    E.g., A and B agree to pay each other $100/unit made using any of the cross-licensed patents. As a result, neither A nor B will sell for less than $100.
  - Exclusionary effects: Exclusive portfolio cross license agreements between parties with market power may create significant barriers to entry (see previous slide)

    Dominant firms may strong-arm entrants to hand over their IP in exchange for "patent peace"

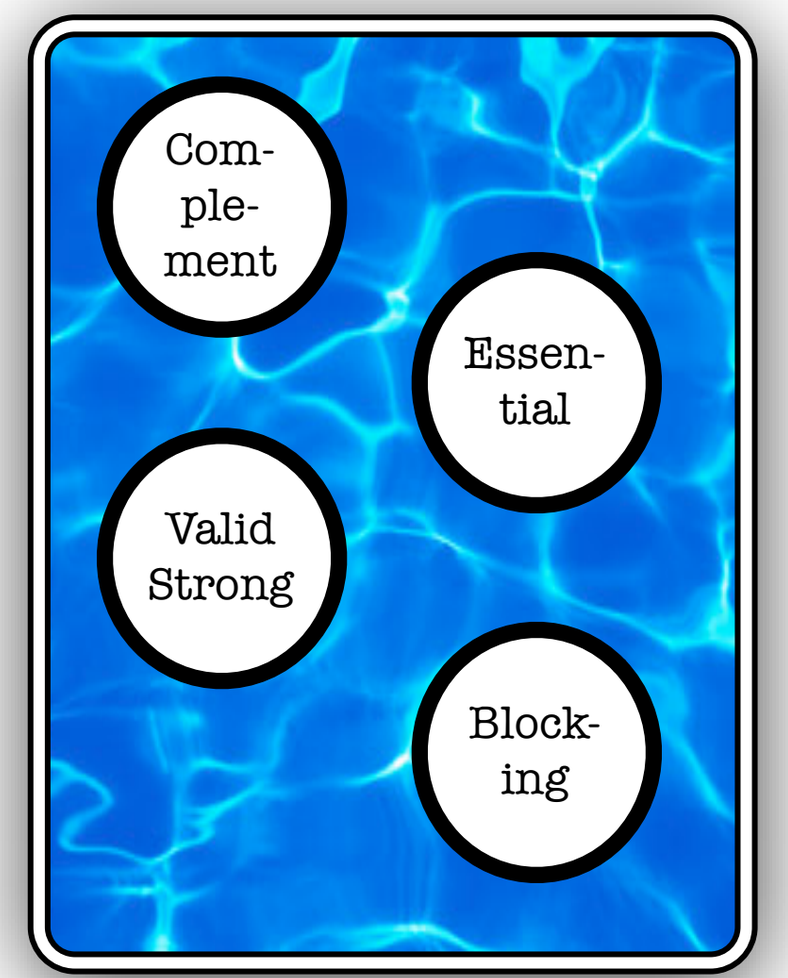
Patent pools

Patent pools and cross licenses address different problems

- Cross-licenses create and preserve design freedom for the parties by removing mutually blocking patents ("patent peace")
- Patent pools solve problems for licensors of complementary patents and their licensees
  - Complements (i.e., multiple monopoly rents)
  - Hold out (no serial bargaining)
  - Transaction costs (one stop shopping)
- Often features of patent pools and cross licenses are combined to address issues from both blocking and complementary IP

Who gets to swim in the pool?

Allowed in the pool



Independent expert to decide which patents are allowed in the pool

Not allowed in the pool

Sub-
stitute

(If non-
blocking)

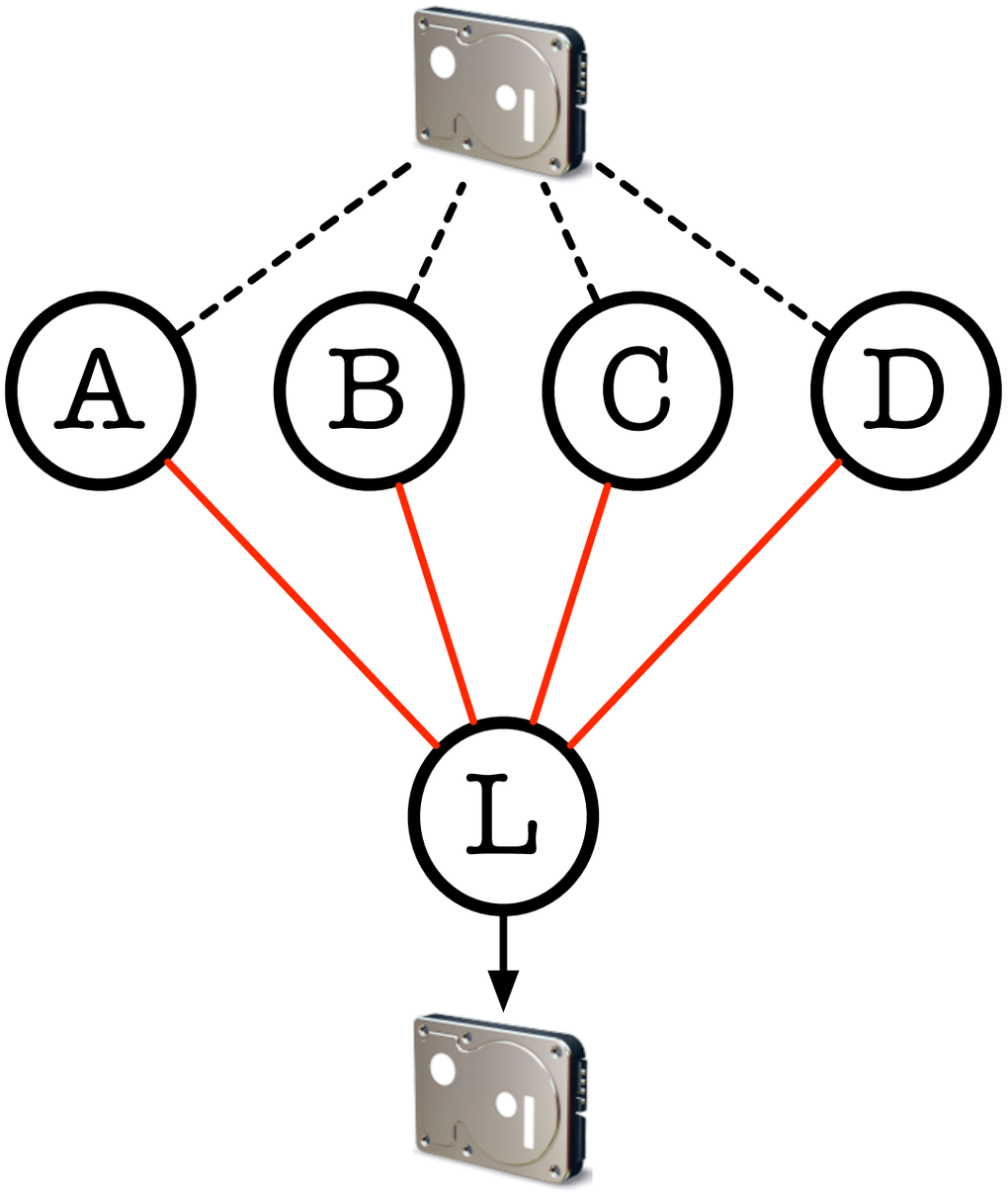
Op-
tional

In-
valid
Weak

The art and science of classifying patents (A and B) in a pool

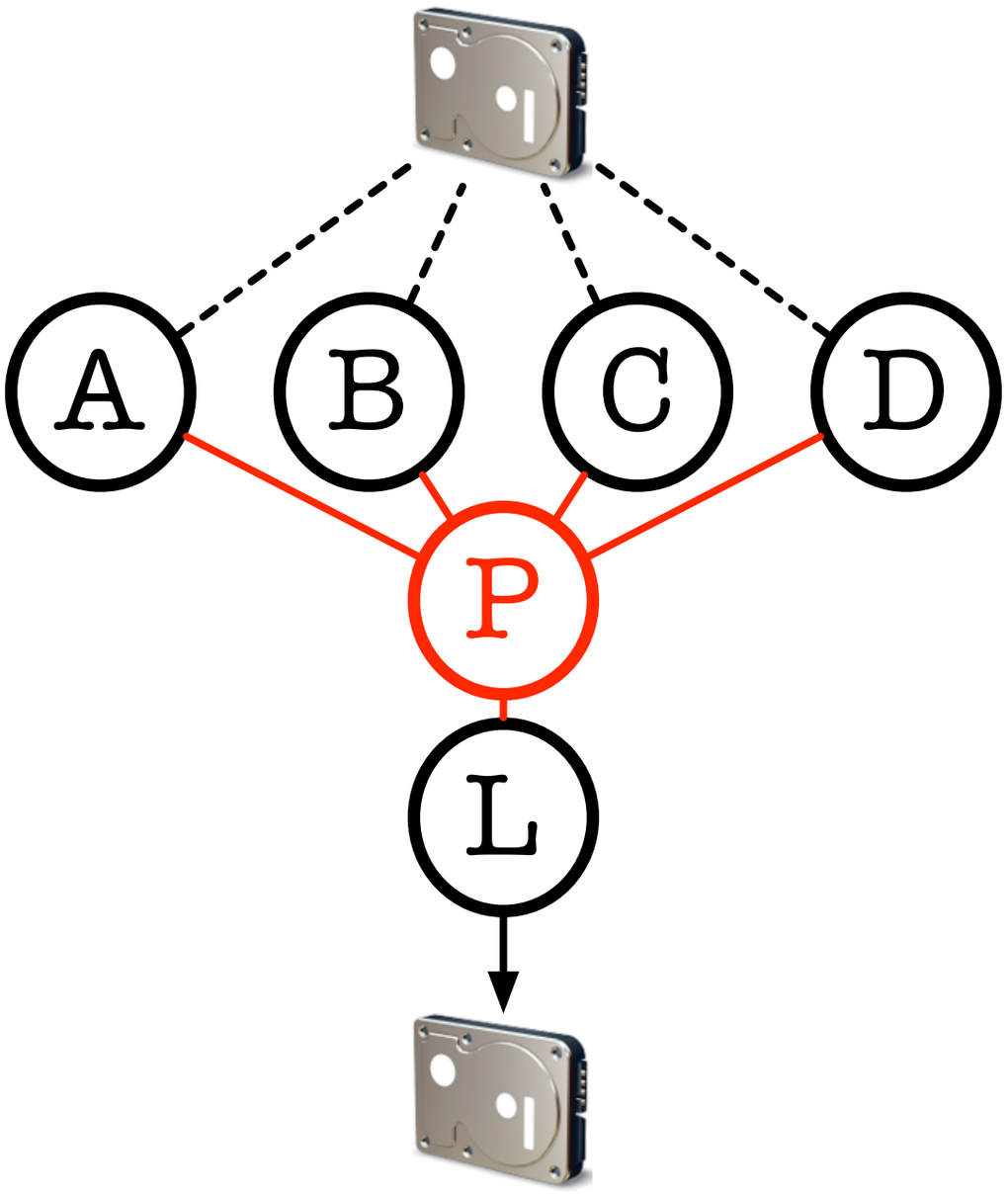
Classification	**Concept**	**Competitive effects**
Substitute (“rival”) or complement	• L can use either A or B to make P (substitute). • L can use A and B to make P (complement).	• Pooling substitute patents diminishes licensee choice. • Possible price fixing if joint royalty setting. • No issues if royalty-free cross license.
Blocking or non-blocking	• The use of A infringes B and vice versa (blocking) • A can be used without infringing B (non-blocking)	• Pooling blocking patents is a justification for pooling substitute patents • 2-way blocking is more significant than 1-way blocking
Essential or non-essential	• L needs A (or B) to make P (essential). • L doesn’t need A (or B) to make P (non-essential)	• Pooling non-essential patents raises tying/ bundling concerns • Exclusion of patents competing with non-essential pooled patent
Valid/strong or invalid/ weak	• A (or B) is valid/strong or invalid/weak	• Same as non-essential (tying) • Keeps weak patents (that the licensee paid for!) from being invalidated

Before the patent pool



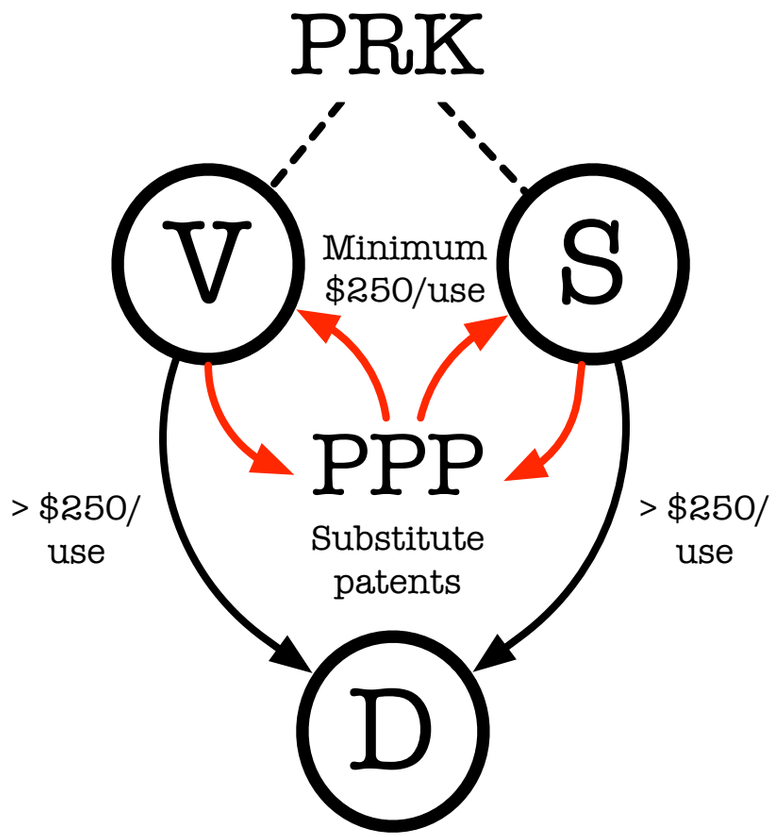
- A, B, C, and D each have essential patents required to make the product
- L needs to negotiate four license agreements
- Significant inefficiencies
  - A, B, C, and D each have an incentive to charge monopoly prices (“double marginalization”)
  - A, B, C, and D each have an incentive to be the hold-out
  - Transaction costs are significant
- A cross license won’t solve the problem
  - E.g., L has no patents, A-D are not manufacturers or there are simply too many patent holders

After the patent pool



- A patent pool enhances output and cuts costs
  - P has an incentive to charge the monopoly price for the bundle of rights, which will be lower than the price for four independent licenses
  - Single license eliminates hold out problem
  - Single license reduces transaction costs ("one stop shop")
- Potential competitive concerns
  - Pool contains substitute patents
  - Pool contains (too many) non-essential patents
  - Pool contains invalid/weak patents
  - Members may not license outside the pool (exclusive)
  - Broad (exclusive) grantback imposed on licensees

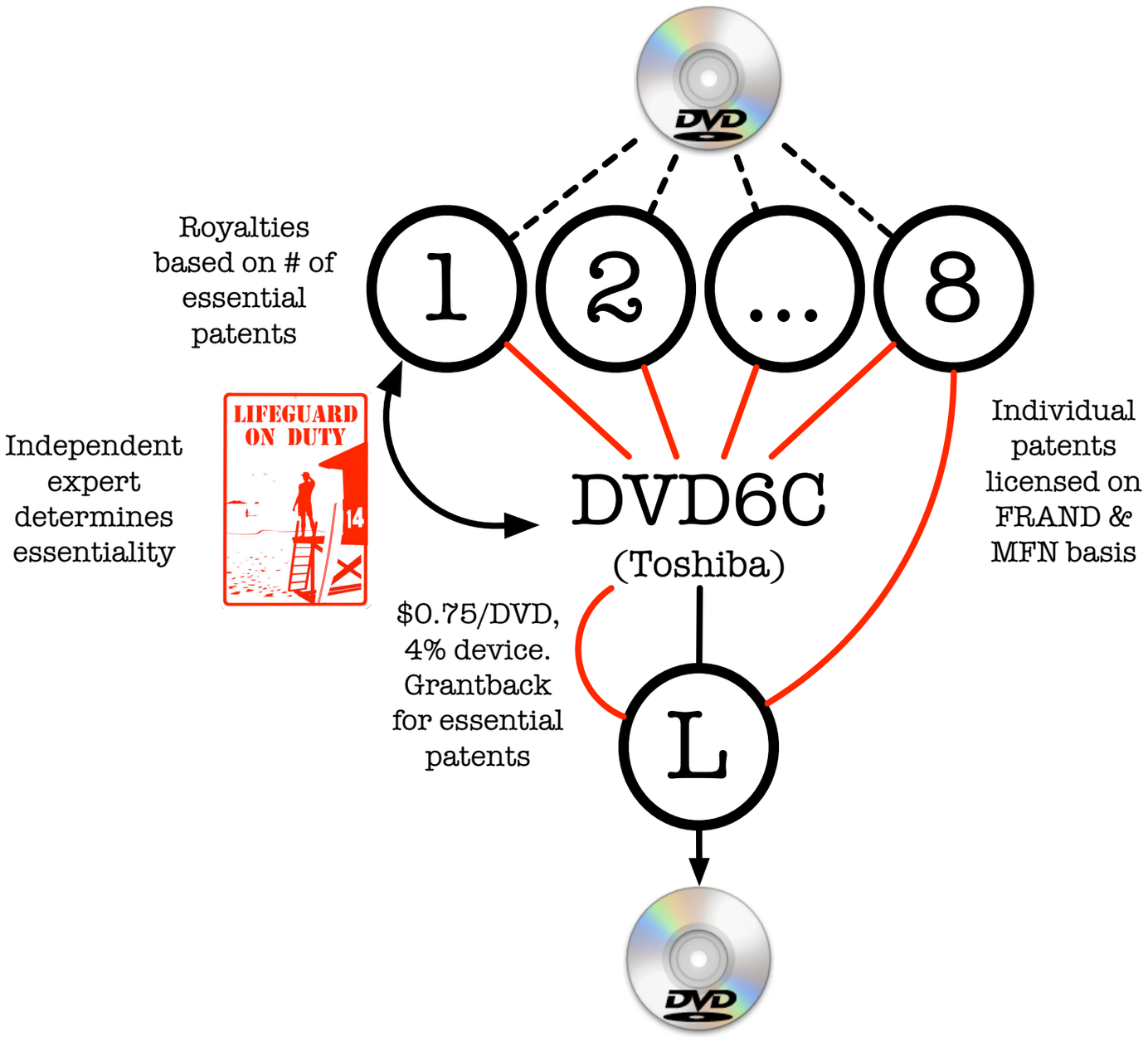
The Summit/VISX “patent pool”



- Pre-patent pool competition
  - Summit and VISX were the only FDA approved licensors of laser eye surgery technology
  - Both companies licensed or leased to doctors, charging "per procedure fees," e.g., $200 for each activation of the laser.
- The PPP ended competition
  - V and S transferred their patents to PPP and licensed them back for a $250/use royalty (price floor, “goods market”)
  - V and S were prohibited from licensing technology outside the PPP (“technology market”)
  - PPP never licensed to a third party
- Per se illegal price fixing
  - FTC: dissolve pool, royalty-free cross licenses to avoid litigation

In re Summit Tech., Inc. et al. - Analysis of Proposed Consent Order to Aid Public Comment (1998)

The DVD6C patent pool



- DVD6C patent pool members
  - Hitachi, Matsushita, Mitsubishi, Sanyo, Sharp, Toshiba, Victor, Warner Bros.
- DOJ rule of reason analysis
  - No substitute patents
  - Royalty split based on number of essential patents provides incentives for selecting an expert who reduces the number of essential patents (of the other pool members).
  - Keeping the number of essential patens small reduces any foreclosure effects.
  - No downstream coordination; royalty is sufficiently small
  - Bypassing the pool is permitted
  - No adverse effect on innovation because (i) grantback limited; and (ii) pool limited to essential patents only.

6C DVD Business Review Letter (1999)

Cooperative standard setting

Standards and standard setting organizations

- Standards
  - Interoperability (e.g., plugs, sockets, rails, TCP/IP)
  - Performance (e.g., fire safety standards)
- Standard setters
  - Governments (e.g., drugs, food, measurements)
  - Industry, adopted by governments (e.g., building, fire codes)
  - Industry (standard setting organizations "SSOs") (e.g., tire and garment sizes, cell phones, TCP/IP, W3C, Creative Commons)

Participants in the standard setting process

- Patent holders (Licensors)
  - Want royalties from essential patents included in a standard. The more successful the standard, the greater the royalty stream.
  - Key role in standard setting: Make essential IP available to enable the creation of a standard
- Manufacturers (Licensees)
  - Want access to the patent holders' IP to make and distribute standard-compliant products. The more successful the standard, the more revenues from buyers of interoperable products.
  - Key role in standard setting: Make products incorporating essential IP and pay royalties
- Standard setting organizations

How standards evolve: Network effects and tipping points

- Interoperability is critical for industries with strong network effects (e.g., telephone, Internet)
- Network industries often "tip," to whichever standard reaches critical mass first
- Standard setting increases interoperability and "skips over" expensive standards wars
  - VHS v. Betamax, HDDVD v. BluRay, Windows v. everyone else
  - If only one standard can survive, the losing competitors' (and their customers') investments are lost
  - The winner in a network-industry standards war often ends up with a monopoly, protected by network effects (e.g., Microsoft)

Recap: DOJ definition of holdup

- "Patent hold up can be defined to involve a situation where all the following conditions exist:

  (1) after the standard is set, the holder of a patent essential to that standard identifies a patent, or attempts to impose licensing terms, that SDO members could not reasonably have anticipated;

  (2) it is not a commercially reasonable option to abandon the standard and attempt to create an alternative, due to the cost of the standard setting process itself or the cost of developing products incorporating the alternative standard;

  (3) and – most importantly – if the other SDO members had anticipated the patent holder's demands, those SDO members could have chosen a different technology that avoided this patent."

- "[H]old up involves the loss of the opportunity to pursue a meaningful competitive alternative. Hold up involves market power that is created by a standard itself, not market power that would have existed regardless of the standard."

G. Masoudi, AT enforcement and standard setting (2007) http://www.usdoj.gov/atr/public/speeches/223363.htm

Standards amplify the holdup problem

- In a 1:1 holdup, A threatens B's irreversible investments. (V2 > V1)
- In a 1:N standards holdup, A threatens the irreversible investments of everyone who is supporting the standard (V2*N > V1*N)

  Suppose that 10 (100) firms agree on a PC bus standard and each invests $10 million in standard-compliant design and manufacturing. After those irreversible investments have been made, A holds up each of the standard supporting firms. The holdup problem is magnified by a factor of 10 (100), not counting network effects.

- "[I]n the standard setting context, patent owners can demand sums of money [V1*N] that are far out of proportion to the actual inventive contribution that they've made [V1*N]." (Lemley)

What SSO's can do to mitigate the holdup of standards

Rule	Licensor members promise:	Comment
Disclosure	"I have some patents here that may relate to the technology. I may or may not license them once we've agreed on a standard."	Enables "inventing around," which also reduces incentives to disclose. Does not remove the "nuclear option" (injunction) if patents are included in the standard. Insufficient.
Royalty free license	"For the uses covered by the standard, you may use my patented technology for free."	Highly effective. However, some IP holders will avoid the SSO like the plague, which may be counterproductive (they can still sue later on). Common in open source IP environments.
RAND (and FRAND)	"Once the standard is set, I will license my essential patents at a reasonable, non-discriminatory rate.")	Takes the threat of an injunction off the table. However, what's reasonable? 25% of running royalties? 5%? Are grantbacks or admissions of validity and infringement part of RAND?
Unilateral, ex-ante RAND	"I will license my essential patents at RAND terms, no worse than $10/unit plus exclusive grantback for 5 years."	Even better than RAND alone, as it allows choosing alternative technologies while there are still options.
Penalty defaults	"For any undisclosed essential patent, the maximum royalty is $10,000."	Creates a strong incentive to search for and disclose essential patents. Very effective if coupled with (ex ante) RAND.
Joint ex ante negotiations	Actual negotiation of licensing terms at the outset of the process	Front-loads and delays the technical process. Engineers hate it. SSO's are afraid of liability from potential (buyer or seller) price fixing.

Lemley, Ten Things to to about the Holdup of Standards (2007)

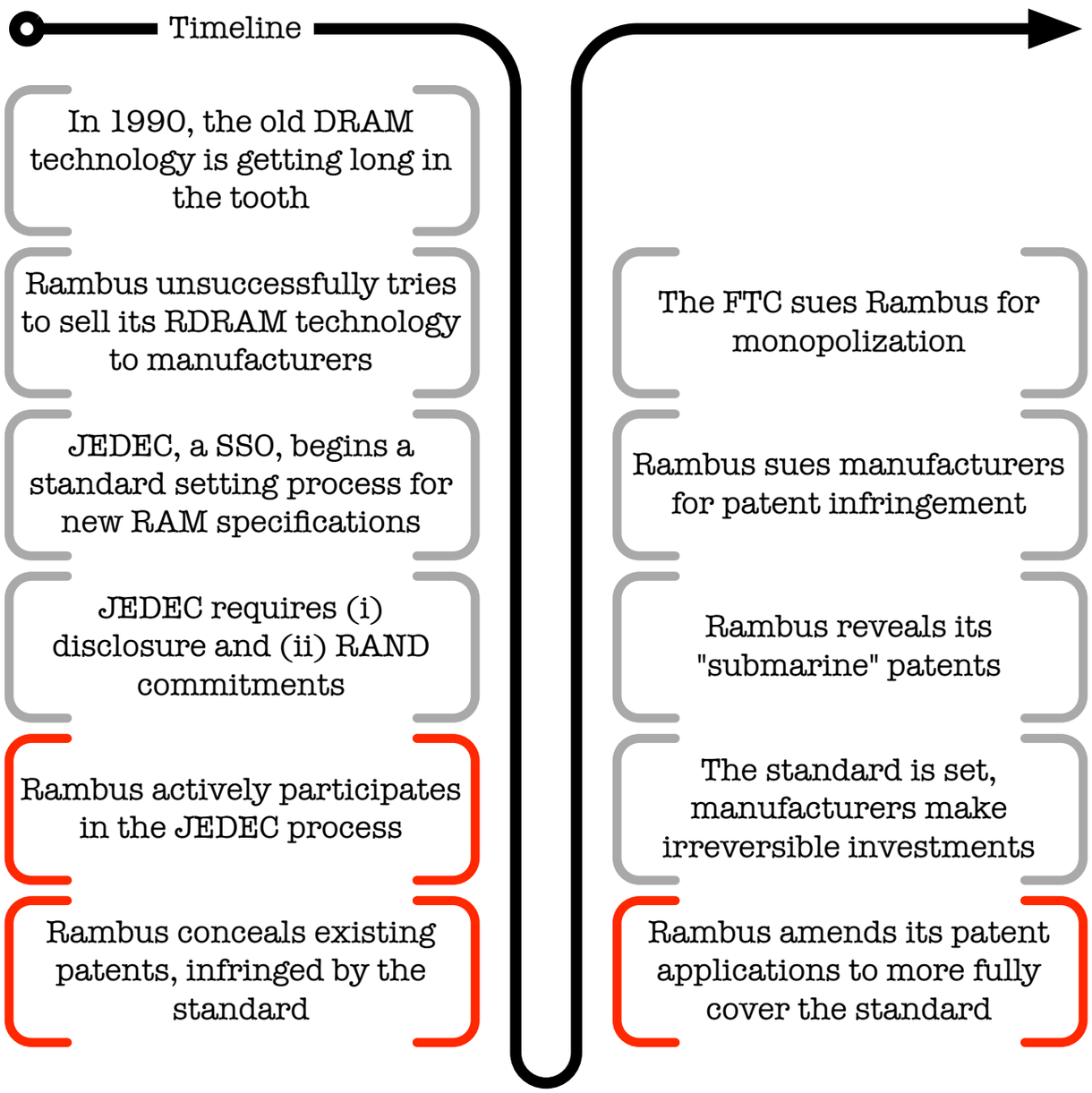
What the law can do to mitigate the holdup of standards

- Antitrust
  - Prosecute the submarining of standards as monopolization offenses (see In re Dell, In re Rambus)
  - Protect the integrity of the standard setting process by prosecuting attempts to "hijack" a SSO (e.g., Allied Tube)
  - Analyze ex-ante RAND under the ROR, not under the per se rule against price fixing (see below)
- IP
  - Limit injunctions for patent infringement to instances where the plaintiff is using the patent (eBay v. MercExchange)
  - Limit treble damages for willful infringement to truly "willful" infringement

Common antitrust problems in the standard setting context

- Patent holders subvert the standard setting process to disadvantage competitors
  - A and B ensure that the SSO adopts a standard that C's products can't meet (e.g., no plastic conduits for "fire safety" reasons)
- Holdup (with "submarine patents")
  - The typical sequence is: non-disclosure of IP, promotion of infringing standard, holdup after irreversible investment
- Patent holders agree on minimum royalties
  - Seller cartel: "We will all demand at least 5% for our essential patents." (per se illegal)
- Licensees agree on maximum royalties
  - Buyer cartel: "None of us will accept aggregate royalties of more than 20%." (per se illegal)

Classic holdup: In re Rambus 2006 WL 2330117



1. **Monopoly power (+)**
   Pre-standard, R's' share of the four technology markets at issue was small. Post-standard, "R held over 90% of the market share in the relevant markets," because JEDEC's standards are ubiquitous in the computer industry. (649).
2. **Exclusionary conduct (+)**
   "R engaged in a course of **deceptive conduct**." (636) As a result, other technologies were "excluded" at a time where the field of choices was still wide open. (639). The profit sacrifice test is not applicable to such "cheap exclusion". (638) If a SSO requires disclosure, non-disclosure followed by royalty hold-ups is deceptive conduct under §5. (640)
3. **Causal link between (1) and (2) (+)**
   R's deception led to the adoption of the standard, and the standard – not independent merits of R's technology – conferred durable monopoly power upon R.

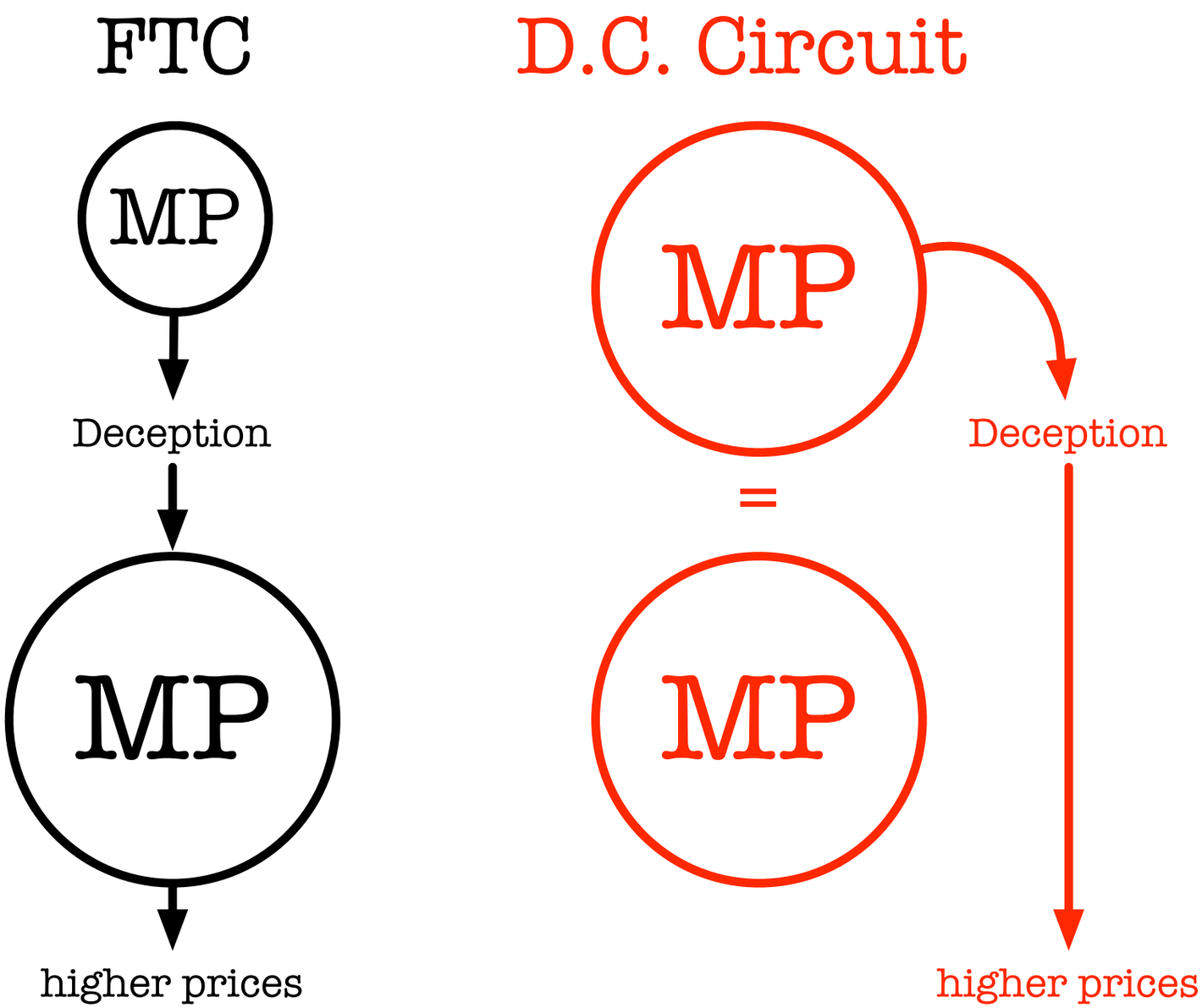
The D.C. Circuit overturns the FTC's Decision in Rambus (2008)

FTC	**D.C. Cir.**
But for the deception, JEDEC would have excluded Rambus' technology from the DRAM standards	JEDEC may have chosen Rambus' technology even if it had known about "the full scope of Rambus's IP."
But for the deception, JEDEC would have demanded RAND assurances with the opportunity for ex ante licensing negotiations.	"JEDEC's loss of an opportunity to seek favorable licensing terms is not as such an antitrust harm."

The D.C. Circuit's strange reliance on NYNEX v. Discon

- Deception in the SSO process is anticompetitive if it leads to increased post-adoption market power
  1. Deception by D
  2. SSO relies on D's deception in the standards adoption decision
  3. D gains market power through inclusion in the standard
- Discon presents a different narrative
  1. Market power (lawfully obtained)
  2. Deception
  3. Higher prices as a result of the deception but no market power gain
- It seems that all the FTC needs to show now is that D gained some incremental market power from the adoption of the standard.

"First deception, then MP" (FTC)
or "first MP, then deception" (DCC)



VITA Business Review Letter (2006)

- Features of the VITA standard setting process
  - Disclosure of all essential patents (before working group is formed, within 60 days of formation, within 15 days of draft standard)
  - Binding unilateral ex-ante commitment to maximum RAND licensing terms
  - Penalty default for non-disclosure: Royalty free license to all interested parties
  - No joint negotiations of licensing terms
- DOJ blessed the process under the ROR
  - Unilateral ex-ante commitments allow participants to consider not only technical but also economic merits of various options
  - Actual license negotiations take place outside the process, only constrained by the ex-ante commitment

    Notable dictum in footnote 27: Full-blown, joint, bona fide ex ante license negotiations would also come under the ROR.

http://www.usdoj.gov/atr/public/busreview/219380.pdf

Class 12: Settlement of Patent Disputes

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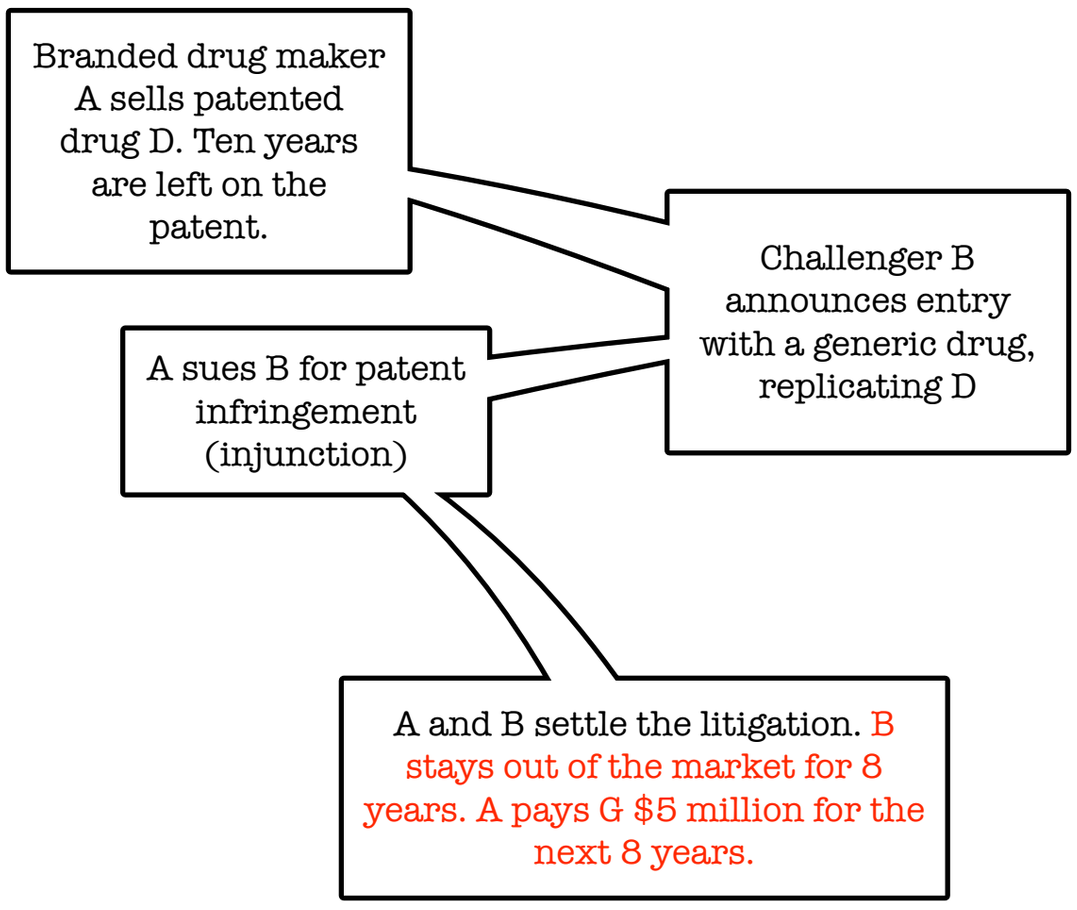
Contact me at: hanno [at] wobie.com

Pay to delay: Anticompetitive or procompetitive?



- Is A paying B to stay out of the market for 8 years in exchange for a share of A's monopoly profits? (Per se illegal!)
  - A's payment to B of $5 million for the next 8 years is a "reverse payment," because usually the putative infringer (here B) pays the rights-holder in a settlement.
- The real problem is uncertainty
  1. If A's patents are valid and infringed, then A has a right to enjoin B from entering the market for the next 10 years. A settlement permitting entry in 8 years is therefore procompetitive.
  2. If A's patents are invalid or not infringed, then A has no right to enjoin B. The settlement reduces competition.
  3. At the time and because of the settlement, we will never know whether (1) is the case or (2).

Schering-Plough v. FTC, 402 F.3d 1056 (11th Cir. 2005)

- Schering (brand) and Usher (generic), settled their infringement suit.
  - Usher agreed to delay entry for 4 years.
  - Schering licensed a product of questionable value from Usher for $60 million (the alleged "reverse payment")
- The FTC challenged the settlement under §1/§5. The ALJ ruled for Δ, the Commission reversed, the 11th Cir. affirmed the ALJ (i.e., Schering won).
  - The Supreme Court did not grant cert. Notably, DOJ wrote a brief in support of Schering.
  - Not surprisingly, the joint 2007 IP2 report omits any discussion of patent settlements – there is no joint position.

Schering-Plough, cont.

- The 11th Cir. subscribes to a variant of the classic exclusion versus competition paradigm

  "We think that neither the rule of reason nor the per se analysis is appropriate in this context. ... By their nature, patents create an environment of exclusion, and consequently, cripple competition. The anticompetitive effect is already present. ... [T]he proper analysis of antitrust liability requires an examination of: (1) the scope of the exclusionary potential of the patent; (2) the extent to which the agreements exceed that scope; and (3) the resulting anticompetitive effects." (Id. 1066).

  As to (1), the patent was not obviously invalid, and it covered the generic delivery mechanisms. (Id., 1066-68). And as to (2) and (3), "the agreements fell well within the protections of the ... patent, and were therefore not illegal." (Id., 1076).

- Schering-Plough (re-) introduces the "inside / outside" dichotomy (similar to Xerox v. CSU)
  - Patents create "antitrust free zones." All is well as long as the Δ remains on the inside. Once outside, antitrust liability attaches.

What should be the default rule under uncertainty?

Patentee A pays challenger B to delay entry

if A's patent is valid and infringed,

then

Settlement results in more competition

No antitrust concern

UNDER THE PATENT LAWS, PATENTS ARE PRESUMED TO BE VALID (UNTIL INVALIDATED). ANTITRUST SHOULD RESPECT THAT PRESUMPTION.

if A's patent is invalid or not infringed

then

Settlement results in less competition

Antitrust concern

WHY WOULD A PATENT HOLDER WHO BELIEVED IN THE STRENGTH OF ITS PATENT PAY SIGNIFICANT $$$ TO A CHALLENGER, THUS INVITING FURTHER LITIGATION?

The Hatch Waxman Process