The Case Against Intellectual Property

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Introduction

Conventional wisdom:

- Presence of strong intellectual property right spurs innovation
- Secure property rights are crucial – no productive effort without appropriate reward

Our view:

- Goods embodying ideas should be protected and available for sale, just like any other commodity
- “Intellectual property” means the right to own and sell “idea-goods” – not the right to regulate the use of ideas and goods
- The right to regulate the use of ideas leads to “intellectual monopoly”

Downstream Licensing

- Right of first sale, we view as essential
- Downstream licensing, we view as economically dangerous: it generates a monopoly
- All producers would impose downstream licensing agreements if they could: producers prefer not to compete against their customers
- Economists argue that monopoly is necessary to reward inventive activity
- Usual logic: cost of innovation is a fixed cost and ideas are distributed at constant, marginal cost. Since perfect competition prices at marginal cost, the fixed cost cannot be recouped

Fixed Cost versus Indivisibility

- Creation is not a fixed but a sunk cost
- Useful ideas are embodied in persons or products and as such are rivalrous
- “Sunk cost” poses no particular threat to competition
- Crucial feature of creation: indivisibility.Two half-baked ideas are less than one fully baked
- Theory of competition with indivisibilities is not yet fully worked out
- It can be consistent with the first best

Collateral Costs of Monopoly

- Downstream licensing agreements are especially costly to enforce because they require supervising the use of ideas
- Ideas that can be embodied in digital form are generally enforced through copy protection technology, which has high social costs
- Suppression of ideas is an impediment to free speech and scientific research
- Creating legal monopoly leads to “rent seeking” and “regulatory capture”

Competition Without Downstream Licensing

Many consumers, indexed by $c > 0$, each period consume one unit or not

Benefit to consumer c of one unit is $c^{-\psi}$ ($\psi > 0$) with discount factor $\delta < 1$ per period

Initial prototype(s) of the commodity (MP3) owned by inventor/producer

Once sold, no downstream licensing possible

Each period, an MP3 can be used either to generate a flow of consumption or to make copies

Each MP3 that is copied produces $\beta > 1$ additional MP3's

Is the price of the first copy enough to compensate the producer for its sunk cost?

Standard competitive theory yields

$$p_0 = \frac{\beta\left(\frac{1+\beta}{\beta} - \delta^{1/\psi}\beta^{(1-\psi)/\psi}\right)^{-\psi}}{\beta - 1} > 0$$

There is money to be made for producers of intellectual products

Does the price of the first copy increase or decrease when new technologies increase β?

If $\psi < 1$ demand for the good is elastic

As β grows larger, the fraction immediately consumed goes to zero and initial price goes to infinity

Hence: in the elastic case, incentive to innovate increases when reproduction costs decline

Hidden Costs of Monopoly

Stark case: a fixed cost to be recovered, and marginal cost of zero

Demand perfectly elastic up to an upper bound

- Competition will not innovate. No social cost of monopoly.
- Seemingly the ideal environment to impose downstream licensing restrictions

Correct only if it is not possible to produce similar items

Off-the-shelves medicines, Textbooks, Pop-music, Movies, etcetera:

Too many firms competing for monopoly rents

Rent seeking behavior of competing monopolists dissipates the social surplus by overproduction of too many similar items

Creativity of Competition

Allow consumers to submit contingent bids. Then:

no copyright is unambiguously better than copyright

Exactly the opposite of the conventional result

Two legal environments

- consumers are prohibited from reselling – copyright environment

- downstream licensing agreements are not legally enforceable – no copyright environment

N identical firms, each face a fixed cost $F < 1$; can produce unlimited quantities at zero marginal cost

H identical risk neutral consumers; at a price of one or less they demand one unit, and will purchase nothing at price higher than one

Consumers who make a purchase can themselves produce additional units at a marginal cost of $\xi \geq 0$

Copyright environment

Let $p(N)$ be the post-entry price when N firms have chosen to enter the market

Simple model of post-entry competition

$p(N) = \min\{1, (1-\alpha(N))\,NF/H + \alpha(N)\}$, where $\alpha(N) > 0$

In other words, post-entry price lies between the price needed to recover costs (for each firm) and the monopoly price in a way that depends on the number of firms and consumers

Conclusion: entry will occur until N is so large that $(N+1)F/H > 1$, while $NF/H \leq 1$

Social surplus is zero, as the total benefit to consumers will be equal to the cost of production

"Copyright induced competition for niches": *Pareto worst outcome*

No copyright environment

After the first unit of the good is sold, competition among consumers will force the price to $p = \xi$

$\xi H < FN$ no output and no social surplus

Otherwise number of firms such that $(\mathrm{N}+1)\mathrm{F} > \xi H$ and $\mathrm{NF} \leq \xi \mathrm{H}$

Assume there is actually an $\mathrm{N} = (\xi \mathrm{H})/\mathrm{F}$: social surplus will be $H(1-\xi)$

Without copyright social surplus is never lower and sometimes higher than with copyright

Contingent bids prior to production

Symmetric equilibria in which all consumers submit the same contingent bid

To solve coordination problem, after bids are submitted, firms are ordered by the number of bids they receive.

Let $b(i)$ be the number of bids received by firm $i = 1,...,N$.

Assume that these are fixed numbers satisfying

$$\sum_{i=1}^{N} b(i) = H\,,$$

and that we have ordered them in such a way that $b(i) > b(i+1)$

No copyright environment

Suppose that $H\xi < NF$ and all consumers bid p where $b(1)p + (H - b(1))\xi = F$

First producer exactly recovers production costs by accepting all bids made to him and selling to the remaining consumers at the price ξ

No other producer can earn a profit by entering

Consumers expected utility is exactly $1 - F/H$ since they are risk neutral, so they are willing to bid p

No equilibrium with a higher value of p since then each consumer could bid less and still have the bid accepted

If $b(1) = H$ so there is no coordination problem, then it is an equilibrium for all consumers to bid F/H and the first best is obtained

Suppose that $(N+1)F > H$, while $NF < H$ (so equilibrium without contingent bids is strict)

Since no more than N firms producing in any equilibrium, regardless of whether firms accept or reject bids, the effect on demand is at most $Nb(1)$

If $b(1)$ is small enough the equilibrium number of firms will remain N and the equilibrium with contingent bids will be essentially the same as the equilibrium without contingent bids, and similarly inefficient.