Competition and Innovation

John Van Reenen

EEA 2015, Mannheim
1. What is relationship between competition & innovation?

2. Are anti-trust & IP policy compatible?

3. How to re-design IP?
1. What is relationship between competition & innovation?
   • *Positive!*

2. Are anti-trust & IP policy compatible?
   • *Yes!*

3. How to re-design IP?
   • *Make it harder to obtain for unoriginal innovation*
What is relationship between competition & innovation?

- Abundant **theory**

- Schumpeterian trade-off. Competition
  - **Good** for static efficiency/productivity. Standard reasons + principal-agent, etc.
  - **Bad** for dynamic efficiency/innovation. Less ex post rents so less ex ante incentive to invest in R&D

- Many counterarguments. Example:
  - Arrow replacement effects. Monopolist obtains a stream of rents, so less incentive to innovate & displace them than an entrant
  - Aghion et al (2005) combination of Schumpeter + Arrow = Inverted U
What is relationship between competition & innovation?

- **Evidence** harder
  - Measuring innovation
  - Measuring competition
    - Consumer demand elasticity
    - Barriers to Entry
  - Heterogeneity across industries
Compelling evidence that on average tougher competition increases productivity
- Both from incumbents & via reallocation
- Good chunk via improving management practices (Van Reenen, 2011)

More limited evidence that on average, competition also good for innovation (e.g. Blundell et al, 1999; Correa & Ornaghi, 2014)

Example: Bloom, Draca & Van Reenen (ReStud, forthcoming)
Exploit major shift in competition facing EU: the rise of China due to pro-market reforms since 1990

Particularly strong in textiles after China joined WTO in Dec 2001, due to staggered abolition of MFA quotas
  - Generates product-specific changes in competition

Major shake-out in affected sectors. Job losses but also
  - Innovation Up (cite-weighted patents & R&D) as well as TFP, management & ICT diffusion
  - About 1/2 of aggregate increase in innovation was within incumbent firms

Bloom, Romer, Terry & Van Reenen (2015) puts this in calibrated endogenous growth “Trapped Factor” model
Role for IP is to give some temporary monopoly rights to generate ex ante innovation incentives (and reveal information that can be “built upon”)

- Reasonable: e.g. pharmaceuticals
- But certainly can be abused: even a legitimate patent does not give right to do anything

Note: trade-off is less stark if competition on average beneficial for innovation

“Excessive anti-trust enforcement by punishes successful firms and so chills innovation?”
- DG-COMP lobbied by rivals to pursue US firms
Compatibility between IP Protection & Anti-Trust?

- EC: Microsoft’s used PC dominance to extend into other complementary markets like servers & media players

- Ex: “workgroup” servers need to inter-operate with PCs. By refusing to share connection information with Windows Microsoft degraded rival security, filing, etc.

- Microsoft said forcing it to reveal information would reduce innovation. But without interoperability
  - Rival server innovation reduced as can’t compete
  - Microsoft innovation ambiguous: More value from PC, but less incentive to improve product quality

- **Bottom line**: *anti-trust judgement has to be case by case, but don’t give dominant high tech firms carte blanche for dominant to abuse IP*
How to re-design IP protection?

- IP insufficient for innovation incentives. Important role for government subsidies & credits
  - Bloom, Schankerman & Van Reenen (2013, Emtca)

- Too easy to obtain low quality patents of dubious originality (especially in US).
  - Means decisions made through courts (favours large firms with “deep pockets”)
  - Better to investments more in patent office

- Multi-patent technologies (e.g. cell-phones), producers risk “hold up”, esp. by trolls
  - Legal framework to compensate rather than stop production

- Patents/copyright gives over-protection of industries with fast moving technologies (e.g. software)
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