

Law and Economics Seminar
An Economic Analysis of Copyright Law

Strasbourg, January 8th, 2013

Landes and Posner's article

- **Motivation**

- IP natural field of economic analysis of law
- Filling the gap: analysis of copyright law as a whole has not been carried out (until 1989)

- **Research Question:**

- To what extent copyright law can be explained as a means for promoting efficient allocation of resources.

- **Context**

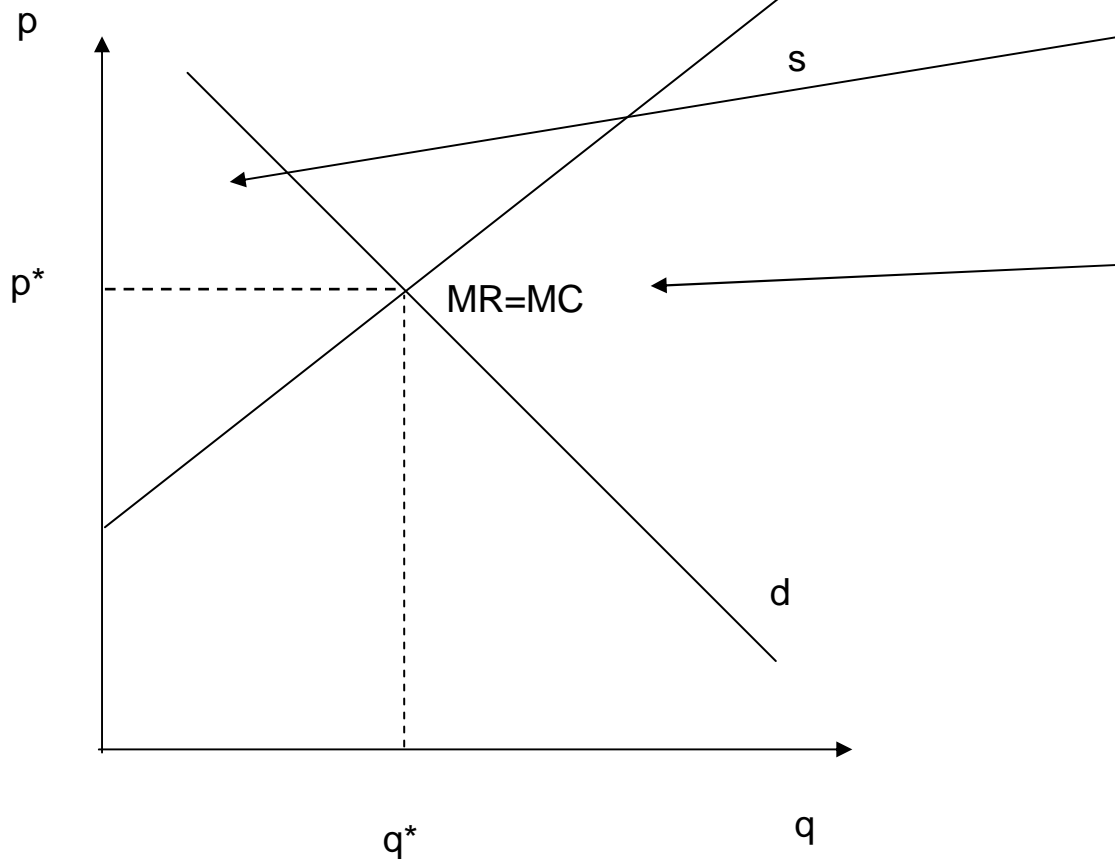
- Intellectual Property - > demonstrates characteristics of a public good
 - Public goods: non-excludible & non-rivalrous
 - High fixed costs of (initial) creation coupled with low costs of reproduction.

Landes and Posner's article

- **Copyright:**

- Gives the copyright owner the right to stop others from copying the work
- In economic terms, copyright protection provides a solution to the market failure of underproduction of public goods.
- Trade-off between incentives for the author to create the work and the cost of limited access to the work.

A perfectly competitive market



Consumer surplus

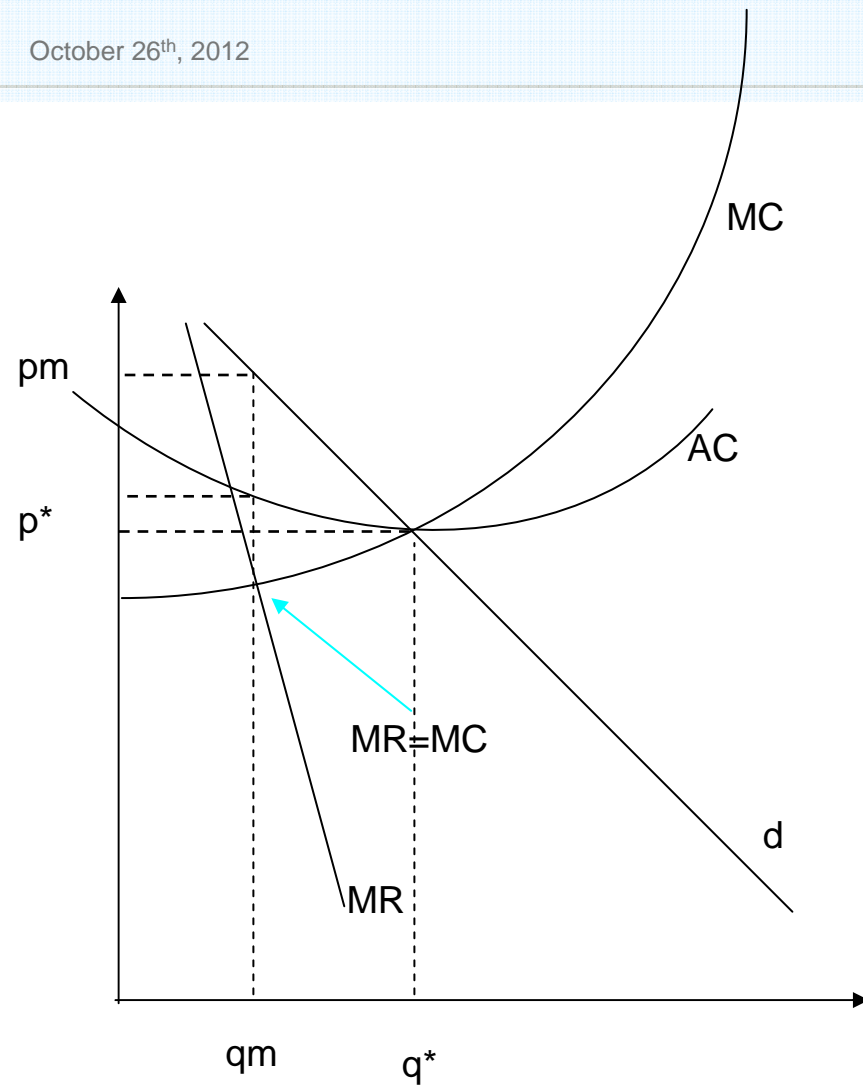
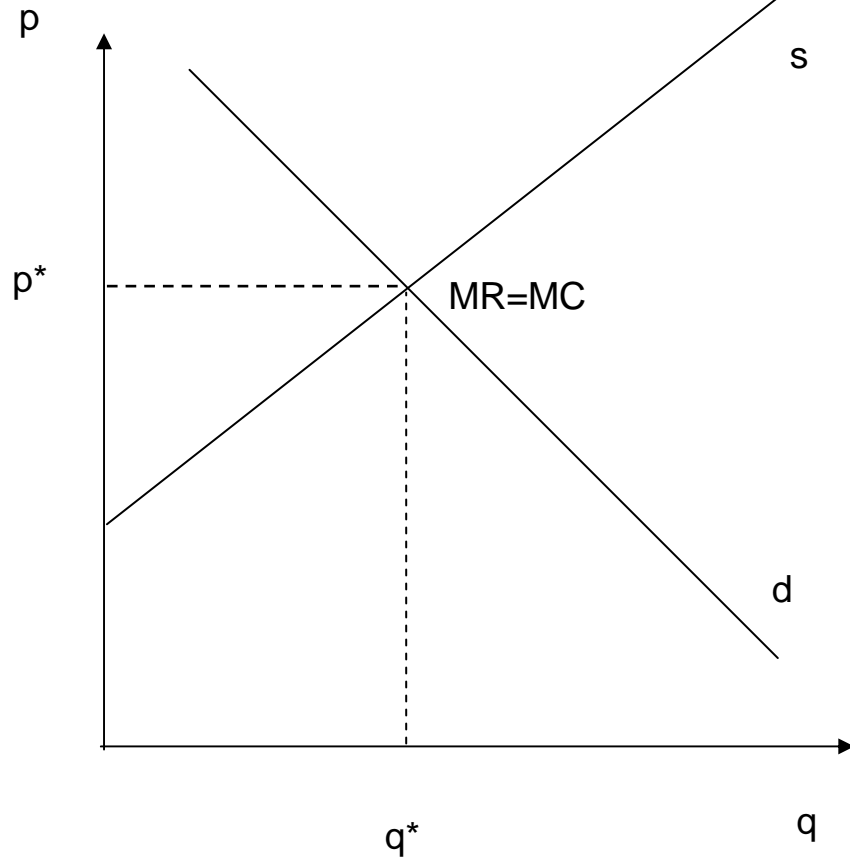
Competitive equilibrium

$$p=MR=MC$$

If there is no copyright then:

- Copiers are in no way hindered to start selling copies on the market. New copiers will enter as long as marginal revenue is higher than marginal cost. The new entrants will provide increasing amounts of copies until $MR=MC$.
- Knowing what will happen, the author will not create the work in the first place as the quick production of many copies (by copiers) will not allow him to recover the costs of creating the work (fixed costs)
- Authors, publishers, and copiers have inefficient incentives as to the timing and quality of works.

Decision to create the work



Landes and Posner's Model

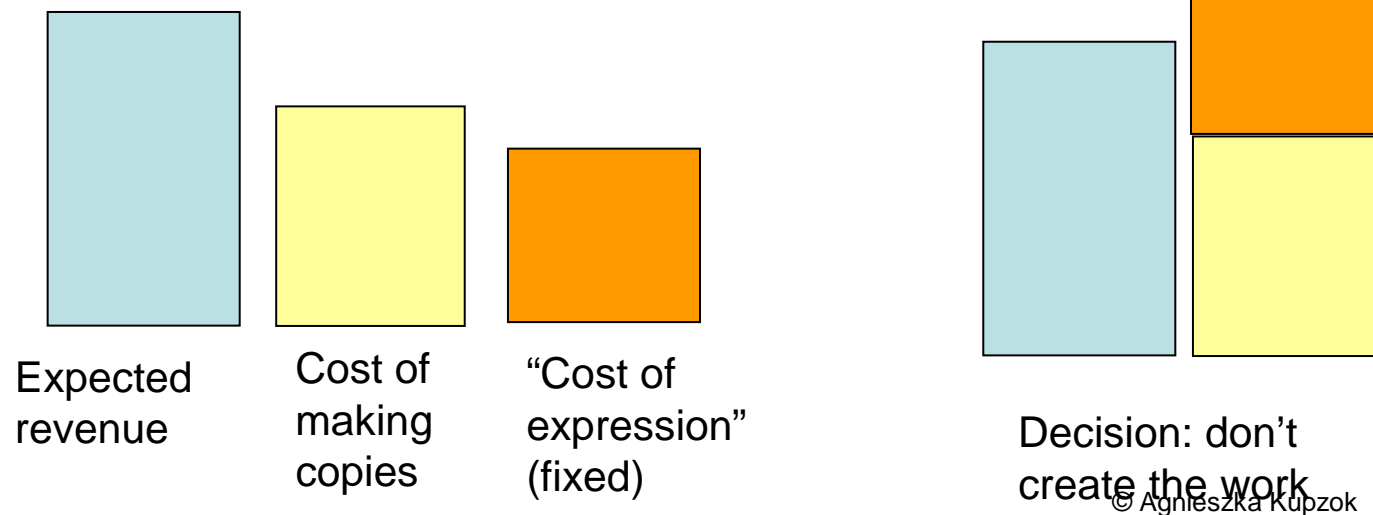
- **General assumptions:**
 - Copyright law promotes economic efficiency
 - In order for copyright to be economically efficient copyright law must achieve:
 - Maximization of the benefits from creating additional works
 - (minus) Losses from limiting access
 - (minus) Costs of administering copyright protection

Deciding to create a work

- **Factors**

Cost of producing a copyrightable work = cost of initial creation +
+ cost of producing copies

=> “Since the decision to create the work must be made before the demand for copies is known, the work will be created only if the difference between expected revenues and the cost of making copies equals or exceeds the cost of

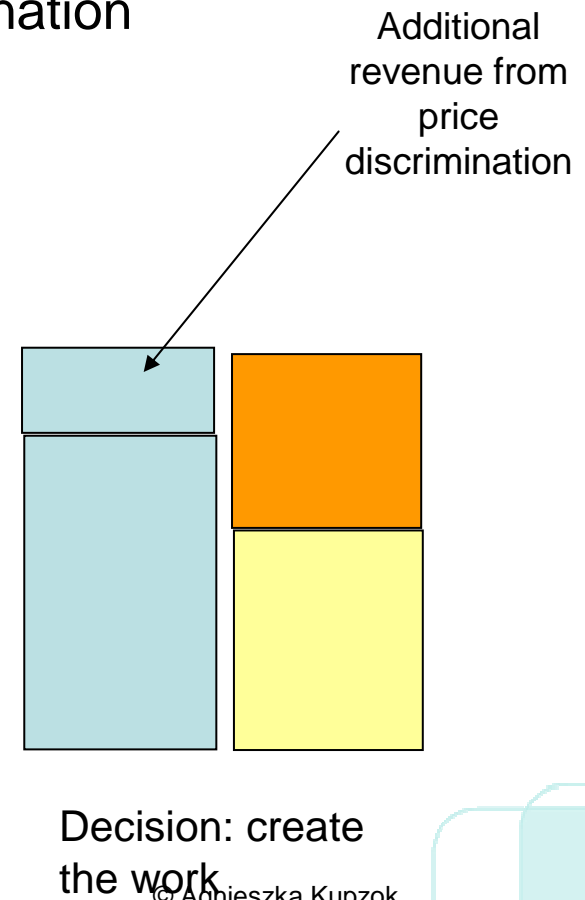
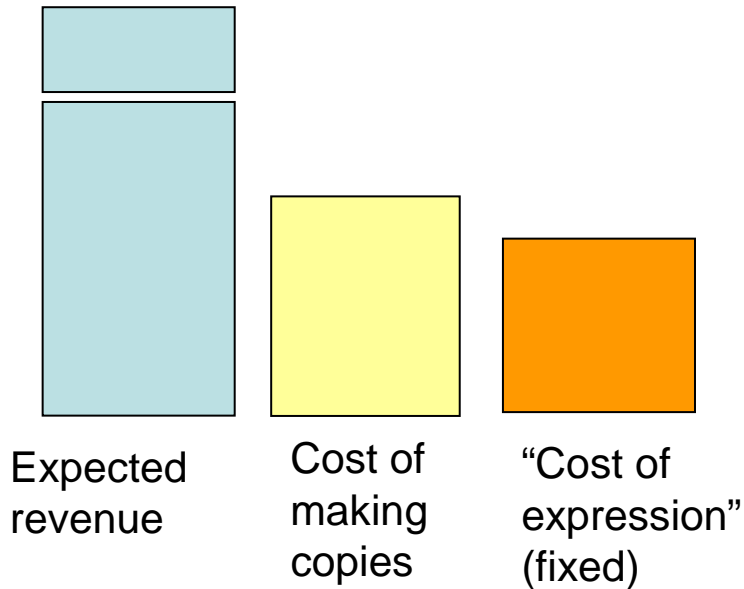


Deciding to create a work

- **Factors**

Revenue may be increased by price discrimination

Additional revenue from price discrimination



Risk as disincentive to create

- Demand for copies of a given work depends on:
 - number of copies available
 - number of (competing) works
 - appeal to the public
- Risk of creating an unsuccessful work (movie, book, record) included in the process of deciding whether to create or not.
 - Uncertainty = disincentive to create
 - Even with copyright this disincentive exists.
 - Difference between price and marginal cost of a successful work must cover:
 - Cost of expression + compensation for risk of failure

6 additional considerations

- Imperfect copies are not perfect substitutes (Is this still true in the digital context?)
- Copying may require addition of original expression, which increases the cost of the copy.
- Author enjoys head time, as copying takes time (how relevant is this in the digital context?)
- Alternatives to copyright protection exist: L&P: contractual obligations, currently DRMs
- Authors can charge prohibitively high prices for first copies in order to capture some of value before they are mass reproduced (acad. journals)
- Authors benefit from other resources from their work: reputation, other sources of income, belonging to an elite group (Open Source, Wikipedia)

The model - assumption

- Creating new works requires taking from previous creations.
- Ex ante creators are interested in as low level of protection as possible
- Ex post creators want as high protection as possible
- Copyright protection balances these two interests, and in principle, there is an optimal level of protection that sets those interests in balance.

The model

- p price of a copy $q(p)$ market demand for copies
- q number of copies of a given work
- $q = x + y$ (x no. copies author produces, y – copier)
- e author's cost of creation (fixed)
- c cost of a copy
- z level of copyright protection $z=0$ means no protect.
 - Level of copyright protection very broad. Includes:
 - Substantive considerations (degree of similarity, elements protected, length of protection)
- copiers supply y until $p=MC$, while MC increases as q and z increase

The model - intuition

- Some level of protection is necessary in order to incentivise the creation of works but overprotection raises the costs for consequent authors
 - In the model – encapsulated in the index “z”.

The model – Pricing the copy

- Author will choose the price that maximizes his profits but he will only create the work if his gross profits (R) are greater than fixed cost of producing the work $R > e(z)$
 - With free entry of authors into the business of creating works, number of created works (N) will rise until cost of expression of the additional author equals R.
 - Supply of works on the market equals $N = N(R, z)$, where $N_R > 0$ and $N_z < 0$

The model – Pricing the copy

- What will be the net effect on N of a copyright protection (z) increase?
- Depends on the balance between z and R (author's gross profits)
- If increase occurs at low level of z , revenue-enhancing effect of limiting copying by free-riders should dominate, thus:
 - N will increase as z increases, up to a certain point \bar{z}
- Beyond \bar{z} increases in cost of expression to the marginal authors dominate \Rightarrow no. of works starts to fall (addressed formally in equation 12 pg. 338)

The model – welfare analysis – optimum level of ©

- Total welfare (W) is:
 - An increasing function of N (no. of equiv. works created)
 - An increasing function of w (consumer and producer surplus/work before deduction of cost of creating work)
 - A decreasing function of E (total costs of creating works, including administering and enforcing the © system).
- E is an increasing function of N and z ($E_N > 0$, $E_z > 0$)
- Intuition:
 - As N rises, a point may be reached where further increases in N will raise each author's cost of expression and hence E_N
 - With more and more copyrighted works, public domain shrinks, which causes cost of creation of a new work to increase.

The model - applications

- Nature of copyright protection
 - Accidental independent recreation of original work not actionable – why?
 - 1) checking countless © works increases the cost of creation to the consequent author
 - 2) accidental duplication does not involve free-riding (econ. ration. for © = prevent free-riding)
 - But consider songwriter's ©:
 - » Accidental duplic. may be infringing if song widely performed (ABKO Music v. Harrisongs Music, Ltd., 722 F.2d, 1983)

The model - applications

- Scope of Protection
 - © protects expression not ideas – why?
 - 1) traditional: welfare losses from monopoly of idea
 - 2) L&P:
 - increase in cost of creating works
 - Reduction in no. of works
 - 3) © protection of ideas encourages rent-seeking
 - 4) Administrative costs arising from defining rights in ideas (how does this compare with patent rights?)

The model - applications

- Scope of Protection
 - © protects derivative works – why?
 - 1) not for author of original work to recoup fixed costs b/c by definition a “derivative” work is not a perfect substitute
 - 2) with © on derivative work awarded to author of original work, there is no distortion of timing of publication of both works
 - 3) reduction of transaction costs (dealing with one right holder instead of two or multiple)
 - 4) allowing author’s right to be divided into © on original and derivative works facilitates transactions in the market.

The model - applications

- Fair use doctrine – functional explanation
 - 1) brief quotes – ok, due to high transaction costs (finding negotiation partners, agreeing on license)
 - 2) book reviews – ok, b/c need for balance b/w author's royalties' interest & public access to excerpts
 - 3) parody –ok b/c if original author in control, ridicule by parodist not possible
 - 4) allowing author's right to be divided into © on original and derivative works facilitates transactions in the market.

The model - applications

- Optimal term
 - 1) Keeping term of protection short is good b/c:
 - Limits potential monopoly gains but:
 - » Copyrights rarely confer monopoly power (in contrast to patents)
 - Reduces tracing problems
 - » Difficulty to keep track of heirs post mortem auctoris
 - Also: income prospects 25 years into the future have little effect on present decision
 - 2) Extending protection, which works both prospectively & retroactively increases the incentives only for future works.

Discussion

- What kind of positive appraisal can be given for this model?
- What are the shortcomings of the article?
- What could be the extensions for this model?

Mind teaser: *“A culture without property, or in which creators can't get paid, is anarchy, not freedom.”*
Lawrence Lessig
(as quoted on Hut'ko's blog available at www.husovec.eu)

Additional reading

Wendy J. Gordon, Richard Watt - The Economics of Copyright: Developments in Research and Analysis, Edward Elgar Publishing, 2003.

Landes, William, Posner, Richard – The Economic Structure of Intellectual Property Law, Harvard University Press, 2003.