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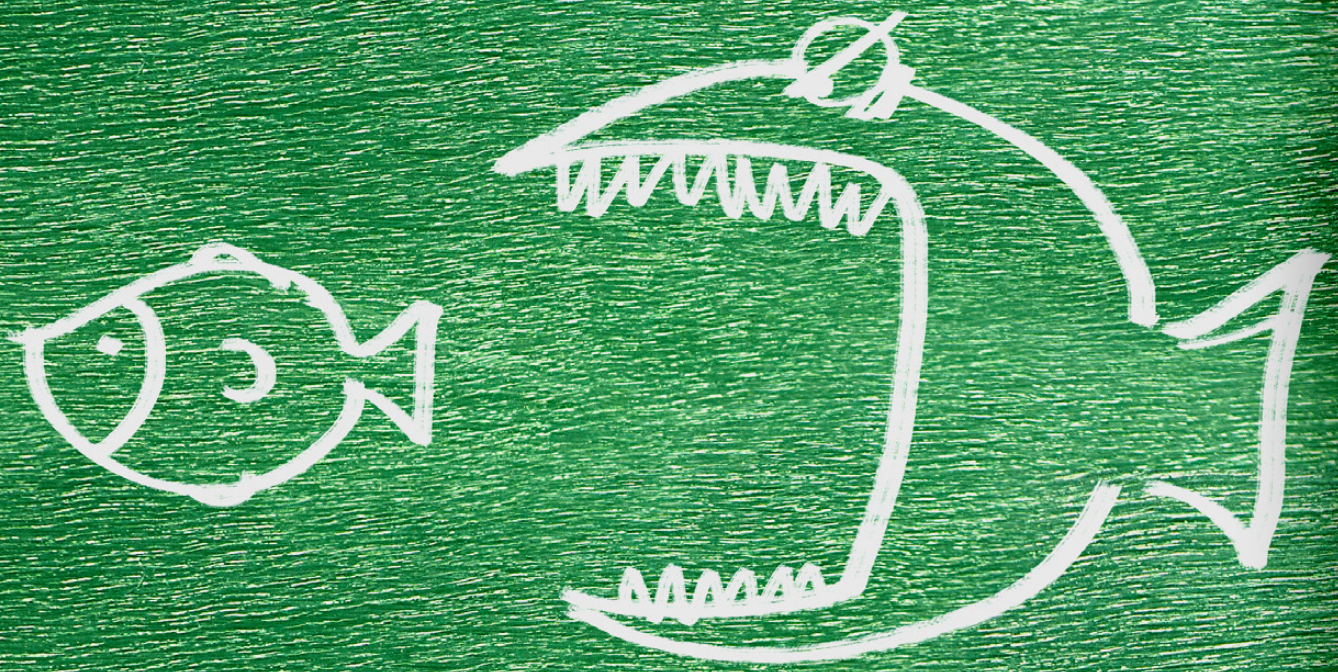

Killer Acquisitions

CPI COMPETITION POLICY INTERNATIONAL

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LETTER FROM THE EDITOR

Dear Readers,

What is a killer acquisition? The term was first employed in the pharmaceutical sector to describe acquisitions by an incumbent of a competitor that threatened to launch a blockbuster drug that would undermine its own products, with a view to shutting it down. In recent times, the term has broadened to cover other industries, notably the tech sector, where companies allegedly acquire startups to acquire their technology, either to quell a nascent threat, or to integrate it to their own offerings, further entrenching their dominance.

In one sense, the theory of harm associated with such acquisitions is intuitive: an acquisition designed to kill innovation would naturally raise antitrust suspicions. But isolating true "killer" acquisitions, and dealing with them within the existing merger control and antitrust framework is far from straightforward.

The "prey" is often a start-up, with insufficient revenues or market share to trip existing merger notification thresholds. As such, many "killer" acquisitions may escape merger control scrutiny entirely, raising the questions of whether such acquisitions should be examined after the fact, or whether merger notification rules should be modified.

Moreover, the acquirer's intentions are not always easy to divine. Quite often, acquisitions of startups are so-called "acqui-hires," motivated by the need to hire highly skilled employees. Indeed, large companies acquiring startups can be pro-competitive, as synergies with the scale and expertise enjoyed by incumbents are necessary for startups to scale up their offerings. Many startups in fact deliberately set out to be acquired (rather than to float an IPO, for example) in order to recoup their investments, and to bring their technologies to as many consumers as possible.

The contributors to this Chronicle draw on their experience from around the world to address these and the other complex issues raised by the theory of "killer acquisitions." Hopefully it will prove a valuable resource to enforcers and practitioners as they continue to address this thorny issue.

As always, thank you to our great panel of authors.

Sincerely,

CPI Team

SUMMARIES

"Killer Acquisitions," Big Tech, and Section 2: A Solution in Search of a Problem

By Kristen C. Limarzi and Harry R. S. Phillips

Since the term "killer acquisition" was coined last year, many have moved quickly to declaring a killer-acquisition problem in tech and proposing Section 2 of the Sherman Act as a solution. In this article, we urge caution before extending conclusions about killer acquisitions in the pharmaceutical industry to an entirely different industry where product development is less regimented and innovation is more opaque. And we argue that the benefits of Section 2 as a merger enforcement tool are overstated and the added complications, significant.

"How Tech Rolls": Potential Competition and "Reverse" Killer Acquisitions

By Cristina Caffarra, Gregory S. Crawford & Tommaso Valletti

Competition agencies are pivoting towards "loss of potential competition" theories of harm, especially in acquisitions by highly dominant companies of smaller/nascent players offering a product or functionality in related spaces. The concern is broader than implied by the recent debate on "killer acquisitions." Many say "What's not to like?" We argue that it's time to be more cautious. Large platforms have exceptional abilities to enter new spaces but also to "roll up" (willing) startups, buying instead of putting their own effort into rival innovation. Foregoing such effort is rarely good for society. We call these "buy vs. build" cases a form of "reverse" killer acquisitions that allow the incumbent to do away with its own innovation effort. Can we trade off the benefits of integration against this potential loss of organic expansion or should we adopt simplified policy rules to minimize the type of error we think matters most, requiring economists to pursue productive analyses of integration efficiencies, rather than the normal advocacy?

The No Kill Zone: The Other Side of Pharma Acquisitions

By Jacqueline Grise, David Burns & Elizabeth Giordano

In recent years there have been calls for increased scrutiny and enforcement of acquisitions by incumbent pharmaceutical firms of potentially competitive pipeline products. A popular narrative has emerged that such transactions are routinely entered into by large pharmaceutical companies to eliminate competitive threats by "killing" them. This article tells the other side of the story: these transactions frequently have strong procompetitive underpinnings, combining R&D expertise and putting notoriously risky and capital-intensive assets into the hands of specialists best positioned to navigate late-stage development and commercialization, ultimately making it more likely products successfully come to market. It would be contrary to the purpose of antitrust laws to reflexively crack down on all acquisitions of pipeline products by incumbents without continuing to carefully weigh these very tangible competitive benefits.

Beyond Killer Acquisitions: Are There More Common Potential Competition Issues in Tech Deals and How Can These Be Assessed?

By Dr. Oliver Latham, Dr. Isabel Tecu & Dr. Nitika Bagaria

How common are killer acquisitions in tech and are there alternative theories of harm that are likely to arise more frequently? We apply a set of filters to 409 acquisitions by the "GAFA" between 2009 and 2020 to identify transactions where the target firm could have plausibly threatened the acquirer's "core" business and the valuation was large enough to plausibly mask a market power premium. We find that at most 14 percent of reviewed transactions pass these filters and conclude that killer acquisitions, while important when they arise, are likely rare. Further analysis suggests that the theory of harm with broader application is that the purchaser would, but for the transaction, enter the same space as the target organically, flipping the traditional "killer" acquisition narrative on its head. We discuss key questions and trade-offs which arise in such transactions and the extent to which they require a change in the standard of proof applied in merger investigations.

SUMMARIES

Remember Stacker? Another Look at "Killer" Acquisitions in the Digital Economy

By Benoit d'Udekem, Divya Mathur & Marc Van Audenrode

Many acquisitions of startups by incumbents in the digital economy have resulted in a significant boost to marketplace recognition and interest in innovative, but frequently unknown and resource-constrained companies. However, some have argued that these acquisitions, far from accelerating the pace of innovation and the quality of products available to consumers, are instead "killer acquisitions" made to eliminate potential competitors. Whether these acquisitions enhance or prevent competitive innovation is a question often raised, despite the fact that they rarely result in the disappearance of the innovative products. The difficulty of this question is heightened in the digital space. In this article, we use an economic framework and two illustrative examples of acquisitions in the digital space to examine these issues.

Assessing "Killer Acquisitions": An Assets and Capabilities-Based View of the Start-Up

By David Pérez de Lamo

Killer acquisitions have come under the eye of the antitrust community. However, the issue has not always been discussed in a systematic way and there is still no emerging consensus. Therefore, this paper sets out a general framework to evaluate killer acquisitions by tying together the various strands in the existing literature. With that aim, this paper makes some conceptual clarifications, outlines possible *ex ante* and *ex post* mechanisms for capturing killer acquisitions and advocates for a set of criteria for their substantive analysis.

The Jury Is Out: An Assessment of Proposed Reforms to Australia's Merger Control Regime for Addressing Competitive Harm in the (Digital) Economy

By Mark Grime & Dave Poddar

Recently, competition authorities globally have been advocating for law reform to enhance their enforcement powers in relation to so called "killer acquisitions." In July 2019, the ACCC released its Final Digital Platform Inquiry Report. As part of this inquiry, the ACCC looked at whether Australia's merger control regime was fit-for-purpose to address "killer acquisitions" through examining acquisitions by Google and Facebook, and economies of scope created via control of data sets. The Report concluded that these were two factors that had contributed to the dominant market positions of Google and Facebook in Australia and that law reform was needed. This paper examines the substantive and procedural proposals put forward by the ACCC in the Report. This paper will also review the extent to which such proposals would materially change Australia's current merger control framework, and whether they would be likely to facilitate more effective regulation of "killer acquisitions."

WHAT'S NEXT?

For June 2020, we will feature Chronicles focused on issues related to (1) **Monopsony**; and (2) **Self-preferencing**.

ANNOUNCEMENTS

CPI wants to hear from our subscribers. In 2020, we will be reaching out to members of our community for your feedback and ideas. Let us know what you want (or don't want) to see, at: antitrustchronicle@competitionpolicyinternational.com.

CPI ANTITRUST CHRONICLES JULY 2020

For July 2020, we will feature Chronicles focused on issues related to (1) **Algorithms**; and (2) **Sustainability**.

Contributions to the Antitrust Chronicle are about 2,500 – 4,000 words long. They should be lightly cited and not be written as long law-review articles with many in-depth footnotes. As with all CPI publications, articles for the CPI Antitrust Chronicle should be written clearly and with the reader always in mind.

Interested authors should send their contributions to Sam Sadden (ssadden@competitionpolicyinternational.com) with the subject line "Antitrust Chronicle," a short bio and picture(s) of the author(s).

The CPI Editorial Team will evaluate all submissions and will publish the best papers. Authors can submit papers on any topic related to competition and regulation, however, priority will be given to articles addressing the abovementioned topics. Co-authors are always welcome.

"KILLER ACQUISITIONS," BIG TECH, AND SECTION 2: A SOLUTION IN SEARCH OF A PROBLEM

BY KRISTEN C. LIMARZI & HARRY R. S. PHILLIPS[1]

1 Kristen C. Limarzi is a partner and Harry R. S. Phillips is an associate at Gibson, Dunn & Crutcher LLP.

I. INTRODUCTION

"Killer Acquisition." It's an evocative term, particularly for such a technocratic field as antitrust law. Perhaps because it is so evocative, the term sometimes has been stretched well beyond its original meaning to refer to "acquisitions I think are anticompetitive." But the term "killer acquisition" was originally coined by Colleen Cunningham, Florian Ederer, and Song Ma to describe something quite specific: an acquisition – in the pharmaceutical industry in the Cunningham study – in which an incumbent acquires an innovative company that is developing a competing product and shuts down that product development.[2]

Cunningham and her colleagues estimate that 6 percent of all acquisitions in the U.S. pharmaceutical sector (or 45 of acquisitions each year) are "killer acquisitions."[3] Their study gives rise to the obvious question whether "killer acquisitions" are taking place in other industries – most notably tech. We may have a concrete answer to that question soon; the Federal Trade Commission has launched a study of past acquisitions by large technology companies. But for now, it seems unwise to extend the Cunningham team's findings – even if accurate – to an entirely different industry where product development is less regimented and innovation more opaque.

That's not to say that there cannot be anticompetitive acquisitions of nascent competitors by large technology companies – surely there can. But while a true killer acquisition almost certainly harms consumer welfare by depriving the market of innovative alternatives, it is difficult to generalize about acquisitions of nascent competitors in the tech space, many of which undoubtedly enhance consumer welfare by expanding distribution of innovative products.

The question becomes how do enforcers identify and block the *anticompetitive* acquisitions of nascent competitors? Some agency officials have suggested that Section 2 of the Sherman Act may provide the answer. But it's not at all clear that Section 2 provides a path toward increased – or increasingly accurate – enforcement. To the contrary, the claimed advantages of challenging mergers under Section 2 are overstated, and the added complication, significant.

II. PHARMACEUTICALS vs. TECHNOLOGY

While Cunningham and her colleagues caution that the "core insights" of their paper extend beyond the pharmaceutical industry,[4] unique characteristics of that industry suggest that their conclusions may have little purchase elsewhere.

For one thing, unlike in most other industries, publicly accessible databases track drug development projects, identifying both the condition to be treated and the mechanism of treatment. Incumbent drug companies can readily identify drug development projects that might compete with their own and also monitor the new drug's progress through the famously long drug development and approval process. Indeed, Cunningham and her colleagues relied on these publicly available data sources to identify which acquisitions involved drug companies with potentially competing products in the pipeline.

Moreover, according to Cunningham and co., the threat of new branded or generic drug entry to an incumbent firm's profits may be clear and calculable. Because the drug research, development, and approval process is so long and costly, pharmaceutical companies have "only a few years post-approval of monopoly profits before patent expiration and generic entry."[5] If that's right, shutting down a single nascent rival could allow an incumbent firm to take full advantage of its patent monopoly, making such acquisitions rather attractive.

2 Colleen Cunningham, Florian Ederer & Song Ma, *Killer Acquisitions* (March 22, 2019), available at https://ssrn.com/abstract=3241707.

3 *Id.* at 5.

4 *Id.* at 41.

5 Cunningham *et al.*, *supra* note 2, at 17.

Past enforcement actions against drug manufacturers fit neatly within this narrative. In 2017, for instance, the FTC forced Mallinckrodt to divest rights in hormone drug Synacthen, charging that Mallinckrodt's subsidiary Questor acquired the drug to prevent the entry of a competitor to its own drug, Acthar.[6] The FTC's complaint (which Mallinckrodt very quickly settled) relied partly on Questcor's submissions to federal drug regulators, as well as the obvious threat that Synacthen – marketed outside the United States as substantially similar to Acthar – posed to Questcor's considerable profits.[7]

In high-tech fields, however, it can be difficult to tell which innovations constitute a competitive threat. An incumbent search engine or social media platform can't consult a government-run database to determine which garage-based start-up will be the next big thing. And innovative products tend to evolve over time. For example, Instagram was transformed from a photo-sharing app into a social media platform. Uber used to be a luxury car-hire service. And Android was a little-known software company before Google transformed it into the world's most popular mobile ecosystem. On the flip side, it's notoriously difficult to predict whether start-ups will thrive or fail. A venture-capital firm typically expects to lose money on at least a third of its investments, though some experts believe the failure rate of start-ups could be closer to 75 percent.[8]

The rewards of a true killer acquisition are less clear in the tech space. Technology innovation is fast moving and unless the incumbent wants to play an extended game of whack-a-mole, killer acquisitions may be a losing proposition. Even where incumbent tech firms acquire innovative newcomers, the incentives are not necessarily to shut the innovation down; technology innovations tend to be complementary to existing products or platforms. Thus, even when an incumbent acquires the nascent innovator, the incentives may be to foster the innovation and integrate it into the incumbent product.

The competitive effects of such an acquisition are also less clear than those of the true killer acquisitions that Cunningham purports to describe. Acquisition and integration of an tech innovation into an existing product might harm competition by eliminating a nascent player that would have challenged the incumbent, but it also might also improve the incumbent's product and expand output.

This is precisely the sort of forward-looking evaluation called for by Section 7 of the Clayton Act – comparing what the market would look like with and without the proposed transaction. But there is growing concern that Section 7 is not up to the task in the case of nascent competitors.[9] Agency leaders have proposed dusting off Section 2 of the Sherman Act, which prohibits the unlawful acquisition or maintenance of monopoly power, as a merger enforcement tool. But is Section 2 better suited to the task?

III. POTENTIAL ADVANTAGES OF SECTION 2

In the distant past (distant in antitrust terms, anyway) the government used Section 2 to block or undo transactions between competitors. Nowadays, however, Section 2 is far more commonly used to police exclusionary conduct by a single firm, while mergers are almost always reviewed under Section 7 of the Clayton Act. According to the Supreme Court, the legal tests under Section 7 of the Clayton Act are "less stringent than those used in applying the Sherman Act."[10]

Nevertheless, officials offer two reasons why Section 2 may be better equipped to deal with killer acquisitions than its more commonly used counterpart.

The first reason has to do with proving, as a factual matter, that a merger would harm competition. Although the law is unsettled, an agency challenging an acquisition under Section 7 based on the theory that the parties may be future competitors must generally show that the acquired firm "probably would have entered" the market "within a reasonable period of time" absent the merger.[11] An agency may also need to

6 Press Release, U.S. Fed. Trade Comm'n, "Mallinckrodt Will Pay $100 Million to Settle FTC, State Charges It Illegally Maintained its Monopoly of Specialty Drug Used to Treat Infants" (January 18, 2017), https://www.ftc.gov/news-events/press-releases/2017/01/mallinckrodt-will-pay-100-million-settle-ftc-state-charges-it.

7 Compl. ¶¶ 2, 6, 8, *FTC v. Mallinckrodt Ard Inc.*, No. 1:17-cv-00120 (D.D.C. January 25, 2017), https://www.ftc.gov/system/files/documents/cases/170118mallinckrodt_complaint_public.pdf.

8 See "The Venture Capital Secret: 3 Out of 4 Start-Ups Fail," *Wall St. J.* (September 20, 2012), https://www.wsj.com/articles/SB10000872396390443720204578004980476429190.

9 See, e.g. "FTC Tech Enforcer: Agencies Can't Block Deals Based on Unknown Products, *Global Competition Rev.* (November 20, 2019), https://globalcompetitionreview.com/article/usa/1211096/ftc-tech-enforcer-agencies-can%E2%80%99t-block-deals-based-on-unknown-products.

10 *Brown Shoe Co. v. United States*, 370 U.S. 294, 329 (1962).

11 *FTC v. Steris Corp.*, 133 F. Supp. 3d 962, 966 (N.D. Ohio 2015).

show that the acquired firm's entry would "probably have increased competition more than the [merger] did."[12] Some officials say these requirements make it almost impossible to successfully block acquisitions of start-ups, given the difficulty of predicting how innovative products will develop and how they will fare competitively against established players.[13]

In contrast, officials have argued that Section 2's standard for proving the causal relationship between anticompetitive conduct and the acquisition or maintenance of monopoly power is "somewhat relaxed."[14] For this, they point to the D.C. Circuit's opinion in *United States v. Microsoft*, where the court required only a showing that "as a general matter, the exclusion of nascent threats is the type of conduct that is reasonably capable of contributing significantly to a defendant's continued monopoly power."[15] As one former FTC official noted, this inquiry focuses on the "general tendency" of the anticompetitive conduct, not its specific effects in any case, and does not require "but-for causation of the monopoly."[16] The standard therefore differs from the government's burden under Section 7, which requires proof that a *specific* transaction (not a category of transactions in general) is *likely to substantially lessen* (not reasonably capable of lessening) competition in the relevant market.

A second reason given for analyzing tech mergers under Section 2 instead of Section 7 is that Section 2 would supposedly allow agencies to step in when an incumbent acquired (or threatens to acquire) market power through a series of small transactions. Such transactions may escape scrutiny under Section 7, some say, because they may not alone substantially lessen competition. Using Section 2 would allow agencies to put greater emphasis on a "pattern of conduct," including the competitive impact of past transactions and a platform's internal documents referencing start-ups. The Antitrust Division's chief economist has suggested this analysis would be particularly appropriate in technology platform markets which, because of network effects, can easily "tip" into monopoly.[17]

But neither of these reasons justify ditching traditional merger enforcement tools in favor of a much less tested standard.

On the causation point first, it is unclear that *Microsoft's* "reasonably capable" standard would apply when assessing the competitive effects of a merger, rather than exclusionary conduct. That language has been quoted in only a handful of judicial opinions since *Microsoft* came down in 2001, and never in the context of a merger challenge. A court asked to condemn a merger between two potential competitors may well demand clearer evidence of causation than it would when assessing exclusionary conduct like Microsoft's. Mergers and acquisitions, as the agencies recognize, can provide tremendous benefit to consumers by reducing firms' costs, combining complementary assets, and inspiring the creation of new products.[18] They are also a staple of economic activity — no less in the tech sector, where start-ups may innovate and compete with one another to attract attention from potential buyers. Given the potential costs of an erroneous merger challenge, it's reasonable to demand proof of actual lost competition. Indeed, other commentators have suggested *Microsoft's* causation standard applies by its own terms only to exclusionary conduct, given the court's reasoning that "to some degree, the defendant is made to suffer the uncertain consequences of its own *undesirable conduct*."[19]

Section 7 is also sufficient to prevent an incumbent from monopolizing a market by acquiring multiple start-ups in adjacent markets. Put simply, a merger that threatens to tip a market into monopoly following a series of transactions would substantially lessen competition. Contrary to some suggestions, Section 7 doesn't limit review to "each transaction in isolation."[20] Instead, as the D.C. Circuit explained in *Baker Hughes*, the statute envisages a "totality-of-the-circumstances approach" that weighs "a variety of factors to determine the effects of particular transactions on competition."[21] That approach is flexible enough to consider facts relevant to a serial acquisition scenario, such as the effects of past

12 *Yamaha Motor Co. v. FTC*, 657 F.2d 971, 977-78 (8th Cir. 1981).

13 See "Courts Don't Easily Block Buyouts of Potential Competitors, Says FTC Official," *Global Competition Rev.* (February 27, 2020), https://globalcompetitionreview.com/article/usa/1215548/courts-don%E2%80%99t-easily-block-buyouts-of-potential-competitors-says-ftc-official.

14 See D. Bruce Hoffman, Dir. Bureau of Competition, U.S. Fed. Trade Comm'n, "Antitrust in the Digital Economy: A Snapshot of FTC Issues," at 10 (May 22, 2019), https://www.ftc.gov/system/files/documents/public_statements/1522327/hoffman_-_gcr_live_san_francisco_2019_speech_5-22-19.pdf.

15 *United States v. Microsoft*, 253 F.3d 34, 78-79 (D.C. Cir. 2001) (en banc).

16 Hoffman, *supra* note 14, at 10-11.

17 Jeffrey M. Wilder, Acting Deputy Assistant A.G., Antitrust Div. Dep't of Justice, "Potential Competition in Platform Markets" (June 10, 2019), https://www.justice.gov/opa/speech/acting-deputy-assistant-attorney-general-jeffrey-m-wilder-delivers-remarks-hal-white.

18 See U.S. Dep't of Justice & Fed Trade Comm'n, Horizontal Merger Guidelines § 10 (August 19, 2010), https://www.justice.gov/atr/horizontal-merger-guidelines-08192010#10.

19 Timothy Muris & Jonathan Nuechterlein, *First Principles for Antitrust Review of Long-Consummated Mergers*, 5 Criterion J. on Innovation 29, 39-40 (2019) (quoting *Microsoft*, 253 F.3d at 79) (their emphasis).

20 Wilder, *supra* note 17.

21 *United States v. Baker Hughes, Inc.*, 908 F.2d 981, 984 (D.C. Cir. 1990).

acquisitions on product development, unrealized efficiency gains, and internal discussions of potential rivals. Indeed, this sort of evidence often features in Section 7 cases.

IV. INCREASED CHALLENGES IN SECTION 2 ENFORCEMENT

Contrary to some suggestions, then, it's doubtful Section 2 would prevent anticompetitive deals that Section 7 wouldn't. And in some ways, a Section 2 merger challenge could be harder for the government to win.

Most obviously, any monopolization case needs a monopolist. Direct proof of monopoly power, such as evidence of steep price increases, is "only rarely available,"[22] and will likely be even harder to come by in cases involving dynamic technology platforms and zero consumer prices.

In most instances, then, the government will need to prove monopoly power by showing that the acquiring firm has a dominant share of the relevant market (plus the existence of entry barriers). But, as others have observed, this requirement poses its own challenges in cases involving the acquisition of start-ups, which typically develop on the fringes of established markets.[23] Defining a narrow market may help establish the acquiring firm's dominant market share, but it could also make it harder to prove that future head-to-head competition is likely between two firms with no historical overlap. A broad market definition, on the other hand, may help prove that the two firms will someday compete in the same market, but could frustrate claims that the acquirer is dominant. Battles over market definition will take on added complexity and importance under Section 2.

Section 2 may also leave defendants more room to justify mergers with potential anticompetitive effects. Under Section 7, efficiencies must "enhance the merged firm's ability and incentive to compete," offsetting increased market concentration through lower prices, increased quality, or new products.[24] And the burden of proving such efficiencies is high — parties must generally verify efficiencies with objective evidence and show that they can't be achieved without a merger.

Under Section 2, on the other hand, a defendant's conduct "is redeemed by a legitimate business purpose,"[25] whether or not it promotes competition. Any conduct that is "profitable without regard to the destruction of rivals" survives Section 2 scrutiny.[26] The burden of proof is also low: if a court finds a monopolist's business justification "valid" — i.e. not a pretext for excluding competition, or trivial compared with the competitive harm — there is no antitrust liability.[27] One can reasonably argue that Section 2's business-justification defense shouldn't be available in cases involving a merger between potential rivals. Many of the cases involve a monopolist's exclusionary conduct; and antitrust law is rightly more skeptical of agreements between competitors (however nascent) than unilateral action. But by invoking Section 2, the agencies nevertheless give defendants the opportunity to use this case law — and its more lenient standards of proof — to their advantage.

22 *Microsoft*, 253 F.3d at 51.

23 Mats Holmström, Jorge Padilla, Robin Stitzing & Pekka Sääskilahti, *Killer Acquisitions? The Debate on Merger Control for Digital Markets*, 2018 Y.B. of the Fin. Competition L. Assoc., at 16-17 (2019).

24 See *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 720 (D.C. Cir. 2001) (citing and quoting Horizontal Merger Guidelines § 10).

25 *Universal Analytics, Inc. v. MacNeal-Schwendler Corp.*, 914 F.2d 1256, 1258 (9th Cir. 1990).

26 Areeda & Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and their Application* ¶ 658f (4th ed. 2013-2018); see also *Morris Commc'ns Corp. v. PGA Tour, Inc.*, 364 F.3d 1288, 1295 (11th Cir. 2004) (Section 2 proscribes "conduct without a legitimate business purpose that makes sense only because it eliminates competition").

27 See *High Tech. Careers v. San Jose Mercury News*, 996 F.2d 987, 990-91 (9th Cir. 1993).

V. CONCLUSION

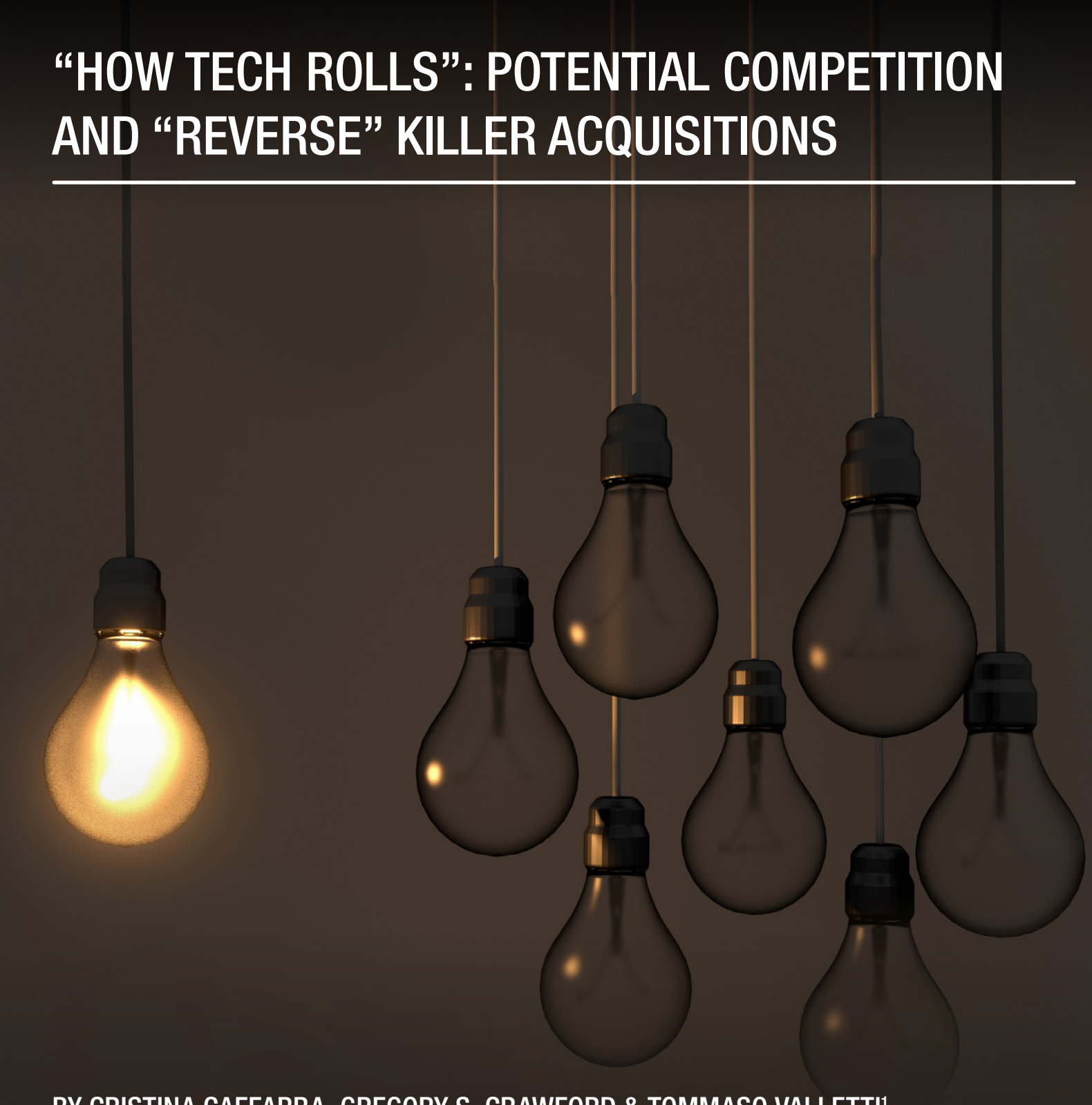
Section 2 is therefore probably no silver bullet for killer acquisitions. In a litigated merger challenge, relaxed causation standards may be unavailable, and the additional need to prove monopoly power (plus potentially greater deference to business justifications) may frustrate the agencies' chances of success. Section 7 is sufficient to police anticompetitive acquisitions of nascent competitors, just as it is anticompetitive acquisitions in general.

But in many ways, these discussions put the cart before the horse. It's hard (and somewhat futile) to say whether existing tools are fit to meet a problem without knowing whether that problem exists. As already discussed, potential evidence of killer acquisitions in the pharmaceutical industry does not mean that other industries are similarly afflicted – least of all tech, where competition and innovation are unpredictable and tie-ups between potential competitors may actually increase consumer welfare.

In February 2020, the FTC announced that it had ordered five large technology firms –Alphabet, Amazon, Apple, Facebook, and Microsoft – to turn over documents about acquisitions made in the last decade, including information about the reasons for the deals and what happened to acquired assets after consummation.[28] FTC leadership has said the investigation will look at whether platforms have used mergers to squash nascent competitors or monopolize adjacent markets. Conducted properly, this study could shed light on whether Big Tech has a killer acquisitions problem — and whether traditional antitrust tools are sufficient to solve it.

28 Press Release, U.S. Fed. Trade Comm'n, "FTC to Examine Past Acquisitions by Large Technology Companies" (February 11, 2020), https://www.ftc.gov/news-events/press-releases/2020/02/ftc-examine-past-acquisitions-large-technology-companies.

"HOW TECH ROLLS": POTENTIAL COMPETITION AND "REVERSE" KILLER ACQUISITIONS



BY CRISTINA CAFFARRA, GREGORY S. CRAWFORD & TOMMASO VALLETTI[1]



1 Caffarra: Charles River Associates (CRA), London, email: c.caffarra@crai.com; Crawford: Dept. of Economics, University of Zurich, email: gregory.crawford@econ.uzh.ch; Valletti: Tommaso Valletti, Dept. of Economics & Public Policy, Imperial College London, email: t.valletti@imperial.ac.uk. A version of this paper appeared on May 11, 2020 on *Vox Blog*, CEPR's Portal. See https://voxeu.org/content/how-tech-rolls-potential-competition-and-reverse-killer-acquisitions.

I. A CASE FOR A BROADER LENS, REBUTTABLE PRESUMPTIONS AND BETTER EFFICIENCY STORIES

Competition agencies – the UK CMA, but also the EC, the U.S. agencies, and more – are pivoting heavily towards "loss of potential competition" as a theory of harm, particularly in acquisitions by highly dominant companies of smaller/nascent players offering a product or functionality in a related but not immediately overlapping space. The concern is actually broader than implied by the recent debate on "killer acquisitions" (the suggestion that the incumbent may be buying a startup to pre-empt the threat this may pose if it evolves into a future replacement for its core business). We do care about these possibilities, even if infrequent, because the "killing" of a potential replacement can lead to large welfare losses. Yet there are more common variants that drive concerns about "loss of potential competition." Established incumbents in spaces like tech, digital payments, internet, pharma and more have embarked in bids to acquire features, businesses, and functionalities to shortcut the time and effort they would otherwise require for organic expansion. We have traditionally looked at these cases benignly, but it is now right to be much more cautious.

Large digital platforms, in particular, have exceptional abilities to pursue organic expansion but also opportunities to "roll up" (willing) startups to "get there faster," "buying" instead of expending effort in rival innovation. Foregoing such effort is never good for consumers and society as a whole: while innovative effort is costly, it will often yield multiple providers and differentiated services, with socially desirable properties. The pivot towards "potential competition theories of harm" is significantly about these "buy vs. build" cases and their potential to represent "reverse" killer acquisitions that allow the incumbent to do away with its own innovation effort, and reduce innovation overall relative to a "no deal" scenario. The benefits of integration need to be set against this potential loss of organic expansion, the associated innovation effort, and a world with multiple providers of differentiated services. Can we do this trade off on a case-by-case basis? Or do we need to set down simplified policy rules to minimize the type of error we think matters most? Is it not time to correct the huge lobbying effort directed at government departments around the agencies, and set economists off to do something more interesting and creative around truly exploring efficiency arguments (instead of pseudo-legal advocacy)?

II. THE SURGE OF POTENTIAL COMPETITION THEORIES OF HARM

Agencies are paying more attention than ever before to mergers where there is no loss of immediate competition between the parties, but the deal may eliminate the prospect of *future competition*. "Potential competition" theories are increasingly focused on the notion that, "but for the transaction," parties currently engaged in complementary activities would have eventually come to expand and compete in each other's domain; and the deal entails the loss of that future competition and the dampening of overall innovation relative to an independent counterfactual. This is coming up particularly in deals involving tech platforms buying up (or building stakes in) younger/innovative specialists in areas they are not currently in, but where they want to expand (in different ways, high-profile UK CMA Phase 2 cases like *PayPal/iZettle*, *Sabre/Farelogix*, and *Amazon/Deliveroo* all had some of this flavor – with the CMA being sufficiently concerned that the acquirer/investor was planning or had potential to develop a similar service to the target's, that the deal would have snuffed).[2]

Much greater attention to potential competition is indeed overdue, and is especially apt in deals involving large tech platforms with enormous capabilities to expand their reach into multiple adjacent markets through the "roll up" of smaller/nascent firms. Indeed, as recently shown in Argentesi et. al (2019), this is "the way tech rolls": frequent relatively small acquisitions that provide complementary functionalities or services to be integrated into the platform – sometimes cannibalized, sometimes bolted on, but essentially no longer separate efforts.[3] The long-held

2 iZettle was a growing provider of in-store payment service solutions to small merchants, a capability Paypal was intent on developing; Farelogix is a supplier of technology solutions for airlines, including distribution and merchandising, which Sabre intended to integrate to improve its own offering Deliveroo is a restaurant food and convenience grocery delivery service in which Amazon has taken a minority share, and a question the CMA considered was whether Amazon's own future (re)entry into food delivery in the UK would have been deterred by this stake. Paypal/iZettle and Amazon/Deliveroo were unconditionally approved after a Phase 2 investigation, while Sabre/Farelogix was blocked by the CMA and challenged by the DOJ, with a Delaware District Court rejecting the suit. For disclosure, CRA advised on these cases, but the views expressed in this note are the authors' only. Crawford and Valletti were not involved in these cases. Outside of tech there are also high-profile recent and equally relevant examples in pharma, e.g. the *Roche/Spark* deal approved both by the FTC and the UK CMA, the *Illumina/PacBio* deal, undone after opposition from the FTC and the CMA, and the *J&J/Takeda* deal where concerns from the EU led to the deal being withdrawn from notification and abandoned. In all of these cases the issue was whether the buyer was engaged in competing research efforts and the acquisition would prevent one or the other innovation efforts from going forward.

3 Argentesi, E., P. Buccirossi, E. Calvano, T. Duso, A. Marazo, & S. Nava (2019), "Merger policy in digital markets: An ex-post assessment," CEPR Discussion Paper 14166 and its summary on VoxEU at https://voxeu.org/article/mergers-and-merger-policy-digital-markets. Broadening the scope slightly, https://www.simplybusiness.co.uk/microsites/hungry-tech/ further show hundreds of acquisitions by "GAFAM" (Google, Amazon, Facebook, Apple and Microsoft) in the areas of mobile, search, advertising, media, e-commerce, social, hardware and software. Just for the period after 2010, Wikipedia reports in the region of 180 deals in the public domain for Google/Alphabet, 75 for Facebook, over 60 for Amazon, 84 for Apple, 94 for Microsoft, nearly 500 in total – see https://en.wikipedia.org/wiki/List_of_mergers_and_acquisitions_by_Alphabet, and equivalent entries for Facebook, Amazon, Apple, and Microsoft.

posture in traditional antitrust (assuming we could look at these cases, most of which have flown under the radar) has tended to be "Mergers of complements? No issue. In fact, great! Integration is efficient. Potential entry is too speculative to worry about." And indeed integration into a platform that can provide execution and funding to a nascent firm could, in principle, be a good thing (we are all familiar with the notion that startups are very willing sellers, and indeed the prospect of a future sale is often the driver for their innovation effort in the first place). But this is only one side of the story. Suppose the target indeed offered a platform a "way to market" in a service or functionality where it is lacking, but suppose there was also evidence that the platform would have *otherwise strived to build its own offering in that space organically.* A deal then *eliminates a future competitor* in that functionality – the acquirer itself.

Note that – critically – the perspective here is broader than the recent debate on whether there are "killer acquisitions" in tech that we failed to analyze and catch, i.e. acquisitions for the purpose of killing or taming a *potential future threat to the acquirer's core business*. This phenomenon no doubt *exists* and can have large social costs (*Facebook/WhatsApp*, *Facebook/Instagram*, and *Google/DoubleClick* being oft-quoted "poster children" for it), but *it's only one permutation.* There is a much more common possibility – "reverse" killer acquisitions? – where one is asking what innovation *by the buyer* is being foregone as a result of it buying a business it could have built organically instead. Looking just for the possibly elusive "future *replacement*" to a core business misses out on multiple cases where the buyer discontinues or foregoes its own effort because it has appropriated the "next best thing."

III. WHAT SHOULD WE CARE ABOUT?

What we should care about is *the overall intensity of innovation effort* in the economy and the impact this ultimately has on consumers. And by "innovation" we don't literally just mean scientists in white coats. What we mean is a new process, a new and better version of a product, or a new way of making or delivering or designing a service. An alternative payment functionality. An alternative delivery format. Perhaps even an alternative ecosystem in the long run.

The prospect of reaping future rewards by acquiring a strong position in a new market is *always* the driver for innovation – as much for existing platforms seeking to grow into new and attractive spaces as for newcomers with a new idea. Tech platforms have extraordinary means to engage in productive organic innovation (and no doubt already do a significant amount of it). Yet their documented modus operandi is also to identify and buy up businesses at an incredible rate, (ostensibly) to fuel even quicker growth and expansion.

Superficially, what's not to like? There is no immediate loss of competition, and a platform can provide execution capabilities, scaling opportunities and ideas and means for expansion in ways the target could perhaps not have dreamt of. That's good. But the point is that economic research has shown that we want as much *rival innovation effort* as possible. A buyout of a promising nascent/small innovator deprives the world of that innovator's contribution *in an alternative scenario* – an IPO, a sale to another buyer, or some other version of the future – in which it would have competed with an innovation developed and implemented by the buyer. This is what we are missing with "reverse" killer acquisitions: social welfare is enhanced when the would-be *buyer* also develops a service or a product, with head-to-head competition in the final product market.[4] So it is right to look at the incentives of both target *and* acquirer in the counterfactual.

Now the standard counterargument: *how do we know* they would have both ended up producing some viable version of competing products? Is it not better to allow for the acquisition to take place, even if it just improves the opportunity for *one* of the two to come forth? Wouldn't this avoid duplicative innovation?

The answer is *no*, and for at least three reasons. First, consumers care about levels of innovation effort *per se*. Because it is only if there is the prospect of being chased, caught, and overtaken that there is a strong incentive to come up with better solutions. Arrow first provided this insight almost sixty years ago,[5] and it is a robust conclusion of the contemporary academic literature (notwithstanding recent misleading efforts by merger advisors to dilute this message). Among others, Kokkoris & Valletti (2020, Section III) review this literature and show that while it is *possible* to find special cases where a merger enhances innovation incentives (e.g. when there is a strong demand-expanding effect of an innovation that cannot be internalized, or when there are merger-specific efficiency gains),[6] the general conclusion of the academic literature is

4 There is of course the separate and important issue that authorities would also have to ensure that a dominant platform does not disadvantage the rival in favour of its own homegrown product, but that is a topic separate from those considered here.

5 Arrow, K (1962), "Economic Welfare and the Allocation of Resources for Invention," in *The Rate and Direction of Inventive Activity*, (R.R. Nelson, ed., Princeton University Press).

6 One example of a merger-specific efficiency would be the ability of the merged firm to organize R&D more efficiently internally (as long as this could not be achieved, say, by licensing). It is, however, something that deeply depends on inside industry knowledge that only the merging parties can have and should therefore be able to demonstrate in front of an agency in an efficiency defence.

that consumers and society are better off when innovative firms are *not* permitted to merge.[7]

Second, the size and overwhelming dominance of some tech platforms is already thought to have dampening effects on the "invest for buyout" incentive that can provide one pro-innovation justification for acquisitions, at least around the "core businesses" of these platforms There has been an open discussion for some time of "kill zones," the reduced willingness of venture capitalists to provide funding for startups that replicate the main functionalities and/or could be direct replacements to those offered by dominant tech platform.[8] This suggests that, where markets have tipped, innovation efforts by potential challengers is weakened and we may already be foregoing competition that is "not even born" by challengers we will never know. Merger policy thus needs to lean towards preserving more, rather than less innovation effort.

Third, and relatedly, the welfare effect of foregoing one of two innovation efforts may be sizeable if the two were to turn into real competitors. The "prize" is larger (and potentially huge) in cases where the target would have been a real substitute, allowing us to get away from monopoly/super dominance in the "primary" market. But even short of that more extreme version, the welfare benefits of competition are likely to be sizeable.

None of this is wildly unusual, by the way. These are the very principles the U.S. agencies are already meant to follow when evaluating horizontal mergers that may lessen innovation. *Already* the 2010 U.S. Horizontal Merger Guidelines established that "(t)he Agencies may consider whether a merger is likely to diminish innovation competition by encouraging the merged firm to curtail its innovative efforts below the level that would prevail in the absence of the merger. That curtailment of innovation could take the form of reduced incentive to continue with an existing product-development effort or reduced incentive to initiate development of new products." And it is also consistent with recent EC practice, for instance in the agrochemical sector.[9]

IV. "KILLER ACQUISITIONS" ARE AN IMPORTANT BUT NARROW FIELD

A major strand of the debate around the expanding power of tech platforms has been the failure of merger policy to examine *at all* hundreds of consummated deals that went below the radar (of the total of nearly 500 for "GAFAM" deal alone since 2010, only a very small number has been actually reviewed – and this does not include stake-building in companies, nor does it include acquisitions by other many large platforms). As we *do* know *ex post* that there have been a few spectacular misses, the notion that we have not vetted hundreds of deals has driven a diffuse concern that we have missed cases where the deal "killed" the "next big thing," i.e. a serious challenger that could have potentially emerged out of one or more of these targets.

This version of the debate has sought to transpose the logic and insights of the seminal article of the same name by Cunningham, Ederer, & Ma, which used careful data analysis in pharma to establish that a conservative estimate of the number of deals involving the discontinuation ("killing") of competing innovation projects by an incumbent is approximately 6 percent.[10] Now 6 percent may not seem like a big number, but *it is* when one considers the *potential benefit* this could have translated into as a result of competition with a (potentially monopolist) incumbent. The transposition to tech has been motivated by the idea that – while there is no similarly direct empirical evidence (antitrust markets are not so easily defined as in pharma, nor are outcomes of historical innovation projects) – the concern that acquisitions by an incumbent can be motivated by a design to kill a potential future competitor is there.

Of course, testing for "killer acquisitions," even *ex post*, remains difficult. Even careful *ex post* studies such as the one done by Lear for the CMA do not provide a clear roadmap.[11] There are some filters one can perhaps apply to spot *ex ante* deals where the target has the potential

7 Kokkoris, I. & T. Valletti (2020), "Innovation Considerations in Horizontal Merger Control," *Journal of Competition Law and Economics*. This conclusion is further supported by a complementary literature using dynamic methods, including Gowrisankaran, G. (1999), "A Dynamic Model of Endogenous Horizontal Mergers," *RAND Journal of Economics*, and Mermelstein, B., V. Nocke, M. Satterthwaite, & M. Whinston (2020), "Internal versus External Growth in Industries with Scale Economies: A Computational Model of Optimal Merger Policy," *Journal of Political Economy*. See also Federico, G., Scott Morton, F. and Shapiro, C. (2019), "Antitrust and Innovation: Welcoming and Protecting Disruption," at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3393911.

8 See among others Kamepalli, S., R. Rajan, & L. Zingales (2019), "Kill Zone," Working Paper, University of Chicago. On top of an empirical analysis documenting the "kill zone" phenomenon among VCs, the paper develops a theoretical model where the prospect of a merger with a dominant platform reduces the price start-ups can hope to extract in a deal, and thus diminishes their incentive to invest *ex ante*.

9 See Case COMP/M.7932 *Dow/Dupont* (Commission decision of March 27, 2017), Case COMP/M.7962 ChemChina/Syngenta, (Commission decision of April 5, 2017), and Case COMP/M.8084 Bayer/Monsanto (Commission decision of March 21, 2018).

10 Cunningham, C., Ederer, F., & S. Ma (2020), "Killer Acquisitions," Working Paper LBS & Yale https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3241707.

11 See https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/803576/CMA_past_digital_mergers_GOV.UK_version.pdf.

for being a replacement to the acquirer in the future or for depriving a rival of an opportunity to partner with a third party that could turn them into proper challengers. For example, in her keynote to the FTC Hearings on Competition and Consumer Protection,[12] Susan Athey argued we have to look at whether the target has the potential to provide faster scale and growth opportunities to *others*, such that an incumbent would want to block it from being acquired. Examples of such settings include when the target is a specialized vertical that can offer a rival an entry path, an intermediary that can offer a rival a block of users and accelerate growth, or a software tool which can be integrated in to help a rival scale quickly and make it a more effective competitor. The message is to think about how the target could help a rival be a stronger player and then consider whether its integration or acquisition by a dominant incumbent would stop this threatening path.

Even so, *ex ante* and true "killer acquisitions" are unlikely to account for most of the deals that have been consummated in the past decade. Agencies will (and should) remain on the lookout for these, and a number of recommendations to agencies are to be found in the Background Note on Killer Acquisitions just issued by the OECD Secretariat for its imminent Meeting of the Competition Committee.[13] But there's more to the story.

V. "REVERSE" KILLER ACQUISITIONS

What seems empirically more prevalent are cases where we are not necessarily worried about the buyer acquiring and then neutering a future threat (either directly, or by making them unavailable to others). What seems to be more frequent are cases where the acquisition may effectively extinguish the standalone effort of the buyer to expand in a particular space because the target immediately provides it with those capabilities. This covers a broader set of possibilities as platforms continue to expand into adjacent fields by buying functionalities, capabilities, even whole businesses (see the recent example of *Google/Fitbit*).[14] To date, this has been regarded as *only* benign: no overlap, no obvious foreclosure of existing competitors, quick time to market, and bonanza for the target.

But wait. What is in fact often apparent (particularly when one looks at internal documents) is that these acquisitions are often evaluated internally in terms of "buy vs build." Which is to say that there is often an alternative path to expanding into a particular space through the acquisition: with sprawling capabilities, competences, and limitless internal funding, buyers are often already on the way to building a functionality themselves. Internal documents often show the incumbent making (or thinking about making) an organic foray into this new market. The opportunity to buy instead then comes along. Once bought, the target may be cannibalized for certain assets to power the incumbent's own effort. Or the incumbent's own project quietly may be shelved. Either way, the buyer's innovative effort in the target's market has been extinguished. It's the killing of one of the two efforts, but not the target's – the buyer's. Hence a "reverse" killer acquisition. There was some of this flavor indeed in the CMA's concerns in *PayPal/iZettle, Sabre/Farelogix* and *Amazon/Deliveroo* – where concerns included whether the acquisition allowed the buyer to forego its own efforts in the target's area, eliminating the prospect of future competition.

VI. WHAT ENFORCEMENT POSTURE DO WE WANT FOR THESE DEALS?

The insight that we want to preserve innovation efforts of both current and future competitors, even if duplicative, is a robust conclusion of the academic literature. Consumers always like more competition in product and service markets, *including* through entry by large platforms – think of how the power of media giants like Disney, Comcast, and AT&T has been contained by genuine competition in video streaming, with Netflix the early innovator but also home-grown efforts from Amazon and Apple.

The first question is then *what would an agency need to show in order to conclude that the acquisition of a nascent/small player creates concerns* along the lines discussed in this paper. We want to add two final reflections – one about the economics and one about resources – to the thoughtful points made in their Background Note by the OECD Secretariat.

On the economics of running a case, there is of course uncertainty here, as agencies will not be able to know with a high degree of likelihood whether *both* innovation efforts (the buyer's and the target's) will lead to competing products or services in the counterfactual. There is judgment involved, as buyers will always insist they were *never ever* going to make it in that space on a standalone basis, nor invest in that

12 *Hearings on Competition and Consumer Protection in the 21st Century*, FTC, October 15, 2018.

13 See OECD (2020), Start-ups, Killer Acquisitions and Merger Control – Background Note, DAF/COMP(2020)5, focusing on acquisitions for purposes of killing or controlling a nascent potential rival, https://one.oecd.org/document/DAF/COMP(2020)5/en/pdf.

14 For a discussion of *Google/Fitbit*, see *Google/Fitbit review: Privacy IS a competition issue*, Cristina Caffarra & Tommaso Valletti *Vox EU*, March 4, 2020, at https://voxeu.org/content/googlefitbit-review-privacy-competition-issue.

innovation effort themselves. It is not clear what one could test for with data either: internal documents will tend to be more informative (at least until they are lawyered to death), and possibly of use can be financial analyses of valuations and "build vs. buy" scenarios. Remedies are also challenging here: for instance, one might think of the parties being asked to "clone" the target's technology and let a third party receive a white label version and develop it. (Of course, the merging parties would hate it – but there is ample precedent in pharma, and again not an extravagant solution). But in principle this is doable: *every* merger assessment involves constructing and analyzing future counterfactuals, and our point is that those counterfactuals should be rich and imaginative, accounting both for killer *and* reverse killer acquisitions.

Are the agencies going to go down that route? Yes, in theory, if they had limitless resources and were willing to embrace "expected consumer surplus" as part of their toolkit. Then, there is reality. Resources are scarce, and agencies should not be tying them up in lengthy legal battles around these issues. As the OECD Background Note states, "(…) *perhaps the most important proposal that has emerged from the debate over the acquisition of nascent firms has been to reverse the burden of proof and create a rebuttable presumption"* (para 143). This has been advocated *inter alia* by Valletti in his 2018 Keynote at the CRA December Conference; and by Peitz & Motta (2020),[15] as well as multiple expert reports in the past year or so. Twelve leading U.S. academics and practitioners have also very recently advocated for a change in the U.S. law in this direction in their submission to Congress.[16]

Ultimately, the kind of policy we want needs to reflect our views – as a society – on what type of enforcement errors we think matter most (not the views of the parties and the howls of anguish of their advisors). We have proceeded for years on grounds that "Type 1 errors" (the risk of overenforcement) are the most pernicious as they would "chill innovation" stone dead, while "Type 2 errors" (the risk of underenforcement) will quickly be corrected by the growth of rivals or new entrants. But the recent track record in tech put that argument convincingly in the ground: hundreds of acquisitions not investigated, failures to diagnose potential "killer" acquisitions, multiple "reverse" cases where the buyer turns off its own effort, and fewer incentives to invest in challengers "under the shadow" of giants.

There is therefore a strong case for agencies to "lean in" and aggressively protect innovation in a huge and growing sector of the economy. Yes, enforcers cannot be all-knowing, especially given their limited resources and the huge asymmetry of information. This would militate in favor of super-dominant firms being required to proactively show why they are pursuing the deal, and how consumers would benefit. The reality is also that the lobbying playing field is far from level: lots of well-paid advocates for merging companies; few poorly-paid advocates for consumers. Perhaps therefore the system should build in structural hurdles that big money would have to get over. It would be great to see a world where the focus was instead shifted into making positive cases for efficiencies. Think of how quick firms would be to make their data available (not only to consultants, but also maybe to academics) if it were the only way they could get a pet merger through? Even if there is no change in rules, more aggressive enforcement is called for: it's time to accept we can live with a few false positives after twenty years of false negatives, and to see more innovation competition instead of "rollups" and shopping sprees.

15 Martin Peitz & Massimo Motta (2020), "Big Tech Mergers," CEPR Discussion Paper 14353, summarized at https://voxeu.org/article/how-deal-big-tech-mergers.

16 Baker, Farrell, Gavil, Gaynor, Kades, Katz, Kimmelman, Melamed, Rose, Salop, Scott Morton & Shapiro, 2020, Joint Response to the House Judiciary Committee on the State of Antitrust Law and Implications for Protecting Competition in Digital Markets https://equitablegrowth.org/wpcontent/uploads/2020/04/Joint-Response-to-the-House-Judiciary-Committee-on-the-State-ofAntitrust-Law-and-Implications-for-Protecting-Competition-in-Digital-Markets.pdf.

THE NO KILL ZONE: THE OTHER SIDE OF PHARMA ACQUISITIONS

BY JACQUELINE GRISE, DAVID BURNS & ELIZABETH GIORDANO[1]



1 Jacqueline Grise is chair of Cooley's antitrust and competition practice group, and David Burns and Elizabeth Giordano are associates in Cooley's antitrust and competition practice group.

For decades, the U.S. Federal Trade Commission (the "FTC") has used various weapons in its enforcement arsenal to challenge acquisitions by incumbents of pharmaceutical products under development – so-called "pipeline products." A competitive concern articulated in these cases is that in pharmaceutical markets with few current competing products, and few products under development, the combined firm's incentive to continue to develop the pipeline product may be diminished. This could result in the product candidate never making it to market, or being delayed in its development and introduction – thereby depriving the market of increased competition in the future.

Despite the FTC's strong enforcement record in this area, including approximately 50 consent decrees requiring divestitures of pre-marketed pharmaceutical products over the last 25 years and the largest civil disgorgement in a merger matter in FTC history,[2] in recent years the FTC has faced mounting pressure to ramp up efforts to challenge proposed acquisitions of pipeline products. In particular, in 2018, an economic paper entitled *Killer Acquisitions*[3] began making the rounds in the antitrust community. That paper argues that incumbent pharmaceutical companies may routinely acquire innovative pharmaceutical targets "solely to discontinue the target's innovation projects and preempt future competition," a phenomenon the paper deems "killer acquisitions."[4]

Based on their analysis of certain empirical data regarding pharmaceutical transactions over the last 25 years, the authors of *Killer Acquisitions* conclude that a drug development project is substantially less likely to be continued if it is acquired by a buyer with an "overlapping" product, as defined by the authors, especially if the buyer has market power. According to the methodology relied on by the authors, at least 5.3 to 7.4 percent of pharmaceutical acquisitions in the data set, or around 46 to 63 per year, were "killer acquisitions."[5]

While some advocates for stricter antitrust enforcement have seized onto the systemic "buy/kill" strategy suggested by *Killer Acquisitions*, it is critical to recognize that, by focusing on only the potential harms from such transactions, this analysis tells only one side of the story.

As we outline below, transactions involving pipeline pharmaceutical products frequently carry the potential for significant benefits to innovation and competition, and ultimately to the healthcare of patients, by making it *more* likely products successfully come to market. Indeed, putting such notoriously risky, complex and capital-intensive assets into the hands of experienced specialists well-positioned to navigate through late stage development and into commercialization, can vastly increase the odds that new products actually reach patients – and do so more quickly and more efficiently as compared to a world "but for" the transaction

It would be contrary to the purpose of antitrust laws to reflexively crack down on all pharmaceutical transactions without continuing to carefully weigh these very tangible competitive benefits. As the FTC recently observed, "[m]erger investigations are highly fact-specific" and assessing the potential for competitive harm must be "driven by evidence."[6] This article outlines examples of procompetitive benefits commonly generated by pharmaceutical transactions. Where the evidence shows that a proposed transaction carries the potential for such benefits, that information is crucial towards answering the ultimate question of whether or not the transaction is likely to result in a substantial lessening of competition.

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2 See Press Release, Federal Trade Commission, "Mallinckrodt Will Pay $100 Million to Settle FTC, State Charges It Illegally Maintained its Monopoly of Specialty Drug Used to Treat Infants" (January 18, 2017), available at https://www.ftc.gov/news-events/press-releases/2017/01/mallinckrodt-will-pay-100-million-settle-ftc-state-charges-it.

The Killer Acquisitions paper discussed below cites this matter as a paradigmatic example of a "killer acquisition." There, according to the FTC's complaint, Mallinckrodt (through its Acthar product) was a monopolist in the U.S. market for adrenocorticotropic hormone (ACTH) drugs, used as a treatment for infantile spasms, a rare seizure disorder afflicting infants, as well as other medical conditions. In other parts of the world doctors treated patients suffering these conditions with Synacthen, a synthetic ACTH drug, but in the U.S. Synacthen remained a preclinical drug and had not been approved by the FDA. In 2013 Mallinckrodt acquired the U.S. rights to Synacthen from Novartis, outbidding other companies allegedly seeking to acquire and develop Synacthen and sell it at a discount to Acthar in the U.S. The FTC alleged that by acquiring Synacthen, Mallinckrodt "thwarted a nascent challenge to its Acthar monopoly." Complaint, *FTC v. Mallinckrodt ARD Inc. and Mallinckrodt plc*, No. 1:17-cv-00120 (D.D.C. January 18, 2017), available at https://www.ftc.gov/system/files/documents/cases/170118mallinckrodt_complaint_public.pdf.

3 Colleen Cunningham, Florian Elderder & Song Ma, *Killer Acquisitions* (April 2019), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3241707 ("Killer Acquisitions").

4 *Id.* at abstract.

5 *Id.* at 6.

6 Statement of the FTC, *In the Matter of Roche Holding/Spark Therapeutics*, Comm'n File No. 1910086 (December 16, 2019), available at https://www.ftc.gov/system/files/documents/public_statements/1558049/1910086_roche-spark_commission_statement_12-16-19.pdf.

I. FRAMEWORK FOR ASSESSING ACQUISITIONS OF PHARMACEUTICAL PIPELINE CANDIDATES

The FTC's starting point for assessing acquisitions by incumbents of potentially overlapping pipeline products is outlined in the Horizontal Merger Guidelines. Section 6.4 of the Guidelines provides that the FTC will consider whether a "merger is likely to diminish innovation competition by encouraging the merged firm to curtail its innovative efforts," either in the "form of reduced incentive to continue with an existing product-development effort or reduced incentive to initiate development of new products."[7]

Key factors in this analysis include "the extent to which successful innovation by one merging firm is likely to take sales from the other, and the extent to which post-merger incentives for future innovation will be lower than those that would prevail in the absence of the merger."[8] At the same time, the Guidelines instruct that the FTC also consider "whether the merger is likely to enable innovation that would not otherwise take place, by bringing together complementary capabilities that cannot be otherwise combined or for some other merger-specific reason."[9]

The FTC's close investigation of Roche's proposed acquisition of Spark Therapeutics, over the course of 2019, illustrates one application of this framework. There, the key question the FTC faced was the first type of innovation harm outlined in the Guidelines: whether Roche would have the incentive to delay or discontinue Spark's developmental gene therapy for hemophilia A, given Roche's existing hemophilia A monoclonal antibody treatment. In short, was Roche acquiring a potential competitive entrant to "kill" it or otherwise minimize its competitive significance?

The FTC ultimately answered the question in the negative, voting 5-0 to allow the acquisition. In its closing statement the FTC explained that it "closely scrutinize[s] incumbents' acquisitions of current, potential, and nascent competitors, particularly where the incumbent has market power."[10] The all-important question is whether such acquisitions may "diminish competition and harm consumers," for example by leaving the "incumbent with the incentive to degrade or eliminate the acquired firm's products or services, or to delay development of a next-generation product."[11] The FTC concluded, however, that because Spark was "only one of several companies currently developing a gene therapy treatment for hemophilia A," Roche "would have the incentive to accelerate, rather than decelerate the development of Spark's gene therapy."[12]

II. M&A EXIT STRATEGY IS A CLASSIC PART OF THE BIOPHARMA LIFECYCLE THAT MOTIVATES *EX ANTE* INVESTMENT IN INNOVATION

As an initial matter, the potential to innovate a new product and ultimately sell it off is a key driver of innovation and a classic lifecycle for biopharma development founders and investors who expend substantial time, money and effort developing new products. Without the potential for a successful exit through a sale or a license, investors may not have the same incentives to infuse money into development, and companies and founders may not have the same incentives in innovate in the first place.

As *Killer Acquisitions* itself notes, it is possible that the "presence of an acquisition channel may also have a positive effect on welfare if the prospect of entrepreneurial exit through acquisition (by an incumbent) spurs *ex ante* innovation," which would "have to be weighed against the ex-post efficiency loss due to reduced competition."[13]

In fact, studies show that an "active acquisition market encourages innovation, particularly by small firms in an industry," for which "exit through strategic sales becomes an important motivation to continue to spend on R&D."[14] Smaller, innovative pharmaceutical firms routinely pursue business models of developing promising candidates and then selling or licensing the assets prior to later stage development and commer-

7 U.S. DOJ & FTC, Horizontal Merger Guidelines § 6.4 (August 19, 2010), available at http://www.justice.gov/atr/public/guidelines/hmg.pdf (the "Horizontal Merger Guidelines").

8 *Id.*

9 *Id.*

10 Statement of the FTC, *supra* note 6, at 1.

11 *Id.*

12 *Id.*

13 *Killer Acquisitions*, supra note 3, at 50-51.

14 Gordon M. Phillips & Alexei Zhdanov, *R&D and The Incentives From Merger and Acquisition Activity*, National Bureau Of Economic Research: Working Paper 18346 (August 2012), available at https://www.nber.org/papers/w18346.pdf.

cialization. And larger pharmaceutical companies may be better suited for this work, allowing for specialization that optimizes limited resources. The welfare benefits of entrepreneurial exit are a very important counterweight to mechanically ramping up enforcement over pharmaceutical transactions.

III. PHARMACEUTICAL TRANSACTIONS OFTEN GENERATE OTHER SIGNIFICANT PROCOMPETITIVE BENEFITS

Killer Acquisitions theorizes one motive for acquisitions of innovating pharmaceutical firms: to "terminate the development of the target's innovations to preempt future competition."[15] But the paper itself acknowledges there may be other reasons underlying these transactions, such as that "firms that are better at exploiting technologies acquire innovative targets to realize synergies, effectively enabling specialization and subsequently increasing innovation and overall welfare."[16]

There are in fact myriad reasons innovating firms may be acquired by incumbents, and in many cases these acquisitions produce significant competitive benefits that may not have been achieved if the transaction did not occur. Below we explore several common reasons for pharmaceutical M&A and licensing transactions that carry the potential for generating significant procompetitive benefits, particularly in cases of acquisitions by larger incumbents of innovative early-stage pharmaceutical companies.

A. Combining Complementary R&D Capabilities and Technologies

Acquisitions by incumbents of potentially competitive pipeline products may combine complementary R&D capabilities and technologies in ways that make it more likely the program will produce a successful therapy, or will do so more quickly, more efficiently, or more effectively.

These types of transactions, for example, may provide early-stage developers with access to specialized knowledge about a therapeutic area, or even just allow the leading experts to work together in ways that would not be possible absent a transaction. These transactions may provide access to a complementary technology that enhances the potential efficacy or safety of a pipeline product. They may also enable development of combination products that would not otherwise be possible, for example due to IP rights, proprietary data belonging to the other party, or costs of or access to sufficient quantities of the other side's product for clinical trials.

In its merger reviews, the FTC has in the past credited these types of benefits. For example, while the FTC has indicated it will "examine whether the merged firm [is] likely to have a reduced incentive to invest in R&D," it will also assess "whether it [is] likely to have the ability to conduct R&D more successfully."[17] Where it is, it may be that "the merger is likely to be procompetitive, and thus patients' lives are more likely to be saved by [the] merger than to be put at risk."[18]

This was a key factor in the FTC's investigation of *Genzyme/Novazyme*. That matter involved a merger to monopoly: Genzyme and Novazyme were the only two companies engaged in the development of a treatment for Pompe disease, a rare inherited neuromuscular disorder that typically was fatal and which had no known treatment at the time of the merger. The FTC nevertheless allowed the merger because "on balance, rather than put patients at risk through diminished competition, the merger more likely created benefits that will save patients' lives."[19]

15 *Killer Acquisitions*, *supra* note 3, at 1.

16 *Id.*

17 Statement of FTC Chairman Timothy Muris, *In the Matter of Genzyme Corporation / Novazyme Pharmaceuticals, Inc.* at 6, Comm'n File No. 0210026 (January 13, 2004), available at https://www.ftc.gov/system/files/attachments/press-releases/ftc-closes-its-investigation-genzyme-corporations-2001-acquisition-novazyme-pharmaceuticals-inc./murisgenzymestmt.pdf.

18 *Id.* at 20.

19 *Id.* at 1.

Chairman Muris, writing for the majority, concluded the "merger made possible synergies that will help avoid a delay in the Novazyme program."[20] In particular, the merger allowed for "comparative experiments and provided information that enabled the Novazyme program to avoid drilling dry holes," and that "[b]y accelerating the Novazyme program, the merger may have increased its odds of success."[21] The Commission noted that "for a fatal disease without any effective therapy, acceleration of the first effective treatment remains of paramount importance."[22]

B. Leveraging Late-Stage Clinical Development and Regulatory Expertise

Developing pharmaceutical product candidates is notoriously risky, time-consuming, and expensive, requiring lengthy clinical trials, sophisticated data collection and analysis, strategic development capabilities and access to significant resources over many years. Recent reports indicate, for example, that the overall likelihood of approval from Phase 1 for developmental candidates is 9.6 percent,[23] and that such development takes on average 12 years from pre-clinical testing to approval and costs over $1 billion.[24]

Smaller pharmaceutical companies focused on early stage clinical development may lack the specialized expertise both for developing and running complex later-stage clinical trials, as well as interfacing with regulatory agencies across the world in shepherding a drug candidate through its final stages to approval. Larger pharmaceutical companies with existing approved products, on the other hand, often have invaluable expertise with this process in the relevant therapeutic area.

Marrying promising clinical-stage candidates with this expertise can substantially increase the chances the candidate comes to market quickly and efficiently. Incumbents in the relevant therapeutic area are often uniquely well-positioned to aid in the design of later-stage clinical trials, as well as to set up and recruit patients for large trials and quickly and efficiently address feedback and guidance from the FDA and other regulatory agencies.

Indeed, in our experience, a common outcome from acquisitions of earlier stage pharmaceutical companies by an experienced incumbent is that the development timeline is immediately materially advanced – sometimes by a year or more – often reflecting the clinical development and regulatory expertise the acquirer brings to the table.

C. Generating Efficiencies in Increased Utilization of Existing Commercialization Capabilities

Smaller pharmaceutical companies often are primarily focused on R&D rather than marketing. These companies may have no existing commercialization expertise or assets, or if they do, they are limited to small sales teams marketing in specialized or orphan indications with limited reach. Often, these companies are capital-constrained and have little or no interest in or capacity to scale up a large commercialization infrastructure to market a newly approved drug.

This again contrasts with large pharmaceutical incumbents, that typically have well-established sales organizations targeting patients and health care professionals in the relevant therapeutic area, and sophisticated expertise in securing reimbursement, negotiating for favorable formulary positioning, and navigating the various other hurdles in successful drug marketing and distribution. Further, larger pharmaceutical companies with an established sales infrastructure typically benefit from significant economies of scale when introducing and commercializing a new drug, efficiencies that are not available to startups or early stage pharmaceutical companies that lack a sales and marketing organization.

Acquisitions by such incumbents can vastly increase the likelihood the new drug will successfully get to market, gain market acceptance, and be made available to patients that need it most. We have been involved in transactions, for example, where the target's budget "but for" the transaction anticipates the need to spend tens of millions of dollars building out a brand new, untested sales organization. The ability for the acquiring firm to get the new product to patients more quickly, at less cost, and with less risk, are all important considerations in assessing competitive effects from a proposed transaction.

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20 *Id.* at 17.

21 *Id.*

22 *Id.* at 19.

23 David W. Thomas et al., *Clinical Development Success Rates 2006-2015*, Biotechnology Innovation Organization, Biomed Tracker at 2, available at https://www.bio.org/sites/default/files/legacy/bioorg/docs/Clinical%20Development%20Success%20Rates%202006-2015%20-%20BIO,%20Biomedtracker,%20Amplion%202016.pdf.

24 G.A. Norman, *Drugs, Devices, and the FDA: Part 1: An Overview of Approval Processes for Drugs*, 1(3) JACC: Basic to Translational Science 170-179 (2016), available at https://www.sciencedirect.com/science/article/pii/S2452302X1600036X.

D. Removing a Blocking Patent Position

Acquisitions by incumbents may also generate significant procompetitive benefits by resolving a potential blocking patent position, that could at minimum substantially delay entry during the patent suit (barring an at-risk launch), or in a successful patent enforcement action preclude entry altogether for the life of the relevant patent(s).

Even where a target may be able to overcome a patent, doing so typically entails a costly and protracted process, as it can take three to four years or more to invalidate an Orange Book-listed pharmaceutical patent in federal court (including appeals) or through Inter Partes Review before the Patent Trial and Appeal Board.

To be sure, the existence of any theoretical patent dispute is not a panacea to a proposed merger. For example, in response to the FTC's suit to block Boston Scientific's acquisition of Cardiovascular Imaging Systems ("CVIS"), the parties argued the merger should be allowed because it resolved ongoing patent litigation and absent the acquisition Boston Scientific would not be able to compete because its product infringed. The FTC pointed out, however, that in the underlying patent litigation Boston Scientific had taken the position that the CVIS patents were invalid, a position inconsistent with its antitrust arguments. The FTC also contended the parties may have instead negotiated a cross-license, which would achieve the same benefits of the merger without eliminating competition between the competitors.[25]

However, a transaction that effectively resolves a valid blocking position, allowing for earlier entry than would otherwise be possible, offers the potential for significant procompetitive benefits without an offsetting reduction of competition.[26]

The Horizontal Merger Guidelines recognize, for instance, that merger analysis must account for "future competitive significance," and that "if the relevant assets would otherwise exit the market, customers are not worse off after the merger than they would have been had the merger been enjoined."[27] Indeed, FTC officials have in the past recognized that an acquisition may be "efficient if it defuses a legitimate blocking patent suit and thereby avoids the delays inherent in such litigation," and that such "speed-to-market type efficiencies are potentially heightened in the pharmaceutical context where new drugs sometimes assume life-and-death importance."[28]

IV. SELLERS HAVE STRONG INCENTIVES AND ABILITY TO PROTECT AGAINST "KILLER ACQUISITIONS"

In addition to the fact that pharmaceutical transactions often have the potential for generating significant procompetitive benefits, which should be taken into account in any analysis of competitive effects, there are also a large number of transactions that carry less risk of being killer acquisitions. Caution is warranted before broadly heightening antitrust scrutiny over such transactions, which may well generate the types of benefits to competition described above without the competitive concerns of the type articulated in *Killer Acquisitions*.

Much more so than transactions in many other industries, pharmaceutical deals are characterized by very large potential earnout payments. One recent study of private-target life sciences transactions, for example, finds that over 80 percent of biotech/pharmaceutical deals over the last decade included at least some form of an earnout, compared to around 15 percent in non-life sciences deals.[29] This study also finds that in such biotech/pharmaceutical deals the value of the potential earnout typically substantially outweighed the up-front payments, comprising on average around 70 percent or more of the aggregate deal value.[30]

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25 Memorandum of Points and Authorities in Support of the Federal Trade Commission's Motion for Preliminary Injunction at 40, *FTC v. Boston Scientific Corp.*, No. 95-00198 (D.D.C. January 27, 1995).

26 See, e.g. Herbert Hovenkamp et al., IP & Antitrust § 7.4, (3d. ed. 2019) ("If the IP right is valid and infringed, so that the defendant could not lawfully participate in the market, the merger does not eliminate a legitimate competitor in that market, though it might foreclose the possibility that the purchased company would have developed a non-infringing technology.").

27 See Horizontal Merger Guidelines, *supra* note 7, §§ 5, 11.

28 Statement of Former FTC Commissioner Sheila F. Anthony, *Riddles and Lessons from the Prescription Drug Wars: Antitrust Implications of Certain Types of Agreements Involving Intellectual Property*, Presented Before the Attendee of The ABA Antitrust and Intellectual Property: The Crossroads Program (June 1, 2000), available at https://www.ftc.gov/es/public-statements/2000/06/riddles-lessons-prescription-drug-wars-antitrust-implications-certain.

29 Don Morrissey & Leo Jiang, SRS Acquiom, 2019 SRS Acquiom Life Sciences M&A Study at 17 (September 16, 2019).

30 *Id.* at 18-19.

In transactions involving this type of compensation structure, sellers have very strong incentives to protect against the potential for a killer acquisition: if the project is killed, the earnout will generally not be paid and the seller will forego a significant portion of its compensation. Sophisticated sellers are also well positioned to contractually protect against the risk that a development project will be artificially killed (e.g. for non-scientific or health reasons). For example, sellers can negotiate strong best efforts clauses dictating the buyer's project development obligations and requiring the buyer to advance the project in good faith, and reversionary rights and compensation in the event the project does not move forward.

Absent a sham to cover an otherwise anticompetitive deal, a transaction that involves a large potential earnout, coupled with strong efforts clauses and reversionary rights, should ordinarily raise less concern that the deal may be a killer acquisition warranting closer FTC scrutiny.

The FTC has in the past recognized that earnout payments can have competitive implications. For example, in *Genzyme/Novazyme*, the merger agreement provided for significant potential milestone payments to Novazyme if products employing Novazyme's technologies were FDA-approved, and Genzyme had placed Novazyme shareholders in key positions at the merged company. The FTC noted that if Genzyme's intent was to delay or kill the development of the Novazyme product, it would have been irrational to create such a compensation structure and then place Novazyme shareholders in positions where they would quickly become aware of steps to eliminate or delay the Novazyme program.[31]

V. CONCLUSION

Advocates for stronger antitrust enforcement have argued that the risk of killer acquisitions warrants stricter scrutiny of pharmaceutical transactions overall. But even taking analyses such as *Killer Acquisitions* at face value, the asserted increased potential for harm to competition from acquisitions by incumbents should be balanced against the substantial benefits to innovation and competition often made possible by such transactions. These very tangible competitive benefits are crucial when assessing whether a transaction is likely to lessen competition substantially.

31 Statement of FTC Chairman Timothy Muris, *supra* note 17, at 15-16.

BEYOND KILLER ACQUISITIONS: ARE THERE MORE COMMON POTENTIAL COMPETITION ISSUES IN TECH DEALS AND HOW CAN THESE BE ASSESSED?

BY DR. OLIVER LATHAM, DR. ISABEL TECU & DR. NITIKA BAGARIA[1]



1 The authors are consultants in Charles River Associates' Antitrust and Competition Economics Practice. All views expressed in this paper are those of the authors. The views expressed here should not be attributed to CRA or to other consultants or affiliates with CRA. Any errors and omissions are the sole responsibility of the authors. We thank Cristina Caffarra and Robert Stillman for sharing ideas and suggestions. We thank our colleagues Dale Brocklesby, Shalini Chandar, Nicolas Lopez, and Christine Xiao for invaluable help with the data analysis.

I. INTRODUCTION

No issue has received more attention in antitrust circles in recent years than "killer acquisitions." Arising from a blockbuster academic study identifying 5 to 7 percent of pharmaceutical transactions as having resulted in the "killing" of a new drug under development,[2] attention has extended to other industries with particular focus on acquisitions in the technology sector. Calls for changes in the evidentiary standard for assessing such transactions, from an adoption of a "balance of harms" approach,[3] to a reversal of the burden of proof in such cases[4] are motivated by the concern that the potential harm from killer acquisitions in the technology sector is so great that it warrants an adjustment of the standards usually employed in potential competition cases. A subsequent backlash has argued these concerns are driven by "hindsight bias" and that more vigorous antitrust enforcement would prevent pro-competitive integration of complementary assets into larger organizations and undermine funding to, and innovation, by smaller firms.[5]

The goal of this paper is to take the killer acquisition concern seriously while getting a quantitative sense for how many acquisitions by Google, Amazon, Facebook, and Apple ("GAFA") display a fact pattern even remotely consistent with the killer acquisition narrative, and whether there are alternative potential competition concerns that could be of more frequent application. We gather information on 409 transactions concluded by GAFA between 2009 and 2020 and apply "filters" to get a rough first categorization of whether the target firms could possibly have been a threat to the acquirer's "core" business and whether the purchase value was large enough to be potentially consistent with a potential "market power premium".[6] We find that, even based on these preliminary filters, only a small proportion of transactions could begin to fit the "killer" narrative and characterize some qualitative patterns among the remaining transactions showing that they are generally about GAFA acquiring new capabilities and positioning themselves to enter new markets.

Based on these findings we ask whether there are alternative potential competition concerns with more general application and conclude that the more common concern is likely to be that the acquirer will absorb the target's skills and capabilities to replace its own (i.e. that it is the large acquirer that is a competitive threat to the small target rather than vice-versa). We discuss some examples of agencies pursuing this "reverse killer acquisition" concern and consider the issues that arise when investigating the competitive effects of such transactions.[7]

Overall, **killer acquisitions are best thought of as a rare, but high impact event, and mergers in fast-moving industries can generate broader potential competition concerns outside of this paradigm.** The key policy question is then how to adapt our existing tools to properly police these transactions.

2 See Cunningham, C., Ederer, F., & Ma, S. 2019. "Killer Acquisitions", Working Paper.

3 See the final report of Her Majesty's Treasury's "Furman Review" "Unlocking Digital Competition".

4 https://globalcompetitionreview.com/article/1177095/dg-comp-chief-economist-reverse-burden-of-proof-to-catch-killer-acquisitions.

5 https://laweconcenter.org/wp-content/uploads/2019/07/Concluding-Comments-The-Weaknesses-of-Interventionist-Claims-FTC-Hearings-ICLE-Comment-11.pdf.

6 We are aware of other studies looking systematically at acquisitions by GAFA, but not of studies which have applied ex-ante screens to look at the proportion of transactions which might have "killer" characteristics. See: Argentesi, E. Buccirossi, P. Calvano, E. Duso, T. Marrazzo, A. and Nava, S. 2020. "Tech-over: Mergers and merger policy in digital markets", Vox. https://voxeu.org/article/mergers-and-merger-policy-digital-markets.

7 The term "reverse killer acquisition" was coined in a Vox article by Cristina Caffarra, Greg Crawford, and Tommaso Valletti. See "How tech rolls: potential competition and "reverse" killer acquisitions", Vox https://voxeu.org/content/how-tech-rolls-potential-competition-and-reverse-killer-acquisitions.

II. WHY HAVE KILLER ACQUISITIONS RECEIVED SO MUCH ATTENTION, IN PARTICULAR IN TECH? AND WHAT FILTERS AND TOOLS CAN WE USE TO BETTER IDENTIFY TRANSACTIONS WHICH MIGHT FALL INTO THIS PARADIGM?

In the original killer acquisition narrative, a dominant firm acquires a nascent firm, motivated by the concern that it could evolve into a competitor and challenge the dominant firm's market power. While the concerns originated in the pharmaceutical industry the policy focus has shifted to the technology sector.[8]

Why the focus on tech? First, the size of the major platforms and the presence of network effects means that competition tends to be *for* the market rather than *in* the market, increasing the likelihood that key competitive threats will be currently nascent firms. Second, products tend to be dynamic and "today's complement can become tomorrow's substitute."[9] Third, it may not be feasible to enter as a direct horizontal competitor, and potential competitors may first seek to grow as a complementary or vertically related product before starting to compete with the incumbent head on.[10] Fourth, attention has been drawn to the sheer volume of transactions in this space with much attention given to the almost 400 known acquisitions by GAFA during the 2009-18 period. Finally, the welfare consequences of a miscalibration of merger policy are potentially huge – both for individual transactions as well as for innovation incentives more generally. Economists have also argued that killer acquisitions may distort the rate and direction of innovation to the detriment of social welfare.[11]

Historically most of these transactions have not received any rigorous antitrust review (because the deal size fell below reportable thresholds, or because of a lack of clear horizontal overlaps). This is changing. But for regulators struggling with the sheer volume of acquisitions that are potential competition cases, what tools can be used to identify potential killer acquisitions?

Traditional quantitative tools of economic merger analysis (diversion ratios, merger simulation and so on) are likely to be of more limited use, but theory does assist with at least providing filters which can be applied to screen for acquisitions that have the hallmarks of a killer acquisition. Past antitrust cases provide a rich set of examples of dominant firms using their existing market power to undermine dynamic competitive threats and provides a theoretical framework for thinking about what sorts of assets might constitute a dynamic threat to a firm's core market position.[12] Indeed, several complainants in these antitrust cases were previously targets for acquisition.[13] Natural filters include:[14]

8 The "Killer Acquisitions" paper by Cunningham, Ederer & Ma provided compelling evidence that killer acquisitions were in fact happening in pharmaceuticals and that these acquisitions were flying under the radar of antitrust scrutiny.

9 For example, at the time of its acquisition by Facebook, Instagram was a "mere photo app, with limited social network functionalities" but has since grown into a different product with "fully-fledged social network functionalities" (Lear Report p.57).

10 See Susan Athey, "Nascent Competition: Economic Incentives and Business Strategies of Tech Firms," Remarks delivered at the FTC Hearings on Competition and Consumer Protection in the 21st Century, October 17, 2018.

11 The theoretical economic literature tells us that permissive merger policy may increase the *rate* of innovation because it incentivizes start-ups to chase after a future payout, but raises also the concern that it may lead to less innovation in the long run if, due to its accumulated acquisitions, the incumbent's advantage becomes so large that it no longer perceives any threat from start-ups. It generally agrees that a permissive approach to acquisitions of startups by dominant firms will incentivize the *direction* of intervention towards technologies that dominant firms are most willing to pay for, because they present a competitive threat and/or because they help the dominant firm to cement its dominant position (or both). (See Bryan, Kevin & Hovenkamp, Erik, "Antitrust Limits on Startup Acquisitions" (March 10, 2019). Forthcoming, Review of Industrial Organization. Available at SSRN: https://ssrn.com/abstract=3350064; Cabral, Luis M. B., "Standing on the Shoulders of Dwarfs: Dominant Firms and Innovation Incentives" (August 2018). CEPR Discussion Paper No. DP13115. Available at SSRN: https://ssrn.com/abstract=3235598).

12 See Carlton and Waldman, "The strategic use of tying to preserve and create market power in evolving industries," RAND Journal of Economics, Vol. 33, No.2 (2002). This provides a formulation of the intuition for how "today's complement might become tomorrow's substitute" and how this can result in incentives to foreclose.

13 For example, the Microsoft "browser wars" might well never have occurred had Microsoft come to financial terms to acquire Netscape https://www.businessinsider.com/worst-miss-ever-microsoft-tried-to-buy-netscape-in-1994-2011-10?r=US&IR=T.

14 The U.S. Horizontal Merger Guidelines identify these same factors, even if expressed slightly differently: "A merger between an incumbent and a potential entrant can raise significant competitive concerns. The lessening of competition resulting from such a merger is more likely to be substantial, the larger is the market share of the incumbent, the greater is the competitive significance of the potential entrant, and the greater is the competitive threat posed by this potential entrant relative to others." (U.S. Horizontal Merger Guidelines at 5.3). Unsurprisingly, these criteria are very similar to criteria that we are concerned about in "traditional" merger analysis. For example, the Gross Upward Pricing Pressure Index ("GUPPI") is a function of diversion ratios, i.e. measures of the closeness of competition, and margins, i.e. measures of market power. For a recent review of these issues see the 2020 OECD background note on "Start-ups, Killer Acquisitions and Merger Control" https://one.oecd.org/document/DAF/COMP(2020)5/en/pdf.

1) Focusing attention where the purchaser is indeed in a position of significant market power such that "out of market," nascent competitors could be key competitive constraints.

2) Conducting a screen for whether there is a plausible economic mechanism through which the target could evolve into a threat to the acquirer. For example, is the target operating in a vertically related market that would allow the target to integrate into the acquirer's core market? Does the target have a large user base which is well suited to being "swung" into the acquirer's line of business? The analysis would need to consider which assets the target currently owns (e.g. know-how, technology, products), how unique those assets are compared to other players, and how these assets could plausibly be used to compete with the acquirer.

3) Looking at deal valuation. Any firm that is a significant competitive threat to a major incumbent should be able to command a significant valuation. If this filter is breached further scrutiny is then required to determine whether a transaction value is justifiable based on fundamentals (the target's standalone value and anticipated synergies) or if there is an unexplained excess payment consistent with a "market power premium" (i.e. the incumbent paying a share of its monopoly profits to deter or eliminate a potential entrant). Of course, it is important to interpret such valuations in the context of other business documents that may shed light on the acquirer's motivation for the acquisition.[15]

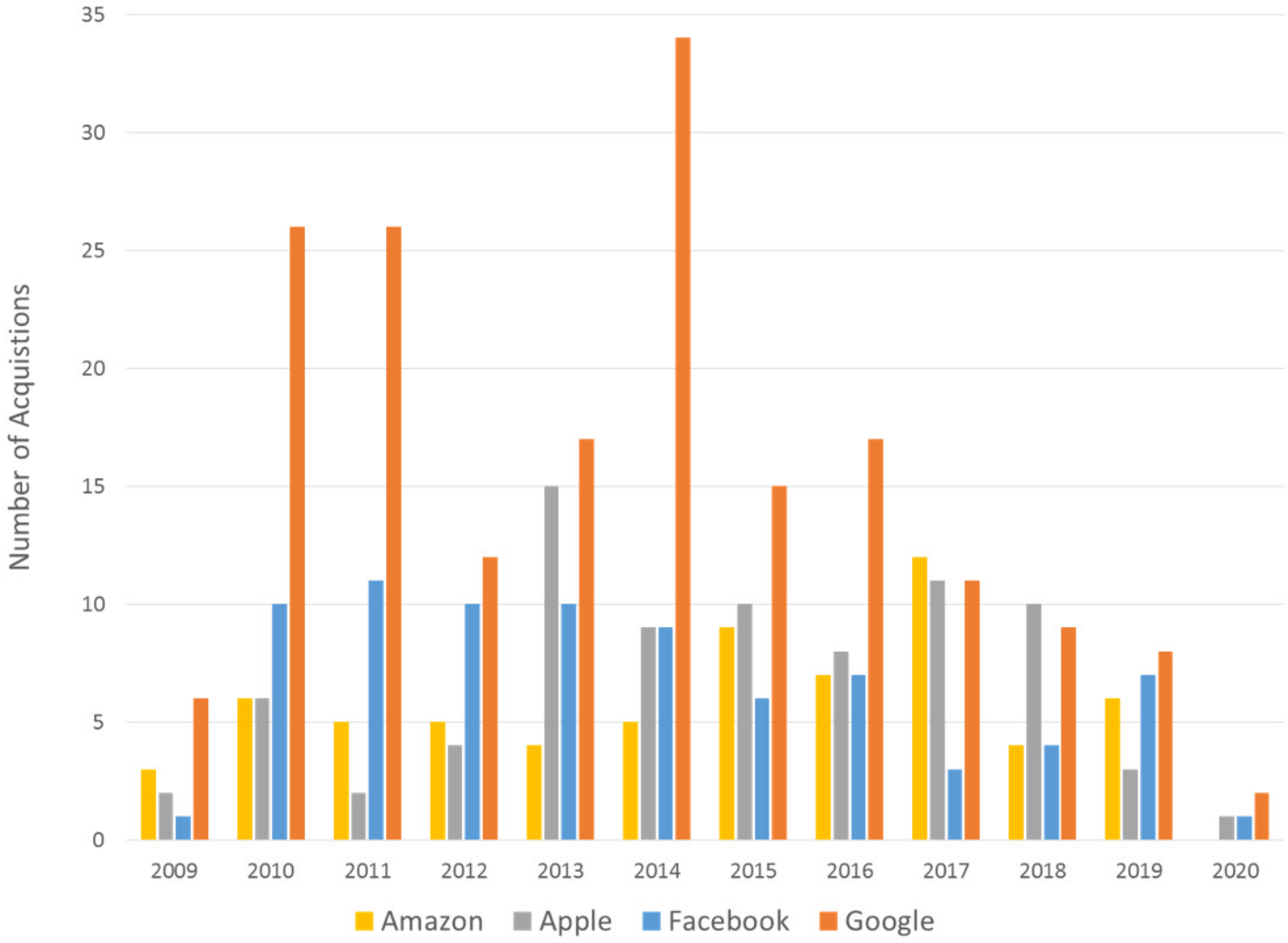
15 For an overview of how valuation evidence can be used to assess potential competition concerns in merger cases see Latham, O., Chisholm, S. & Lynch, S. 2019. "Acquisitions of Potential Rivals in Digital/Tech: Valuation Analysis as Key Economic Tool," https://ecp.crai.com/wp-content/uploads/2019/06/Use-of-valuation-analysis-in-merger-assessment.pdf.

III. IN LIGHT OF THESE FILTERS HOW MANY TECH TRANSACTIONS POTENTIALLY FIT THE "KILLER" NARRATIVE?

So, looking back at the oft-cited 400 acquisitions by GAFA, how many would breach the filters set out above? And if the answer is "not that many", are there theories of harm around potential competition with broader application?

To get a handle on this question we have gathered data on 409 transactions completed by GAFA between 2009 and 2020[16] and conducted research to document the value of these transactions and apply the filters set out above. We focus on GAFA because of data availability and the focus on these companies in the policy debate. Applying these filters is not an exact science and some judgment calls are required, but we consider the exercise informative for getting a quantitative sense of how many potential killer acquisitions might potentially be lurking among these past deals. Figure 1 below summarizes the number of transactions by year. Most of these acquisitions (183, or 45 percent) were made by Google, followed by Apple (81, or 20 percent), Facebook (79, or 19 percent), and finally Amazon (66, or 16 percent). In more recent years, however, Google's M&A activity has declined somewhat so that its lead has become less pronounced.

Figure 1: GAFA Acquisitions by Year



Note: Chart includes acquisitions between 2009 and March 2020.

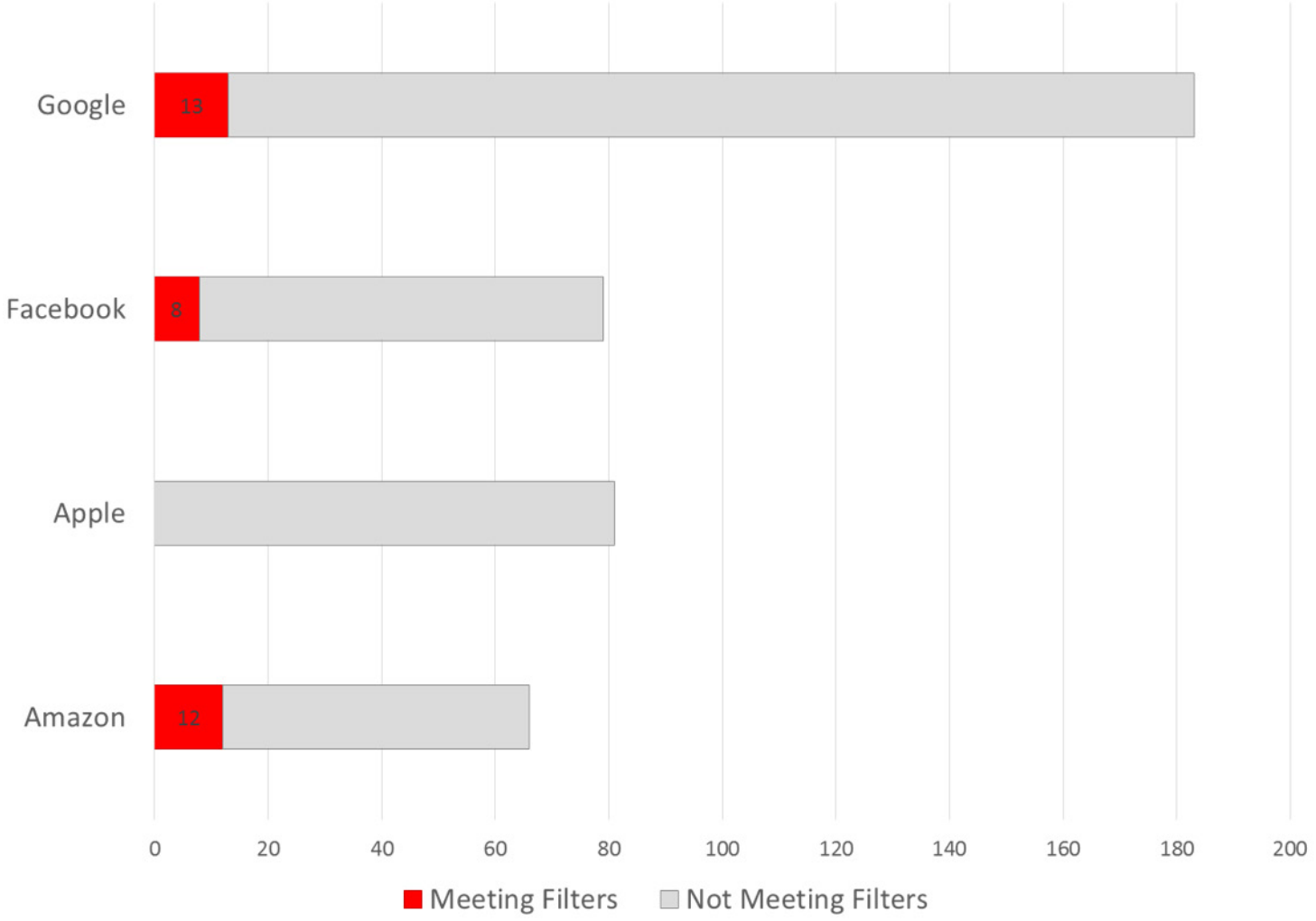
Source: Authors' analysis of GAFA transactions listed on Wikipedia

16 Our dataset runs through March 2020.

A. How many of these transactions involve a plausible threat to the acquirer's "core" market position?

We attempted to identify those transactions among the 409 that relate directly to the purchaser's "core" business or for which one could, at least at a high level, tell a plausible entry story. In particular, we looked for targets that meet our "core business" filters in that they either (a) had a direct horizontal overlap with the acquirer's "core" business,[17] or (b) were vertically-related to that core business and could plausibly grow into a competitive threat, for example by commanding a large userbase or acting as a "gatekeeper." Noting once again that this is not an exact science and that judgment calls are inevitably required, Figure 2 below shows that this number is relatively small: in total our review only flagged 33 acquisitions or 8 percent as acquisitions of targets within the acquirer's core business or vertically-related to the acquirer's core business. Thus, while there are instances (e.g. Facebook's acquisition of WhatsApp) of transactions triggering our broad-brush potential "killer acquisition" filters, these represent a small proportion of transactions. Further, the nature of our filters is that they should be considered as necessary, rather than sufficient conditions: we are not saying that the transactions surviving these filters *were* killer acquisitions (such a conclusion would require a thorough analysis of internal data and documents), but rather that they appear to display some necessary features consistent with this theory of harm.

Figure 2: Count of Acquisitions Meeting "Core Business" Filters



Note: Chart includes acquisitions between 2009 and March 2020.

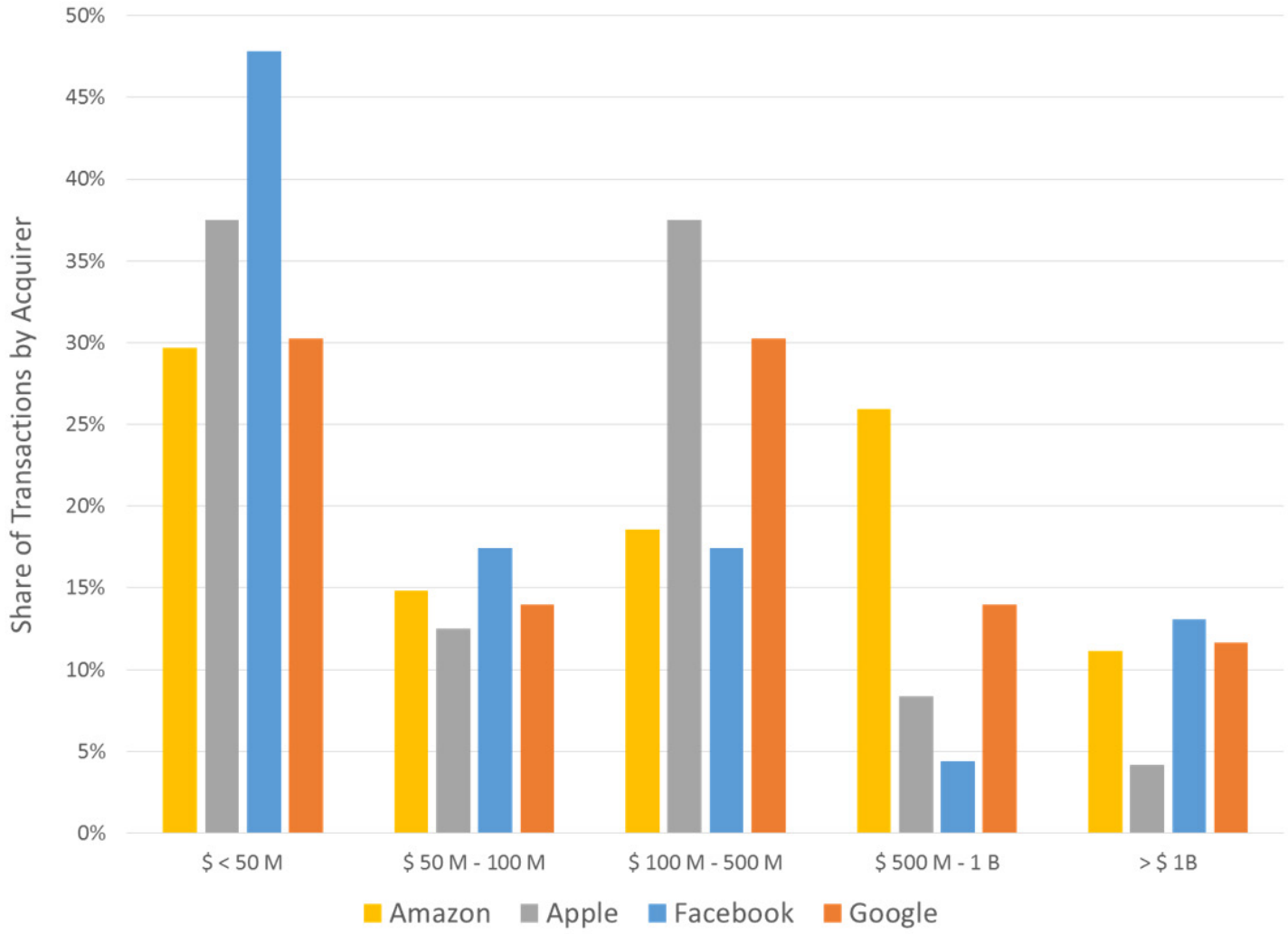
Source: Authors' analysis of GAFA transactions listed on Wikipedia

17 While of course GAFA are active in numerous sectors, we consider their "core" business to be online retail for Amazon, devices for Apple, social networking for Facebook, and search and online advertising for Google.

B. Valuation

Figure 3 below illustrates that most of the GAFA acquisitions for which the acquisition price is publicly available are relatively small in terms of acquisition value (at least relative to the market capitalization of GAFA if not in absolute terms).[18] While of course some transactions had price tags above $1 billion USD (the highest price was paid by Facebook for WhatsApp in 2014, $19 billion), around one third of targets were valued at less than $50 million.[19]

Figure 3: Acquisition Prices of GAFA Acquisitions



Note: Analysis includes acquisitions between 2009 and March 2020 for which the acquisition price is publicly available (117 acquisitions).

Source: Authors' analysis of GAFA transactions listed on Wikipedia

18 Out of the 409 transactions we analyzed, we were able to identify acquisition prices for 117.

19 As explained above, applying a filter on deal size can be useful as a target that poses a significant competitive threat should be able to command a substantial purchase price. However, for acquisitions that are further scrutinized, the more relevant question is how the purchase price compares against the stand-alone value of the target and anticipated synergies and whether there is any evidence of a "market power premium".

Looking at transactions which were *both* of material value (>$100 million) and met our core business filters, the number of surviving transactions is relatively small: 11 of the 117 transactions for which valuation information was available. Even if one lowers the valuation threshold to >$50 million, only 16 transactions also met at least one of our core business filters. Assuming that transactions without a reported purchase price fall below the $50 million valuation threshold, acquisitions that met our filters represent 4% of the 409 acquisitions reviewed. Of the top 10 acquisitions in terms of value only two triggered our filters, see Table 1 below.

Table 1: Top 10 GAFA Acquisitions by Value

Acquirer	Target	Sector	Date	Value ($ B)	Meets "core business" filters
Facebook	WhatsApp	Messaging	2/19/2014	19	Yes
Amazon	Whole Foods Market	Grocery	6/16/2017	13.7	No
Google	Motorola Mobility	Mobile device manufacturer	8/15/2011	12.5	No
Google	Nest Labs	Home automation	1/13/2014	3.2	No
Google	Revolv	Home automation	10/24/2014	3.2	No
Apple	Beats Electronics	Headphones	8/1/2014	3	No
Google	Looker	Analytics	6/6/2019	2.6	No
Facebook	Oculus VR	Augmented Reality	3/25/2014	2	No
Amazon	Zappos	Retail	11/2/2009	1.2	Yes
Google	HTC (portions)	Electronics	9/21/2017	1.1	No

Note: Analysis includes acquisitions between 2009 and March 2020 for which the acquisition price is publicly available (117 acquisitions).

Source: Authors' analysis of GAFA transactions listed on Wikipedia

C. Why do most transactions not trigger the "killer" filters? What are GAFA buying?

Further review of these transactions suggests that the vast majority have been about GAFA acquiring new capabilities and positioning themselves to enter new markets. Figure 4 illustrates the variety of business sectors in which GAFA have made acquisitions. One sees evidence of successive waves of interest in individual technology fields from AI[20] and music/video streaming,[21] to speech recognition,[22] and robotics.

Figure 4: Top 10 Target Business Sectors of GAFA Acquisitions

Target business	% of M&A (2009-2020)
Retail	12%
Cloud Computing	9%
Artificial Intelligence	6%
Distribution	6%
Computer Games	5%
Video Streaming	5%
Publishing	5%
Home Security	3%
App Development	3%
Voice recognition	3%
Others	44%
Total	**66**

Target business	% of M&A (2009-2020)
3D mapping	14%
Photography	7%
Augmented Reality	6%
App Development	5%
Voice recognition	5%
Machine Learning	5%
Health	4%
Audio Streaming	4%
Image Recognition	4%
Data Science / Analytics	4%
Others	43%
Total	**81**

Target business	% of M&A (2009-2020)
Cloud Computing	8%
Advertising	5%
Price Comparison Service	5%
App Development	4%
Robotics	3%
Social Media	3%
Data Science / Analytics	3%
Cyber Security	3%
Search Engine	2%
Gaming	2%
Others	62%
Total	**183**

Target business	% of M&A (2009- 2020)
Social Media	14%
Messaging	10%
App Development	6%
Augmented Reality	6%
Publishing	5%
Data Science / Analytics	4%
Advertising	4%
Cyber Security	3%
Sound production	3%
Virtual Reality	3%
Others	43%
Total	**79**

Note: Chart includes acquisitions between 2009 and March 2020.
Source: Authors' analysis of GAFA transactions listed on Wikipedia

20 E.g. Deepmind, Jetpac, Dark Blue Labs and Halli Labs for Google; Ozlo for Facebook, Lattice Data and Silk Labs for Apple.

21 E.g. Lovefilm, Amie Street and Twitch for Amazon; Swell, Beats and Shazam for Apple, Songza for Google.

22 E.g. Ivona for Amazon; Poly9, Siri, Novarius and VocalIQ for Apple; Wit.ai for Facebook and Phonetic Arts for Google.

We see targets relating to the acquirer in numerous ways:

1) Incremental technological improvements to core business, where the target only offers a specific technology and does not possess the scope to compete with the acquirer: e.g. Apple bought firms specializing in semiconductors,[23] Augmented Reality, [24] and voice recognition, [25] and Amazon bought firms in distribution technology.[26]

2) Complementary assets for *non-core* offerings: E.g. Google purchased assets relating to its cloud computing business,[27] and Apple purchased mapping companies.[28]

3) Vertical services that plug into the acquirer's core ecosystem, but which are not plausibly dynamic competitive threats to the acquirer's core business: e.g. Amazon acquired video streaming companies,[29] and Apple bought music recognition technology.[30]

4) Forays into new spaces: e.g. both Amazon and Google have purchased multiple firms in home automation and security,[31] and Apple has made purchases in health.[32]

5) Hot new technologies that receive interest from several of the GAFA companies simultaneously: e.g. AI,[33] voice recognition,[34] and data analytics.[35]

6) Idiosyncratic side bets or "moon shots": e.g. Virtual Reality for Facebook,[36] robotics for Google,[37] and self-driving cars for Apple.[38]

23 E.g. portions of Dialog Semiconductor.

24 E.g. Vrvana.

25 E.g. Siri.

26 E.g. Kiva Systems.

27 E.g. Cloudsimple, Alooma.

28 E.g. C3 Technologies, Mapsense.

29 E.g. LoveFilm, Twitch Interactive.

30 E.g. Shazam.

31 E.g. Amazon bought Ring, Google bought Nest Labs.

32 E.g. Tueo Health, Beddit.

33 E.g. Amazon bought Graphiq, Apple bought Lattice Data, Facebook bought Ozlo, Google bought Halli Labs.

34 E.g. Amazon bought Yap, Apple bought VocalIQ, Facebook bought Wit.ai.

35 E.g. Apple bought Topsy, Facebook bought Onavo, Google bought SocialGrapple.

36 E.g. Oculus VR.

37 E.g. SCHAFT, Inc., Meka Robotics.

38 E.g. Apple bought Drive.ai.

IV. WHAT SHOULD THIS FINDING MEAN FOR MERGER POLICY? ARE THERE OTHER POTENTIAL THEORIES OF HARM WITH MORE FREQUENT APPLICATION?

The analysis above indicates that, even on a broad brush and likely over-inclusive approach, killer acquisitions in tech are likely rare. This is not meant to be dismissive: rare events with large negative welfare effects need to be guarded against. However, this observation raises the question of whether this should be the only, or even primary, theory of harm when looking at transactions where a large acquirer is buying a smaller player.

Looking at the example transactions discussed above, the most natural alternative concern would be to "flip" the original killer narrative: rather than asking whether the nascent target was a threat to the incumbent acquirer is it possible that, but for these transactions, GAFA would have entered these product or service lines organically such that the transaction results in the discontinuation of innovation effort by the acquiring firm?[39] This "reverse killer acquisition" narrative (where the incumbent is a competitive threat to the target rather than vice-versa) is increasingly arising in merger review.[40] The UK CMA has been particularly active in pursuing such concerns. See, for example, *PayPal/iZettle* (where, while one might have started with killer acquisition concerns, the CMA's focus quickly turned to the question of whether PayPal would become a stronger competitor to iZettle's business); *Amazon/Deliveroo* (where the concern was that Amazon might re-enter restaurant delivery to compete with Deliveroo); and *Sabre/Farelogix* (where, as well as a concern that Farelogix was a dynamic threat to Sabre, the CMA pursued a concern that Sabre could develop a rival to Farelogix's market-leading "merchandising" product).[41] So how should one analyze this alternative theory of harm and how similar are the issues to the classic killer acquisition story?[42]

V. HOW TO ANALYZE POTENTIAL COMPETITION CONCERNS WHICH FALL OUTSIDE OF THE "KILLER" NARRATIVE?

Historically, the reaction to this "reversed" potential competition story would be "what's not to love": on their face these are essentially conglomerate transactions, which we know can generate efficiencies by internalizing externalities, extending benefits from the target across a broader user base of the acquirer, and "plugging gaps" in functionality.

However, in a world where there is a sense that big tech can do anything it sets its mind to, competition agencies are likely to increasingly view any large conglomerate transaction as a potential competition case in disguise and interrogate whether, but for the transaction, the efficiencies outlined above could be achieved organically by the purchaser with the benefit of retaining the target as an additional competitor. This is not an unreasonable concern to have, but how should one navigate such cases? Natural gating questions are:

1. **How unique is the target firm?** The loss of one of the GAFA companies, or any large incumbent, as an organic entrant and incremental competitor will be less concerning if the target is operating in a comparatively unconcentrated space: if there are 20 similar start-ups and multiple alternative potential entrants, the concern that the transaction takes the number of players from N+1 to N will be less concerning.

2. **How to assess the purchaser's commitment to organic entry into the target's space without the transaction?** Underpinning the "reverse" killer acquisition concern is a sense that the very fact a large firm is willing to sink a large sum of money into acquiring a complementary asset signals a willingness to enter this space organically if the deal could not be done. In order to make this concern more concrete one clearly needs a careful review of internal documents to understand counterfactual entry incentives. As well as already extant entry plans, a key question would be whether the acquirer had identified the target firm's sector of operation as a strategically important

39 We note that, in the case of Pharma, a killer acquisition is any transaction which results in the anticompetitive cancellation of product development by either party (whether that of the target or acquirer). The "reverse" terminology comes into play in tech when the killer acquisition concern is less about both firms having directly competing products but about the target's product developing in a way that challenges the incumbent.

40 For further discussion for the reverse killer acquisition theory see the Caffarra et al. Vox article cited above.

41 Consultants at CRA advised the Parties in each of these transactions. We note that the US Department of Justice did not pursue the merchandising concern in its challenge to the Sabre/Farelogix deal and that its challenge based on Farelogix being a threat to Sabre was rejected at trial.

42 This theory of harm is not unique to tech. As a recent example, the European Commission expressed similar concerns when it announced its Phase II investigation into the proposed acquisition of TachoSil, a hemostatic patch, by Johnson & Johnson ("The Commission's investigation revealed that absent the transaction, Johnson & Johnson would have strong incentives to enter the EEA/UK markets for dual haemostatic patches either with its existing product currently unavailable in the EEA/UK or with new dual haemostatic patch that it might have developed absent the transaction," see EC Press Release "Mergers: Commission opens in-depth investigation into proposed acquisition of Tachosil by Johnson & Johnson," March 25, 2020, available at https://ec.europa.eu/commission/presscorner/detail/en/ip_20_529).

space to bolster or improve its core business.[43] Clearly, concerns around counterfactual entry would be more likely if the transaction was considered of existential importance than if it appeared to be more of a whim or frivolity. As well as documentary evidence, deal valuation is likely to be of relevance as it is in a killer acquisition context: both because it is a signal of the uniqueness of the target and the commitment of the purchaser to the market in which it operates.

3. **How valuable are the purchaser's assets to enter the target's space?** The reason why potential competition concerns are likely to focus on big tech is that they are perceived to be able to easily enter new markets as a result of their financial resources, internal expertise, and existing userbases. However, a full assessment of potential competition concerns will need to consider how valuable these advantages are vs. other potential entrants, the extent of commonality between the assets and expertise of the target vs. the incumbent and so on. For example, in the *Amazon/Deliveroo* case a key question would be the extent to which a logistics operation optimized for "milk round" multi-stop deliveries has economies of scope with a "point-to-point" restaurant delivery infrastructure and the extent to which Amazon was able to cross-sell new services to its existing userbase. Viewed through this lens one would generally anticipate being more permissive about transactions involving assets which fall far outside of the purchaser's core expertise and, as noted above, this seems to be the case for a significant fraction of transactions by GAFA in recent years.

4. **How to take account of efficiencies?** The challenge with assessing these theories of harm is that the efficiencies associated with a purely conglomerate transaction still apply, the question is just whether they could be quickly replicated by the purchaser in the counterfactual without the deal. Key questions will be to gauge the extent of advantage in terms of time to market and the extent to which the target firm provides a "best of breed" solution that the purchaser would not be able to match were it to enter organically.[44]

These questions are not that different from those in the standard killer acquisition scenario. They require careful consideration of potential entry strategies and the likely counterfactual. The key difference from the killer acquisition scenario is that we do not face the same challenge of guarding against "low probability high impact events" nor the same asymmetry between potentially huge costs of incorrect merger clearances and smaller costs of incorrect prohibitions. As such, while transactions of this sort can generate anticompetitive effects which need to be taken seriously, they do not raise the same existential questions about the effectiveness of merger review or the need for softening of the standard of review. Rather, we just need to take these concerns seriously and engage in a rigorous assessment of pro- and anticompetitive effects.

Overall, concerns about "reverse" killer acquisitions are likely to receive increasing scrutiny in merger review. This is correct in our view. The only question is how to appropriately distinguish between truly complementary or otherwise efficiency-enhancing transactions and those which prevent effective and timely organic entry by the purchaser.

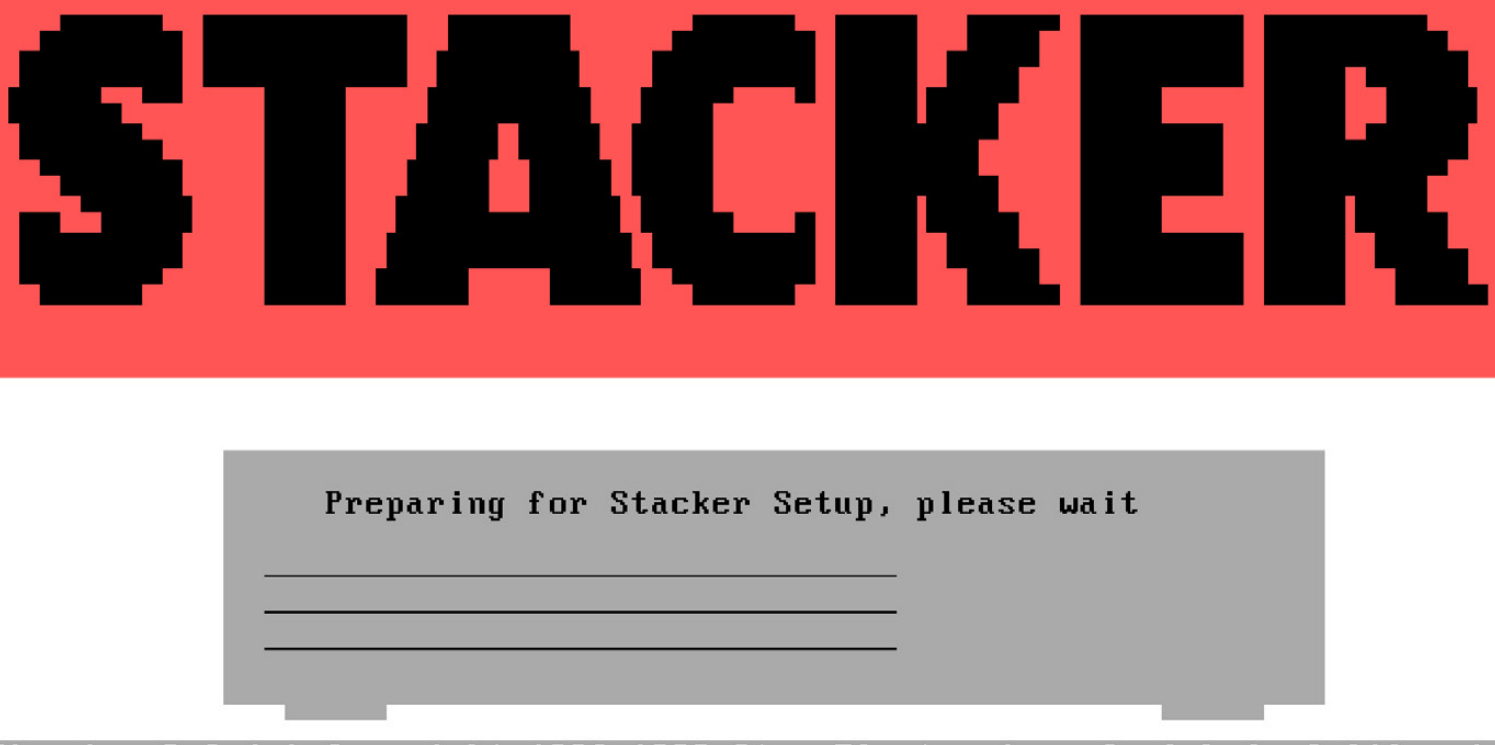
VI. CONCLUSION

Potential competition in tech does not stop with "Killer Acquisitions." Indeed, our analysis shows that true killer acquisitions (while important when they arise) are likely to be relatively thin on the ground. As such, the more common theory of harm going forward is less likely to be the removal of dynamic threats to the acquirer's core business, but rather the possibility that the counterfactual to the transaction is organic entry by the purchaser. This is a reasonable concern and one that should be scrutinized. While we do not claim to have all the answers, we have set out some of the questions and trade-offs which can used to shed light on these issues.

43 The *PayPal/iZettle* case is a good example. The CMA concluded that the need to offer an "omnichannel" payment solution (one covering both offline and online payment functionality) meant that PayPal would have strong incentives to build out its offline payments capability but for the transaction. Ultimately, however, the CMA concluded that this would take time and that the presence of other competitors meant that this loss of potential competition was insufficient to prohibit the transaction.

44 Examples in the list of transactions studied above would include Siri and LoveFilm. In each case it seems plausible that the purchaser had a strong interest in entering the space in question and had the internal capabilities to enter. However, given the presence of other competing voice assistants and streaming services it is plausible that the higher-quality and faster development time afforded by these acquisitions would offset any loss of organic entry.

REMEMBER STACKER? ANOTHER LOOK AT "KILLER" ACQUISITIONS IN THE DIGITAL ECONOMY



BY BENOIT D'UDEKEM, DIVYA MATHUR & MARC VAN AUDENRODE[1]



1 Vice President, Analysis Group, Brussels, Belgium, Vice President, Analysis Group, Chicago, United States, and Managing Principal, Analysis Group, Brussels, Belgium.

I. INTRODUCTION

In 1990, a small software corporation, Stac Electronics, released a drive compression software called Stacker that doubled PC hard drives' volume. At that time, hard drives had limited capacity and were expensive. Unsurprisingly, the drive compression software was hugely successful. In 1993, Microsoft released version 6.0 of its flagship operating system, MS-DOS, which included its own compression software. This led to a long legal battle between Microsoft and Stac Electronics, at the end of which Microsoft had to remove its drive compression feature from MS-DOS and compensate Stac Electronics.

Today, perhaps Microsoft would simply buy Stac Electronics and spare itself the legal headache.

Would that be a bad outcome? Maybe not. Economists have long debated the relationship between incumbency, market power and innovation, with no unambiguous answer to date. Incumbents and monopolists may have less incentive to innovate[2] (the so-called "replacement effect"), but may also be better at innovating[3] (the so-called "efficiency effect"). Arguably, in this case, Microsoft could have improved an already valuable product (drive compression software) by better integrating it with its operating system, and making it more readily available to consumers.

Of course, if a hard drive manufacturer had acquired Stac Electronics with an intention to discontinue the software, consumers would have been forced to continue to buy expensive hard drives, at least until another software developer could offer an alternate non-infringing solution. Such an outcome could have been a textbook "killer acquisition," as recently characterized by scholars.[4]

II. KILLER ACQUISITIONS AND THE DIGITAL ECONOMY

In a killer acquisition, an incumbent acquires a potential competitor, often at an early stage of the development of an innovative project and discontinues, or "kills" the potential competitor's innovation. A killer acquisition is thus the opposite of one in which the acquired product is further developed with the potential benefit of an expanded platform and increased financial means of the acquirer.

In a recent report on the digital economy, a group of experts argue that in many cases, transactions characterized as killer acquisitions are, in fact, not killer acquisitions.[5] On a perhaps related note, Bryan and Hovenkamp note that innovative startups are frequently acquired by powerful incumbents at an early stage without attracting antitrust scrutiny from the authorities.[6] This may be because antitrust authorities focused on consumer welfare anticipate that these acquisitions will be beneficial. Some commentators, however, have questioned whether antitrust is in need of reform with respect to such transactions.

Past mergers and acquisitions in the digital economy have rarely (if ever) led to the disappearance of products. Instead, the acquired products have most often been incorporated in the acquirer's offering.[7] Nonetheless, the specific nature of platforms, may require a different examination of acquisitions to assess whether they are in the "kill zone" or, instead, enhance consumer surplus.

The value of platforms is typically driven by their size and the associated network externalities. Switching costs and network effects which enhance consumer surplus may also make it difficult for new entrants to challenge successful incumbents.[8] Users on an incumbent platform,

2 Kenneth J. Arrow, "Economic Welfare and the Allocation of Resources for Invention," in *Readings in Industrial Economics*, ed. by C. K. Rowley (London, UK: Palgrave, 1972), pp. 219–36.

3 Richard Gilbert & David Newbery, "Preemptive Patenting and the Persistence of Monopoly," *American Economic Review*, 72.3 (1982), 514–26.

4 The expression "killer acquisition" has been used recently in a working paper by Cunningham, Ederer & Ma (Colleen Cunningham, Florian Ederer, & Song Ma, *Killer Acquisitions*, Working Paper, London Business School and Yale School of Management, 2018.)

5 Jacques Crémer, Yves-Alexandre de Montjoye & Heike Schweitzer, *Competition Policy for the Digital Era* (Brussels, Belgium, 2019) https://ec.europa.eu/competition/publications/reports/kd0419345enn.pdf [accessed April 8, 2020]. Note however that the panel of experts of the UK's Competition and Markets Authority on the digital economy appears to disagree with that conclusion. See Jason Furman and others, *Unlocking Digital Competition: Report of the Digital Competition Expert Panel*, *2019*, HM Treasury (London, UK, 2019) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785547/unlocking_digital_competition_furman_review_web.pdf [accessed April 8, 2020].

6 Kevin A. Bryan & Erik Hovenkamp, "Startup Acquisitions, Error Costs, and Antitrust Policy," *University of Chicago Law Review*, 2020, 331–56.

7 Axel Gautier & Joe Lamesch, *Mergers in the Digital Economy*, CESifo Working Paper No. 8056, 2020.

8 Crémer, de Montjoye, &Schweitzer.

because others are on that same platform, may see no point in joining another platform providing a similar set of features, unless others also migrate to that platform. However, because users have difficulty coordinating a joint move to another platform,[9] switching may be hindered even if the new platform has superior characteristics. So a platform entrant hoping to displace an existing platform needs to overcome the positive externalities that result from users being on the incumbent platform that other users have also selected.[10] These externalities explain why, as long as platforms maintain their value to consumers, they are likely to develop a dominant position. That dominance may maximize consumer welfare if the consumer experience is similar to what a competitor may offer since the incumbent offers the additional benefit of the presence of many other consumers.

In digital platforms, the threat to incumbents comes from new entrants competing *for* the market, that is, trying to replace the incumbent rather than competing for market shares. Furthermore, traditional metrics used by antitrust authorities might be difficult to apply or even meaningless in the digital context. Vertical and horizontal mergers and acquisitions in the platform context can put traditional antitrust metrics to the test. We examine these issues using as examples Amazon's acquisition of Kiva Systems and Microsoft's acquisition of Hotmail.

III. VERTICAL MERGER: AMAZON'S ACQUISITION OF KIVA SYSTEMS

Kiva Systems was a company founded and developed by Mick Mountz, a German-born MIT graduate. In 1999, Mountz had joined Webvan, a dot-com company that delivered grocery products to customer homes. Unfortunately, Webvan went bankrupt in July 2001 because, according to Mountz, the company could not pick, pack and ship products in a cost-effective way.

In traditional fulfilment centers at that time, employees retrieved the goods ordered by consumers from well-defined places in the warehouse, before boxing them and placing them on conveyer belts. Hence, warehouse staff walked kilometers every day to retrieve, pack, and ship the ordered goods. In such a fulfillment center, 70 to 80 percent of the labor was devoted to picking and packing. Of this, 60 to 70 percent of a worker's day was spent walking among the shelves in the warehouse.[11] Consequently, in traditional fulfillment centers, workers were being paid half the time merely to walk around! And this made operating costs prohibitive, particularly for inexpensive and/or low value-added goods.

Building on his experience, Mountz teamed with a group of engineers and founded Distrobot (later renamed Kiva Systems). The idea behind Kiva was simple: have robots locate the shelf where the goods to be shipped are stored and bring that shelf to the worker, instead of having the worker walk around the warehouse to retrieve the goods. The technology was a resounding success.

In May 2012, Amazon acquired Kiva Systems for 775 million USD, with no objections from antitrust agencies. Amazon ceased commercializing Kiva Systems' products, renamed the company Amazon Robotics, began investing substantial resources to further develop Kiva's technology, and ended product support for existing deployments. At the time, there were limited options available to Amazon's competitors to replace Kiva deployments. Not until 2017 were any credible alternatives available. During that period, Amazon's share of U.S. online sales went from 30 percent to more than 40 percent.

There are two possible interpretation of the facts as they unfolded. On the one hand, Amazon was able to marry its superior operations with an efficient robotic approach to retrieve goods for delivery. That resulted in an immediately available efficiency, which might explain in part Amazon's growth during this period. On the other hand, one could argue that Kiva's innovative technology could have become available for Amazon and its competitors, thereby introducing efficiencies without providing an advantage to Amazon. Determining which of the two hypotheses is correct would require a careful empirical analysis to assess how easily the technology could be developed by others, how well the technology might have served competitors given different approaches to online sales, and what impact the technology had on Amazon's prices compared to a world in which the technology became available more broadly.

9 Crémer, de Montjoye, & Schweitzer.

10 Some scholars have argued that network effects may not necessarily result in market dominance. For example, Catherine Tucker notes that network effects can lead to quicker destabilization of a market leader position, network effects can be localized, and that in some instances network effects can be negative whereby the addition of certain users can have negative effects for the relative attractiveness of that platform. See Catherine Tucker, "Network Effects and Market Power: What Have We Learned in the Last Decade?," *Antitrust*, Spring, 2018, 72–79.

11 Mick Mountz, "Kiva the Disrupter," *Harvard Business Review*, 90.12 (2012), 74–80.

IV. HORIZONTAL MERGER: MICROSOFT'S ACQUISITION OF HOTMAIL

Hotmail was an online e-mail platform launched by Sabeer Bhatia and Jack Smith in July 1996. It was ad-funded, free for users and within two years, attracted close to 10 million subscribers. In December 1997, Hotmail was acquired by Microsoft and was integrated into Microsoft's MSN platform. At the time, it is fair to say that Hotmail as an e-mail platform had experienced limited success. At that same time, Microsoft faced fierce competition (both actual and potential) from the likes of Netscape, whose web browser Navigator had a dominant position; AOL, the largest ISP in the US; and Yahoo!, one of the largest Internet companies offering a wide array of services, including e-mail.

By the end of 2007, Hotmail had grown to 250 million accounts, as the service was integrated into Microsoft's Windows Live platform. Under its new livery, Hotmail won accolades and continued to increase its user base.

This evolution is, on its face, the opposite of a killer acquisition. Since it was acquired by Microsoft, Hotmail went from a platform with limited success, both in terms of scope and popularity, to a key component of Microsoft's online strategy. Yet, in the context of competition "for the market," some may suggest that the acquisition was predatory and argue that, Hotmail, on its own, may have become a true competitor for the Internet giants, past or current, and may have turned into a behemoth, like Google today. However, the economically relevant question from an antitrust standpoint is whether consumers were harmed by the acquisition; the evidence suggests the opposite. Hotmail undeniably provided a foothold to Microsoft in Internet services. But under the stewardship of Microsoft, Hotmail also turned from an English-only service with limited scope into a stable, global platform through which many of Microsoft's online consumer services were delivered. The Hotmail transaction in its own right may have also created incentives for other Internet entrepreneurs to develop pioneering services in the hope of a rewarding transaction, and may have increased the overall pace of innovation.

V. MERGERS, ACQUISITIONS, AND COMPETITION FOR THE MARKET

With several hundred million users, Hotmail (now known as Outlook.com) is alive and well. Kiva's technology has helped propel Amazon to its status as a worldwide online retail leader. Why then use these two examples in a discussion of killer acquisitions?

Kiva's robots have been developed into impressive tools that have fostered Amazon's productivity, and helped it achieve the success it enjoys now. From a competition standpoint, this observation raises two questions.

First, would Kiva's robots have developed so quickly and efficiently, but for Amazon's acquisition? Even though, as we noted, Amazon did not have in 2012 the market share it commands today, it had the infrastructure and financial means to accelerate the development of the Kiva technology, thereby securing for all its customers the productivity advantages that the technology and Amazon's subsequent improvements created. Kiva alone may have found alternative investment sources and may have developed into an automation supplier. However, there is little doubt that the speed of development would have been slower. In addition, Amazon's acquisition allowed it to customize the technology and secure greater efficiencies than would have been realized had Kiva continued its development alone. In other words, Amazon's know-how is likely to have been a key factor in the success of the Kiva technology.

Second, did Amazon's acquisition of the technology prevent other platforms from competing on an equal footing with Amazon? As discussed above, this depends on the replicability of the Kiva technology, the role of Amazon's know-how in the development of the Kiva technology to suit Amazon's needs, Amazon's ability to develop Kiva-like technology absent the acquisition, and the value of Kiva to other potentially interested parties. The success of new e-commerce competitors such as Wayfair and Zalando, and the growth of traditional competitors such as Walmart and Ikea all suggest that Amazon's position may be less secure than one might think based on its current success. Furthermore, Amazon's current position may owe less to Kiva's technology than to the network-driven dynamics of the market which is likely to result in a few winners, rather than a fragmented market, and to do so to the benefit of consumers, all else equal.

The Hotmail acquisition raises similar issues. But for its acquisition by Microsoft, could Hotmail have become such a large e-mail platform? The development of Gmail and other mail server systems as well as Microsoft's continued presence as an operating system suggest that an e-mail system associated with Microsoft's technology was likely inevitable, and that absent Hotmail, an alternative solution would likely have emerged for Microsoft and succeeded in securing a share of the consumer e-mail market. Admittedly, this is an empirical question that would require careful analysis, but the arguments for Hotmail and Kiva Systems as enhancing acquisitions rather than "killer" ones seem strong.

Both for Kiva and Hotmail, the acquisitions provided a lucrative "exit strategy" which is not lost on would-be venture capitalists and startup entrepreneurs for whom such an outcome provides a strong incentive to initiate research and risk capital in anticipation of a reward by acquisition.[12] Of course, this also means that startups are biased towards innovations that are likely to catch the incumbent's eye, rather than looking into truly disruptive technologies, but that may also be welfare enhancing by reducing moon shots with low probability of success.[13] This is another factor that may reduce the overall competitive impact of killer acquisitions even if they are aimed at suppressing technological innovation.[14]

VI. HOW ARE COMPETITION AUTHORITIES RESPONDING?

The preceding discussion may help clarify why recent purported killer acquisitions in the digital industry have raised little to no reactions from antitrust authorities thus far. The trade-off between the immediate benefit from an acquisition by an established platform trying to enhance its efficiency, and the longer term potential harm that may result from the technology not being available to other competitors or not competing with the would-be acquirer, is a difficult calculus for regulators.

These trade-offs have prompted several competition authorities to revisit the issue of killer acquisitions. While some go as far as claiming they could reconsider some past acquisitions they failed to oppose,[15] the general focus amongst most authorities is the development of an appropriate framework to better evaluate the dynamics of the digital industry.

As noted by Crémer, de Montjoye & Schweitzer, revisiting the policy towards acquisitions in the digital industry raises at least two issues. First, finding a way to make these acquisitions reviewable is challenging. Startup acquisitions typically do not meet the size threshold to be reviewed. Second, the importance of these startups resides not just in their reality, but also in their potential. And this potential is hard to evaluate *ex ante*.

VII. CONCLUSION

Recent literature has defined the concept of "killer" acquisitions as the acquisition of an innovative product or process by an incumbent for the purpose of discontinuing it to protect or strengthen the incumbent's position.[16]

In the digital economy, especially in the case of platforms, competitive dynamics are different from what they are in the traditional economy. New entrants frequently do not fight for market shares. Instead, they compete to dislodge the incumbent and take over the market. Therefore, some scholars argue that, in these markets, the definition of a "killer" acquisition should be extended to cover any merger or acquisition that significantly reduces the ability for an insurgent (existing or potential) to threaten the incumbent and take over the market.[17] By this definition, the acquisition of Kiva Systems by Amazon and that of Hotmail by Microsoft, two examples that we briefly discussed, may qualify as killer acquisitions. Of course, that definition also means that any pro-competitive acquisition that strengthens an incumbent by improving its efficiency or the quality of its product is also a killer acquisition. The pro-competitive acquisition becomes an anti-competitive act.

Despite some recent proposals,[18] there is no simple solution to the problems raised here. Ultimately, if competition authorities are concerned that the acquisition of a new entrant, real or potential, may have anti-competitive consequences, they must carefully weigh the pro-competitive benefits of these transactions against their potential detrimental effects. There is no short cut.

12 Mark A. Lemley & Andrew McCreary, *Exit Strategy*, Stanford Law and Economics Olin Working Paper No. 542, 2019.

13 Kevin A. Bryan & Erik Hovenkamp, "Antitrust Limits on Startup Acquisitions," *Review of Industrial Organization*, Forthcoming, 2020, 1–22.

14 Gautier & Lamesch.

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THE JURY IS OUT: AN ASSESSMENT OF PROPOSED REFORMS TO AUSTRALIA'S MERGER CONTROL REGIME FOR ADDRESSING COMPETITIVE HARM IN THE (DIGITAL) ECONOMY

BY MARK GRIME & DAVE PODDAR[1]

1 Mark Grime is a senior associate in the competition / antitrust group at Clifford Chance. He has advised leading Australian and international companies on a wide range of competition law and antitrust matters including complex domestic and multi-jurisdictional merger clearances and high-profile agency antitrust investigations and litigation. Prior to joining Clifford Chance, Mark worked in the Enforcement and Mergers divisions of the Australian Competition and Consumer Commission. Mark holds a Bachelor of Economic and Social Science and a Bachelor Laws (Hons) from the University of Sydney. Dave Poddar is a partner and head of the Asia-Pacific competition / antitrust group at Clifford Chance. He has over 25 years' experience in competition/antitrust law and has worked on significant clearances for Australian M&A and international joint ventures and alliances as well as having advised on competition agency investigations and cartel matters across a variety of sectors. Dave holds a Bachelor of Economics and a Bachelor Laws (Hons) from the University of Adelaide. The views expressed in this paper are those of the individual authors and are not necessarily the views of Clifford Chance or its clients.

I. INTRODUCTION

In recent times, competition authorities globally have been strongly advocating for law reform to enhance their enforcement powers in relation to so called "killer acquisitions." Killer acquisitions are said to arise where a dominant or incumbent firm seeks to acquire a start-up or potential competitor with the ultimate purpose (or effect) of eliminating future or potential competition. Much of the concerns around the ineffectiveness of existing merger control laws in regulating killer acquisitions have emerged as a result of the growing importance and value of "big data" to businesses and to the commercial drivers for undertaking acquisitions in a number of industries, including but not limited to health and pharmaceuticals, and digital markets such as search and display advertising. More specifically, in recent times such concerns have often been attributed to a small number of "big tech" firms such Google and Facebook, among others.

The Australian Competition and Consumer Commission (the "ACCC") has similarly raised concerns around the effectiveness of Australia's existing merger control regime and its ability to examine and regulate acquisitions involving nascent competitors in a consistent, timely and effective manner. In July 2019, the ACCC released its Final Digital Platform Inquiry Report (the "DPI Report"),[2] which was one of the first and most comprehensive market studies carried out by a competition regulator in recent times that considered the impact of online search engines, social media and digital platforms on competition in the media and advertising services markets.

As part of this inquiry, the ACCC looked specifically at whether Australia's merger control regime was fit-for-purpose to address "killer acquisitions" through examining acquisitions by Google and Facebook, and economies of scope created via control of data sets. The DPI Report concluded that these were two factors that had contributed to the dominant market positions of Google and Facebook in Australia and that law reform was needed.

This paper examines the substantive and procedural proposals put forward by the ACCC in the DPI Report that seek to address concerns around the ACCC's views of the inability of Australia's current merger control framework to adequately regulate acquisitions involving nascent competitors and data. This paper will also review the extent to which such proposals would materially change Australia's current merger control framework, and whether they would be likely to facilitate more effective regulation of killer acquisitions.

II. CONTEXT: A BRIEF OVERVIEW OF AUSTRALIA'S MERGER CONTROL REGIME

Australia's merger control framework centers around section 50 of the *Competition and Consumer Act 2010* (Cth) ("CCA"), which is supplemented by the ACCC's *Merger Guidelines*[3] (sometimes called the Analytical Merger Guidelines) and *Informal Merger Process Guidelines.*[4] Section 50 of the CCA prohibits any acquisition that has the effect, or likely effect, of substantially lessening competition in any relevant market in Australia. Due to the reasonably limited jurisprudence on section 50, the *Merger Guidelines* provide an important source of reference for analytical concepts the ACCC considers as part of its merger reviews.

In recent times, following a number of high-profile losses by the ACCC in seeking to oppose a number of mergers before the Federal Court of Australia and the Australian Competition Tribunal (the "Tribunal"), the Chairman of the ACCC, Mr. Rod Sims, has advocated for an overhaul of Australia's merger control regime. The ACCC Chairman is advocating for these changes based on the ACCC's view that it is unable to effectively regulate merger activity and oppose allegedly anticompetitive transactions in a timely or effective manner.

Notwithstanding the ACCC Chairman's recent comments, Australia's merger control system has, and continues to be viewed for the most part by practitioners and the Australian Government, as being effective and striking the right balance.

The substance of Australia's merger control laws have remained largely unchanged following the recent and wide-ranging Competition Policy Review (often called the Harper Review after the Committee Chair, Professor Ian Harper) into Australia's competition laws in 2017,[5] which followed on from the Review of the Competition provisions of the Trade Practices Act (often called the "Dawson Review" after the Committee Chair, the former High Court Judge, Sir Daryl Dawson) in 2003.

2 ACCC Digital Platforms Inquiry – Final Report, July 26, 2019; Available at https://www.accc.gov.au/publications/digital-platforms-inquiry-final-report.

3 ACCC Merger Guidelines, November 2008 (and as amended in November 2017); Available at https://www.accc.gov.au/publications/merger-guidelines.

4 ACCC Informal Merger Review Process Guidelines, September 2013 (and as amended in November 2017); Available at https://www.accc.gov.au/publications/informal-merger-review-process-guidelines-2013.

5 Competition Policy Review Final Report, March 31, 2015; Available at https://treasury.gov.au/publication/p2015-cpr-final-report.

III. FINDINGS RELATING TO "KILLER ACQUISITIONS" CONTAINED IN THE DPI REPORT

While merger control and "killer acquisitions" were not the primary or sole focus of the ACCC's Digital Platform Inquiry, the ACCC's analysis found that the acquisition of potential competitors by Google (and Facebook) and economies of scope created via the growing control of data sets were two substantial factors that had contributed to the dominant market positions of Google in search and search advertising, and Facebook in search and search advertising markets, respectively.

The ACCC linked Google's advantages of scope and a reduction of potential competition in a number of search and search advertising markets to a series of acquisitions, including but not limited to DoubleClick, Admob and YouTube, that resulted in both Google's expansion into related markets and the removal of possible rivals to Google's core products. The ACCC has characterized these acquisitions as having significantly weakened dynamic competition and reducing the level of competitive constraints in a number of markets. More specifically, the ACCC concluded that Google's strategic acquisitions had compounded already high barriers to entry and expansion and have resulted in Google being largely insulated from competition.

Numerous strategic acquisitions by Facebook, including acquisitions of Instagram and WhatsApp, were also found by the ACCC to have increased associated advantages of scope and entrenched Facebook's market power in respect of social media and display advertising. Specifically, the ACCC found that Facebook benefits from significant economies of scale and advantages of scope in its ability to accumulate data from multiple platforms, which had been acquired by Facebook.

More broadly, the ACCC also indicated that it is increasingly concerned about its ability to oppose anticompetitive mergers in court (and the capacity of behavioral undertakings to solve structural competition concerns), particularly in digital markets where market dynamics are fast-moving and undertaking a counterfactual analysis is more challenging.

In light of the ACCC's findings that numerous strategic acquisitions by Google and Facebook have led or contributed to their respective market power in relevant markets and have had sizeable effects on competition, the ACCC concluded that it was very important to amend Australia's merger laws to better account for certain competitive dynamics such as potential competition and the role of data, and to establish processes that ensure the ACCC is notified early of potential acquisitions.

IV. PROPOSED REFORMS TO CAPTURE KILLER ACQUISITIONS IN THE (DIGITAL) ECONOMY

The ACCC made two key recommendations in the DPI Report, one substantive and the other procedural, in respect of updating Australia's merger control framework to ensure that factors relevant to the competition impact of acquisitions in digital markets are taken into account in a merger assessment and that the ACCC is properly notified of such acquisitions.

Recommendation one, which is substantive in nature, included proposed amendments to expand section 50(3) of the CCA, which are the statutory merger factors that must be considered by a Court when undertaking a merger analysis. The proposed reforms seek to incorporate two additional merger factors:

- the likelihood that the acquisition would result in the removal from the market of a *potential competitor*;
- the *nature and significance of assets*, including data and technology, being acquired directly or through the body corporate.

Interestingly, this first recommendation is not limited to acquisitions relating to digital markets and would appear to have a broad-ranging application irrespective of the relevant sectors and markets in which an acquisition occurs notwithstanding that these proposed reforms came from an examination of acquisitions in specific digital markets.

The Australian Government has not yet accepted this proposed reform in its response to the DPI Report but has indicated that it will undertake further consultation as to form and substance over the course of 2020.

Recommendation two, which is procedural in nature, would require large digital platforms (such as Google and Facebook but potentially others in other industry sectors) to agree to a notification protocol to provide advance notice to the ACCC of any proposed acquisitions potentially impacting competition in Australia. This recommendation would ensure that the ACCC is made aware of, and provided the opportunity to review,

acquisitions by large digital platforms. Although details regarding the proposed protocols are limited, such protocols would be agreed between the ACCC and each large digital platform business and would need to specify the types of acquisitions requiring notification (including any applicable minimum transaction value), and the minimum advance notification period prior to completion of the proposed transaction to enable the ACCC to assess the proposed acquisition.

The ACCC has indicated that if such a commitment from large digital platforms is not forthcoming, it will consider making further submissions to the Government on this issue presumably to seek an ability impose some form of mandatory merger notification requirements on specified businesses or in respect of acquisitions occurring in certain markets.

The Australian Government accepted this proposed reform in its response to the DPI Report but has re-affirmed the view that the protocol will be voluntary.

Separate to the recommendations above, the DPI Report also considered broader issues in relation to Australia's merger control regime, particularly around the ability of the ACCC to effectively challenge allegedly anticompetitive acquisitions due to issues around the sufficiency of evidence and undue confidence placed by the courts in the ability of market forces and behavioral commitments to overcome increased barriers to entry caused by an acquisition. The ACCC has indicated that it is considering the appropriateness of advocating for further legislative change to introduce a rebuttable presumption that applies to merger cases in Australia. Such a presumption would effectively signal that, in the absence of clear and convincing evidence from the merger parties, the starting point for a court's assessment of an acquisition opposed by the ACCC would be that it will substantially lessen competition. It remains unclear whether such a presumption would resemble or be guided by the presumption contained in the U.S. Horizontal Merger Guidelines in respect of market concentration.

Unlike Recommendations 1 and 2 above, any potential reform involving the introduction of a rebuttable presumption did not form part of the Australian Government's response to the DPI Report. Therefore, this potential reform is unlikely to be introduced in the near future.

V. SAME BUT DIFFERENT: THE SIGNIFICANCE AND PRACTICAL IMPLICATIONS OF THE PROPOSED REFORMS

A. Implications of Recommendation One on the Substantive Merger Control Framework

The recommendation to expand the section 50(3) statutory merger criteria is unlikely to result in any meaningful or practical changes to the nature of the merger control framework or test under the CCA.

The factors set out in section 50(3) of the CCA are non-exhaustive and the language of the current legislative provision does not preclude the ACCC from considering the proposed factors in its merger analysis of acquisitions in either the digital economy or any other industry. In fact, the forward-looking nature of the merger test under section 50 of the CCA arguably already imposes a requirement for the ACCC to consider potential competitors and the effect that the removal of such entities could have on the competitive dynamics within the relevant markets. The nature and significance of any assets being acquired should (and do) already form an integral part of any merger assessment.

In addition, the ACCC's *Merger Guidelines*, which also form an important conceptual anchor for Australia's merger control framework, make provision to consider the role and impact of potential competition or a potential competitor when assessing issues associated with the range and extent of potential constraints, barriers to entry, and market definition within the merger context.

Recent cases where the ACCC has sought to oppose mergers under section 50 of the CCA and the preliminary views and focus of the ACCC regarding their assessment of a number of transactions suggest that the ACCC can readily (and does) have regard to the role and extent to which a merger target is, or would likely become, a competitor to the acquirer as well as the nature of the assets being acquired:

- *Merger between Vodafone Hutchinson Australia and TPG*: In May 2019, the ACCC opposed the USD 10 billion merger between Vodafone and TPG on the basis of potential competition that could arise between the parties in the market(s) for mobile services (based on indications from TPG that it had intended to establish its own 5G network), and fixed broadband. The merger parties are neither direct competitors nor the largest market participants (by some way) within the relevant markets in which they operated. Vodafone instituted proceedings against the ACCC seeking a declaration that the acquisition did not contravene section 50 of the CCA. In February 2020, the Federal Court of Australia found that that Vodafone had successfully established that the merger was not likely to have the effect

of substantially lessening competition in either the relevant market for mobile services or fixed broadband. The Court found that it was extremely unlikely that TPG would roll out a retail mobile network or become an effective competitive fourth mobile network operator. While the ACCC failed on the evidence in this case, the ability to base a theory of harm on a doctrine of "potential competition" was accommodated under the existing merger control framework.

- *iNova Pharmaceuticals (Australia) Pty Ltd's proposed acquisition of Juno PC Holdings Pty Ltd:* In December 2019, the ACCC released a Statement of Issues in respect of this transaction on the basis that it would substantially lessen competition in the market(s) for the supply of phentermine-based weight-loss medications and weight-loss medications more broadly. The ACCC's primary concern was that the acquisition would remove potential and likely competition from Juno PC and in the absence of the acquisition, Juno PC's product would likely compete directly and strongly with iNova and put downward pressure on prices for phentermine-based weight-loss medications. The ACCC focused on a forward-looking assessment and specifically whether there would be opportunities for a competitor to enter the relevant markets, even if such firms had very small to no market share. In January 2020, the merger parties withdrew their application for informal review as the transaction was discontinued.

- *Google's proposed acquisition of Fitbit Inc*: On 27 February 2020, the ACCC commenced a public merger review of Google's proposed USD 2.1 billion acquisition of fitness tracking company, Fitbit. Concerns have been raised by politicians and industry around Google gaining access to a cache of data that would feed its own growing health care business and create a new range of personalized health services that would give Google another way to surveil users and entrench its monopoly power online by combining Fitbit's sensitive and individualized health data with data from Google's current services. These concerns highlight the importance of health data to the future of competition in the digital marketplace and the ability of competitors to actively participate in this space, the consumer privacy implications of Google gaining access to the sensitive data of Fitbit users when it has previously violated privacy laws, and the ability of Google to use such data to leverage its existing market power and dominance in other online advertising markets. The ACCC Chairman has publicly expressed concern around Google's commitment to transparency with respect to what data will be collected from Fitbit consumers and how it will be used. Mr. Sims has stated that, "given the history of digital platforms making statements as to what they intend to do with data and what they actually do down the track, it is a stretch to believe any commitment Google makes in relation to Fitbit users' data will still be in place five years from now."[6] In looking at the matters that are the subject of the ACCC's market consultation, it is clear that both potential competition and the nature and significance of the asset(s) being acquired in respect of competitive dynamics in both relevant and adjacent markets (such as advertising) are at the forefront of the ACCC's review.

What is clear from these examples is that the ACCC already has legislative foundations and tools to consider the issues of potential competitors and the significance of the asset being acquired under the existing section 50(3) merger factors.

However, the ACCC's findings and recommendations in the DPI Report do suggest that strategic acquisitions undertaken by incumbents that give advantages of scope or remove potential competition and/or involve the combination of valuable data sets (in any industry but particularly those that are favorable for killer acquisitions) will receive close regulatory scrutiny by the ACCC. This is evidenced in the recent examples outlined above.

B. Implications of Recommendation Two on the Merger Review Process and Approach

Recommendation two, if implemented, would sit somewhat uncomfortably with Australia's current merger control regime and will change the current voluntary nature of the regime for "large digital platforms."

The ACCC has indicated that this obligation would be principally aimed at Google and Facebook but has not ruled out the application of this recommendation to other market participants. Indeed, it could provide a starting point for the imposition of further exceptions to Australia's voluntary merger control regime that could result in the emergence of a mandatory style merger control regime, at least in respect of certain sectors.

While Recommendation two appears reasonably simple on its face, the DPI Report and the ACCC's recommendation fail to address a number of key practical considerations that would invariably affect the way in which the recommendation would be implemented and the way in which it would operate. There has been no consideration to date as to how a transaction would be identified as being notifiable (including the size or nature of the target, value thresholds or the transaction's nexus to Australia), how such protocols would interact with or affect the ACCC's existing indicative merger review processes and timelines or how disputes regarding the protocols would be resolved or otherwise enforced notwithstanding the protocols appear intended to be agreed between large digital platforms and the ACCC.

6 Speech made by Mr. Rod Sims to the Consumer Policy Research Centre Conference on November 19, 2019.

These types of considerations will have profound commercial implications for digital platforms and other businesses that become subject to this requirement, particularly if an acquisition involves a competitive or confidential bid process for an emerging or nascent firm. Due to the potentially far-reaching implications of this recommendation, it is expected that further Government consultation should occur to address such matters.

VI. VALUE QUOTIENT: ASSESSING THE POTENTIAL MERITS OF THE ACCC'S RECOMMENDATIONS AGAINST GREATER AMBIGUITY AND REGULATORY REQUIREMENTS

A. Recommendation One Would Appear to be Unlikely to Provide a Clearer Conceptual Framework to Regulate Killer Acquisitions

The ACCC has acknowledged in the DPI Report that it is not currently precluded from considering matters that are the subject of Recommendation one under the existing legal framework but rather, Recommendation one if adopted, would signal the importance of these considerations to both business and the courts.

However, there are dangers and risks for merger parties if the ACCC relies on the adoption of Recommendation one as a mandate to place more (and potentially disproportionate) emphasis on such factors at the expense of a more holistic assessment of the facts and prevailing market dynamics. Such risks become amplified if there is an increasing reliance on non-traditional theories of harm centered around 'potential competition' in the absence of any settled or meaningful guidance around how and the standard upon which 'potential competition' is to be assessed against.

Recommendation one does not address the significant analytical uncertainty that surrounds an assessment of potential competition or how the ACCC would practically go about undertaking such an assessment. There appears to be little consideration of existing concepts and important differences that exist in U.S. jurisprudence between "actual potential competition" and "perceived potential competition" and the practical evidentiary issues that have arisen in relation to bringing a case under each.

Practically speaking, the potential range of firms that could effectively constitute a "potential competitor" in interconnected and highly dynamic digital industries and the hypothetical analysis that would be required to identify whether a target of an acquisition has a real chance of becoming a meaningful competitor could entrench the ACCC (and merger parties) in speculative and theoretical debates that are not reasonably capable of being supported by adequate qualitative or quantitative evidence. As the interpretation and application of economic factors used to assess whether an acquisition will change incentives to invest often give rise to significant debate and require reasonable volumes of data that are less likely to be readily available, there is the potential to create significant uncertainty for merger parties and significantly extend ACCC review timelines.

The Recommendation in respect of evaluating the significance of assets being acquired would also benefit from further guidance around how that would be assessed by the ACCC and viewed in light of considerations such as network effects and economies of scale.

Overall, without further consideration as to its practical application, this Recommendation is unlikely to provide a clearer legal framework from which to more effectively regulate killer acquisitions, but rather has the potential to result in an over reliance on factors in a manner that is disproportionate to other prevailing and relevant market considerations. Significantly, the recommendation may also create uncertainty in the application of the law. This would be unfortunate as such uncertainty does not assist businesses in ensuring they comply with competition law.

B. Recommendation Two May Catch Suspected Killer Transactions but Significantly Increase Regulatory Burdens Without Any Tangible Improvement to the Current Framework

The primary driver underlying this proposal was that the ACCC considered it critical to ensure it is notified of potential acquisitions sufficiently early. Recommendation two will ensure that the ACCC is made aware of, and is at least provided the opportunity to review, acquisitions by large digital platforms that may substantially lessen competition. However, there remains significant uncertainty around whether all transactions for which a notification is received under a protocol would necessarily require a public review.

Although the ACCC is increasingly concerned about the hurdles it faces in opposing anticompetitive mergers in court, particularly in digital markets that are fast-moving, claims that a failure to notify a transaction in a timely manner prevents the ACCC from pursuing effective outcomes appear to be unfounded. This position appears to be driven both by recent court decisions questioning the sufficiency of ACCC evidence and the

ACCC's concerns around the effectiveness of behavioral undertakings to address competition concerns and the willingness of courts to accept such remedies. However, this recommendation is unlikely to directly address or resolve either of those concerns.

A decision to oppose a transaction by the ACCC requires the ACCC to bring proceedings in the Federal Court to prove on the balance of probabilities that a transaction is likely to have the effect of substantially lessening competition, if merger parties do not otherwise agree to discontinue the transaction in the face of ACCC opposition. Injunctive relief can be sought to prevent a transaction from proceeding until a decision from the Court is handed down. The ACCC typically has sufficient time if it focuses its resources and relies on its strong pre-trial statutory compulsory powers to obtain relevant and necessary evidence to bring a case. If merger parties proceed with a transaction that is ultimately found to be anti-competitive, they can be forced to divest assets or unwind the transaction or face penalties of up to 10 percent of turnover.

The appropriateness and use of non-structural remedies (when unconditional in nature) to address competition concerns also continues to be a flexible way to address competition concerns in certain circumstances and continue to be affirmed by the Federal Court (although the ACCC has recently appealed a decision by the Federal Court to accept a non-structural merger remedy).[7] The acceptance by the ACCC of a behavioral remedy from Transurban in respect of its acquisition of the WestConnex toll road, to publish important traffic data to preserve competition in respect of bids for future toll road concessions, demonstrates the continued relevance and potential use for non-structural remedies to address competition concerns arising from assets such as data in certain circumstances. The non-compliance of Google in respect of certain undertakings given to competition authorities in the past is not of itself a reason to discount the use of non-structural remedies for all market participants, without consideration of other factors.

Although the ACCC has recognized that the burden on digital platforms associated with Recommendation 2 may be significant and may also have unintended effects on innovation and investment in digital markets, the stated benefits attached to this recommendation need to be considered closely as to their proportionality. They are quite likely to be disproportionate to the regulatory burden that they will impose relative to firms that will not be subject to such requirements. In any event, as digital platform mergers are typically reviewed by other global competition agencies, such notification would not appear to provide the ACCC with any additional tools or monitoring abilities that are not already available to the ACCC's market intelligence unit.

VII. CONCLUSION: CONTINUED ACCC LOSSES REGARDING MERGERS WILL LIKELY RESULT IN PUSH FOR FURTHER REFORM TO ADDRESS "KILLER ACQUISITIONS"

A careful assessment of the recommendations contained in the DPI Report suggests that the proposed merger reforms will not meaningfully change the analytical framework of Australia's merger control regime. However, such proposed changes could result in changes to Australia's merger clearance process that create additional uncertainty for business and do not sit easily with Australia's voluntary notification process, a process that is generally acknowledged to have provided an effective framework for the purposes of assessing mergers.

Nonetheless, recent losses by the ACCC in opposing mergers before the Federal Court and the Tribunal, are only likely to increase lobbying efforts by the regulator to introduce a rebuttable presumption to lower the substantive threshold needed to be met in order to oppose allegedly anticompetitive transactions. While this would invariably favor the ACCC's position in challenging mergers before the courts, it may unnecessarily dampen the willingness for merger parties to proceed with otherwise pro-competitive transactions for fear of significant costs associated with needing to discharge such a burden. This is a practical concern in relation to transactions occurring in markets that are characteristically more concentrated than in other countries, simply by virtue of the geographic size of Australia and the clustering of its population in cities located on Australia's coast. Given the need to ensure a balance between appropriate merger control and ensuring a flexible and timely merger process in Australia, the jury is still out on merger reform relating to these so called "killer acquisitions."

7 Australian Competition and Consumer Commission v Pacific National Pty Limited & Ors (VID695/2019), which is an appeal from ACCC v. Pacific National Pty Limited (No 2) [2019] FCA 669 (May 15, 2019).

ASSESSING "KILLER ACQUISITIONS": AN ASSETS AND CAPABILITIES-BASED VIEW OF THE START-UP

BY DAVID PÉREZ DE LAMO[1]

1 Legal Consultant at Cleary Gottlieb Steen & Hamilton (Brussels); LL.M. European Legal Studies, College of Europe (Bruges).

I. INTRODUCTION

Killer acquisitions have come under the eye of the entire antitrust community. The topic has been very much in vogue at conferences[2] and in the wide range of expert panel reports on competition law and digitization produced by antitrust authorities and academic institutions around the world.[3] However, the issue has not always been approached in a systematic way, and there is still no emerging consensus.[4] Therefore, this paper sets out a general framework to evaluate killer acquisitions by tying together the various strands in the existing literature. Section II makes some conceptual clarifications. Section III outlines possible *ex ante* and *ex post* mechanisms for capturing killer acquisitions. Section IV advocates for a set of criteria for their substantive analysis.

II. PRELIMINARY CONCEPTUAL CLARIFICATIONS

The term "*killer acquisition*" has seemingly taken on different meanings depending on where it has been discussed. In order to properly define the scope of the debate, some conceptual clarifications are needed.

A. "Killer Acquisitions," "Zombie Acquisitions," and "Suicide Acquisitions"

The "star" article that served to propel this debate, "*Killer Acquisitions*," defined the term as acquisitions of promising companies by incumbent firms with the sole purpose "to discontinue the target's innovation projects and pre-empt future competition."[5] Hence, the term was initially defined in a narrow sense, only including those transactions after which the target project would be shut down. In this regard, it should be noted that the article's estimate – that around 6 percent of all acquisitions in the pharmaceutical sector were killer acquisitions – was therefore limited to this specific type of acquisition. When the debate spread to the antitrust world, the concept of "killer acquisitions" started to be used in a much broader sense. Subsequent conferences employed the term in a general way to include all acquisitions of promising companies by incumbent firms with the objective of suppressing potential competition, regardless of whether the target company and its innovative project were terminated post-transaction.

In this paper, the broader concept will be used. Therefore, acquisitions that result in the target project not being developed to its full potential, as opposed to plain termination, will also be included under the banner of killer acquisitions. So-called "zombie acquisitions"[6] are also detrimental to innovation because they similarly result in the loss of a potential competitor and its innovative pipeline projects. Further, acquisitions of superior projects to ones held by the acquirer, which therefore result in the discontinuation of its own, will also be included. Despite their apparent innocence, "*suicide acquisitions*"[7] harm innovation by removing a potential competitor and preventing the development of new projects by the acquirer to counter the threat. This paper will use the term "killer acquisitions" in a broad sense to refer to all such potentially anti-innovative transactions, including "zombie," "suicide," and other similarly-motivated acquisitions.

2 See, for instance, OECD Competition Open Day 2020 (Paris - February 26, 2020); 7th Global Merger Control Conference (Paris – December 6, 2019); Innovation Economics For Antitrust Lawyers (London – March 1, 2019); 10th Annual NYC Concurrences Private Dinner. Startups v. Big Tech: Where Is the Innovation? (New York – September 12, 2019); EU Commission Conference: "Shaping competition policy in the era of digitization" (Brussels - January 17, 2019).

3 J. Crémer, Y. De Montjoye & H. Schweitzer, "Competition policy for the digital era," April 2019 ("EC Report"); J. Furman et al., "Unlocking digital competition. Report of the Digital Competition Expert Panel," March 2019 ("Furman Report"); Chicago Booth George J. Stigler Center, Report from the Committee for the Study of Digital Platforms, May 2019 ("Stigler Report"); Australian Competition & Consumer Commission's Report, Digital Platforms Inquiry, July 2019 ("ACCC Report"); and Report by the German Commission "Competition Law 4.0," "A new competition framework for the digital economy," September 2019 among others. For an overview of these reports, see "Global Digital Reports" Antitrust Chronicle, *Competition Policy International*, Volume 3(2), December 2019.

4 J. Mancini, "Digital antitrust: An emerging consensus?," *Concurrences*, Nº 4-2019, pp. 1-8.

5 C. Cunningham, F. Ederer & S. Ma, "Killer Acquisitions," available at SSRN, March 22, 2019, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3241707.

6 See L. Campos' contribution at the 7th Global Merger Control Conference (Paris – December 6, 2019).

7 See S. Alback's contribution at the 7th Global Merger Control Conference (Paris – December 6, 2019).

B. Killer Acquisitions v. Pro-innovative "Bolt-on Acquisitions"

Despite what one might suspect, the vast majority of acquisitions by digital incumbents do not have the objective of *killing* potential competitors, but foster innovation in at least two ways.

1. Encouraging and promoting innovative efforts

As the EC Report highlighted, "the chance for start-ups to be acquired by larger companies is an important element of venture capital markets: it is among the main exit routes for investors and it provides an incentive for the private financing of high-risk innovation."[8] "Entry for buyout," as it is described in the economics and management literature, is in many cases the only reason entrepreneurs are willing to undertake certain projects. Even if the latter may result in valuable and innovative products in the long run, they frequently yield from zero to negative returns in the early stages of development. Entrepreneurs are thus only willing to take on these projects and forgo early profits with the expectation of one day being acquired by a large company.

In addition, start-ups often rely on the financial, reputational, and organizational infrastructure of the established acquirer to successfully innovate and effectively deploy their products.

2. Integrating complementary products and capabilities

When an acquirer purchases a complementary technology, the merger will generally increase the innovation performance of the resulting undertaking,[9] so long as it is carefully integrated.[10] With that purpose in mind, companies often "bolt-on" the newly acquired complementary technologies and capabilities to their current offerings in order to enhance their value proposition. "*Bolt-on acquisitions*" are pervasive among big tech firms. For instance, Google acquired and integrated complementary technologies and capabilities to its Google Maps product, ranging from traffic and map analysis to location-based analytics and local recommendations/reviews apps – like ZipDash, Where2, Keyhole Inc, Endoxon, ImageAmerica, Quiksee, Zagat, Clever Sense, Skybox Imaging, Urban Engines, etc. – which have allowed it to substantially improve its product. Among these, only *Google/Waze* raised any anti-competitive concerns.[11]

In addition, recent empirical research into M&A activity in the digital sector supports this claim. In "*Mergers in the Digital Economy*," Gautier & Lamesch concluded that, out of the 175 acquisitions by Google, Amazon, Facebook, Apple and Microsoft ("GAFAM") between 2015 and 2017, only one could potentially be characterized as a killer acquisition.[12] As they showed, even if more than 60 percent of projects acquired by the GAFAM companies are shut down post-transaction, the underlying assets and capabilities (mainly functionality, technology, talent or IP) are subsequently integrated into their ecosystem, acting as a substitute for in-house R&D.

8 EC Report, p. 111. See, in the same vein, Furman Report, pp. 49-50.

9 B. Cassiman et al., "The Impact of M&A on the R&D Process: An Empirical Analysis of the Role of Technological and Market Relatedness," (2005) 34, *Research Policy*, p. 197. Other contributions in the same sense include Gans & Stern (2003), Arora & Gambardella (2010), Arora et al. (2014).

10 "The Problem of Bolt-On Acquisitions in a Digital World," *Harvard Business Review*, July 5, 2016.

11 *Google/Waze* (Case ME/6167/13), Office of Fair Trading decision of November 11, 2013. In any event, the OFT ruled out any potential competition concerns in the provision of navigation applications for mobile devices (paras. 83 et seq.).

12 A. Gautier & J. Lamesch, "Mergers in the Digital Economy," at SSRN, January 17, 2020, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3529012.

III. *EX ANTE* AND *EX POST* CONTROL MECHANISMS TO CATCH AND DETER KILLER ACQUISITIONS

A. The Elusive Nature of Killer Acquisitions

The first and most important impediment to the assessment of acquisitions of promising companies by incumbent digital firms is that they often escape the notification requirements of the EU Merger Regulation ("EUMR"). In this sense, the Furman Report noted that GAFAM have engaged in close to 250 acquisitions globally in the last five years, without any of them being prohibited.[13] Others have reported similar numbers.[14] This is explained by the fact that, to determine whether a transaction is notifiable, thresholds usually take into consideration not only the combined aggregate turnover of the merging parties, but also their individual aggregate turnover.[15] In contrast, "start-ups attempt [first] to build a successful product and attract a large user-base without much regard for short term profits: they hope either to be acquired or to begin monetizing their user base at a relatively late stage."[16]

As a result, little is known about the acquisitions of digital incumbents. It would thus be desirable for the competition authorities to conduct empirical studies, making use of their sector enquiry and request for information tools. In this respect, the U.S. Federal Trade Commission's ("FTC") recent initiative to investigate past acquisitions of the leading digital firms is welcomed.[17] The results of this investigation will be key for determining the extent and scope of the killer acquisition concern, if any, and will undoubtedly help us to understand better how digital incumbents create and expand their market power.

B. Ex Ante Control Mechanisms

Until now, some of the transactions that escaped the EUMR thresholds were caught through the referral mechanism of the EUMR.[18] This was, for instance, the case of the *Apple/Shazam* merger, which was referred to the Commission by the Austrian authority, together with other national competition authorities, in accordance with Article 22(1) EUMR. This mechanism is limited in effect as the Commission is only able to look at the implications of the merger in the territories of the referring Member State authorities. Other acquisitions, like *Facebook/WhatsApp*, were referred to the Commission by the notifying parties, in accordance with Article 4(5) EUMR. In the latter case, the Commission acquires full jurisdiction over the transaction but, transactions need to be notified to the Commission by the concerned parties, and this may not be in their own interest. Because of these factors, the referral system has proven to be insufficient and some controversial transactions never reached the Commission's hands, including *Facebook/Instagram* and *Google/Waze*. Both transactions were instead caught by the UK merger framework and assessed by the Office of Fair Trading.[19]

In order to fill the gap, and following Austria and Germany's lead, many called for a reform of the EUMR to adopt transaction value-based thresholds.[20] Nevertheless, this proposal shows several potential weaknesses, as highlighted by the EC Report. The first one is that transaction values of companies are complicated and there are different methodologies for measuring them. In addition, transaction values may quickly change in response to events that are unrelated to the underlying assets. All of this could create legal uncertainty as to when companies should notify. Second, the extension of the jurisdiction could entail a significant increase in administrative burden for the Commission, as well as additional transaction costs for merging parties. Third, the exercise of designing and calibrating the thresholds would be quite intricate in itself, as "there is a fine line between introducing a transaction value threshold which is too low and captures too many transactions and one which is too

13 Furman Report, p. 91.

14 "Did Big Tech Get Too Big?," Bloomberg, March 21, 2019: 431 acquisitions in the last decade; A. Gautier & J. Lamesch, *supra* note 12: 175 acquisitions between 2015 and 2017.

15 EUMR, Articles 1(2) and (3).

16 EC Report, p. 116.

17 FTC to Examine Past Acquisitions by Large Technology Companies, February 11, 2020. The FTC sent orders to GAFAM requiring them to provide information and documents on the terms, scope, structure and purpose of all their non-reported acquisitions between January 1, 2010 and December 31, 2019.

18 The referral mechanism of the EUMR consists, in essence, of a system which allows for transactions that would normally have to be assessed by the Commission to be transferred to the National Competition Authorities ("NCAs") and *vice versa*. The relevant provisions of the EUMR are Arts. 4(5) and 22, for referrals from the NCAs to the Commission, and Arts. 4(4) and 9, for referrals from the Commission to the NCAs.

19 Since 2014, the OFT has been replaced by the Competition and Markets Authority ("CMA").

20 M. Sauermann, "New merger control guidelines for transaction value thresholds in Austria and Germany," *Competition Policy International*, July 26, 2018.

high and does not capture enough."[21] In this connection, transactions could be unbundled and implemented in a manner designed to avoid the thresholds. For all these reasons, the Special Advisers suggested taking stock from the Austrian and German reforms before drawing conclusions at EU level.

However, two years have already passed since Germany and Austria opted for the transaction value-based thresholds and there still seems to be no consensus on the suitability of this model. On the one hand, it seems that (i) the thresholds have not led to a significant increase in administrative burden, as only a few dozen cases have been further notified; and that (ii) they were well-tuned to capture transactions in the most problematic sectors, namely in the IT, pharmaceutical and chemical industries.[22] On the other hand, the rest of the problems still stand and may even explain the small number of transactions that have been captured. That is why the possibility of lowering the thresholds has been discussed.[23]

For its part, the Furman Report made the recommendation to "[require] digital companies that hold a "*strategic market status*" to make the CMA aware of their intended acquisitions [to] allow the CMA to determine in a timely manner which cases warrant more detailed scrutiny."[24] According to the report, companies holding market power over a strategic bottleneck market would be deemed to have "strategic market status."[25] This approach is arguably deficient, in that not all the firms whose transactions may raise concerns operate as "gatekeepers" to a market. This may be true, for instance, for Google or Amazon, but it is certainly not true for Apple, Microsoft, or Facebook, among others. Further, Google may be a gatekeeper in general search, but it is definitely not in other relevant markets.[26] For these reasons, a broader definition of "*strategic market status*" based on a more comprehensive approach, similar to the assessment of (super-)dominance, would constitute a superior alternative. Other factors should be taken into consideration, such as particularly high market shares and substantial barriers to entry in the form of network effects, intellectual property rights, or the availability of large data sets and user bases.

This mechanism could be designed in different ways to avoid each and every transaction being notifiable in the traditional sense, minimizing the administrative burden for authorities and transaction costs for firms. A list of companies with designated market status could be drawn up - according to pre-defined criteria. These companies would only have to communicate basic information to the authorities about their planned transactions. This fast-track "communication" procedure would be speedier than the existing Commission simplified procedure, and would focus on providing the necessary information to make a preliminary substantive assessment. This could be limited to information about (i) the assets and capabilities of the target; (ii) the rationale of the transaction; and (iii) its pro-innovative effects. If, in the light of this information, the authorities do not raise any concerns within a short period of time, the transactions could be approved by administrative silence. Alternatively, the communication procedure could be used without a standstill obligation, in combination with an *ex post* merger control regime. In fact, Norway has adopted a similar system and it has reported very positive results, leading France to seriously consider this model.[27] The latter option will be further analyzed in the next section.

Finally, another concern should be briefly considered. As already mentioned, many of the acquisitions by digital incumbents do not even target companies as such, but focus on acquiring key assets and capabilities. This is the case of so-called *"acqui-hires"* of talented engineers and entrepreneurs. However, there is no reason why these acquisitions could not be captured with an extension of the notion of "undertaking," especially as the acquired assets and capabilities will determine the economic fate of the start-ups they belong to.

21 EC Report, p. 114.

22 The Bundeskartellamt and the Bundeswettbewerbsbehörde have published reports that explain the authorities' experiences with the transaction value-based thresholds. In this connection, see M. Sauermann, "The Transaction Value Threshold in Germany: Experiences with the New Size of Transaction Test in Merger Control," *Competition Policy International*, October 8, 2019.

23 For instance, see Concurrence's Innovation Economics For Antitrust Lawyers (London – March 1, 2019).

24 Furman Report, p. 12.

25 *Ibid*. p. 10. Likewise, the Stigler Report proposed special conduct requirements for platforms with "bottleneck power," pp. 7, 32-33, 105-106, 111 et seq.

26 Why should we scrutinize then its acquisitions in other relevant markets where it does not have that gatekeeping position?

27 See I. de Silva's contribution at the 10th Annual NYC Concurrences Private Dinner. Startups v. Big Tech: Where Is the Innovation? (New York – September 12, 2019).

C. Ex Post Control Mechanisms

Another option that has been widely discussed is the possibility of introducing a system of *ex post* merger control, following the example of the United States. Since the latter system is the most well-known, it will be used as an example, but there are many other countries that have adopted *ex post* merger control systems, albeit with different nuances, like the UK, Australia, Sweden, Austria, Hungary or Lithuania.[28] This system has also been proposed for reform in France very recently.[29]

In the U.S., the thresholds are not jurisdictional, allowing the FTC to review and prohibit transactions that have already been consummated. This system could be interesting for several reasons. First, it would enable the competition authorities to better assess the real potential of the target companies and their innovative projects, as they are often acquired at an early stage of development. The competitive effects of the transaction could be better evaluated once the transaction's implementation has begun. Second, an *ex post* prohibition decision would pose fewer practical problems in this area, as the contours of the transaction are usually well-defined. Given that the typical target of these acquisitions are small start-up companies with a few key assets and capabilities, these could be readily detected and extracted from the merged entity to reverse the transaction. However, there would still be cases where undoing the transaction would prove impractical, for instance, in know-how-based acquisitions, or where the targets are data sets or user bases that are mixed up post-transaction, as happened in *Facebook/WhatsApp*.[30]

On the other hand, this system would create significant legal uncertainty if, like in the U.S., no time limits were put in place for the opening of an investigation. For the *ex post* system to be properly calibrated, it would thus be necessary to set a relatively short time limit after which transactions could no longer be reviewed. A time limit of between six months and one year, similar to that set out in the French reform proposal, seems to be a reasonable period that would mitigate the legal uncertainty.

Finally, another alternative would be the application of Article 102 TFEU to acquisitions by incumbent digital firms, as the Commission did in *Tetra Pak I*. In that case, the Court of First Instance upheld the Commission's finding that "the acquisition by an undertaking in a dominant position of an exclusive patent license for a new industrial process constitutes an abuse of a dominant position where it has the effect of strengthening the undertaking's already very considerable dominance of a market where very little competition is found and of preventing, or at least considerably delaying, the entry of a new competitor into that market, since it has the practical effect of precluding all competition in the relevant market."[31]

This case shares many traits with the killer acquisition scenario and there is no reason in principle why its rationale could not be extended. The application of Article 102 TFEU would provide the Commission with a more complete enforcement toolbox, as it would (i) serve as a general deterrent, (ii) require a lighter burden of proof than merger control, and (iii) allow the Commission to sanction strategies aimed at systematically neutralizing nascent competitors by establishing a single and continuous infringement. It seems that this possibility has been explored, across the Atlantic, by the FTC under Section 2 of the Sherman Act.[32]

D. A Flexible Approach

Throughout this section, a series of mechanisms to capture acquisitions of promising start-ups by technology incumbents have been individually discussed, highlighting their respective strengths and weaknesses. However, these systems should not be considered to be mutually exclusive or in an isolated manner. On the contrary, it would be most effective and sensible to combine them, by including different sorts of *ex ante* and *ex post* mechanisms.

28 J-M. Cot, "Contrôle des concentrations *ex post*: Surmonter les peurs de part et d'autre," *Concurrences*, Nº 1-2020, p. 34.

29 For an interesting debate on the reform, see Concurrence's dedicated issue, "Faut-il généraliser les évaluations *ex post*?," *Concurrences*, Nº 1-2020, pp. 22-38.

30 *Facebook/WhatsApp* (Case COMP/M.8228), Commission decision of May 17, 2017.

31 Judgment of July 10, 1990, *Tetra Pak Rausing SA v. Commission*, Case T-51/89, EU:T:1990:41, see summary of the ruling.

32 See E. Kraus' contribution at the 7th Global Merger Control Conference (Paris – December 6, 2019).

IV. SUBSTANTIVE ASSESSMENT

Apart from establishing a system of mechanisms to capture acquisitions of promising start-ups by digital incumbents, their competitive assessment should be rethought. The analysis will vary depending on whether the acquirer and the target have directly overlapping products.

A. Horizontal Mergers: Transactions with Overlap

In these cases, the assessment will be relatively simple since the acquisition would not pass the substantive test of the EUMR, as it would lead to a significant impediment of effective competition ("SIEC"): acquiring a promising start-up would strengthen the incumbent's dominant position by removing and integrating a potential challenger.[33] Again, this would be in line with *Tetra Pak I*, where Tetra Pak's acquisition of the only relevant competing technology was deemed an abuse of dominance, as it had the effect of strengthening the undertaking's already very considerable position in a market where very little competition could be found.

Without prejudice to possible hindsight bias, this should have been the case in *Facebook/Instagram*, where the OFT summarily dismissed the potential competition issue in relation to the supply of social network services.[34] The differences in functionalities highlighted by the OFT were rather negligible and a broader relevant market definition from the users' side would have made more sense. In any case and leaving the specifics of that case aside, the way in which we determine relevant markets, as well as potential competition, should likely be updated, as the current Market Definition Notice[35] dates from 1997. Therefore, the Commission's recent initiative to reconsider it is welcomed.[36]

B. Non-Horizontal Mergers: Transactions without Overlap

Conversely, when the target company has fringe products and operates in an adjacent market, it will be significantly more complicated to assess the competitive effects of the transaction. The problem arises because the Commission must prove, to the requisite legal standard, that the target is a potential competitor in the acquirer's core market.

1. Proposals to Reverse and/or Reduce the Burden of Proof

Due to the difficulty of this exercise, the possibility of reversing the burden of proof has been raised, most famously by Tommaso Valletti, the previous Chief Economist of DG Competition,[37] but also by the Stigler and ACCC Reports.[38] According to this proposal, acquisitions of promising start-ups by digital incumbents should be presumed anticompetitive unless the parties can prove that the transaction would bring significant efficiencies. The authorities would no longer have the obligation to prove the potential anti-competitive effects of the merger as a result. Instead, it would be up to the parties to demonstrate its pro-competitive effects and the lack thereof would result in the transaction being prohibited.

In addition to reversing the burden of proof, various proposals have been made to reduce it. In this sense, the Furman Report laid down a much-discussed proposal according to which the CMA should be bolder and "more economically oriented" by changing the evidentiary standard from a "*balance of probabilities*"[39] to a "*balance of harms.*" In essence, the idea would be to relax the evidentiary standard in mergers with a "potentially very large scale of lost benefits." That would mean that, when the magnitude of the harm is considerable, the evidentiary standard would be lowered from a "more likely than not" to a "realistic prospects" standard.[40] According to the Furman Report, this should be amended despite some "occasional rare false positive along the way."

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33 Provided that there are no other relevant countervailing efficiencies.

34 *Facebook/Instagram* (Case ME/5525/12), OFT Decision of August 22, 2012, pars. 15-25.

35 Commission Notice on the definition of relevant market for the purposes of Community competition law, December 9, 1997.

36 See M. Vestager's announcement on December 9, 2019, at the Chillin' Competition Conference: "Defining markets in a new age."

37 "DG Comp chief economist: Reverse burden of proof to catch killer acquisitions," *Global Competition Review*, November 20, 2018.

38 Stigler Report, pp. 111 et seq.: "specific merger regulations should require merging firms to demonstrate that the combination will affirmatively promote competition."; ACCC, Digital Platforms Inquiry, Final Report, p. 109: "The ACCC considers it may be worthwhile to consider whether a rebuttable presumption should also apply, in some form, to merger cases in Australia. […] it signals that, absent clear and convincing evidence put by the merger parties, the starting point for the court is that the acquisition will substantially lessen competition."

39 The Commission has a very similar legal standard: "significant likelihood" (Horizontal Merger Guidelines, par. 60).

40 That the negative effects are merely "likely to occur."

While these modifications may seem tempting at first, the reality is that they have been widely rejected by the antitrust community, as they present several critical flaws.[41] First, it is hard to define on paper for exactly which transactions the burden of proof would be reversed/reduced, and it is clear that this should not be left to the discretion of the authorities on a case-by-case basis. Second, such an evidentiary asymmetry[42] would leave the competition authorities with an incommensurate level of unbacked (and thus, incontestable) discretion which could result in arbitrary decision-making. As the famous astronomer Carl Sagan once put it, "extraordinary claims require extraordinary evidence" or, equally, "what can be asserted without evidence can be dismissed without evidence."[43] Third, there are no economic or empirical reasons to justify such a change since most acquisitions by digital incumbents foster innovation, either directly or indirectly.[44]

To presume that all such transactions are anticompetitive without any justification whatsoever would be harmful to the competitive process and violate the presumption of innocence. In any event, it is doubtful whether these changes would work in practice. With respect to the reversal of the burden of proof, parties will generally be able to come up with some sort of efficiency rationale, bringing the authority back to square one.[45] As for the balance of harms proposal, the authority would need to (i) identify a range of possible future outcomes, (ii) estimate their probability, and (iii) assess their impact on customer welfare, which is likely to raise insurmountable practical hurdles.[46]

2. Novel Theories of Harm: Platform Envelopment

For its part, the EC Report proposed a novel theory of harm based on a "broader view of the position of the incumbent in a *market for the digital ecosystem*,"[47] where the harm would derive from the strengthening and enclosing of a particular "user space" by expanding network effects from one platform to another. Similarly, Gautier & Lamesch suggested that the main damage to competition and innovation may derive from conglomerate effects, as digital incumbents consolidate and expand their market power by acquiring to reinforce and leverage their core segments.[48]

The novel theory of harm proposed by the EC Report also displays significant shortcomings. Primarily, it is difficult to grasp what the actual harm is in this theory: are users, as a consequence of the acquisition, paying a higher price, enjoying lower quality or less choice? If anything, it seems that users decide to stay on the newly created platform because they derive significant added value from the strengthened network effects, as well as from the substantial economies of scope, consumption synergies and complementarities created.[49] That is why conglomerate mergers are generally procompetitive.[50] It is true that conglomerate mergers can lead to foreclosure, but that potential concern can already be tackled with current tools, as demonstrated by the Non-Horizontal Merger Guidelines[51] and abuse of dominance case law on bundling and tying practices. By accepting this theory of harm, in reality, we would be transforming the mere potential for foreclosure into the actual harm itself, unduly anticipating the analysis. For these reasons, the proposal of the EC Report seems both unsatisfactory and unnecessary.

41 See, for instance, T. Lécuyet, "Digital conglomerates and killer acquisitions – A discussion of the competitive effects of start-up acquisitions by digital platforms," *Concurrences*, Nº 1-2020, pp. 42-50.

42 It is a basic evidentiary principle that the size of one's claims should be directly proportional to the evidence put forward.

43 Known as "Hitchens's razor."

44 See *supra*, Section II.

45 How much more efficient should the transaction be when the anti-competitive effects were never established? Indeed, any efficiencies would suffice. Further, non-horizontal mergers are generally considered to be more efficient than not, given the complementarities of the parties (EC Non-Horizontal Merger Guidelines, para. 11 et seq.).

46 T. Lécuyet, *supra* note 41, pp. 45-46.

47 EC Report, p. 122.

48 A. Gautier & J. Lamesch, *supra* note 12.

49 T. Lecuyet, *supra* note 41, pp. 46-50.

50 EC Non-Horizontal Merger Guidelines, para. 11 et seq.

51 *Ibid.* para. 93 et seq.

3. The Innovation Competition Approach

An innovation competition approach would provide the necessary tools to tackle the intricate problem at stake. In a series of cases ranging from *Novartis/GlaxoSmithKline*[52] and *GE/Alstom*[53] to *Dow/DuPont*[54] and *Bayer/Monsanto*,[55] the regulated framework of the pharmaceutical, industrial manufacturing and agro-chemical sectors allowed the Commission to capture restrictions of competition at an early stage, that is, before any anticompetitive effect on the relevant market could be predicted with enough certainty. This means that, if we managed to extrapolate the innovation competition methodology to digital transactions, it would not be necessary to establish a "potential competition" relationship to the (highly demanding) requisite legal standard.

Instead, we would need to show that the target company is both pursuing a discernible innovation objective (namely creating a potentially competing product from an adjacent market), and that it has the ability to carry it through. In this respect, it would not matter if it is still uncertain whether the product under development will in fact end up competing with the existing product or whether it will eventually reach the market at all: as it was established in those cases, the object of protection would be the incentive of the parties to innovate, that is, *the innovative process per se*.[56]

The EC Report explicitly rejected the application of the innovation spaces methodology to digital transactions on the ground that in the digital sector, as opposed to the heavily regulated pharmaceutical and agro-chemical industries, R&D does not take the form of a distinct and well-structured process with clearly identifiable research poles.[57] In contrast with this statement, the Commission has managed to shift outside of the pipelines framework in the last agro-chemical cases *Dow/DuPont* and *Bayer/Monsanto* to define innovation spaces at the level of *early R&D efforts*. As shown in these cases, a holistic approach, including an analysis of (i) *essential resources* (e.g. intellectual property rights, data sets, large user bases, specialized and expensive hardware, access to financing, engineering skills, and computation power);[58] (ii) *capabilities* (as a function of the company's skillset, strategy, governance structure, and past behavior);[59] (iii) *patent overlaps*; (iv) *investment plans of both merging parties* setting innovation targets; and (v) *internal documents of the acquirer* with post-merger divestment plans, should allow the Commission to define the relevant *innovation space* and perform an innovation competition assessment in digital transactions, despite the absence of pipelines.[60] In this regard, instead of a classic innovation competition setup of overlapping pipeline products or early R&D efforts (as in *Dow/DuPont*), the situation would present an existing product that is being threatened by an incoming innovative product in the pipeline (as was the case in *Medtronic/Covidien*[61]).

In fact, the EC Report later accepted that this approach may "obviously" be relevant in some circumstances where essential resources or capabilities are present, but did so to underline that because of their absence at an early stage, the methodology would rarely be applicable to the acquisition of incipient start-ups.[62] This point seems unconvincing because, in order to raise any competition concerns, early and targeted acquisitions must be triggered for a specific reason. There must be something particularly valuable about the target company, in terms of assets or capabilities, for the incumbent to find it promising and to acquire it (usually for a significant sum) instead of just replicating the technology or product in question. If no key assets or capabilities are detected, on the contrary, the transaction should logically not raise any competition

52 *Novartis/GlaxoSmithKline Oncology Business* (Case COMP/M.7275), Commission Decision of January 28, 2015.

53 *General Electric/Alstom* (Case COMP/M.7278), Commission Decision of September 8, 2015.

54 *Dow/DuPont* (Case COMP/M.7932), Commission Decision of March 27, 2017.

55 *Bayer/Monsanto* (Case COMP/M.8084), Commission Decision of March 21, 2018.

56 In the abovementioned cases, the Commission has repeatedly established that it is irrelevant to the innovation competition assessment that the innovative process is highly uncertain, that is, the fact that *ex ante* the relevant developing products may still have a low probability of getting to the market or, even if they do, of ending up competing against each other in the future. Instead, what matters is that if two competing innovation projects fall in the same hands as a result of a merger, the incentive to innovate will disappear and, consequently, the projects will be stopped. Unless the incentives of the parties to keep innovating are maintained by keeping the projects separate, the potential innovative outcome at stake will never take place (provided that the resulting company does not have other incentives to still carry it through).

57 EC Report, p. 120.

58 W. Kerber, "Competition, Innovation, and Competition Law: Dissecting the Interplay," (2017) 42, *MAGKS Joint Discussion Paper Series in Economics*, pp. 15-16.

59 J. G. Sidak & D. J. Teece, "Dynamic Competition in Antitrust Law," (2009) 5(4), *Oxford Journal of Competition Law and Economics*, pp. 614-617.

60 Similar suggestions have been made by M. Bourreau & A. De Streel, "Digital Conglomerates and EU Competition Policy," (2019), p. 27-28; W. Kerber, *supra* note 58, pp. 15-16. This approach has been recently endorsed by OECD experts at the Competition Open Day 2020 (Paris - February 26, 2020), see P. Gonzaga's contribution in the third panel dedicated to "Merger Control in Dynamic Markets."

61 *Medtronic/Covidien* (Case COMP/M.7326), Commission Decision of November 28, 2014, paras. 247-250.

62 EC Report, p. 120.

concerns at all, as the relevant innovation space would consequently be much wider. In that case, the acquisition by the incumbent firm would be merely speculative (or just neutral to competition) and any competition concern raised by the authorities would equally be unsubstantiated. This should not, however, constitute an argument for the non-application of the innovation competition approach.

V. CONCLUSION

This paper addressed concerns and challenges relevant to the antitrust assessment of killer acquisitions, providing a general framework for their analysis.

Based on the available evidence, it appears that the majority of acquisitions by digital incumbents do not have the objective of eliminating competition but, on the contrary, foster innovation by encouraging or promoting innovative efforts and integrating complementary products and capabilities.

Further, *ex ante* and *ex post* control mechanisms to capture and deter acquisitions by digital incumbents have been discussed. However, these systems are not mutually exclusive. In fact, it may be effective and sensible to combine those systems.

Finally, this paper recommends that the Commission adopt the innovation competition approach, as developed in *Novartis/GlaxoSmith-Kline*, *GE/Alstom*, *Dow/DuPont*, and *Bayer/Monsanto*, in the substantive assessment of alleged "killer acquisitions" in the digital sector.

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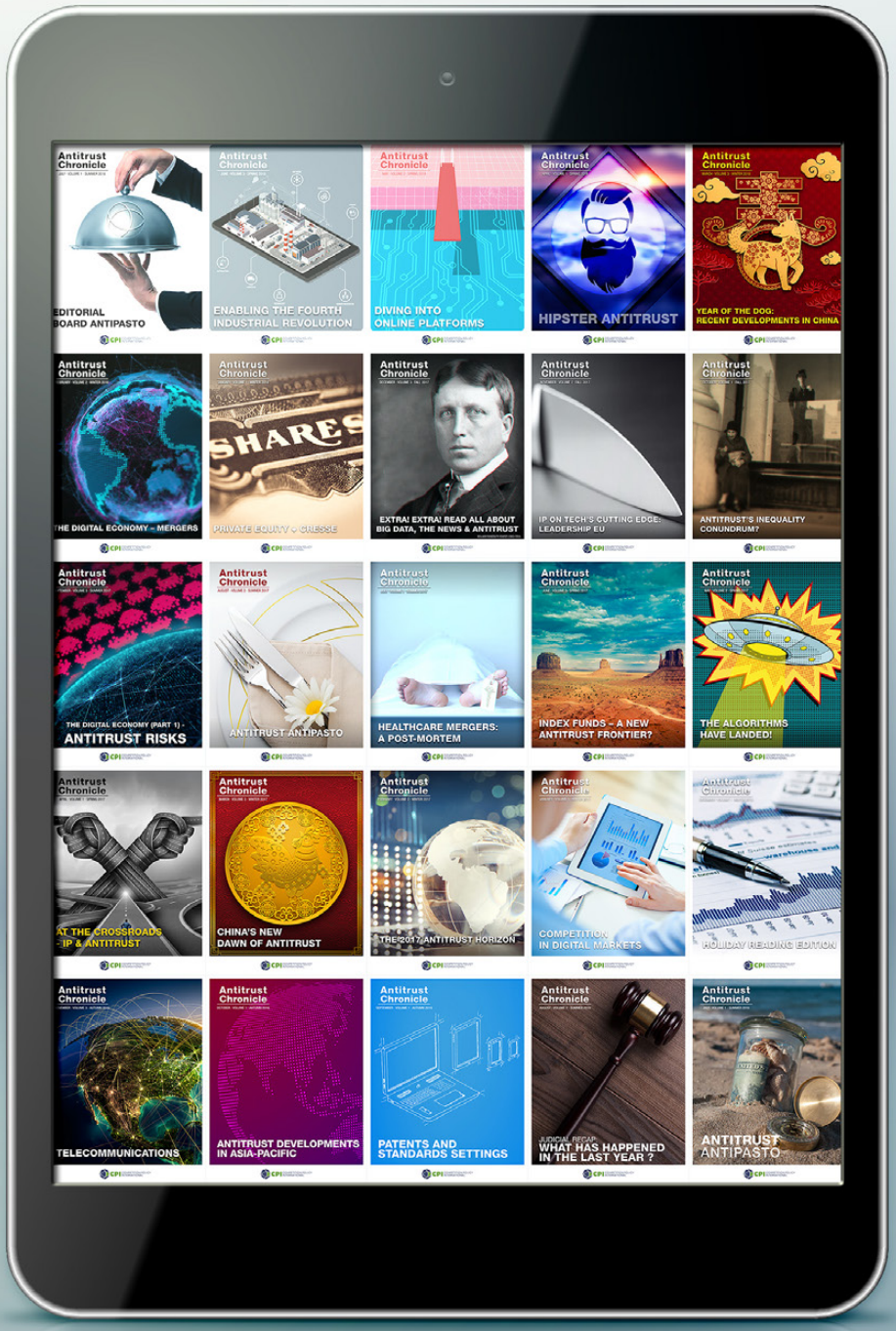


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