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VISA'S ABANDONED PLAN TO ACQUIRE PLAID: WHAT COULD HAVE BEEN A TEXTBOOK CASE OF A KILLER ACQUISITION

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Visa's Abandoned Plan to Acquire Plaid: What Could Have Been a Textbook Case of a Killer Acquisition

Frédéric Marty [*] *et Thierry Warin* [†]

Abstract/Résumé

The applicability of the notion of killer acquisition to digital platforms has long been debated. The case of the proceedings brought by the U.S. Department of Justice against Visa in November 2020 (before their joint dismissal in January 2021) is even more interesting insofar as it makes it possible to illustrate and discuss its different facets ranging from the notion of competition suppression to that of consolidation and extension of the dominant position. Even if the acquisition project was eventually withdrawn, the complaint analysis also makes it possible to question inter-digital ecosystem competition and shed light on the issues related to monitoring acquisitions undertaken by dominant companies.

L'application de la notion d'acquisition tueuse aux plateformes numériques fait depuis longtemps l'objet de débats. Le cas de la procédure engagée par le Département de la Justice américain contre Visa en novembre 2020 (avant leur rejet conjoint en janvier 2021) est d'autant plus intéressant qu'il permet d'illustrer et de discuter de ses différentes facettes allant de la notion de suppression de la concurrence à celle de consolidation et d'extension de la position dominante. Même si le projet d'acquisition a finalement été retiré, l'analyse de la plainte permet également de s'interroger sur la concurrence au sein de l'écosystème interdigital et de mettre en lumière les enjeux liés au contrôle des acquisitions réalisées par les entreprises dominantes.

Keywords/Mots-clés: mergers control, killer acquisitions, digital ecosystems, foreclosure, damage to innovation, fintech / contrôle des fusions, killer acquisitions, écosystèmes numériques, verrouillage, dommages causés à l'innovation, fintech

JEL Codes/Codes JEL: L12, L25, L41, L86c

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Visa's Abandoned Plan to Acquire Plaid: What Could Have Been a Textbook Case of a Killer Acquisition

[updated version of Marty F. and Warin T. (2020a)]

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Introduction

In November 2020, The Department of Justice (DoJ) decided to challenge the $5.3 billion Visa's acquisition of Plaid by mobilizing the notion of "killer acquisition." According to the DoJ: "the transaction would have enabled Visa to eliminate this competitive threat to its online debit business

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before Plaid had a chance to succeed, thereby enhancing or maintaining its monopoly" (Marty and Warin, 2020a). If the case was initially scheduled for trial in the U.S. District Court for the Northern District of California on June 28, 2021, the procedure was eventually closed on January 12, 2021, after the joint stipulation of dismissal by the companies. In 2019, Visa's sales were USD 23 billion, of which USD 10.3 billion were generated in the United States. The turnover of Plaid in 2019 was 100 million USD. Plaid already had a privileged place in the American banking ecosystem. Its technology was present in nearly 2,600 applications developed by fintech companies, 80% widely used. Plaid has contracts with 11,000 financial institutions and connects 200 million accounts with its services. It was a crucial operator for developers, both by its quality and the exit costs incurred if they chose another service provider.

The interest in acquiring Plaid was due to its crucial positioning in mobile payments by directly using bank identifiers to enable immediate inter-bank transfers from one account to another. Not only does the fintech company pose a threat to Visa's fee-based card payment business model, but its acquisition would have given Visa a foothold in the rapidly growing open banking market.[1].

Although this is not a case involving the Big Techs, this stillborn project could have been a fascinating illustration of a killer acquisition or at least a takeover strategy of an emerging firm by a dominant operator in a given ecosystem both for defensive purposes (neutralizing an emerging threat in the dominated market) and for offensive purposes (extending its dominance to a related market). Therefore, the acquisition in question could have been questioned in terms of protection against possible technological disruption and in terms of entry strategy into a related ecosystem favored by the margins linked to dominance in the home market. In this sense, the strategy that could have been attributed to Visa would have many echoes with the debates that have developed in recent years on the growing concentration of the American economy (Philippon, 2019) and with the effects of numerous acquisition operations launched by the giants of the digital economy.[2].

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[1] In the European Union, implementing the PSD2 directive (Payment services directive, 2015/2366) will further promote the development of this market by facilitating the exchange of banking data in transactions. In June 2021, Visa acquired a Swedish startup, Tink, which operates in the same market as Plaid, for EUR 1.8 billion.

[2] The report published last autumn by the Antitrust Subcommittee of the U.S. House of Representatives provides an appendix listing the acquisitions made by Big Tech. One of the sources is the Big Tech Mergers database, constructed by the American Economic Liberties Project. When consulted on October 20, 2021, it provides the following results. Amazon has made 115 acquisitions in the last 23 years. Apple has acquired 126 companies in 33 years. Facebook has made 90 acquisitions in the last 16 years. Google has acquired 259 companies in the last 20 years.

https://www.economicliberties.us/big-tech-merger-tracker/#

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There are three very distinct scenarios linked to this wave of acquisitions: the defensive acquisition (which consolidates a dominant position), the offensive acquisition (which extends to other markets), and a regular acquisition. A defensive acquisition does not aim to integrate the service developed by the acquired firm into its offer but, on the contrary, to make it disappear (or to stop its development) so that it cannot dry up the profit channels of the acquiring firm. This scenario is that of killer acquisitions: a dominant firm takes control of a company developing a service (or even a promising technology). The purpose is to neutralize a potential competitive threat: the target could become a competitor capable of challenging, if not the incumbent's market position, at least its profit margins.

The Crémer et al. report (2019), written for the European Commission's D.G. Competition, defines what a defensive killer acquisition can be: "Concerns may, however, arise notably when such acquisitions result in a strengthening of dominance and thereby a significant impediment of effective competition, e.g. by eliminating a competitive threat and by raising barriers to entry for other (potential) competitors, thus further reducing the risk of attacks on a strongly entrenched market position from the fringe." According to the Assistant Attorney General, the scenario of such a preventive neutralization of a nascent competitor made sense in this acquisition project: "In a victory for American consumers and small businesses, Visa has abandoned its efforts to acquire an innovative and nascent competitor" (DoJ, ATR, Press release 21-38, January 12, 2021).

The case of Visa illustrates the stakes involved in these consolidating, if not killer, acquisitions and the question of how the competition authorities control them. Indeed, these operations often escape the ex-ante control procedures of merger projects. The reason for this is, firstly, the structural thresholds used on both sides of the Atlantic. Control will not be achieved if the acquired firm is not yet active in the same relevant market as the acquiring firm. The absence of control may also be linked to the fact that the mergers appear vertical and not horizontal.

The absence of control can be illustrated by a report published by the FTC on the acquisitions made by the five prominent American Big Tech companies. More than 616 acquisition transactions worth more than US$1 million, carried out between 2010 and 2019, were not subject to control under the Hart-Scott-Rodino Act (FTC, 2021)

This paper is a case study of the failed acquisition of Plaid by Visa. It aims at contextualizing the decision made by Visa and Plaid as well as the DoJ. It is about presenting this case in the light of the concept of killer acquisition. The paper is structured as follows. The first section presents the concept of killer acquisition as developed in industrial organization and competition law and economics. A second section illustrates how such acquisitions can damage the competition process

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and particularly for the innovation dynamics. A third section develops our case study. A fourth and last section concludes and draws some perspectives for competition law enforcement to tackle the risks induced by such acquisition projects.

Industrial Organization and Competition Law contextualization of the killer acquisition notion

The literature on killer acquisitions has developed massively in recent years in the fields of Industrial Organization and Competition Law and Economics (Bourreau and Streel, 2019).

This literature is part of an overall assessment of a weakening of the competitive intensity of markets over the last two decades in the United States, particularly in the digital sector (Philippon, 2019). The increasing concentration of the markets in question is due to the efficiency of the dominant firms and to the specific features of platform markets, which bring into play winner-takes-all dynamics. It may also be due to the external growth strategy of the involved firms. For some authors, the growing concentration of markets is significantly due to insufficient control of mergers operations (Kwoka, 2015).

In that perspective, it is more the permissive nature of merger control than the weak public enforcement of the Sherman Act that is responsible, in the United States, for the high levels of dominance observed in digital markets. The relaxation of merger control could be explained by a persistent influence of the Chicago School in its analyses of the 1970s regarding the absence of significant competitive risks linked to vertical mergers. The 1984 Guidelines viewed such mergers in a favorable light, considering that they solve the problem of double marginalization (if two firms with market power operate along the same value chain) and that they generate efficiency gains. This understanding lasted until 2020, as evidenced by the new guidelines issued on June 30, 2020, by the U.S. DoJ and the FTC (Economides et al., 2020). These same guidelines were withdrawn on September 15, 2021, based on their inability to consider the competitive risks induced by vertical mergers, particularly in the digital field.[3]

Moreover, it should be noted that many mergers, initially appearing as vertical, if not conglomerate, may turn out to be horizontal ex-post as a result of market convergence. For

[3] "The guidance documents, which were published in 2020, include unsound economic theories that are unsupported by the law or market realities", FTC Press Release, September 15, 2021: "Federal Trade Commission Withdraws Vertical Merger Guidelines and Commentary" - https://www.ftc.gov/news-events/press-releases/2021/09/federal-trade-commission-withdraws-vertical-merger-guidelines

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instance, it was unclear that WhatsApp and Instagram could become alternative social networks to Facebook if not unexpected at the time of their acquisitions.

The pre-emption of technologies developed by startups has been identified as one of the main determinants of firms' acquisition strategies in the digital sector (Lim 2020). The acquisition strategy is then a variant of the kill zone strategies. The aim was to neutralize potential competition or eliminate the market capacities that could be useful to competitors. The acquisition strategy can also be seen as extending the very perimeter of this kill zone as soon as it allows control of data flows that provide strong visibility on the functioning of a related market or pivotal ecosystem firm could extend its dominance.

Developed by Kamepalli, Rajan, and Zingales (2020), the notion of kill zone covers a possible foreclosure of a current or potential competitor, implemented based on an informational advantage linked to a pivotal position and a market power linked to a gatekeeper position. This gatekeeper position makes it possible to control access to the ecosystem and to alter its operating rules. As both a market player and a private regulator, the dominant firm can displace or disadvantage its competitors using self-preferencing or other strategies. If we push the argument further, it would be possible to consider that the kill zone is based on a refusal of access to an essential facility, either absolute (through, for example, delisting from marketplaces) or relative (through the degradation of the “quality” of the competitor's product, an increase in access costs, etc.).

What is the difference between the notion of kill zone and that of killer acquisition? The kill zone implies the disappearance of the competitor's offer on the dominant operator's platform. If there is a competing platform, its customers will likely leave the dominant firm's ecosystem to benefit from its services. It is then necessary for customers to be encouraged or forced (by switching costs) to remain in an exclusive relationship with the dominant operator, e.g., to single-home, or for the gatekeeper to clone the product or service of the displaced competitor. In contrast, a killer acquisition strategy is more effective. Firstly, it allows the service to continue to be offered to the platform's users (in the kill zone scenario, it must be possible to clone it), and secondly, it deprives competing platforms of this application or service.)

Two criticisms were mainly addressed to the killer acquisition concept. The first criticism was that this literature was based on the biotech case (Cunningham, Ederer, and Ma 2020), which corresponded to a particular economic model that could not easily be transposed to the digital

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domain.[4] The second criticism was that the numerous acquisitions observed in the digital field.[5] could more easily be linked to the concept of consolidating acquisitions than to that of killer acquisitions. Indeed, few acquisitions aim to prevent a firm from proposing a new technology from entering the market. Far more often, acquisitions are made to strengthen the acquirer's technological capabilities or to enable it to penetrate new markets.[6] Few investment committees would agree to buy a prey at very high prices only to destroy its value.

However, a theory of competitive harm can be constructed. An acquisition can reduce the innovation effort of either of the target (killer acquisition.[7]) or of the acquirer itself in that it can substitute the R&D of its prey for its own (Caffarra et al. 2020). Then, once the acquisition is made, it may reduce the prospects of profitable entry or easy market development for its former competitors. It may reduce their ability to finance themselves and thus weaken the competitive threat they represented (Kamepalli, Rajan, and Zingales 2020). The reversal observable at the end of October 2020 through the DoJ complaint against Google (Case 1:20-cv-03010, October 20) seems to be confirmed. Strikingly, this complaint uses Microsoft's precedent (a procedure from which the DoJ then strongly dissociated itself) to illustrate the competitive risks associated with nascent competitive threats elimination: "Monopolists cannot have "free reign to squash nascent, albeit unproven, competitors at will." the United States v. Microsoft Corp., 253 F.3d 34, 79 (D.C. Cir. 2001)" (p. 5).

Such a position seems to mark an evolution towards a precautionary principle in controlling vertical concentrations (Wright and Portuese 2020). A "precautionary" approach to merger control may result in damage to competition by dissuading firms from proposing merger projects that are nevertheless economically efficient. It may also result in an excessive administrative burden for the authorities in charge of control. Finally, it might resemble the structuralist approach of the

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[4] In their study, they evaluated some 35,000 projects involving 6,700 firms in the sector over 25 years. In 40% of the acquisition cases, the firms involved were conducting similar projects. They evaluate at 6.4% of the cases the acquisitions that can be treated as killer acquisitions in that they resulted in the acquired firm stopping its R&D investments in fields directly competing with those carried out by the acquiring firm. However, it should be noted that the nature of the risks, particularly regulatory risks, and the scale of the costs associated with bringing an innovation to market are differentiating factors between the biotechnology sector and the digital one.

[5] House of Representatives, Judiciary Committee, (2020), Investigation of Competition in Digital Markets, October (https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf).

[6] Such acquisitions promote entry into new markets and, as such, can increase inter-platform competition. Not only can an acquisition lead to competition with another Big Tech in a market it dominates, but it can also lead to future competition in markets where individual Big Techs are not yet present (see, for instance, the molygopoly hypothesis developed by Petit (2020)).

[7] See Giulio et al. (2017) and Giulio et al. (2019) on the adverse effects of a nascent competitor acquisition on innovation.

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1960s. Beyond the typical example of the Brown Shoe Supreme Court ruling (Brown Shoe Co., Inc. v. the United States, 370 U.S. 294 (1962)), the 1968 guidelines on horizontal mergers were emblematic of this approach, which was hostile to any external growth operations by dominant operators. In-depth control was triggered when the acquirer's market share was 15%, and the prey exceeded 1% of the relevant market (Shapiro 2010a).

Moreover, it should be noted that the acquisition of Plaid by Visa could also be analyzed as a horizontal concentration since the services provided by both are substitutable. The very issue of nascent competitors may give rise to fears of insufficient control of acquisitions to the extent that the acquired competitor's market shares do not meet the structural thresholds that must lead to the implementation of in-depth control. However, even if the nascent competitor's probability of success in disrupting the dominant operator is low, the damage to competition linked to its elimination may be incredibly severe, akin to a catastrophic risk in decision theory. Even more, this is the case for an entrant such as Plaid. Indeed, according to the DoJ's complaint, Plaid had the appropriate capacity to replace the dominant operator because of its technology and the network effects from which it could directly benefit. This led to Visa being sued based on Section 2 of the Sherman Act and Section 7 of the Clayton Act. The DoJ also adopts for the occasion a broad interpretation of this section: the aim is to counter as early as possible the risks of damage to the competitive structure of the market: “Visa's proposed acquisition also would violate Section 7 of the Clayton Act, which was “designed to arrest the creation of monopolies 'in their incipiency,'“ the United States v. Gen. Dynamics Corp., 415 U.S. 486, 505 n.13 (1974), and similarly prohibits a monopolist from bolstering its monopoly through an acquisition that eliminates a nascent but significant competitive threat” (p. 5)

Similarly, the acquisition carried out amounts to pre-emption of a strategic firm that could have either disrupted the predator or been acquired by one of its competitors. In a perspective of competition between ecosystems, acquiring a critical complement by a dominant player could impair competing ecosystems' ability to grow. Not only have the latter not acquired it, but they may face two additional induced competitive damages. The first damage can be an exclusivity contract that will make the critical complementor do single-homing and no longer multi-homing. Such a scenario would undermine Petit’s hypothesis of an increased inter-platform competition through acquisitions. The second damage could come from the fact that the dominant operator could obtain data on its competitors' activities through the pursuit of multi-homing or make it

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essential for them to continue the partnership with the complementor to exercise a competitive threat.[8]

Other types of competitive damage may be even more apparent: the consumer loses freedom of choice, the disappearance of an "independent" complementor deprives competition of alternative technological dynamics.

In short, this type of acquisition can generate significant damage to the competition. It increases barriers to entry and strengthens the dominant operator's ability to increase its prices (directly or indirectly the contractual consideration it may demand) or limit its investments in innovation, quality of service, or safety attached to the service. The takeover of a competitor outside its ecosystem or a complementor that develops a potentially disruptive technology reduces competition for the market, i.e., inter-system competition.

The worst situation is when the prey could have been in a position to become an alternative keystone. This assumes that the prey has a disruptive technology and a specific position with many ecosystem members, enabling it to overcome the classical barriers to entry in digital ecosystems: the information deficit and the inability to bring the network effects into play. A complementor or competitor capable of overcoming this cold start effect (an entry into a platform market comes up against the chicken and eggs problem insofar as necessary to attract a minimum mass of counterparties simultaneously on both sides) can be a disrupter.

The strategy described above can be particularly damaging to competition in two ways. First, it undermines the contestability of the ecosystem dominance by the keystone. It harms competition in the market. The keystone has better control over its ecosystem and can impose its "private regulation" on it (particularly technological dynamics). It can also impose its contractual conditions. It enjoys a quiet life and can generate monopolistic rents without its complementors having an exit option. Secondly, this strategy harms competition by eliminating an operator that could have been a competitor by vertically integrating or extending the scope of its activities or by being bought out by the hub of a competing ecosystem.

[8] See, for instance, E.U. Commission's decisions related to Apple and Shazam (case M.8788, September 6, 2018) and to Microsoft and LinkedIn (case M.8124), December 6, 2016) for illustrations of such competitive risks and of the difficulties to deal with them under current mergers control procedures.

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The academic literature on killer acquisitions has given rise to controversy about the characterization of the phenomenon but has resulted in significant proposals for the evolution of competition rules.

Within the E.U., the Crémer, Montjoye, and Schweitzer (2019) report emphasized the risks to the competitive process of acquisitions that would either not be subject to control because they would fall below the thresholds or would not induce risks in the reasonably distant future. At the same time, proposals for changes were being made in several States to consider financial thresholds (the value of the purchase or the differential with the target's turnover) to trigger an investigation or add ex-post control procedures to complement the ex-ante supervision of the merger. In the context of the inception impact assessments launched by the European Commission concerning the Digital Services Act and the Digital Markets Act, Crawford, Rey, and Schnitzer (2020) recommends a specific examination of acquisitions made by dominant firms in digital markets. Such a recommendation highlights the need to control both offensive acquisitions (extending dominance to other markets) and defensive acquisitions (protecting dominance in a given market by neutralizing potential threats).

In the United States, the Stigler Center's 2019 report insists on the impact of external growth operations on digital markets' concentration (Lancieri and Sakowski 2021). Before the covid-19 crisis, the FTC launched a retrospective survey in February 2020 on the five major digital groups (Google, Amazon, Facebook, Apple, and Microsoft). Despite the rejection of the merger ban proposed at the height of the Covid 19 pandemic's first wave by Senator E. Warren and Representative A. Ocasio-Cortes, the investigation on competition in digital markets, carried out by the Judiciary Committee's Subcommittee on Antitrust, insisted on the stakes induced by the acquisitions made by the major groups. These ones may consolidate and extend their respective market dominance without the current competition rules being able to counteract the potential damage to competition.

The Judiciary Committee's report shows that none have been refused of the 500 acquisitions made by Google, Facebook, Amazon, and Apple since 1998, and only one has been the subject of corrective measures.

The case of Visa and Plaid is even more attractive in this respect because the firms present in the "upstream" and "downstream" ecosystems are partly the same as banking establishments (Nocke and White, 2007; Biancini and Ettinger, 2017). The situation induced by such a "structural" weakening of competition would require structural remedies (see the new competition instrument proposed by article 17 of the European Commission's Digital Market Act and its links with British

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Market Investigations[9]) or regulatory solutions to recreate competition conditions. The only alternative would be to impose ex-ante measures to reduce barriers to entry (interoperability, data portability, etc.). As is the case for the different variants of the essential facilities theory's activation (Marty, 2018), these remedies could be questioned on two bases. The first question lies in the operator's investment incentives' net effect subject to the access obligation and new entrants. The second is linked to the fact that such obligations are likely to distort competitors' incentives to innovate by reducing the interest in seeking breakthrough innovations to bypass the dominant operator's infrastructure.

The report of the American Judiciary Committee leads to convergent proposals. First, defining rules per se and setting up structural presumptions in concentrated markets would be a matter of defining rules. This would represent a break with the practice established in 1982 (and whose roots go back to the previous decades (Shapiro 2010b)) of a case-by-case analysis of proposed mergers by balancing the damage to competition with potential efficiency gains. This proposal must be put into perspective with a growing contestation of the effects of competition authorities' use of the consumer welfare-based balance of effects, which is seen as introducing a pro-defendant bias (Chopra and Khan 2020).

The report also proposes specific protection for potential rivals, nascent competitors, and startups (p. 393). In order not to expose to the risk of a potential competitive threat being eliminated by the merger, the report proposes to prohibit such acquisitions or to no longer require demonstration that significant entry would have been possible in the absence of a takeover: “Subcommittee staff recommends strengthening the Clayton Act to prohibit acquisitions of potential rivals and nascent competitors. This could be achieved by clarifying that proving harm on potential competition or nascent competitors as significant would have been a successful entrant in a but-for world”.

Therefore, the Judiciary Committee endorsed the recommendation of Scott Hemphill and Wu (2020, p. 3) that considers uncertainties as to the actual ability of the nascent competitor to exert real competitive pressure would lead to frequent possible false negatives and risk perpetuating dominant positions. “While nascent competitors often pose a uniquely potent threat to an entrenched incumbent, the firm's eventual significance is uncertain, given the environment of rapid technological change in which such threats tend to arise. That uncertainty, along with lack of

[9] In the U.K., the legal powers to undertake a market investigation are contained in the Enterprise Act 2002 as amended by the Enterprise and Regulatory Reform Act 2013 that established the Competition and Markets Authority. Implementing such a mechanism in the E.U. was announced in June 2020 through the Preliminary Impact Assessment on the "New Competition Tool," which prefigures the Digital Markets Act, proposed on December 15, 2020, by the E.U. Commission. See European Commission (2020) for further developments.

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present, direct competition, may make enforcers and courts hesitant or unwilling to prevent an incumbent from acquiring or excluding a nascent threat. A hesitant enforcer might insist on strong proof that the competitor, if left alone, probably would have grown into a full-fledged rival, yet in so doing, neglect an important category of anti-competitive behaviour."

The argument of the potential competitive threat by an upcoming competitor places the authority in charge of enforcing competition rules in a situation of even more significant uncertainty than in usual procedures (Yun, 2020). It is difficult to predict whether the competitor will enter the market when it can do so and what strategy is differentiating its offers. The assessment of the potential effects on competition also requires evaluating the incumbent's possible strategy and customers' propensity to leave the incumbent and switch to the entrant's offer. The inelasticity of the platform's users vis-à-vis its services can be explained by the adaptation of its strategy in terms of its offer, by the loyalty and locking mechanisms (contractual and technological) that it implemented, but also by the habits of users and their imperfect ability to balance the benefits and switching costs of a competing service (Marty and Warin 2020b, 2020c, 2020d).

An essential point in Hemphill and Wu's (2020) reasoning is implementing a precautionary standard for acquisitions of nascent competitors. The acquirer has a significant informational advantage over the authority, which cannot quickly assess ex-ante the future damage to competition. One of the proposals is to defer approval to compensate for this informational disadvantage. The collective cost of the delay in reviewing the transaction (in terms of the delay in realizing efficiency gains) is balanced against the benefit of reducing the risk of error.

A second point that may also be open to discussion is the consideration of the purchaser's intentions. Contemporary American decision-making practice rejects this element to assess a market practice's conformity with competition rules, following the Chicago School's classic prescriptions. Indeed, for Posner (1976, p. 190): "Especially misleading here is the inveterate tendency of sales executives to brag to their superiors about their competitive prowess, often using metaphors of coercion that are compelling evidence of predatory intent to the naïve." However, like Hemphill and Wu (2020), Lao (2020, p. 812), relying on the Microsoft case, considers that: "if corporate statements or documents show that a dominant firm's action were intended to eliminate a nascent rival in order to prevent a possible future threat to its dominance, it would be reasonable to infer from that intent that the effects of the action were anti-competitive even if there was no clear showing of competitive harm."

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Two remarks can then be made at the end of this overview of the different proposals for competition rules. The first relates to the standard and the burden of proof; the second lies in the risk of substituting false negatives for false positives.

Firstly, in the field of merger control, the principle is based on a presumption of legality. It is up to the authority) to show that the operation will have an appreciable effect on competition, an effect assessed based on its impact on consumer welfare. For the time being, no rules prohibit the acquisition of dominant operators based on their dominance. The rules governing horizontal and vertical concentrations require "fact-specific inquiries into competitive effects, not just a reliance on concentration statistics" (Sperry 2020).

Second, not all acquisitions are killer acquisitions (Gautier and Lamesch, 2021). A consolidating acquisition may enable a service previously provided by a complementor to be integrated directly into the platform. It may enable better performance (due to greater technical and financial resources, more significant economies of scale and scope, more favorable network effects, etc.). Bourreau and de Streel (2019) show that startup acquisitions can, in some cases, be motivated by efficiency objectives, making it possible to acquire new skills. Dynamically, these acquisitions can also provide ex-ante incentives to set up startups (and finance them) and at the level of different competitors "for the market" to engage in internal R&D aimed at breakthrough innovations. In doing so, efficiency gains can be expected from a dynamic point of view. However, Denicolo and Polo have shown that if the acquisitions of innovative firms that have made R&D investments parallel to those of their future acquirer can result in the suspension of innovation projects, this will depend on the evaluation that the new set makes of the probability of success of the programs (Denicolò and Polo 2018).

How to tackle such acquisitions under the competition rules?

Anticipating the effects of concentration by the competition authority - always done on a medium-term horizon - might be tricky and exposes it to the symmetrical risks of false negatives (under-enforcement) and false positives (over-enforcement). However, based on the traditional criterion of consumer welfare, the possibility of tipping towards the first risk is the highest. This is particularly so because, since the 1970s, a quasi-consensus has been formed on vertical concentration deals' a priori pro-efficiency character. The acquisition of a potential or emerging competitor may not always be harmful to innovation and consumer welfare. The damage in terms of innovation dynamics (the range of available technological trajectories) and consumer freedom of choice (notably through the existence of a more differentiated offer) can easily be characterized

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in a case of a stricto sensu killer acquisition where it is a question of suppressing an innovation, in other words depriving access to an alternative to the market. The situation is different as soon as the technology is incorporated into the offer of the acquiring firm.

The termination of the business's development activities that is the acquisition target may not be direct evidence of the damage. It was not sure that the technology would reach the market and be adopted by consumers. Conversely, the dominant firm's acquisition may allow the technology developed by the potential or nascent competitor to be better than it would have been in the absence of the takeover. In such cases, it is not a question of damage to innovation or consumer welfare but of gains (even if there is "damage" to competition conceived as a compelling rivalry between firms in the market).

Moreover, the acquisition can be defended based on both ex-post and ex-ante efficiency. Ex-post, integrating the acquired firm's technology into the acquiring firm's portfolio can significantly improve performance and quality. Therefore, it benefits from the keystone's resources and technical capabilities, particularly intellectual property rights and know-how. Integration also minimizes transaction costs and allows the technology to benefit from all the dominant platform's network effects, economies of scale and scope, financial capabilities, and marketing resources. Not only is the technology that reaches the market "smarter," but it also reaches the market faster and is more readily adopted by users because it is integrated into the dominant company's bundle of services. The integration of complementary technologies in the same ecosystem is a potential source of efficiency. The ex-post balance may, therefore, not be harmful. This is mainly when the firm being acquired competes with other startups developing comparable or alternative technologies. The incentives for a dominant firm's investment are not annihilated ex-post insofar as the potential competition remains (see for instance: FTC Press Release, Federal Trade Commission Closes Investigation of Roche Holding AG's Proposed Acquisition of Spark Therapeutics, Inc. [December 16, 2019]).

Ex-ante, the effect of concentrations favoring dominant platforms can also be favorable to welfare and innovation once we consider that the founders and funders of innovative companies are betting on being bought out. Efficient access to the market may seem out of reach for investors. The impossibility of anticipating a takeover may lead them to give up funding innovative projects (Sokol, 2018).

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An acquisition that would reduce innovation

However, the notion of a killer acquisition may correspond to situations in which the acquired firm was the only one to develop an alternative on the market. It may also correspond to situations in which the financiers of the companies that were its competitors renounce their efforts, considering on the one hand that the acquired technology will be a "winner" because of its direct integration into the ecosystem, or considering that the prospect of a takeover is now extinct (Kamepalli et al., 2020). It may also correspond to situations where the net effect on the R&D effort is negative; the merger then leads to the abandonment of investments by either the acquiring or the acquired firm (Caffarra et al., 2020). It may also be a strategy to prevent innovation from reaching the market even if it is more efficient than the technology implemented by the keystone, simply because it is less remunerative or because it could undermine its essentiality (in other words, its pivotal position).

The acquisition of Plaid by Visa could have corresponded to this scenario. We have seen above that it is not theoretically self-evident, although such an explanation cannot be excluded ex-ante. The notion of a killer acquisition has been crafted in the field of biotechnology. The economy of the sector is quite different from that of the tech. The market players' strategies or their heterogeneity in terms of technical and financial capacities are much less. Moreover, the uncertainties linked to innovations' success are gradually being removed at each phase, leading to access to the market administrative authorization.

The situation is different for the Big Tech companies, but the number and pace of their acquisitions over the last twenty years have led to numerous pressures in the political sphere to change the merger control rules in their regard. Is the risk nevertheless proven? The empirical studies carried out lead to frustrating results for the hypothesis of the development of killer acquisitions. For example, Gautier and Lamesch (2021) studied 175 transactions carried out between 2015 and 2017: only one case is a potential candidate for them, e.g., Facebook / Masquerade in 2016.

Identifying killer acquisitions is critical as many merger control proposals are being made (Yun, 2020). These range from considering the "mathematical expectations" of damage (an event of low probability but inducing systemic risks for competition, as proposed by the Furman report (2019)), the intentions of the firm at the origin of the concentration, to proposals for imposing a moratorium on mergers and acquisitions for large platforms, or at least a radical reversal of the presumptions used (Judiciary Committee, 2020). The acquisition of Visa by Plaid makes it possible to bring a theory closer to its practice and put the recommendations in terms of competition policy into perspective.

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An acquisition that would increase barriers to market entry

As aforementioned, the market for online payments by debit cards is characterized by high barriers to entry due to the financial investments required, the technical capacities required, but also to the importance of having partners on each side of the business to have a critical mass as quickly as possible to be attractive. Plaid seemed to meet the necessary conditions to escape the cold start that commonly hinders entry. Plaid is already the keystone of an ecosystem linking banks and fintech. The necessary data (combining the 4 V's - velocity, volume, variety, and veracity) and the necessary credibility with the various counterparties) have the technologies. It could switch members of the Visa ecosystem to its own. Its development could have contributed to competition for the market in an area where technical constraints make competition impossible.

Neutralizing Plaid, therefore, has, first, a defensive scope consisting of countering a potential disruption. As such, it could induce several damages to the competition: anti-competitive foreclosure, suppression of alternative technology, and blocking on a more costly trajectory. This is one of the arguments put forward by the Judiciary Committee in its October 2020 report: "[…] incumbents may view potential rivals and nascent competitors as a significant threat, especially as their success could render the incumbent's technologies obsolete" (p. 393). A predatory acquisition's peculiarity is not defensible based on efficiency (a defensive acquisition may be defensible generally). It is not a question of technological complementarities between the firms concerned or economies of scale and scope.

In this case, the DoJ even insisted on the destruction of value induced for both players: "Visa concedes that there is "very little" about the deal that leads to cost synergies and "[i]n fact, it has cost dis-synergies associated with it." Further, Visa's CEO has acknowledged that Visa has no plans to launch Plaid's pay-by-bank debit services for consumer payments to merchants." (p. 20)

The acquisition could have been seen from an offensive perspective. The acquisition of Plaid could have extended the keystone's essential position to another ecosystem. Plaid's position vis-à-vis American fintech can then be seen as a crucial variable in the acquisition. The logic is then no longer that of a killer acquisition (it could be the case concerning Visa's core business) but that of a platform that generates sufficient margins in its historical market to pre-empt emerging related markets.

This point is reflected in the DoJ's complaint: "Through its ownership of Plaid, Visa would have a "[f]ront row seat to what is happening in the [f]intech world (e.g., which apps are growing, at what velocity and where)." With this insight into which fintech companies are more likely to

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develop competitive alternative payments methods, Visa could take steps to partner with, buy out, or otherwise disadvantage these up-and-coming competitors" (p. 19).

Through its investments, a keystone can not only extend its dominance but also access information flows, leading it to consolidate its position over the long term by enabling it to identify possible disruptions at a very early stage. "Acquiring Plaid would also give Visa access to Plaid's enormous trove of consumer data, including real-time sensitive information about merchants and Visa's rivals. (p. 20). This position also makes it possible to lock in the firm's market shares on this second market by playing on the links established with the complementors present in both ecosystems. "Visa is likely to incentivize issuing banks to refuse to connect with competitors of Plaid, preventing other would-be entrants from threatening the profits that both Visa and issuing banks earn from high online debit transaction fees" (p. 19).

This double protection echoes the kill zone concept: the takeover of an innovative complementor harms all its competitors insofar as it benefits from an advantage linked to its vertical integration. Therefore, the negative effect is significant not only on the innovation that the prey could have developed if it had not been acquired but also on its former competitors' ability to innovate. This hindrance comes both from degraded access to the keystone (vertical integration plays like an exclusive partnership) and from more difficult access to financing (venture capitalists will be reluctant to fund them for two reasons: less chance of gaining profitable access to the market and a very low probability of being bought out by the keystone in the future!).

The January 2021 press release of the U.S. Assistant Attorney General particularly insists on this point: market players, especially startups and nascent competitors, must have the signal of supervision of keystones' strategies aiming at controlling their technological and competitive environment: "Now that Visa has abandoned its anti-competitive merger, Plaid and other future fintech innovators are free to develop potential alternatives to Visa's online debit services. With more competition, consumers can expect lower prices and better services."

Findings

The somewhat hypothetical killer acquisition case seemed plausible, at least if we followed the DoJ's complaint. Let us analyze the three dimensions successively addressed by the DoJ, namely Visa's market position, the identification of Plaid as a competitive threat, and the possible impact of the competition's acquisition.

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Visa's Market Position

The DoJ presented Visa as a very dominant position in a particular relevant market, that of Internet purchases through debit (not credit) cards: “Visa is a monopolist in online debit transactions, extracting billions of dollars in fees annually from merchants and consumers. (p. 1). Visa de facto controls 70% of the U.S.'s online debit card payment market (estimated turnover in this segment in 2019, 2 billion USD). Its first competitor Mastercard has a market share three times smaller (25%) and can hardly grow given the market's configuration (due to the long-term contracts signed by the dominant platform). Visa's market position does not seem hardly contestable in that its commissions, although denounced as excessive by other stakeholders, do not result in a weakening of its market share.

The two-sided nature of the business protects this market position. As the DoJ noted: “New challengers to Visa's monopoly would thus face a chicken-and-egg quandary, needing connections with millions of consumers to attract thousands of merchants and needing thousands of merchants to attract millions of consumers” (p. 2). Beyond the barrier to entry constituted by the need to recruit partners on both sides of the market, Visa also controls its competitive position through long-term contracts signed with banks. Indeed, as the DoJ noted: “long-term contracts with many of the largest financial institutions in the United States, reinforcing the barriers that help maintain its monopoly. These contracts limit the ability of these financial institutions to issue debit cards from Mastercard” (p. 8)

Beyond long-term contracts, the DoJ showed that Visa had maintained its strong position through an active strategy of consolidating its dominant position. The DoJ highlighted another requirement of the 2010 Durbin Amendment (cited above in footnote) requiring Visa to allow merchants to opt for PIN-based payment mechanisms, allowing them to use competitors' networks such as Accel, Star, NYCE, or Pulse at a lower cost. Visa was said to have impeded this by moving its technology system toward tokenization, which deprived competitors of essential data and entered into contracts with individual operators imposing restrictions that prevented them from using this alternative (p. 10).

Visa would have neutralized the competitive risks through long-term “partnerships” (p. 14) with the other players, partnerships with restrictive clauses, and through impediment competition maneuvers against potential entrants such as PayPal in 2016, which wanted to set up a clearinghouse mechanism (ACH), a mechanism that we will find below with Plaid.

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Visa's response, according to the DoJ, was as follows: “After issuing its threats, Visa induced PayPal to stop promoting alternative payment methods and instead to promote Visa debit in exchange for significant financial benefits.” (p. 14)

The payments to the other members of the ecosystem were aimed at strengthening Visa's critical position. They can be qualified as poison pills, as was the case in the complaint filed by the DoJ in October 2020 against Google while it described the effects of its revenue-sharing agreements: “In other words, beginning over ten years ago, Google used revenue sharing to attract partners to Android; as discussed below, Google uses revenue sharing to keep them locked in today” (U.S. DoJ, §63).

Why Plaid has been seen as a threat to VISA

The DoJ saw Plaid as a Visa disrupter: “Plaid, a financial technology firm with access to important financial data from over 11,000 U.S. banks, is a threat to [the Visa] monopoly: it has been developing an innovative new solution that would be a substitute for Visa's online debit services”.

Plaid is not only a fintech providing a complementary niche service that can be integrated into the Visa or Mastercard ecosystems. It is a player inserted in the network of American banking institutions. As we will see, a potential competitor for Visa's core business is developing a potentially disruptive technology (i.e., a breakthrough innovation), but it is not a new entrant. It has a significant presence in the market but a specific segment.

“Plaid powers some of today's most innovative financial technology (“fintech”) apps, such as Venmo, Acorns, and Betterment. Plaid's technology allows fintech companies to plug into consumers' various financial accounts, with consumer permission, to aggregate spending data, look up balances, and verify other personal financial information. Plaid has already built connections to 11,000 U.S. financial institutions and more than 200 million consumer bank accounts in the United States and growing. These established connections position Plaid to overcome the entry barriers that others face in attempting to provide online debit services” (p. 3).

As the DoJ noted, Plaid had the potential to become the hub of an ecosystem that competes with those of Visa and Mastercard and disrupts them technologically while also being significantly more financially attractive to all the players in the ecosystem. “While Plaid's existing technology does not compete directly with Visa today, Plaid is planning to leverage that technology, combined with its existing relationships with banks and consumers, to facilitate transactions between consumers and merchants in competition with Visa” (p. 3)

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Despite its “small” size, Plaid has a disruptive technology and is already integrated into the banking ecosystem. “Plaid operates the leading financial data aggregation platform in the United States. Its technology allows consumers to connect their bank account information to fintech apps, which enables fintech companies to aggregate consumer spending data, look up account balances, and verify other personal financial information with consumer permission”. (p. 7)

What is the innovation developed by Plaid? It was the pay-by-bank, which was based on the Internet identification of the customer's bank account: “Pay-by-bank is a form of online debit that uses a consumer's online bank account credentials (i.e. a consumer's online banking username and password) – rather than debit card credentials – to identify and verify the user, bank, account number and balance, and facilitate payments to merchants directly from the consumer's bank account.” (p. 10).

Also, Plaid could potentially implement the payment itself through a clearinghouse (ACH): “[Plaid] can complete this final transfer of funds using Automated Clearing House (“ACH”) or another low-cost alternative to Visa's debit network” (p. 10). Implementing these two “low costs” devices compared to Visa's would have lowered fees by 95% (p. 11).

In the end, as the DoJ stated in its complaint, Plaid was evolving towards a pivotal position in an ecosystem that potentially competed with Visa's and had an advantage over the latter in terms of fighting fraud, which is essential in the online payment economy: “Plaid plans to build on the success of its current services by creating an “end-to-end payments network that enables instantly-guaranteed money movement” in a system “similar to Visa and Mastercard, but focused on bank-linked payments.” Plaid's online pay-by-bank debit service would compete against Visa's online debit services. Plaid's service would give Plaid and other fintech companies the capability to make a seamless pay-by-bank debit transaction, by providing a fraud risk score service, bank transfer service, and a consumer-facing interface allowing a consumer to easily switch from a debit card to pay-by-bank debit services during the online checkout process.” (p. 12)

How Plaid neutralization would have induced damage to inter-ecosystem competition

The DoJ showed that Visa had identified Plaid as a potential competitor capable of “steal […] share” and “drive down prices” (p. 4). This fear led to the DoJ's proposal for a takeover in March 2019: it was a matter of eliminating a potential competitor or not allowing another player to take over the company and thus jeopardizing Visa's dominance. We are in line with the logic of kill zone models. It is a question of neutralizing a threatening player or to prevent a competitor from integrating its technologies:

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“This prompted Visa's CEO to conclude that Plaid was “clearly, on their own or owned by a competitor going to create some threat to our important U.S. debit business” and to tell his CFO that purchasing Plaid would be an “insurance policy to protect our debit biz in the U.S.” (p. 5)

Plaid's place in the fintech ecosystem made it a significant threat to VISA as Plaid could connect the various stakeholders. As indicated by the DoJ, VISA's strategy was one of eliminating a disruptor from a defensive perspective: to prevent it from undermining its business model and to prevent its acquisition by a third-party operator:

“Ultimately, Visa recognized that the best course of action for its business was to eliminate Plaid as a competitive threat by purchasing Plaid itself. In internal documents, a Visa executive observed that “[t]he acquisition is in part defensive, not just for Visa but also on behalf of our largest issuing [bank] clients, whom we believe have a lot to lose if [pay-by-bank transactions] accelerate as the result of Plaid landing in the wrong hands. It is in our collective interest to manage the evolution of these payment forms in a way that protects the commercial results we mutually realize through card-based payments.” (p. 13)

U.S. Merger control, for a long time insufficiently effective (Salop and Morton, 2020), because of the fear of creating false positives, has durably led to irreversible damage to competition, of which the proposed transaction could have been a typical example

Conclusion

Although the story ended in January 2021, when the project was withdrawn, the DoJ's November 2020 complaint against Visa appeared to be the consecration by the antitrust authorities of the notion of killer acquisitions. Three very elements of the complaint make it a prime candidate to be cited in all competition law and economics textbooks in the chapter “Killer Acquisitions' in Digital Markets?”.

Its first sentence makes it eligible for a straightforward definition of what a killer acquisition could be: “Visa seeks to buy Plaid - as its CEO said - as an” insurance policy” to neutralize a “threat to our important U.S. debit business.” (p. 1). Then the parallel made to American economic history in the technology sector with the return to the image of the disruption of IBM in the early 1980s by Microsoft and Intel also allows us to link with the literature in strategic management and industrial organization: “I do not want to be IBM to their Microsoft.” (p. 2). In a few words, the technology developed by Plaid made it possible to establish fast and inexpensive communication with the client's bank and to implement payment via a clearinghouse system (“Plaid provides an alternative mechanism to facilitate payments between consumers and merchants that uses a

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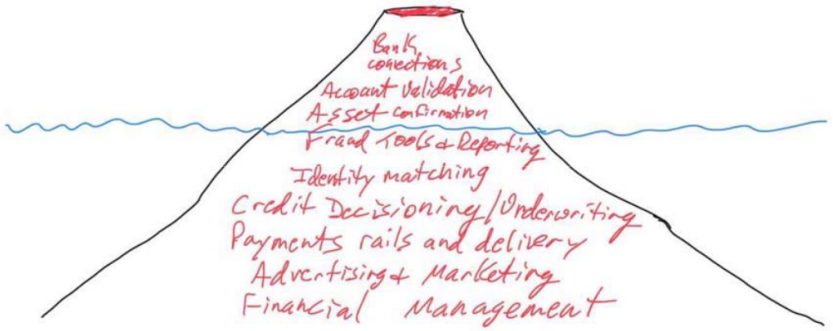
consumer's online bank login credentials to identify the consumer and facilitate payments via ACH," (p. 15). The arrival on the market of this offer risked disrupting Visa in an incredibly lucrative market.

Finally, the scheme then of the island volcano reproduced in the complaint, drawn up by the defendants, is also called to pass to posterity. It shows that the acquisition is intended to neutralize the prey about its current market position and the possibility of developing its activities in Visa's other business segments, thus proving a global threat.

threat Plaid posed to Visa's established debit business, observing: "I don't want to be IBM to their Microsoft." This executive analogized Plaid to an island "volcano" whose current capabilities are just "the tip showing above the water" and warned that "[w]hat lies beneath, though, is a massive opportunity – one that threatens Visa." He underscored his point by illustrating Plaid's disruptive potential:



It is not a question of taking control of a complementing innovation that the keystone could more effectively deploy, but instead of eliminating a potential disrupter to the entire ecosystem that could eventually supplant the dominant company in its pivotal role. Therefore, it is a scenario of eliminating a nascent competitor that we can trace through the DoJ complaint.

This case is interesting because it allows us to consider paths to characterize and control such potentially killer acquisitions in digital markets. Indeed, the DoJ's complaint against VISA was interesting for several reasons, even if it eventually does not lead to a court decision.

First, this case provides an archetypal example of what a killer acquisition could be. It is impressive that the killer acquisition theory applied to the digital market remains for the moment possible harm to competition without jurisprudence. The killer acquisition theory could leave the sphere of the classrooms to enter the courtrooms.

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Second, this case raises questions about concentrations in digital ecosystems structured by multi-faceted platforms. The keystone players in each of these ecosystems can use the weapon of acquisitions to protect their dominant position in their ecosystem (and thus prevent the risk of disruption that IBM experienced in its time). Acquisitions can also be used for offensive purposes. The consequences of competition then deserve to be assessed according to the circumstances of each species. These acquisitions may generate damage to the competition but also gains.

This phenomenon is critical since competition between the major platforms occurs through movement from one market to another and not through direct entry into the same market. This can be seen as evidence of the intensity of competition between the various dominant platforms or, more pessimistically, of the latter's capacity to extend the influence of their respective silos towards ecosystems that could eventually replace them (for a discussion, see Petit, 2020). Besides, this has significant consequences in terms of innovation dynamics (Marty and Warin 2020b).

Therefore, this work puts into perspective the conclusions of Federico, Langus, and Valletti (2017), for whom concentration will result in the early termination of innovation investments. The lower the probability of the innovative strategy's success, the lower the incentives to suspend one of the two programs.

In short, the issue of killer acquisitions illustrates the need to adapt merger control procedures to the risks of a creeping blockage of competition through the ever-decreasing contestability of market positions. The risk is to see the consolidation of impregnable gatekeeper positions. If isolated silos corresponding to each significant ecosystem are established, two competitive problems will have to be considered (Marty and Pillot, 2021). The first is an irreversible short-term weakening of inter-platform competition. The second is a significant alteration of the conditions of inter-platform competition. The competitive remedies available could therefore prove particularly intrusive and difficult to implement. The issue of contestability could lead to proposals for asset disposals or even break-ups. The distortions of intra-ecosystem competition could lead to competition regulation, which the British initiatives regarding firms with a strategic market statute tend to address.

The European DMA, as presented in December 2020, does not address this issue. Insofar as a moratorium on Big Tech acquisitions would not only be costly in terms of efficiency (Holmström et al., 2018) but would also lead to asymmetric regulation of competition, several avenues can be explored. The first way is to examine mergers as ex-ante and ex-post (see the French Competition Authority's contribution of February 19, 2020, to the debate on competition policy and digital issues). A second option is to allow control even if a transaction falls below the structural

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thresholds. This is the meaning of Article 22 of European Regulation 139/2004 introduced in the European Union in March 2021. Under this article, national competition authorities may refer sensitive mergers to the Commission for review, even where they are not subject to national control. The Commission used this new resource for legal action on August 20, 2021, in the context of a particularly sensitive merger: the acquisition of Grail by Illumina. This is also a question of a possible competitive impact on an emerging market. Indeed, in that case, the E.U. Commission is concerned that the proposed acquisition may reduce competition and innovation in the emerging market for the development and commercialization of cancer detection tests based on sequencing technologies.

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