

Economic insights into patent pools

Yann Ménière

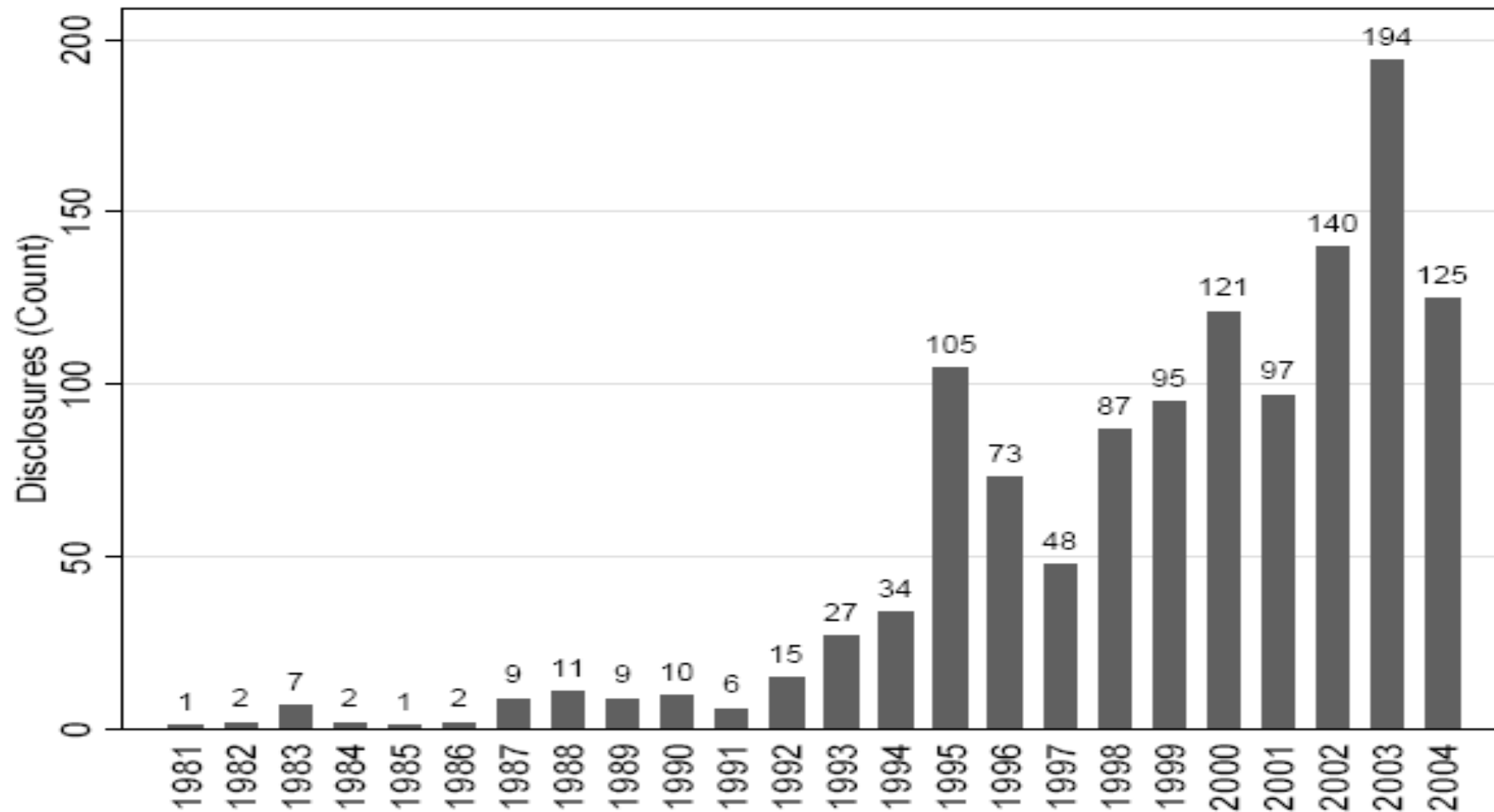
Cerna, MINES ParisTech

Outline

- Background: the IT “patent thicket”
- Why pooling patents?
- Anticompetitive effects?
- Caveats

Patents claimed on IT standards

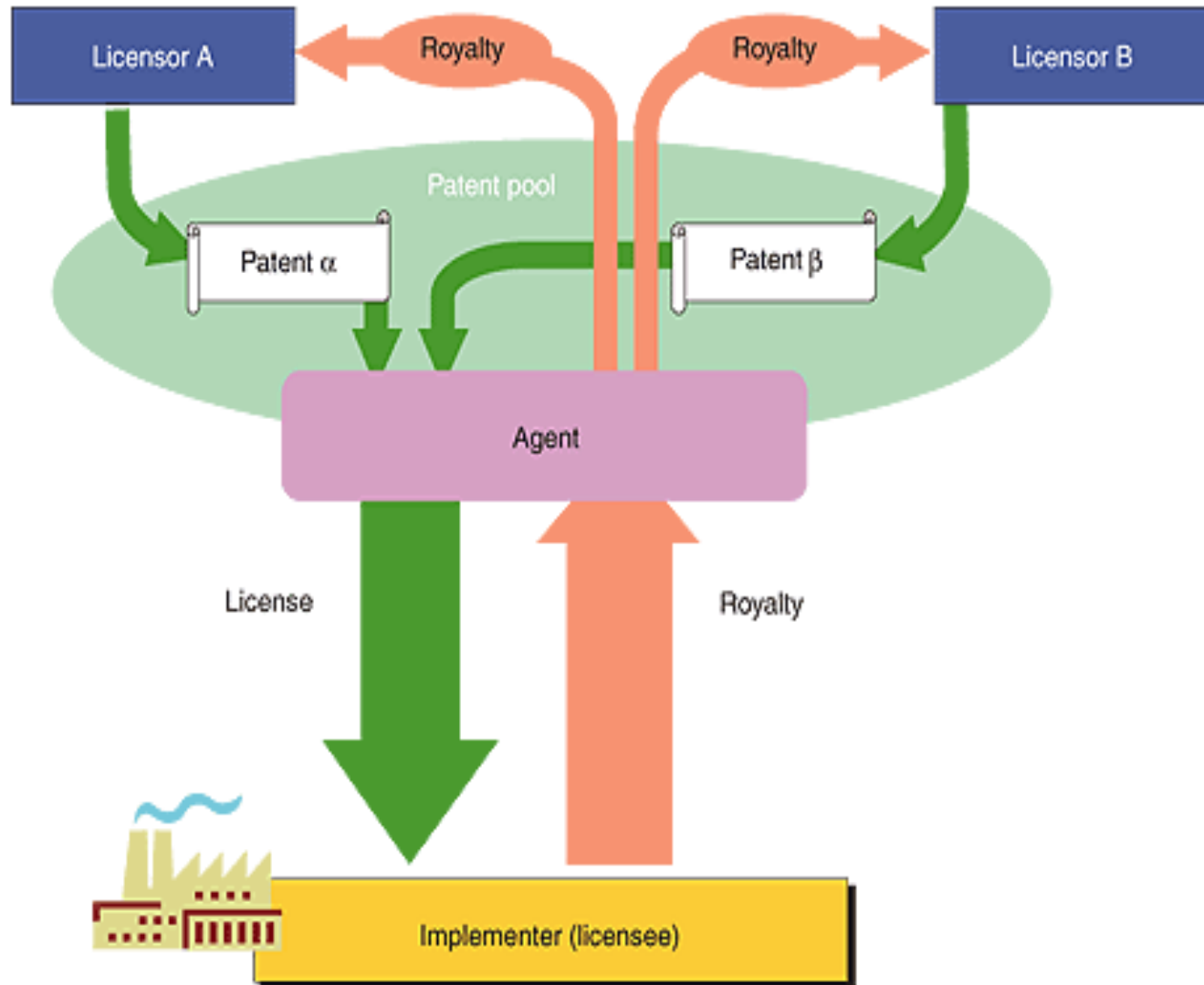
Disclosures at ANSI, ATIS, ETSI, IEEE, IETF, ITU, OMA, TIA
(source: Simcoe, 2005)



Patent thickets hamper the diffusion of technology

- High transaction costs
 - Identification, negotiation, enforcement
 - Legal uncertainty (hold-up)
- “Double marginalization” (Shapiro, 2001)
 - Each licensor tends to charge high royalties
 - Royalty stacking then excessively stifles demand

Patent pools: Definition



Why pooling patents?

1. Lower transaction costs
 - One stop shopping
2. Lower royalties, but higher income...
 - A single (monopoly) royalty for the package of patents
 - Lower royalties are more than compensated by wider diffusion
3. Level playing field for licensees
 - Same patents, same terms

Pools can be anticompetitive

- First pools in history were cartels
 - Late 19th-early 20th: Sewing machines, Aircraft, chemicals
 - Pooling of rival technologies (Lerner et al., 2007)
 - Adverse effect on innovation (Lampe & Moser, 2010)
 - ⇒ Antitrust authorities have long been hostile
- A new generation of pools in the late 1990s,
 - Due to ICT standards (MPEG, DVD)
 - New US and EU guidelines

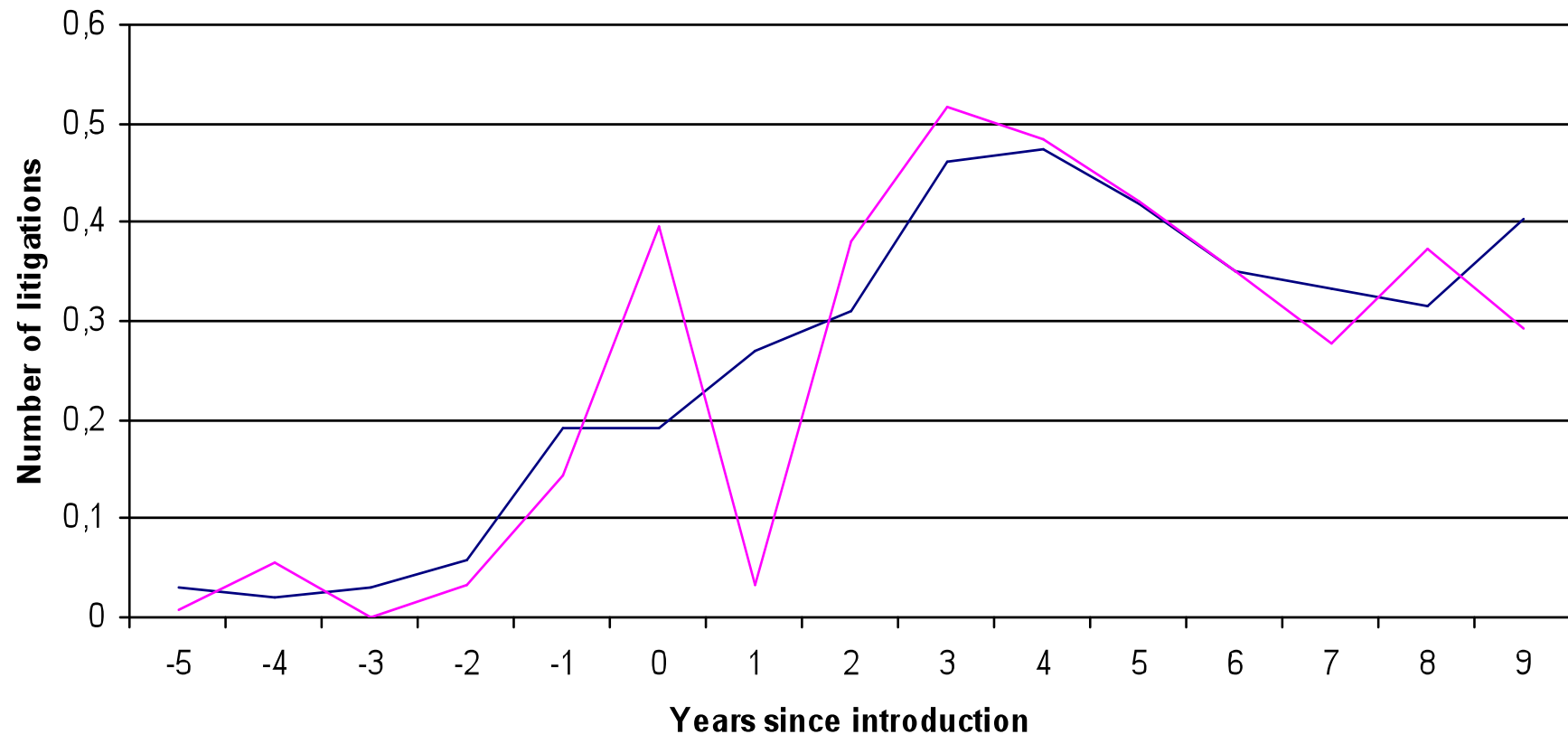
Screening essential patents

- Only “essential” patents are allowed in a pool
 - Assessment by independent experts
- Essential patents are... complements
 - no cartels between substitutes (Summit-VISX)
 - Independent licensing is an effective screening mechanism (Lerner & Tirole, 2004)
- ... necessary to implement the standard
 - Otherwise, risk of horse-trading and foreclosure
- ... legally valid

Enforcement of pooled patents

(Delcamp, 2011)

- Pooled patents are more litigated
- Quick settlements are more frequent



Moving average mean number litigations

Mean number litigations

Enforcement of pooled patents

(Delcamp, 2011)

- Pooled patents are more litigated
- Quick settlements are more frequent
- A positive effect of independent assessment
- The more the stronger
 - However, limited coordination & free riding
 - A step forward with One-Blue (Blu-Ray)

The hold-out problem

- The best way to benefit from an IP pool is to stay out
 - BOBW: strong demand + high royalties!
- A strong drawback of IP pools
 - 3G, Thomson/DVD9C
 - More likely with pure licensors (R&D firms, Universities)

Need to agree on a royalty-sharing rule

- Valuating patents on stand alone basis is very hard
 - Usually: proportionality rule
 - Simple, but unfair and fuels patent inflation (Baron & Pohlmann, 2011)
 - A cause of failure: *DVD3C/DVD6C, 3G*
- Recent improvement in One-Blue
 - A pool of pools (including DVD)
 - Proportional to patent families (\approx nb of inventions)
 - Difference between physical and application formats

Summary

- Pools are effective mechanisms to mitigate patent fragmentation
 - Wider technology diffusion
 - Level playing field in downstream markets
 - With limitations inherent to strategic incentives
- Antitrust law can screen efficient pools
 - Focus on patent essentiality
 - New issues: pool of pools, enforcement