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ARTICLE

Merger Enforcement in the High-Tech Economy: The Role for a Dynamic Capabilities Framework

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The Network Law Review is pleased to present you with a special issue curated by the Dynamic Competition Initiative ("DCI"). Co-sponsored by UC Berkeley and the EUI, the DCI seeks to develop and advance innovation-based dynamic competition theories, tools, and policy processes adapted to the nature and pace of innovation in the 21st century. This special issue brings together contributions from speakers and panelists who participated in DCI's second annual conference in October 2024. This article is authored by Richard J. Gilbert, Distinguished Professor Emeritus of Economics at Berkeley University.

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Scholars, including Teece et al. (1997), Sidak and Teece (2009), Murmann and Vogt (2023), and Petit et al. (2024), have argued that antitrust enforcement makes systematic errors by failing to recognize and evaluate dynamic capabilities for innovation. In this note, I address whether merger enforcement has systematically missed the mark by ignoring innovation and, if so, whether accounting for dynamic capabilities would lead to better enforcement outcomes for mergers and acquisitions in the high-tech economy. My focus is on US antitrust enforcement, although there are similarities with other jurisdictions.

1. Has merger enforcement ignored innovation?

Innovation barely earned a mention in US antitrust opinions or agency merger guidelines until the 1990s. In that decade the Department of Justice challenged the merger of two of the largest manufacturers of heavy-duty transmissions for trucks and buses, largely based on innovation concerns.[1] And the Federal Trade Commission challenged several acquisitions based in part on concerns that they would eliminate innovation competition for new drugs (Gilbert and Melamed 2024). In 1995 the DOJ and FTC published new *Antitrust Guidelines for the Licensing of Intellectual Property*, which noted that licensing arrangements can affect incentives for innovation, as well as competition in existing markets, and described an approach to analyze market power for innovation.

Since 2000, US antitrust agencies have almost always mentioned innovation concerns when they challenged mergers in high technology industries (Gilbert and Greene 2015, Petit 2019). However, they rarely offered an analysis for how innovation was suppressed, and innovation was rarely pivotal to enforcement decisions. Schrepel (2024) surveys the treatment of innovation in EU competition law cases and concludes that courts often assign different weight to innovation in similar contexts and neglect important relevant parameters identified in the economic and strategic management literature.

A speech given by Renata Hesse in 2014 encapsulates the US agencies' approach to innovation then and now. She said that:[2]

Fortunately, we are rarely forced to choose between preventing higher prices and protecting innovation. Competition drives firms to compete on price and become more efficient, but it also can motivate them to invest more and work harder to improve their product design, function, and production processes. In high-tech markets, a transaction that threatens to lead to higher prices or reduced output, therefore, will often have a corresponding negative effect on a firm's incentives to innovate.

With rare exceptions, the agencies view harm to innovation as an additional adverse consequence of mergers or other conduct that they believe would raise prices; therefore, greater attention to innovation would rarely change their enforcement decisions.

[1] United States v. General Motors Corp., Civil Action 93-530, Compl., (D. Del. November 16, 1993).
[2] Hesse (2014).

2. Have antitrust authorities made systematic errors in the digital economy because they ignored innovation in their merger enforcement decisions?

There is no evidence of over-enforcement for mergers in the digital economy, at least from around 1980 until recently. The major digital platforms made many hundreds of acquisitions during this period. Since their inception Google/Alphabet and Microsoft each made more than 200 acquisitions, and Amazon, Apple, and Facebook/Meta each made more than 100 (Parker et al. 2021). According to a survey by Kwoka (2020), the only digital platform acquisition that an agency challenged in this timeframe was Google's acquisition of the flight management service ITA Software. And in that case the agency ultimately approved the acquisition with relatively minor commitments.[3]

Why were the major digital platforms able to make so many acquisitions with minimal antitrust intervention? One explanation is that most of these acquisitions flew under the antitrust enforcement radar because they were below the Hart-Scott-Rodino reporting thresholds.[4] A more economics-based explanation is that the agencies recognized that they were not anticompetitive because they allowed the digital platforms to utilize merger-specific economies of scope and scale to expand efficiently into related services. That is, they understood the importance of dynamic capabilities and the role of mergers and acquisitions for developing a robust digital ecosystem. Moreover, few acquisitions by the major digital platform companies were horizontal transactions in markets in which they hold dominant positions (Gautier 2024 and Argentesi et al. 2021).

Less charitable explanations are that agencies did not challenge these acquisitions because they were risk-averse when faced with rapidly changing industries or because they did not trigger concentration levels that attract antitrust scrutiny when agencies used traditional methodologies to define markets that failed to identify future overlaps. Under these latter interpretations, the agencies might have reached the right answer, but for wrong reasons.

3. Would greater appreciation of dynamic capabilities improve merger enforcement?

We are now in a new era of more aggressive merger enforcement. In addition to other interventions: the UK Competition and Markets Authority forced Facebook to

[3] U.S. v. Google and ITA Software, Final Judgment, Case: 1:11-cv-00688 (RLW) October 5, 2011.
[4] See Federal Trade Commission (2021) for a review of non-HSR reportable transactions by the major digital platforms.

divest its acquisition of Giphy in part because the authority alleged that the acquisition would reduce competition in display advertising;[5] the European Commission conditioned approval of the mergers of Dow and DuPont[6] and Bayer and Monsanto[7] on divestitures to address concerns about innovation for agricultural products; and the Federal Trade Commission blocked Illumina's acquisition of GRAIL because of concerns that it would threaten innovation in emerging technologies for the early detection of multiple cancers.[8]

Notwithstanding the concerns raised by these mergers and acquisitions in the digital and high technology economy, and others that might follow them, mergers and acquisitions can increase the ability and incentives for innovation. They can do so by internalizing spillovers and increasing the scale of output for innovations, and by combining, coordinating and redirecting capability-enhancing technologies. These innovation benefits can coincide with the risk of higher prices. If that is the case, antitrust enforcers should address the tradeoff between higher prices and greater innovation. The recent report from Mario Draghi on the future of European competitiveness acknowledged the need for an innovation defense.[9]

Unfortunately, little evidence suggests that enforcers are willing or able to make this tradeoff. Courts – in the US and elsewhere – are reluctant to recognize an efficiency defense, especially for mergers (Hovenkamp 2017, Kuoppamäki and Torstila 2015). When courts have permitted a merger efficiency defense, they have required that efficiencies be verified, merger-specific, and likely to be passed on to consumers in the form of lower prices.

An innovation tradeoff is different from an efficiency defense and is likely to face even greater resistance from courts and antitrust authorities. An efficiency defense is a claim that efficiencies *eliminate* alleged harm. An innovation tradeoff is a *balancing* of benefit and harm. An innovation defense for a merger would allow benefits from innovation, perhaps in a different market and certainly at a different time, to compensate for higher prices paid by some consumers post-merger. No US court has allowed that type of tradeoff in a merger case. Balancing appears in theory

[5] Competition and Markets Authority. Completed acquisition by Facebook, Inc (now Meta Platforms, Inc) of Giphy, Inc. Final report on the case remitted to the CMA by the Competition Appeal Tribunal, 18 October 2022.

[6] European Commission, Dow/Dupont, Case M.7932 (2017).

[7] European Commission, Bayer/Monsanto, Case M.8084 (2018).

[8] In the Matter of Illumina, Inc. and Grail, Inc., Docket No. 9410, Complaint (F.T.C. March 30, 2021).

[9] The future of European competitiveness: Report by Mario Draghi: Part B In-depth analysis and recommendations (September 2024). ("updated guidelines should explain what evidence merging parties can present to prove that their merger increases the ability and incentive to innovate, allowing for an 'innovation defence'")

under the rule of reason in non-merger cases, but it rarely, if ever, happens. And such a balancing would be hard to do, even with a team of economists.

This is not to say that we should abandon the claim that mergers, acquisitions, or other arrangements can have benefits by combining innovation-enhancing capabilities. An analysis of dynamic capabilities has the potential to convince enforcement authorities that some transactions have innovation benefits that outweigh adverse effects on prices. A focus on dynamic capabilities might also identify the potential benefit (or harm) for innovation from a transaction, such as Facebook's acquisition of Instagram, that is not likely to have adverse price effects in the immediate future (Petit and Teece 2024).[10] However, proponents of this framework will have to make their case with solid evidence, which can take the form of retrospective analyses of the innovation performance of similarly situated firms or investigations by business-focused scholars that delve into the black boxes of corporate behavior. Mere assertions about Schumpeterian creative destruction[11] and benefits from complementary technologies are unlikely to persuade antitrust authorities and, unfortunately, even less likely to convince US courts without some major revisions to the Clayton Act.

By contrast, antitrust enforcers might be more receptive to arguments that mergers or other transactions should receive heightened scrutiny because they destroy existing capabilities, as described by Tushman and Anderson (1986), or because they create inefficiencies by requiring merging parties to adapt to different organizational competencies, as described by Henderson and Clark (1990). Polaroid resisted digital photography because it would disrupt its instant film business. Kodak was slow to adopt digital photography for similar reasons. Their resistance to digital photography suggests that it is not likely that a merger of either company with a digital innovator would have made good use of capability-enhancing complementarities.

Harm to innovation from mergers that destroy or fail to make use of existing capabilities, or incur large costs to adapt to new capabilities, would reinforce concerns about higher prices and would not require courts to engage in a complex balancing of harm and benefit. These organizational concerns might also reinforce arguments that mergers suppress innovation by increasing profits at risk from innovation or by reducing incentives due to profit diversion from a merger partner.[12]

[10] See Gilbert and Melamed (2021) for applications of innovation analysis in a non-merger context.
[11] Schumpeter (1942).
[12] See, e.g. Federico et al. (2020) and Gilbert (2020).

4. What are some other applications of the dynamic capabilities framework to merger enforcement?

There is a natural – and unappreciated – application of the dynamic capabilities framework to antitrust remedies that are intended to address concerns about innovation. Antitrust authorities have conditioned approval of many mergers on the divestiture of R&D assets to preserve incentives for innovation. A problem is that the firms that acquire these divested assets don't always apply them in ways that would replace the innovation competition that the agencies allege is threatened by the acquisition.

Consider the 1995 merger of American Home Products and American Cyanamid. Both companies had active research programs for a vaccine to treat rotavirus infections, a common cause of severe, and sometimes fatal, diarrhea. As a condition to approve the merger the Federal Trade Commission mandated the divesture of Cyanamid's rotavirus vaccine intellectual property, know-how and related assets to Korea Green Cross, later re-branded as GC Pharma. However, there is no evidence that GC Pharma engaged in efforts to develop a rotavirus vaccine (Gilbert 2020). This is not a unique example of a failed divestiture remedy for innovation. The dynamic capabilities approach would be useful to assess the abilities of acquirers of divested assets to replace innovation efforts that are arguably lost from a merger.

We need a broad framework to capture the different forces at work that affect the likelihood of successful innovation. The dynamic capabilities framework addresses relevant factors that can be overlooked by a focus on neoclassical economic incentives. However, the framework needs considerable work to establish its empirical utility. Hopefully this will be accomplished, and when it does antitrust enforcers would do well to include dynamic capabilities in their assessments of candidates for recipients of divested assets to remedy alleged innovation harms.

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