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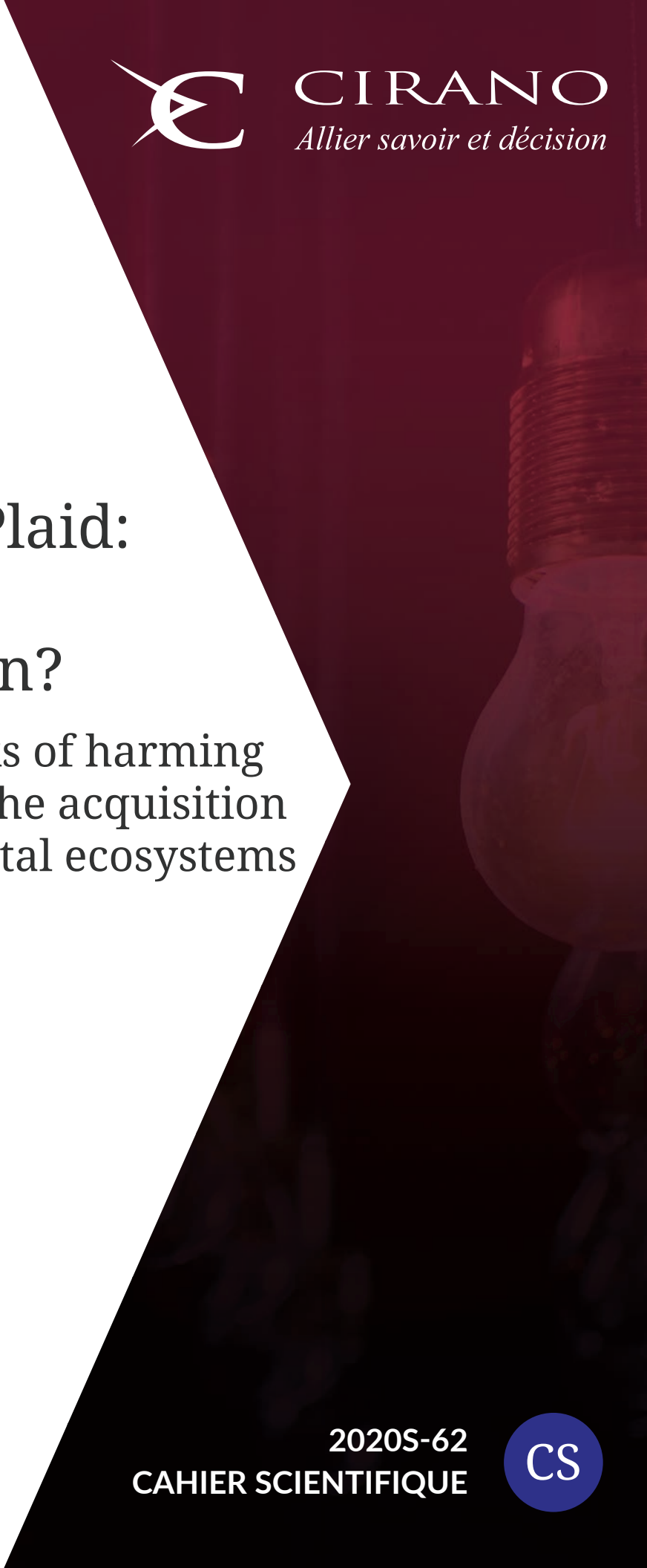

Visa Acquiring Plaid: A Tartan over a Killer Acquisition?

Reflections on the risks of harming competition through the acquisition of startups within digital ecosystems

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Visa Acquiring Plaid: A Tartan over a Killer Acquisition?

Reflections on the risks of harming competition through the acquisition of startups within digital ecosystems

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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. DoJ against Visa 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. The complaint analysis also makes it possible to question inter-digital ecosystem competition and shed light on the issues related to the monitoring of acquisitions undertaken by dominant companies in the sector.

Keywords/Mots-clés: Mergers Control, Killer Acquisitions, Digital Ecosystems, Foreclosure, Damage to Innovation

JEL Codes/Codes JEL: L12, L25, L41, L86

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Introduction

The DoJ is challenging Visa's acquisition of Plaid with the notion of "killer acquisition." It is a critical issue not only among policymakers facing the challenges raised by the concentration on digital markets but also in academic circles. In the latter, the question relates not only to the characterization of the phenomenon's existence, to the evaluation of its potential effects, but also the measures that should be put in place to address it.

The first issue is about the existence of the killer acquisition scenario. This scenario is based on a dominant firm taking control of a company developing a service (or even a promising technology). The incumbent does the acquisition fearing that the new firm could become a competitor capable of challenging, if not its market position, at least its profit margins.

A killer acquisition can be a defensive acquisition (avoiding an entry into the dominated ecosystem) or an offensive acquisition (removing a competitor - even a potential one - from an ecosystem into which the predator wants to enter). Therefore, the strategy can be thought of as a consolidation of the dominant position via the suppression of potential innovation and an anticompetitive leverage strategy.

We will see below that Visa's acquisition of Plaid can be interpreted from these different perspectives.

The Crémer et al. report (2019), written for the European Commission's D.G. Competition, provides a definition of 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."

The origin of the claim that it is possible to impede the market's contestability by eliminating a nascent competitor goes back to the proceedings initiated in the United States at the end of the 1990s against Microsoft.

"We may infer causation when exclusionary conduct is aimed at producers of nascent competitive technologies as well as when it is aimed at producers of established substitutes. Admittedly, in the former case, there is added uncertainty, inasmuch as nascent threats are merely potential substitutes" (United States v. Microsoft Corp., 253 F.3d 34, 79 [D.C. Cir. 2001]).

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 an evaluation of 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 has implemented, but also by the habits of users and their imperfect ability to balance the benefits and costs of switching to a competing service (Marty et Warin 2020a, 2020b).

Anticipating the effects of concentration by the competition authority - which is always done on a medium-term horizon - is incredibly tricky and hence 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 the a priori pro-efficiency character of vertical concentration deals. 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 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 target of the acquisition 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).

The acquisition can be defended based on both ex-post and ex-ante efficiency.

Ex-post, the integration of the acquired firm's technology into the acquiring firm's portfolio can lead to significant improvements in performance and quality. Therefore, it benefits from the keystone's resources and technical capabilities, particularly in terms of 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 is itself in competition 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*. [Dec. 16, 2019]).

Ex-ante, the effect of concentrations favouring dominant platforms can also be favourable 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).

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 may correspond, as we will see, 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 has 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. Gautier and Lamesh (2020), for example, 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 actual killer acquisition cases is critical as many proposals for merger control rules are being made (Yun, 2020). These range from taking into account 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 what could be its practice and put into perspective the recommendations in terms of competition policy.

Killer acquisitions: A theory that has just found its practice?

The complaint filed by the DoJ against Visa appears 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 don't 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 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 the company developing its activities in Visa's other business segments, thus proving to be 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 could be more effectively deployed by the keystone, 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.

We take up here the notion of a *nascent competitor* defined by Hemphill and Wu (2020). For the latter, "A nascent competitor is a firm whose prospective innovation represents a serious future threat to an incumbent. The firm's potency as a competitor is as yet not fully developed and hence unproven."

In no way will our purpose be an evaluation of the merits of the DoJ's complaint, but only an analysis of the damage theory it presents and an illustration through it of the theory of *killer acquisitions*.

The concept of killer acquisition is not the only one that can be used in this area. The consolidating acquisition concept can also be used. For example, in a communication dated February 19, 2020, the French Competition Authority stressed that a large part of the competition concerns in the digital sector came from the acquisition operations of large platforms, which were not all far from killer acquisitions, but mainly *consolidating acquisitions*. These may be acquisitions of pre-emptions of scarce resources (human and technical) or acquisitions that allow the acquired companies to develop further their innovations but which, at the same time, increase the market power of the acquiring firm or restrict the potential for the development of the target or the growth of another competing firm that could also have acquired it.

The damage to innovation can be invoked to characterize a possible anticompetitive effect, but consumer damage can also be stressed. Thus, the consumer is deprived of an alternative offer that could have better satisfied his needs. The practice of crowding out competition limits his

freedom of choice and exposes him to an abuse of exploitation (in the form of excessive prices or the provision of lower quality service).

The debate on killer acquisitions raises the question of the effectiveness of merger control. In the report submitted in October 2020 by the *Subcommittee for Antitrust* of the *Judiciary Committee*, the inadequacy of the current ex-ante merger control procedures is identified as one of the sources of the lack of competition in digital markets and could call for the implementation of ex-post remedies:

"[…] Acquisitions by dominant firms that may have substantially lessened competition or tended to create a monopoly in violation of the Clayton Act. In these cases, Subcommittee staff supports as a policy matter the examination of the full range of remedies – including unwinding consummated acquisitions or divesting business lines – to fully restore competition that was harmed as a result of these acquisitions and to prevent future violations of antitrust laws."

Digital ecosystems: Intra and inter-ecosystems competition dynamics

The literature on *killer acquisitions* has developed massively in recent years (Bourreau and Streel, 2019). 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 a means of 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.

Two criticisms were mainly addressed to this concept. The first criticism was that this literature was based on the case of biotech (Cunningham, Ederer, and Ma 2020), which corresponded to a very particular economic model that could not easily be transposed to the digital domain.\footnote{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.} The second criticism was that the very numerous acquisitions observed in the digital field[1] 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. Few firms whose investment committees would agree to buy prey at very high prices only to destroy value.

However, a theory of competitive harm can easily be constructed. An acquisition can lead to a reduction in the innovation effort either of the target (killer acquisition) or of the acquirer himself in that he can substitute the R&D of his prey for his 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

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

thus lead to a weakening of the competitive threat they represented (Kamepalli, Rajan, and Zingales 2020).

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, the acquisition of a critical complement by a dominant player harms competing ecosystems' ability to grow. Not only have the latter not acquired it, but they may face two other induced competitive damages. The first damage arises from the fact that the buyer can "reserve" his prey for his ecosystem. This has the effect of an exclusivity contract that will make the critical complementor do single-homing and no longer multi-homing. The second damage could come from the fact that the dominant operator could, through the pursuit of multi-homing, obtain data on its competitors' activities, or make it essential for them to continue the partnership with the complementor to exercise a competitive threat on them.

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 an alternative technological dynamic.

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 members of the ecosystem, enabling it to overcome the classical barriers to entry in digital ecosystems: the information deficit and the inability to bring the effects of networks 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.

What are the responses to an alleged competitive risk?

The strategy described above can be particularly damaging to competition in two ways. First, it leads to the freezing of dominance concerning the ecosystem dominated by *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 monopoly rents without its complementors having an exit option. Secondly, this strategy harms competition for the market 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.

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 but later. At the same time, proposals for changes were being made in the many Member States to

take into account financial thresholds (the value of the purchase or the differential with the target's turnover) to trigger an investigation or to add ex-post control procedures to complement the ex-ante supervision of the merger. Even more recently, in the context of the inception impact assessments launched by the European Commission concerning the Digital Services Act and the New Competition Tool, Crawford, Rey, and Schnitzer (2020) recommends a specific examination of acquisitions made by dominant firms in digital markets, highlighting 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 2020). Even 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 crisis 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 to consolidate and extend their respective market dominance without the current competition rules being able to counteract this potential damage to competition.

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

A typical killer acquisition?

The somewhat hypothetical killer acquisition case seems observable today, at least if we follow the DoJ's complaint. We will observe it by analyzing 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.

Visa's Market Position

The DoJ presents 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 notes: "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 notes:

"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 shows that Visa has maintained its strong position through an active strategy of consolidating its dominant position. The DoJ highlights 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 the networks of competitors such as Accel, Star, NYCE or Pulse at a lower cost. Visa is 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.

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)

We find here the mechanisms described in the October 2020 complaint against Google, which shows how to prevent the risk that Apple might develop its search engine or use Microsoft's, Google paid it an annual incentive to pre-install its own,\footnote{See https://www.justice.gov/opa/press-release/file/1328941/download. "Apple has not developed and does not offer its general search engine. Under the current agreement between Apple and Google, which has a multi-year term, Apple must make Google's search engine the default for Safari and use Google for Siri and Spotlight in response to general search queries. In exchange for this privileged access to Apple's massive consumer base, Google pays Apple billions of dollars in advertising revenue each year, with public estimates ranging around $8–12 billion. The revenues Google shares with Apple make up approximately 15–20 percent of Apple's worldwide net income" (pt.118, p. 37)} which led to depriving the competing search engine, in this case, Microsoft's Bing, of critical size.

The payments to the other members of the ecosystem are aimed at strengthening Visa's critical position. They can be qualified, like *poison pills*, as it was the case in the complaint filed by the DoJ in October 2020 against Google while it describes 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 is a threat to VISA

The DoJ sees 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 fintechs 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 notes, Plaid has 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)

However, the respective sizes of the two groups should be noted. 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.

Despite this "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 fintechs 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)

The implementation of these two "low cost" devices compared to Visa's would have lowered fees by 95% (p. 11).

The threat of disruption was all the more plausible since Plaid already had a privileged place in the American banking ecosystem. Its technology is present on nearly 2600 applications developed by fintech, 80% widely used. Plaid has contracts with 11,000 financial institutions and connects 200 million accounts with its services (p. 11). It was a crucial operator for developers… both by its quality and by the exit costs that would be incurred if they chose another service provider (p. 12).

In the end, as the DoJ shows, 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 fintechs 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 can induce damage to inter-ecosystem competition

The DoJ shows that Visa has 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 jeopardize Visa's dominance. We are in line with the logic of kill zone models. It is a question of neutralizing a player concerning the threat that it represents in itself or that it would represent if a competitor incorporated its technologies:

"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 was able to 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)

If, since the end of the 1970s, the Federal Trade Commission has been active on the front of horizontal merger control, this is far from being the case for vertical mergers (not to mention conglomerates), which are seen in a Chicago perspective as efficiency carriers. Salop and Morton (2020) point out that merger control in the United States is insufficiently effective in horizontal mergers. Excessive fear of false positives (which would deprive consumers of the efficiency gains that would have resulted from the merger) would lead to under-enforcement, which could, in turn, lead to irreversible damage to competition.

The February 2020 consultation on the DoJ's *vertical mergers guidelines* seemed to reaffirm its position since 1982 (Economides et al., 2020). However, the DoJ's reversal that was observable at the end of October 2020 in the complaint against Google seems to be confirmed. It uses Microsoft's precedent (a procedure from which the DoJ then strongly dissociated itself) to support its complaint.

"Monopolists cannot have "free reign to squash nascent, albeit unproven, competitors at will." 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, there is a risk of returning to the mistakes of the structuralist approach of the 1960s. Beyond the typical example of the Brown Shoe Supreme Court ruling (Brown Shoe Co., Inc. v. 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 that of 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 when one considers that 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. Even more, this is the case for an entrant such as Plaid, which, according to the DoJ's complaint, had the appropriate capacity to replace the dominant operator because of its technology and the network effects from which it could directly benefit.

This leads 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,'" 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)

The theory of competitive harm emphasized by the DoJ is threefold: maintaining excessive prices, damaging innovation, and raising barriers to market entry.

The impact of the acquisition on prices

Preventing a competitor's entry with a disruptive and less expensive technology significantly impacts prices, which can remain high. Plaid's proposed solution could have provided Visa and Mastercard ecosystem members with a less costly exit option for online transactions. Its disappearance increases their captivity concerning their respective ecosystems and allows their pivotal firms to exercise their market power.

It would be possible to discuss the notion of a consolidating acquisition in the light of the replacement effect highlighted by Arrow (1962). If there is only a monopoly rent extracted from a market and the acquirer is already in a dominant position, it would gain nothing from the acquisition. The logic may, however, be very different in digital markets insofar as it is a question of preventing entry that could not only call into question the identity of the holder of the dominant position but also reduce the gains associated with it. In this theory of damage, it is essential to implement a killer acquisition and not bring Plaid's technology to the market insofar as this would reduce the monopoly rent.

Impact on innovation

The anticompetitive scenario presented by the DoJ is typical of a killer acquisition. It involves neutralizing a disruptive firm even before it enters the market, preventing its innovation from being offered to customers and preventing it from rapidly expanding into other segments. The sketch of the marine volcano presented in the complaint is entirely representative. The innovative firm's market position is already pivotal in a neighbouring ecosystem bringing banks and financial application developers together. Plaid could easily have attracted to it the complementors of the ecosystems of the two major networks.

The DoJ directly puts forward the idea of an acquisition aimed at suppressing an innovation on page 19 of the complaint:

"Indeed, Visa's CEO has already acknowledged that Visa has no intention of introducing Plaid's pay-by-bank debit service for consumer payments to merchants in the United States."

An acquisition that would increase barriers to market entry

As we noted in the introduction, 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 in order 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 of all, a defensive scope consisting of countering a potential disruption. As such, it could induce several damages to the competition: anticompetitive 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 that it is not defensible based on efficiency (a defensive acquisition may be defensible as a general rule). It is not a question of playing on technological complementarities between the firms concerned or economies of scale and scope.

In this case, the DoJ even insists 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 can also be captured from an offensive perspective. The acquisition of Plaid can also extend 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 fintechs are more likely to 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 results presented in Kill Zone. 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!)

Lessons for competition law and conclusion

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 is interesting for several reasons.

First, if the anticompetitive scenario proposed by the DoJ is proven, 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 a possible harm to competition without jurisprudence. The killer acquisition theory could leave the sphere of the classrooms to enter the courtrooms.

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.

Let us first consider the potential damage to competition.

The scenario that corresponds to the DoJ's complaint is predatory innovation, as defined by Schrepel (2018). It is about taking control of a disruptive player so that its innovation does not reach the market. It is a strategy of suppressing innovation to preserve the position acquired in an exceptionally profitable market.

In a Microsoft-style logic (i.e. in that of the litigation of the 1990s), the strategy may also reside in a strategy of extending dominance to adjacent markets. Under certain conditions, to which we shall return later, this strategy may correspond to anticompetitive leverage.

The strategy can also be welfare-destroying if it corresponds to a strategy of pre-emption. In this context, the aim is to deprive competitors (in this case, competing platforms) of access to a complement that would allow them to strengthen their competitive pressure. The competitive strategy is close to antitrust with exclusivity clauses (see, for instance, Bougette et al., 2012). Exclusivity makes it possible to dry up the market (for content, complements, etc.) for

competitors or increase their costs (strategies to increase rival costs). In the end, an absorption plays like a very long-term contract with absolute exclusivity. The strategy can also be compared with those that a pivot can implement to impose exclusivity on its complementors (i.e., encourage them to do single-homing and not multi-homing). This strategy increases the benefits of the dominant ecosystem and increases the potential exit costs for all stakeholders. By freezing the silos, the pivotal operator's rent extraction capacity increases dramatically (via commissions, via unbalanced contractual clauses, etc.).

Another type of damage can occur when the acquired company is integrated into several ecosystems.

The competitive risks related to acquiring a complement active in several ecosystems have already been considered competitive litigation. This was, for example, the case of Apple's acquisition of Shazam. The issue that arose in this merger was that, as a result of vertical integration, the new entity's two poles could access commercially sensitive information concerning their rivals' upstream or downstream activities. This informational advantage was likely to distort competition (in this case, concerning streaming services competing with those of Apple.)

In our case, access to Plaid's data in the ecosystem initially the pivot illustrates a second danger linked to consolidating acquisitions. The acquiring firm may capture data flows relating to its complementors in other markets or its competitors' activity. The treatment of mergers must consider these indirect data issues and the possibilities of access to data relating to competitors (Holmström et al., 2018). A level playing field may be jeopardized if competitors do not face the same "radical uncertainty" about competitors' decisions.

Finally, it might be possible to question more specifically - somewhat in the light of German practices - a takeover operation carried out under *non-market conditions* in financial matters, that is, for an amount that would not make sense for a *prudent investor in a market economy*. When the repurchase amount does not allow a reasonable profit to be made, it might be interesting to reverse the burden of proof and explain why the acquisition makes sense apart from hindering competition. This is a kind of *no economic sense test* (Tolédano 2020). In this case, this test would seem difficult to meet considering the DoJ's complaint:

"Visa offered approximately $5.3 billion for Plaid, "an unprecedented revenue multiple of over 50X" and the second-largest acquisition in Visa's history. Recognizing that the deal "does not hunt on financial grounds Visa's CEO justified the extraordinary purchase price for Plaid as a "strategic, not financial" move because "[o]ur U.S. debit business i[s] critical and we must always do what it takes to protect this business." (p. 5)

Acquisitions implemented by the keystones can effectively harm competition (strengthening market power, impact on innovations' pace and nature, etc.). They can also be detrimental to competition in the market (i.e. in the ecosystem between the complementors, leading to *self-preferencing*). As we have seen, they can be detrimental to competition for the market (i.e. competition between ecosystems) through pre-emption strategies leading to multi-homing logics and thus to the rigidification of silos.) They can erect barriers to entry, etc.

The risk is that the damage to competition may prove irreversible. Once competition becomes impossible in the market (if the acquisition has had the effect of dramatically increasing barriers to entry or allowing the pivotal operator to take control of essential resources), accepting a merger may cause irreversible damage to competition (Federico, Morton, and Shapiro 2019). Indeed, as Hemphill and Wu (2020) notes: "New firms with new technologies can challenge and even displace existing firms; sometimes, innovation by an unproven outsider may be the only way to introduce new competition to an entrenched incumbent."

The report of the Judiciary Committee's Subcommittee for Antitrust provides insight into the relative turnaround in the United States on the competitive effects of acquisitions by dominant digital firms. The exhaustive review of the operations undertaken by Facebook, Apple, Amazon and Google between 2000 and 2019, which is reproduced in the appendix to the report, leads the members of the inquiry commission to conclude that the competition authorities blocked no transaction, whereas in their view "several of these acquisitions enabled the dominant platform to block emerging rivals and undermine competition." Moreover, these acquisitions have led to the entry of these platforms into disruptive technologies where the takeover of the most innovative players can lead to the locking of dominance on the original ecosystem and acquiring a new one.

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 important consequences in terms of innovation dynamics (Marty et Warin 2020b).

The DoJ's complaint echoes the case of Google's acquisition of Looker. The acquisition had been strongly criticized insofar as the acquisition of this firm specializing in data analysis and business intelligence was seen both as a means of neutralizing a potential competitor for Google's core business and depriving its competitors of access to a crucial complement due to its technological capabilities.

The position paper of the American Antitrust Institute (2019), cited in the Judicial Committee report (p. 387), is particularly interesting for our purposes. It shows that 20% of the Big Tech acquisitions between 1998 and 2018 involved firms developing artificial intelligence and business intelligence technologies. The alleged risks to the competition were also both horizontal and vertical. The aim was to protect Google's historic business by eliminating a possible rival (and by depriving Google's competitors of access to its capabilities) but also for Google to extend its market power in a related market:

"increasing Google's incentives to leverage any enhanced market power across its broader cloud infrastructure [...] acquisition of Looker is to enhance its position in the cloud while differentiating its services from rivals with a focus on its competencies in machine learning and A.I. Looker's data analytics and B.I. capabilities "fill a hole" in Google's portfolio, which is reportedly weaker on business analytics and end-user focus."

However, the DoJ's review of the proposed acquisition was unlikely to be rejected because - in the words of the American Antitrust Institute: "Reporting indicates that post-acquisition, Google will control 1% of the $12.7 billion-dollar market for business intelligence tools. Here we find the debate between the possible inappropriateness of quantitative criteria and the risks of returning to the structuralist biases of the 1960s. Finally, it should be noted that the existence of structural criteria did not prevent the British CMA from controlling this concentration, a control that led to an unconditional acceptance.

It should also be noted that an operator's external growth strategy with a dominant position from one ecosystem to another may also raise concerns about concerted practices (European Commission. Directorate-General for Competition. 2020). Multi-market contacts make it easier to understand each party's interests and constraints, but they can also make it possible to "discipline" by opening up the possibility of retaliation in several markets in the event of "uncooperative" behaviour. The case of Visa et Plaid is all the 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 the European Commission and its links with British *Market Investigations*) or regulatory solutions to recreate competition conditions. The only alternative would then 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, 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 published in October 2020 leads to convergent proposals. First, it would be a matter of defining rules per se and setting up structural presumptions in concentrated markets. 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".

The Judiciary Committee, therefore, endorsed the recommendation of Scott Hemphill and Wu (2020, p. 3) that taking into account 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 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 anticompetitive behaviour."

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 anticompetitive even if there was no clear showing of competitive harm."

Two remarks can then be made at the end of this overview of the different proposals. 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 (which acts as a plaintiff in the American context) 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 are prohibiting the acquisition of dominant operators based on their dominance. The rules governing both 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. 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 favourable 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.

Moreover, 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). 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. This leads us to qualify the positions that see the acquisitions made by the Big Tech companies as nothing more than damage to innovation and competition.

Case-by-case assessments of the effects of acquisitions are necessary, regardless of the turnover and market share thresholds concerned. The first negative consequence would be to prevent innovation- and consumer-friendly mergers (systematic false positive). The second negative consequence would be to lead firms to adopt second-tier strategies to achieve equivalent results, such as long-term contracts with restrictive competition clauses or vertical agreements.

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