Competition Policy and Innovation

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How innovation should matter for competition policy

- We know _why_ innovation should matter for policy: technological change can create new markets, lower costs, and spur economic growth.
- We also know some things about _how_ innovation should factor into competition policy, affecting both its process and its goals.
  - innovation makes it harder to predict how transactions or conduct will affect the traditional efficiency objectives of competition enforcement, thereby affecting the process of assessing competitive effects.
  - And, because of those very disruptions and benefits from innovation, innovation also becomes in itself an objective of competition policy.

But hard questions remain

- Should the analytic process and framework for assessing competitive effects change to take account of the predictive uncertainty created by innovation?
  - If so, how?
- Should the presumptions and evidentiary burdens that guide enforcement decisions change in technologically dynamic settings?
  - If so, should existing structural presumptions become stronger or weaker? Are new kinds of inferences or presumptions needed altogether?
- How can competition authorities assess whether mergers or other conduct will affect innovation and the introduction of new products into the market?

Should the existing presumptions change?

- The uncertainty that innovation introduces has led some to argue that the relative error costs of antitrust intervention in technologically dynamic markets are too high
  - Markets will be different by time action is taken
  - Anticompetitive harms to the market will be short-lived because innovation will reverse those harms
  - Enforcement may reduce innovation incentives
- The above imply that innovation reduces the costs of under-enforcement and increases the risks and costs of over-enforcement.

Conflicting views

- The above view of error costs has led a number of influential commentators, particularly in the U.S., to advocate a retreat from antitrust enforcement in markets characterized by innovation.
  - Over-enforcement errors are likely, and less able to be undone by the market than are under-enforcement errors
- Others have advocated maintaining the current framework and course of enforcement
  - Under-enforcement will entrench monopolies and over-enforcement errors are unlikely to diminish innovation incentives.

Limitations of the Error Cost Argument

- Partly rooted in traditional price effects framework: the effects that innovation can reverse in the argument are more likely price and output effects than harms to the future path of innovation itself
- Incomplete analysis of innovation effects and incentives: underenforcement may reduce follow-on innovation by the incumbent and the incentives to innovate by entrants.
- => under-counts the costs of false negatives (i.e. of under-enforcement)
- => over-estimates costs of false positives (i.e. of over-enforcement)
- => probably correct that innovation raises the risk of false positives

Historical experience is ambiguous

- Cautionary tales for enforcement
  - Telecommunications Act of 1996 and emphasis on a vanishing market for local, land-line, voice communications
  - FTC's investigation into the Google/Admob Merger
  - DOJ's investigation of the XM/Sirius merger
- But, reasons for enforcers to persist
  - Microsoft
  - Thoratec/HeartWare merger challenge

Where does this leave us?

- There is not a clear case for weakening antitrust enforcement
- There is a stronger case for weakening conventional structural presumptions about competitive effects.
  - This has already been happening even in static analysis of competitive effects in conventional markets.
  - Innovation increases the case for questioning those presumptions and for a more case-specific examination of the facts
- But, while innovation weighs toward caution in application of conventional antitrust, but the policy prescription should not end with a prescription for weaker enforcement
- The question becomes: how can we refocus competition policy to reduce errors of both under-enforcement and over-enforcement in technologically dynamic markets?

A Brief note on innovation and conventional competitive effects

- As competition analysis in merger and conduct cases has become increasingly effects-based and less structural, it is easier for the analytic framework to incorporate facts related to the likelihood and impact of innovation on predictions about price and output.
- So, innovation can factor into assessing the magnitude and likelihood of unilateral effects (i.e. upward pricing pressure or critical loss) and into assessing the viability and sustainability of coordinated effects (i.e. collusion or parallel conduct).
- Because innovation is an additional, case-specific factor for the competitive-effects analysis to account for, it pushes competition policy further away from conventional structural presumptions.

Effects on incentives to innovate and introduce new products

- How can competition policy make innovation a goal in itself?
  - Competition policy probably only a modest lever for affecting the level of innovation in an economy, but still an important one because can be critical to the level of innovation in particular markets.
  - In unilateral conduct cases, enforcers have 2 key goals:
    - make sure that enforcement does not punish monopoly honestly gained through innovation
    - Make sure that incumbents do not deter new innovators by coercively free-riding on their efforts or by putting contractual or other barriers in their way.
  - In merger cases, enforcers should make sure the merger will increase rather than reduce the likelihood of innovation, looking at effects on both firms' capability to innovate and their incentives to continue to introduce new products going forward.

Mergers and innovation incentives

- Innovation can be either a static or a dynamic consideration in merger analysis.
  - Static consideration: will a merger increase or decrease the likelihood of a particular innovation being successfully introduced? The focus will be on the capabilities of the merging firms, likelihood of third-party innovation, and relative benefits of getting a single innovation sooner rather than competing innovations later.
  - Dynamic consideration: how will the merger affect the entry of new innovators or the incentives of the merging parties to continue to engage in R&D and to introduce follow-on innovations into the market?
  - Enforcement agencies should take into account both the static and dynamic effects of a merger on innovation to the extent possible given available evidence.

Static innovation considerations

- The relationship between market structure and innovation is much less well understood than the relationship between market structure and prices or output.
- The "Arrow vs. Schumpeter" debate: is more or less competition better for innovation? Data are ambiguous, and depends on measure of innovation.
- Current evidence and thinking: an inverse U relationship between market structure and innovation, with the peak of innovation occurring at a moderate oligopoly market structure.
  - An interesting result that converges with the US Horizontal Merger Guidelines
  - *But*, not a prescription for applying a structural presumption to innovation in the market relevant to a particular merger.

Cont'd

- Case-specific facts matter
  - Genzyme/Novazyme case
  - Google/AdMob case
  - XM Sirius case
- What facts will be relevant or available will vary, and there will not always be enough overlap between availability and relevance of evidence on innovation effects to make sound decisions.

Dynamic innovation considerations

- Perhaps the most valuable thing merger enforcement can do for innovation is to make sure there is no good reason to predict that a transaction will reduce the flow of innovation into the future.
- How to do this?

A simple example

- Firm 1 sells product A. Firm 2 also sells product A but is losing share to firm 1 and may fail.
- Firm 2 innovates to develop product B to take back the market from firm 1.
- Firm 1 proposes to merge with firm 2. Should the authorities allow the merger?
  - Firm 2 is failing and may exit.
  - Firm 2's innovation effort may fail
  - Firm 1 could help firm 2 bring its innovation to market
  - *But*, firm 2 might succeed and firm 1 would be forced to do its own innovation, thereby preserving competition and benefitting consumers.

Cont'd

- What should the agency do?
  - Ask whether the after the acquisition, the merged firm will have incentive to continue to develop product B, and compare those incentives with those that an independent firm 2 would have to complete development of product B on its own.
- A simple numerical example: Assume that
  - Product B would take 50% of product A's sales
  - The margins earned on products A and B are both $10.
  - If firm B's output is 1000 units, it will earn 1000x$10 = $10,000.
  - With the same output the merged firm will earn less: it will earn only 1000x$10 -0.5(1000x$10) = $5000 because of the sales B takes from A.
- In this simple example, both the merged firm and independent firm 2 have incentive to produce B, but firm 2's incentive is twice as strong.

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- The larger innovation incentives for independent firm 2 matter. For, if there is any uncertainty about the ultimate costs of innovation or the ultimate margins on product B, independent firm 2 will continue to have incentives to innovate even if the margins fall or if the share it takes from A rises. For example, if the margin on B falls from 10 to 4, the firm 2 will still have incentive to innovate ($4000 in profits) whereas the merged firm will not ($1000 in loss).
- Future generations of innovation would be delayed if the merger is allowed
- Given that innovation costs and future margins are always going to be uncertain, in this simple examples authorities should block the merger.

A real-world example

- The FTC's decision to block Thoratec's acquisition of Heartware.
  - A compelling story to justify the merger
  - But strong reason to believe Heartware's innovation incentives would be stronger than the merged firm's incentives would have been.
  - Time has shown the decision to block to have been correct.
- Thoratec/Heartware is a good example of why merger enforcement should not systematically retreat in the face of innovation.
  - FTC was able to get the right evidence to make the determination
  - Still hard questions about what to do where the information is less complete.

Conclusions

- Innovation presents challenges for competition enforcement
  - It makes predictions about competitive effects less certain
  - It adds to the objectives enforcement authorities must consider
- This does not mean that comparative error-costs warrant a retreat from competition enforcement
  - Costs of both over-enforcement and under-enforcement can increase. Too much emphasis to date on false positives based on an incomplete analysis; not enough attention has been paid to false negatives.
- In merger enforcement, innovation raises both static and dynamic concerns
  - Adds to the reasons to move away from structural presumptions in competitive effects analysis
  - Requires authorities to pay more attention to effects on innovation incentives over time, where getting the analysis wrong is costly to society.
- **Innovation is a reason for competition authorities to work harder and more carefully, but not to work less.**