Merger Policy Going Forward With Economics and the Economy

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Merger Policy Evolves
With Changes in The Economy
& With Changes in Our Economic Understanding

- Geographic integration of economic markets has become increasingly thorough.
  - Harmonization of merger policy is vital
  - Evolving methodologies for analyzing mergers with trade effects
- Network effects and two-sided markets have become prominent in fact and in economic theory.
  - Lead to evolved views of competitive effects of mergers
- The knowledge economy has become preeminent.
  - Mergers importantly combine intellectual property assets.
  - Competition is increasingly about innovation and technology.
  - Merger policy must adapt.

Geographic Integration of Economic Markets Makes Harmonization of Merger Policy Vital to All

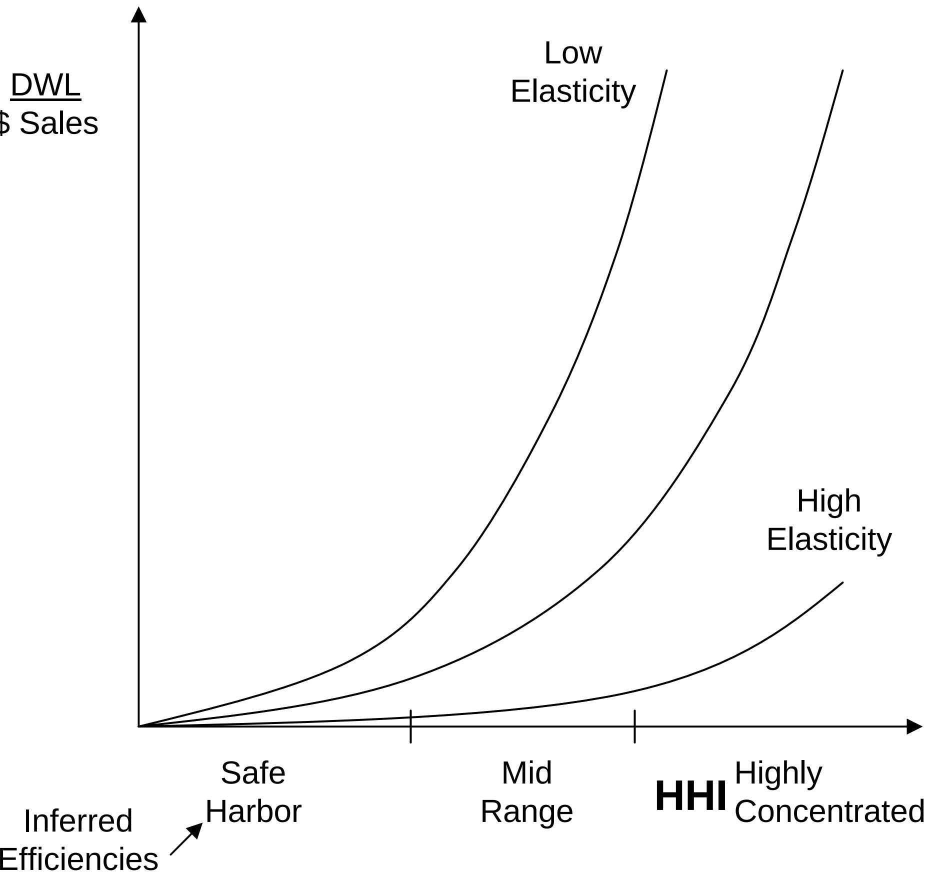
- Frequently today a business combination may have effects in many different countries and thus need to be widely considered and/or investigated.
- It is vital for the conduct of international business then that there be substantial harmonization of international merger review:
  - Communication (e.g. through the International Comp. Network)
  - Processes
  - Timetables
  - Best practices
  - Philosophies

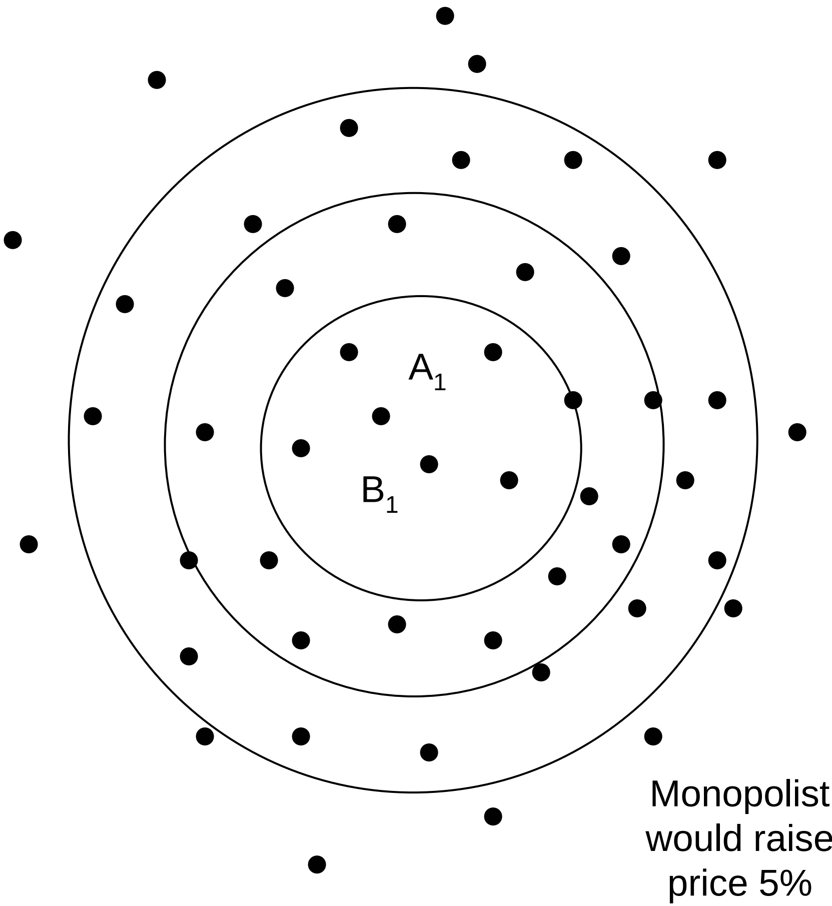
Harmonized Philosophy of Merger Review

- Assess harm to competition, without consideration of any important efficiency from combination.
- If no such significant harm, then no intervention warranted (There are “implied efficiencies”)
- If there is found to be potential significant harm, then balance vis-a-vis cognizable efficiencies.

Harmonized Economic Theory

(of unilateral competitive effects, at first assuming no efficiencies and no entry threats)





Harmonized Analytic Elements

Relevant product and geographic markets (fields of trade)
Measures of concentration – Herfindahl (Hirschman) Index
Safe harbors in terms of level and change in concentration
Potential entrants as market participants
Unilateral and coordinated competitive effects analyses

Japan's Draft Amendment of the "Guidelines to Application of the Antimonopoly Act Concerning Review of Business Combination" furthers mutually beneficial movements towards global harmonization of merger guidelines.

New Methods from New Trade Theory for Reflecting Globalization in Merger Analysis

- New trade theory shows that patterns of trade flows, both for final goods and intermediate products and services (including out-sourcing relationships) are dynamic and sensitive to economic forces even in their directions as well as their magnitudes. A nation may both import and export the same category product and some firms start and stop exporting repeatedly. <*e.g. leading papers by G. Grossman and by M. Mellitz*>
- With a relevant market (field of trade) that is international, the suppliers within the included nations are all market participants and their activities or assets count for market shares whether the sales are imports or exports – doesn't matter.

New Methods from New Trade Theory for Reflecting Globalization in Merger Analysis

- But where the relevant market is short of global, how to handle exports and imports vis the relevant market?
- New answer: Recognize that in reaction to an attempt to exercise market power in the relevant market, more imports may flow in **and** fewer exports may flow out. So to raise price in the relevant market by say 10%, the merging parties must suppress output by the consumer quantity reaction, by the amount of added imports by others and by the amount of repatriated exports by others. These combined effects could well make it unprofitable to raise price, so that the merger does not create significant market power in view of the economic integration of international markets.
- Not a magic wand to support mergers – but a fresh course of analysis to reflect the realities of globalization

Network effects, two-sided markets and their platforms lead to evolved views of competitive effects of mergers

Some Examples of Two-sided Markets and Their Platforms

Side 1	2Sided Platform	Side 2
Cardholders	Payment Networks	Merchants
Home sellers	Real Estate Brokerage	Home buyers
Game players	Video Game Console	Game developers
App’s users	Operating Sys Software	App’s developers
Readers/viewers	Newspapers/Magazines/TV	Advertisers
Shoppers	Shopping Mall	Merchants
Buy-Side	Financial Exchanges	Sell-Side (Liquidity)

and the canonical example

Women	Dating Clubs, Bars	Men

Network Externalities

Direct NE arise when the value of a product (or service) to a consumer depends on the number of other consumers using the product

- e.g., the value of a fax machine increases with the number of locations that also have a fax

- Indirect NEs (or inter-side NEs) arise when the value of a platform (product or service) to participants on one side depends on the number, quality, etc., of participants on the other side
- The two sides cannot directly internalize these effects because of numerosity, monitoring costs, transaction costs, etc.

Platforms

- A two-sided (or multi-sided) *platform* (2SP) is the entity that “sits between” the two (or multiple) sides
- 2SP’s task is to (i) get the two sides to join the platform and (ii) to use its services
- This is a business challenge because of the cross-side or *indirect network externalities* (INEs)
  - The two sides cannot *directly* resolve (internalize) these externalities
  - 2SP is a mechanism for resolving the INEs

Pricing structures highly complex

- prices to each side of the platform are often "unbalanced": The side whose participation bestows a large externality may pay nothing or even be subsidized (relative to the side-specific costs)
- prices to each side do not generally track side-specific marginal costs. Low or even negative prices needn't be predatory and high prices not evidence of market power
- pricing structure can change over the life of the platform in response to evolving INEs, changes in membership, platform acceptance, etc

Competition and Merger Analysis with 2SPs is Highly Complex – Full of Pitfalls

- Proprietors of alternative platforms do compete and their mergers would raise typical issues in the market for the services of the platforms. Yet, non-typical analysis and remedies may be needed. <<e.g. HD-DVD issues>>
- Alternative vendors on the same side of same platform both compete and work together to advance platform.
- Alternative vendors on the same side of alternative platforms compete, but only indirectly, and may have great synergies.
- Parties on opposite sides of the same platform generally do not compete, but might want to merge to shut out the platform as intermediary.
- Huge level of academic research activity in this area.

The knowledge economy has become preeminent.

Competition is increasingly about innovation and technology

Mergers importantly combine intellectual property assets.

Merger policy must be adapted.

Some Argue That Merger and Competition Policy Should Not Be Applied to High-Tech Markets

- High-tech markets move too rapidly and unpredictably for government intervention to succeed in achieving its intended goals.
- The key performance of high tech markets is dangerously vulnerable to the delays and uncertainties of government intervention.
- Intervention that is aimed at protecting short-term competition can undermine the more important long-run high-tech competition.
- High-tech products are especially prone to crucial economies of scale and scope (due to high R&D and first-copy costs, learning-by-doing, and network effects of compatibilities), so interventions based on static views of concentration and competition are apt to be dangerously counterproductive.
- The critical roles of entrepreneurship and venture capital are extremely vulnerable to the risks and dampening of incentives that attend antitrust scrutiny and interventions.
- High-tech markets are too important to the economy to subject to the repression and inevitable mistakes of government intervention.

The Critical Importance of High-Tech Markets Means that Innovation Competition Must Be Protected With <u>Appropriate</u> Merger Policy

- Merger policy may be crucial to protect long-run competition over innovation and technological development, and this should be its focus in high-tech markets.
- The pace and unpredictability of change in high-tech markets mean that current concentration should not form the basis of views of monopoly power.
- Due to the uncertainties and the repressing effects of long investigations, merger policy should be applied only with deep caution and only to the most certain and compelling of threats to innovation competition.
- Merger analyses of high-tech markets must reflect economies of scale and scope, in the special network and intergenerational forms that arise.

Competition for sustaining innovation and growth

- "*The Free-Market Innovation Machine*" vision of W.J. Baumol has displaced the Schumpeterian view that monopolists best foster innovation.
- It is the actuality and prospect of product market competition that drives innovation.
- But firms that are small in their product markets may play disproportionately important roles in driving innovation.

The joust of the large incumbents and small upstarts

- Large incumbents spend on R&D to protect their successful market positions.
- Large incumbents otherwise inclined to “rest on their laurels.”
- Small upstarts discouraged by the “entry deterrence effect.”
  - They are undermotivated to spend on R&D that will at best allow them to compete with strong incumbents.

- BUT small upstarts accomplish revolutionary innovations.
  - These rise above competing with incumbents' products and render them obsolete.
  - Upstarts have no laurels to rest on.
- Large incumbents accomplish "routine innovation."
  - driven in its pace by the threat from upstart and other incumbent rivals.
- Empirical support for such a dynamic equilibrium with leap-frogging
  - *See Baumol for powerful articulations and Tirole and the earlier work by R. Gilbert and J. Reinganum for theoretical treatments..*

- In the US, most patenting activity is by large established firms.
- In the US and in developing countries most R&D spending is by relatively large firms.
  - *World Development Report on the Investment Climate, Box 3.3*
- But a large % of the most cited U.S. patents were issued to firms that were small in their markets.
- An impressive list of revolutionary innovations were discovered by newcomer firms.

Small Firm Breakthroughs

Air Conditioning
Airplane
Assembly Line
Audio Tape Recorder
Biosynthetic Insulin
Catalytic Petroleum Cracking
Cotton Picker
Defibrillator
DNA Fingerprinting
Electronic Spreadsheet
FM Radio
Heart Valve
Helicopter
Hydraulic Brake
Integrated Circuit
Microprocessor

Nuclear Magnetic Resonance Scanner
Optical Scanner
Oral Contraceptives
Pacemaker
Personal Computer
Polaroid Camera
Portable Computer
Prefabricated Housing
Quick-Frozen Food
Safety Razor
Soft Contact Lens
Vacuum Tube
Xerography
X-Ray Telescope
Zipper

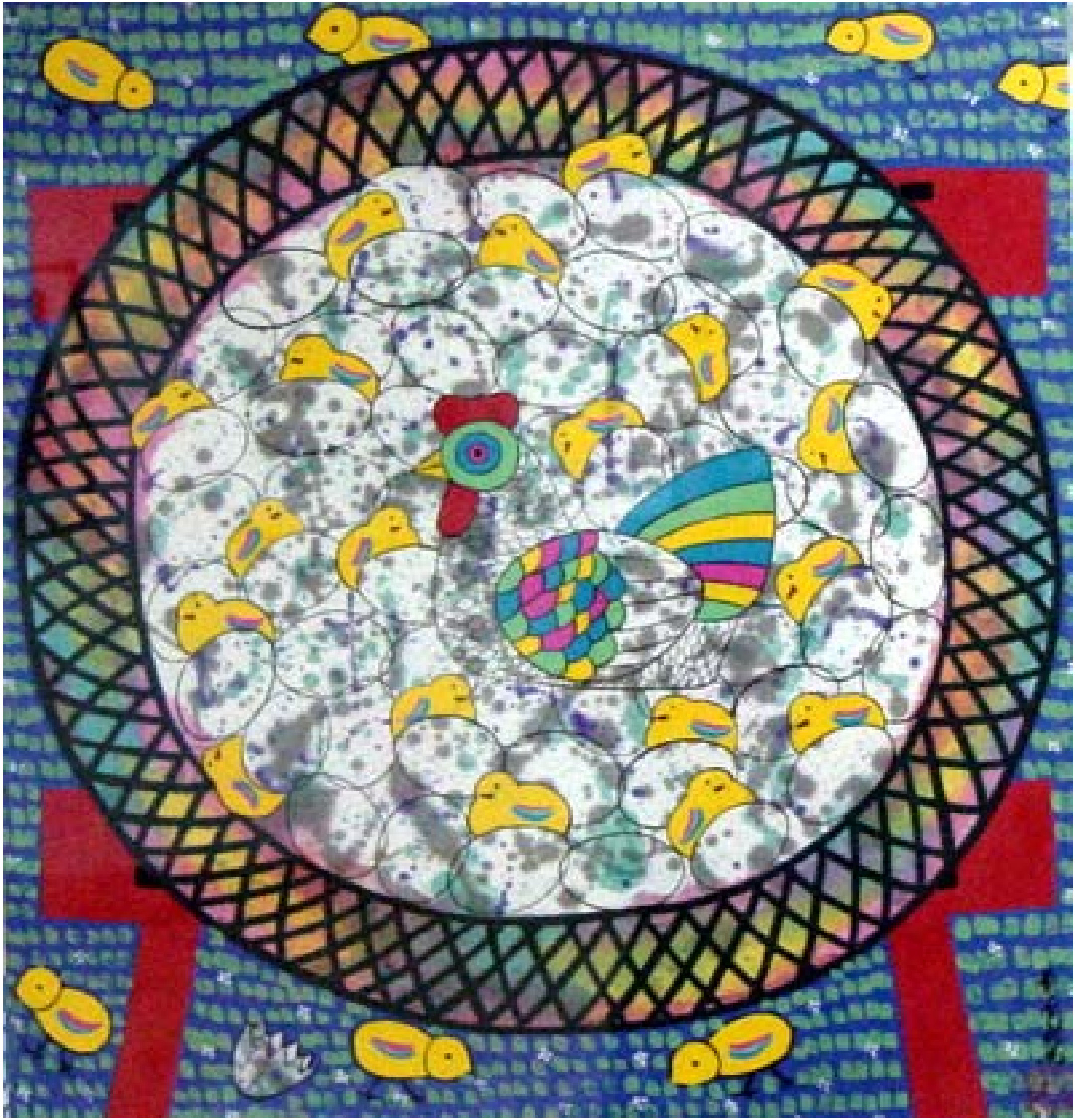
Source: U.S. Small Business Administration, 1995, p. 114.

POLICY LESSON:

Foster innovation-seeking start-ups independent of large incumbents.

Permit mergers or collaborations that provide financing, IP access, and market-driven management.

Only a few successes will provide ample returns.



For Such Policies, Technology and Innovation Markets Can Augment Product and Geographic Market Analyses

To identify a technology's close substitutes and thus to delineate the **relevant technology market**, the Agencies will, if the data permit, identify the smallest group of technologies and goods over which a hypothetical monopolist of those technologies and goods likely would exercise market power--for example, by imposing a small but significant and nontransitory price increase.

U.S. Antitrust Guidelines for the Licensing of Intellectual Property

Some U.S. Agency Approaches to Technology Market Issues

- Allow merger but only with divestiture of acquired intellectual property portfolio that is a substitute for that held by acquirer.
- Allow merger but only with licensing of an intellectual property portfolio that enables another firm to replace the competitive role lost in the merger.
- Allow merger under recognition that competition not weakened in a relevant technology market due to availability of licenses for substitute technology from others.

What’s An Innovation Market?

- **An innovation market** consists of the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development. The close substitutes are research and development efforts, technologies, and goods that significantly constrain the exercise of market power with respect to the relevant research and development, for example by limiting the ability and incentive of a hypothetical monopolist to retard the pace of research and development.
- The Agencies will delineate an innovation market only when the capabilities to engage in the relevant research and development can be associated with specialized assets or characteristics of specific firms.

U.S. Agency Uses of Innovation Markets in Merger Policy

- DOJ blocked GM/ZF over market for improvements in automatic transmissions for bus and large truck applications. (1993)
- Monsanto/DeKalb Genetics divested M’s technology assets for corn transformation and kept DeKalb’s patents. (DOJ 1998)
- Pfizer/Warner-Lambert ordered to divest Pfizer’s R&D program for EGFr-tk inhibitors (to fight solid tumor cancers) since WL had one also, and the two were the furthest along. (FTC 2000)
- Boston Scientific/Guidant had various cardiological device R&D interests that raised concerns (FTC 2006)

In Conclusion

Merger Policy Has Gone Forward With Economics and the Economy

Over the Past 25 Years

And It Remains in a Dynamic State of Progress Today

The Next 25 Years Can Only Be More Exciting