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IN THE LIGHT OF DYNAMIC COMPETITION: SHOULD WE MAKE MERGER REMEDIES MORE FLEXIBLE?

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Abstract: Mergers and acquisitions shape industry competition. Effective merger remedies are important for market efficiency and consumer welfare. This paper explores the need for more flexible remedies to address changing markets after mergers. While the EU permits some flexibility with less restrictive remedies, we conceptually advance the design elements of a dual-phase, bifurcated merger control system. This system integrates ex-ante processes with more systematic and comprehensive ex-post measures. Such an approach can address the shortcomings of the current system and, consequently, holds the potential to enhance merger control in dynamic markets.

Keywords: merger remedies, competition authorities, market dynamics, dynamic competition, oligopolies, innovation effects, European Union.

JEL Classification: L41, K21, L13

1. INTRODUCTION

Merger control policies play a crucial role in safeguarding competition and protecting consumer welfare in dynamic market environments. They achieve this by blocking mergers and acquisitions (M&A) that are projected to cause substantial harm to competition. Over the past few decades, competition authorities have often approved potentially "problematic" merger propositions, albeit not without attaching remedies designed to mitigate anticompetitive issues. These "remedies" can take the form of either *structural* measures, such as requiring the divestiture of certain components of the initial merger plan, or *behavioral* measures, such as obligating the merged entity to adhere to specific behavioral commitments. However, the efficacy of traditional merger remedies, which are often based on non-dynamic market models emphasizing immediate effects, has come under scrutiny.[1] This study seeks to illuminate whether there's a necessity to introduce greater adaptability to merger remedies in the aftermath of the merger process. This adaptability would reflect the continuously changing nature of markets and address the inherent challenges of predicting their post-merger trajectories ex-ante. For clarity and specificity, the discussion is anchored around a preeminent legal framework: the European model, whether at the purview of the European Commission or, illustratively, within selected member states.

In this paper, competition is understood as a dynamic process, rather than a mere static occurrence. This dynamism becomes especially pertinent when evaluating mergers in narrowly oligopolistic markets. In these contexts, such transactions can profoundly reshape the competitive landscape, potentially acting as game-changers. One of the nuanced aspects of these mergers is their impact on innovation. Predicting these implications accurately at the time of the merger poses a considerable challenge. A salient example is the *Bayer/Monsanto* merger.[2] This notable case, alongside others like the Dow and DuPont merger—where the Commission discerned a significant threat to innovation competition in pesticides—underscores the complexities competition authorities encounter in forecasting and mitigating the competitive outcomes of mergers. In this vein, predicting the environmental repercussions stemming from post-merger shifts in innovative strategies and directions remains complex during the merger phase.

While some degree of flexibility exists in the European Union (EU)'s merger control framework, emphasizing downward adjustments in remedies (i.e., making remedies more lenient during the post-merger time),[3] this paper focuses on the possibility of upward revisions (i.e., making remedies stricter) or even a shift in the typology of remedies to address observed competition concerns.

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[1] For example, the 2005 Merger Remedies Study conducted by the European Commission marked a significant advancement in evaluating the efficacy of merger remedies. The study offers valuable insights into the challenges of designing and implementing remedies, as well as recommendations for enhancing their effectiveness. In terms of economic literature, one might consult Lévêque and Shalanski (2003) for a broad overview or delve into the more specialized works of Kwoka & Moss (2012), Kwoka (2017), and Ezrachi (2007), which focus on behavioral remedies. For empirical analyses specifically addressing structural remedies, refer to Davies & Olczak (2010) and Wang et al. (2023), among others.

[2] Bayer/Monsanto (M.8084), European Commission, decision of 21 March 2018.

[3] Commission notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004, Official Journal of the European Union, 2008/C 267/01.

The option to review remedies within European merger control is explicitly stipulated in the 2008 Commission notice on remedies which advises the inclusion of review clauses. Most of these clauses, according to the Commission's communication, pertain to timelines for implementing structural remedies or "downward" revisions of initially proposed remedies. However, section 75 of the text leaves room for a potential "upward" revision if the current remedies fail to resolve competition concerns adequately.

In cases where behavioral remedies are insufficient, due either to initial informational shortcomings or significant shifts in market conditions, the Commission reserves the right to call for adjustments. These amendments can be proposed either by the liable company or the Commission itself. However, such modifications are typically marginal and require evidence demonstrating their necessity due to market conditions. The Commission then either acknowledges the proposed changes or issues a new decision.

Despite the regulatory provision for such flexibility, it is infrequently reflected in actual decisions and even less often executed. To our knowledge, the only instance of its application is decision *Dong/Elsam/Energi E2*[4] dated 14 March 2006. In this gas market case, section 24 of the remedies explicitly states that if the trustee finds the auction measures ineffective in ensuring competition, adjustments may be proposed for the Commission's consideration.

Our objective in this study is to argue that these adaptive mechanisms are especially valuable in the realm of behavioral remedies, particularly when the markets in question are subject to high levels of technological and competitive volatility. Specifically, we aim to initiate a discussion on the option to implement a bifurcated merger control system, combing ex-ante with (systematic and comprehensive) ex-post elements to better align regulatory interventions with the evolving market dynamics. Altogether, we see significant prospects but also relevant pitfalls in concepts of more remedy flexibility in merger control.[5]

The remainder of this paper is organized as follows: Section 2 presents the current procedures in the EU and the reasons we think they can benefit from a reform. Section 3 describes a two-shot merger policy proposal and its pros and cons, and Section 4 concludes with final remarks.

2. CURRENT PROCEDURES AND THEIR LIMITATIONS

In this section, we first outline the current procedures in place for reviewing a post-merger commitment. The practices and examples discussed are based on European and national regulations. Second, we analyze their limitations regarding dynamic competition (section 2.2.1) as well as regarding the incentives for strategic behavior by companies and authorities (section 2.2.2).

[4] *Dong/Elsam/Energi 2* (M. 3868), decision of 14 March 2006.

[5] This paper does not undertake an ex-post evaluation of the effectiveness of ex-ante remedies, as a substantial body of empirical economic literature already exists on this subject. See Weinberg (2008) for an empirical overview on the price effects of horizontal mergers. Latest studies look at non-price effects, such as quality and variety; see for instance Argentesi et al. (2021).

2.1 Current procedures in the EU

We provide a brief overview of the ex-ante approach to merger control and how the use of remedies can help expand the range of acceptance decisions. We then differentiate between two potential cases for the review of remedies, depending on whether they are of a structural or behavioral nature. Lastly, we address situations where the merging parties fail to comply with the initially imposed commitments.

2.1.1 Merger control as an ex-ante approach

Merger control in the EU follows an ex-ante approach, which requires the notification of mergers before they consummated if certain turnover-related thresholds are met.[6] This process involves a two-phase procedure, during which the competition authorities assess the potential anti-competitive effects of the merger. Both phases are ex ante, i.e. take place before the merger is completed. The first phase, known as "Phase I," starts with the merging companies notifying the Commission about their plans. If the merger is straightforward and clearly will not adversely affect competition, the Commission can clear it quickly through a simplified procedure. For more complex cases, a preliminary review is conducted within about 25 working days to identify any potential competition issues. If concerns are found during this stage, the process moves to the second phase.

The second phase, or "Phase II," involves a more in-depth investigation into the potential anti-competitive effects of the merger. This review often takes around 90 working days but can be extended if necessary. During this period, the Commission might send out questionnaires to competitors, customers, and suppliers to gauge their perspectives on the merger. At the end of the Phase II investigation, the Commission decides to either i) clear, ii) sometimes requiring commitments from the companies to alleviate competition concerns, or iii) prohibit the merger. During Phase I, companies may provide simpler remedies like selling off a non-core business unit to avoid escalating to a Phase II investigation. In the second phase, if concerns remain, companies might offer more complex and extensive remedies, which can include larger divestments or behavioral changes to their business practices.[7]

The general ex-ante character of merger control, namely everything is investigated and decided before the M&A is consummated, is complemented by few and minor ex-post elements. One is the supervision of the remedies. The process for their follow-up depends to a high degree on whether the commitment is structural or non-structural (European Commission, 2008; OECD, 2011). When remedies are behavioral or conduct-based, a monitoring trustee is often used to carry out the oversight role.[8] While structural remedies are often the preferred choice for competition authorities due to their reduced need for post-merger supervision, it remains imperative to conduct thorough ex-post assessments within this framework as well.

[6] With the exception of Article 22 - 139/2004.

[7] See, for example, Bougette and Turolla (2008) for an empirical exploration of the determinants of merger remedies within the European Union, Bougette (2017) for a comprehensive review of the relevant economic literature, and Vande Walle (2021) for an in-depth analysis of the implementation of such remedies in the EU context.

[8] See Commission notice on remedies, *op.cit.*

This is particularly relevant concerning time-sensitive aspects such as asset divestiture. In such contexts, the role of a trustee can prove to be invaluable.

Second, there are existing possibilities to adjust remedies ex-post under specific conditions (see sections 2.1.2 and 2.1.3).

2.1.2 Presence of review clauses in structural cases

In structural cases, an adjustment of remedies is only possible if review clauses are included in the original decision. These clauses must specifically accommodate the circumstances under which an adjustment is possible and what these adjustments may be. For instance, if it becomes impossible to sell to an upfront buyer, the deadlines can be extended. Additionally, the substitution of assets may be considered in relation to the originally proposed ones, if needed.

For instance, in the 2018 *Vivendi/Telecom Italia* case, the Commission decided to waive a divestiture commitment.[9] The circumstances surrounding this case were quite exceptional. Initially, the Commission had approved Vivendi's acquisition of de facto control, but it was contingent upon a divestiture commitment.[10] However, shortly after the clearance decision, Vivendi unexpectedly lost de facto control. Consequently, Vivendi sought a complete waiver of its divestiture commitment. The Commission granted the waiver, determining that there had been a "*significant, stable, and unforeseeable change in market circumstances*,"[11] and that the competition concerns outlined in the decision were no longer relevant.

In the 2020 *Takeda/Shire* case, the Commission also waived a divestiture commitment.[12] In this instance, Takeda had committed to divesting one of Shire's pipeline drugs. However, Takeda and the divestiture trustee[13] encountered difficulties in selling the drug, partly due to abnormal death rates observed in animal testing on infants born from animals that had received the drug. Consequently, Takeda requested a complete waiver of its commitments. After conducting a thorough market investigation, the Commission concluded that *i)* there had been significant and permanent changes in market conditions, *ii)* these changes could not have been anticipated at the time of the decision, and *iii)* the commitments were no longer necessary to address the competition concerns.

2.1.3 Conditions for review of behavioral remedies

As the EC notice on merger remedies claims, "*access commitments are often complex in nature and necessarily include general terms for determining the terms and conditions under which access is granted*."[14] In this section, we examine the potential for modifying the behavioral remedies established prior to the merger, depending on the party making the request, be it the merging parties or the competition authority.

[9] Vivendi/Telecom Italia (M.8465), Commission decision of 4 September 2018.
[10] Vivendi / Telecom Italia, Commission decision of 30 May 2017.
[11] Vivendi / Telecom Italia, Commission decision of 4 September 2018, paras 20-25
[12] Takeda / Shire (M. 8955), Commission decision of 28 May 2020.
[13] Note that the trustee's role is more focused on evaluating compliance with the agreed commitments rather than assessing the effectiveness or efficiency of the remedy itself.
[14] Commission notice on remedies, para. 66.

At the merging parties' request

First, the review of behavioral remedies can be initiated at the request of the parties involved, i.e., the ability to "*waive, modify, or substitute the commitments*."[15] There are various conditions under which these non-divestiture remedies can be modified: *i)* modifying remedies due to changing circumstances; *ii)* conditions of exceptional and lasting change, where a significant impact has occurred, allowing for a request for a delay of at least 3 years[16]; *iii)* modifications can be made based on the companies' experience; and *iv)* the parties must provide evidence that their proposed modifications are more effective.

The competition authority is responsible for assessing the request, consulting interested third parties, and ensuring the proportionality of the remedies. In the *Newscorp/Telepiu* decision,[17] the Commission allowed Sky Italia to be released from its divestiture commitment. The original merger clearance in 2003 raised concerns about a near-monopoly in the Italian Pay TV market. To address this, Newscorp made commitments that included restrictions on contracts, network access, and refraining from operating pay TV services outside its DTH satellite system. Newscorp requested a modification to participate in a DTT bid, and after a market investigation, the Commission allowed Newscorp to bid on a mux allocation while agreeing not to offer Pay-TV services for five years. The decision reflects the Commission's flexibility to amend commitments based on changing market circumstances, albeit with an extension of the length the commitments must be implemented.[18]

If the competition authority refuses the requested modifications, the parties have the option to appeal to the reviewing courts and ask to be relieved of their commitments. There have been previous cases where commitments were lifted or modified following an appeal. The Commission is obligated to conduct a thorough examination of the waiver request and, when appropriate, initiate an investigation. A case illustrating this obligation is *Deutsche Lufthansa AG v. Commission*, where the General Court found fault with the Commission for not undertaking a diligent examination. Consequently, the General Court partially invalidated the Commission's decision to reject Lufthansa's waiver request.[19]

At the competition agency's request

The review of behavioral remedies can be initiated at the request of competition agencies. *Rendezvous* clauses play a crucial role in this process. When remedies are provided for a defined period but are renewable, the competition authority can benefit from a *rendezvous* clause. In the French system,[20] however, it cannot be activated arbitrarily within the specified period.

[15] Commission notice on remedies, para. 74.
[16] Ibid.
[17] Newscorp/Telepiù (M.2876), Commission decision of 2 April 2003.
[18] Downward adjustments to behavioral remedies can also be observed in other cases, like Royal Philips Electronics and Hoffman-La Roche/Boheringer Mannheim, where a compulsory license obligation was lifted without specifying a duration or incorporating a rendezvous clause (EC decision of 3 May 2011).
[19] "Consequently, it must be found that the Commission made a manifest error of assessment inasmuch as it failed to take into account all the relevant information and that the matters relied on in the contested decision are not capable of justifying the rejection of the waiver request relating to the ZRH-STO route," Deutsche Lufthansa AG v Commission, para. 138.
[20] as stated in the French *Autorité de la concurrence*'s guidelines (pt.443).

Instead, the agency is obligated to conduct a fresh competitive analysis, make any required adjustments to the remedies, and subject them to a market test.

The EU Merger remedies notice includes an "arbitration clauses" that is an additional measure aimed at ensuring the effectiveness of the remedies. For instance, this can be achieved through the supervision of a monitoring trustee.[21] These arbitration proceedings, in conjunction with trustees or national regulatory authorities, serve as a rapid mechanism for resolving disputes. According to the notice, "*the Commission will only be able to accept such commitments where the complexity does not lead to a risk of their effectiveness from the outset and where the monitoring devices proposed ensure that those commitments will be effectively implemented and the enforcement mechanism will lead to timely results.*"[22] A practical example illustrating the use of such clauses can be seen in the *Axalto/Gemplus* case related to access to patents and inter-operability information concerning smart cards, where such clauses were employed.[23]

2.1.4 Enforcement measures for breach of merger remedies

Changing remedies in the case of ineffectiveness or non-compliance is another aspect to consider ex-post. In cases where the merging parties fail to fulfill their commitments, an alternative remedy called the "crown jewels" provisions can be utilized as a self-enforcing sanction, as discussed by Cartapanis (2018). It is important to mention that this alternative remedy must be predetermined or established in advance (ex-ante) and cannot be introduced retroactively (ex-post). An illustrative example is the *Reuters/Telerate* case[24] where, after the initial buyer failed to meet the stipulated requirements within a two-year period, granting a license to another upfront buyer was considered a viable and credible alternative offer. This type of provision is also found in the guidelines for merger control in France. It is stated: "*In order to ensure the effectiveness of behavioral remedies, a substitute structural measure may be provided in the event that the notifying party fails to achieve the desired outcome through the initial behavioral measure*.[25]"

Additionally, the competition authority can revise the remedies during implementation in the event of significant changes. The *Numericable/Canal+* case (*Conseil d'État*, decision of 21 March 2016) exemplifies this. However, it appears that revisions are typically downward and subject to third-party recourse. The Commission may also request the parties to offer a modification of their commitments to address competition issues, as seen in the *Dong/Elsam/Energi 2* case.[26]

[21] Commission notice on remedies, para. 119.
[22] Commission notice on remedies, para. 66.
[23]"If the dispute cannot be resolved by the monitoring trustee during the conciliation clause, then the third party may request a fast-track arbitration." Axalto/Gemplus (M. 3998), Commission decision of 19 May 2006.
[24] Reuters/Telerate (M. 3692), Commission decision of 23 May 2005.
[25] op.cit., para. 417.
[26] Dong/Elsam/Energi 2 (M. 3868), decision of 14 March 2006. "In the event that a third party has reason to believe that DONG has not complied with the commitments a mediation procedure will be put in place. The mediation procedure will be overseen by the Monitoring Trustee, who will be entitled, under certain conditions, to appoint additional professionals to assist in the mediation process." (para. 716).

In summary, commitments can be revised downward upon request by the parties or the authority, provided there are valid circumstances warranting the change. Additionally, the inclusion of *rendezvous* or arbitration clauses allows for modifications when commitments are renewable. However, the ability to modify commitments is contingent upon it being foreseen in the initial commitments, as in the case of the "crown jewels" provisions. Although the current guidelines do not explicitly exclude upward revisions of remedies, such revisions have not been observed extensively in case law.

2.2 Limits of the current system

2.2.1 Dynamic competition and the (bad) aging of remedies

Competition encompasses a dynamic process that involves both innovative and imitative forces (Clark 1961). It operates in a decentralized manner, leading to the creation of coordination knowledge and the discovery of economic opportunities and solutions to economic problems (Hayek 1945, 1968). The continuous dynamics of creative forces, which introduce change (such as new goods, product features, services, technologies, company strategies, etc.) into the market process, and imitative forces, which sustain and prevent innovators from resting on their previous innovations, compelling them to continue being creative, represent the fundamental evolution of markets (Kerber, 2006, 2023). These dynamics drive the competitive market system towards allocative, dynamic, and adaptive efficiency while ensuring the freedom of businesses and consumers in making economic choices and decisions (Budzinski, 2004). As a result, market structures become inherent to the competitive dynamics (Clark, 1961; Dosi, 1982; Petit & Teece 2021). While static snapshots of market dynamics provide valuable insights into allocative efficiency (Rubinfeld, 2011), they struggle to capture the incentives and effects of innovation stemming from company behaviour (Budzinski, 2011; Petit & Teece, 2021).

The renowned Schumpeter-Arrow controversy delves into the conditions for innovative change in the context of market concentration (inter alia, Baker 2007; Petit & Teece 2021). On the one hand, a higher market concentration, accompanied by higher profit margins, can potentially enhance the ability to finance innovation requiring substantial ex-ante investments. On the other hand, a reduced level of competitive intensity resulting from market concentration allows companies to choose between the stony road of change and innovation or the more leisurely road of (ab-)using their market power to maximize profits by anticompetitive conduct and arrangements. Thus, the controversy is about ability to innovate – in important refinements of the theory not only finance-wise but also capabilities-wise (Petit & Teece, 2021) – versus incentives to innovate. Aghion et al. (2005) contributed the inverted U-relationship between competition intensity and innovation frequency to the debate: at both ends of the spectrum, very low and very high competition intensity, innovation frequency falls whereas it hits its optimum somewhere in between the extremes. More theory refinements are developed in the literature providing valuable additional insights (inter alia, Audretsch et al. 2001; Budzinski 2008; Sidak & Teece, 2009; Federico et al. 2020; Petit & Schrepel 2023) and putting an emphasis on dynamic capabilities of firms as a decisive factor for innovation, paired with a sceptical view towards acquiring such capabilities through mergers and acquisitions (Petit & Teece 2021;

Teece 2023). Altogether, the question of change and innovation does not trivially connect to market concentration, which turns the dynamic side of merger control into a particularly difficult business.

Merger control naturally takes place at a certain moment in the competitive process, namely the announcement of a merger among or acquisition of companies. As previously noted, (see section 2.1.1), it represents an ex-ante tool of competition policy as it necessitates an evaluation of the anticipated market dynamics following the implementation of the merger proposition. In the case of horizontal mergers, the above-discussed increase in market concentration traditionally represents a major concern (favouring static and measurable, short-run effects), whereas in vertical and conglomerate mergers the potential anticompetitive effects are more specific and, traditionally, understood to occur less frequent. Predicting the market ramifications of a merger conventionally relies on (simulation) models that are calibrated using historical market data, testimony from expert witnesses knowledgeable about market intricacies, and economic evaluations of how the merger alters the strategic incentives for the companies involved.[27] In other words, the economic analysis of mergers assumes that the underlying market process goes on unchanged except for the merger itself. Ex-post studies show that this yields good results for many industries.

Nonetheless, certain mergers significantly impact market dynamics, leading to structural shifts that extend beyond what is predicted by ex-ante models. This is particularly evident in oligopolistic settings and in markets undergoing rapid or foundational technological changes. In these contexts, mergers and acquisitions have the potential to reshape the competitive landscape in ways that are not accurately forecasted by models using historical data (Mariuzzo & Ormosi, 2019). While one could argue that such transformative mergers are rare, it's worth noting that most mergers do not undergo rigorous scrutiny by antitrust authorities anyway. For instance, in the European Union, only 4% of all proposed mergers advance to the in-depth Phase II investigation stage, and even fewer undergo significant modifications or prohibitions.[28] However, those mergers that do raise anticompetitive concerns are precisely the ones that have the most substantial impact on competition. Consequently, they are far more likely to result in structural shifts, thereby acting as game-changers, compared to 'ordinary' M&As.

Since competition authorities cannot perfectly anticipate post-merger change, remedies implemented to prevent post-merger anticompetitive conduct or arrangements may age badly. They may have been sensibly designed at the time of the merger control decision but the changes in the market environment may have outdated them post-merger.[29] Empirical analysis shows that mergers that were allowed with remedies often do a bad job in protecting competition and prohibitions are more effective (Seldeslachts et al. 2009; Duso et al. 2011).

[27] See, on the strengths and weaknesses of predictive economic merger simulation models, Weinberg & Hosken (2013), Budzinski & Ruhmer (2010), Casey & Niblett (2021) as well as Budzinski & Noskova (2022) and on methods for ex-post evaluations of merger effects, Budzinski (2013).
[28] See https://competition-policy.ec.europa.eu/mergers/statistics_en
[29] The same may happen to remedies in the context of allowing cartels. Butler & Massey (2019) as well as Budzinski et al. (2019) demonstrate how remedies for the bundling of broadcasting rights in sports (European football) worked well in the pre-digital era but became consumer-welfare-decreasing in the streaming age.

Next to advocating more merger prohibitions, this also calls for finding ways to make remedies more effective, especially in dynamic markets.

Currently, the economy is characterized by several markets where change and dynamics are particularly present and relevant, namely digital markets. There, difficulties with the ex-ante setting of remedies are exacerbated:

- The duration of Phase-II procedures, encompassing the search for suitable remedies through consultations with relevant stakeholders, solicitation of suggestions from the merging companies, conducting iterative market tests, and other associated activities, experiences a notable extension.[30]
- The question of the adequate duration of remedies becomes even more speculative.[31]
- The share of conglomerate mergers and vertical integration acquisitions with serious anticompetitive concerns increases and, at the same time, these traditional classifications lose meaning in the context of dynamic competition and market convergence.[32]
- Crafting behavioral remedies for digital ecosystems is, on the one hand, notoriously difficult to supervise and enforce (Himes et al. 2021) and, on the other hand, increasingly evolving into a form of quasi-regulation. This phenomenon can give rise to what is known as "responsive regulation," whereby the competition authority has the flexibility to modify the prescribed remedies based on the actual conduct exhibited by the merged entity throughout the implementation period of these remedies. This adaptability is facilitated by the inclusion of sunset and sunrise clauses, as discussed by Makris (2023, p. 234).
- Conceiving and implementing structural remedies for digital ecosystems may run exactly against the combination of assets that produces positive, innovative effects. For instance, pooling data from different sources may allow new services and products to be developed but may be viewed to be the main source of power at the same time (Teece, 2020, p.1082).
- Considering uncertainty produced for firms, especially for start-ups whose economic model that can rely on being brought by a big player.

Altogether, the particularly dynamic environment of the digital economy (embracing more and more industries) puts emphasis on the problem of implementing adequate remedies in (predominantly) ex-ante merger control systems. This speaks in favour of being able to adjust

[30] In cases involving intricate Phase-II procedures, the entirety of the clearance process may span between 6 to 12 months. For instance, in Google/FitBit, the initial notification was submitted on 15th June 2020, and the final decision was reached on 17th December 2020. Similarly, in Bayer/Monsanto, the Commission received the notification on 30th June 2017, and the decision was rendered on 29th May 2018. See Google/FitBit (M.9660), decision of 17 December 2020; Bayer/Monsanto (M.9084). decision of 29 May 2018.

[31] For instance, in the Google/FitBit decision, the prescribed commitments are to be enforced for a duration of ten years, and "the Commission may, during the final year of the initial ten-year period, decide to extend the duration of [the Commitments] by up to an additional ten years having justified the necessity for such an extension".

[32] Moreover, embracing a dynamic competition perspective has the potential to obscure the demarcation between horizontal and conglomerate mergers, as opportunities may emerge from non-substitutable products. Consequently, this could necessitate a more rigorous approach to remedies when the competition authority is required to make definitive decisions. Consequently, maintaining flexibility becomes imperative to guarantee the ongoing proportionality of these remedies throughout the entire implementation period (Teece, 2021).

remedies post-merger. The combination of ex-ante setting of remedies and asymmetric adjustment options gives rise to strategic behaviour by companies and authorities (Ormosi, 2012), further aggravating the problems with badly aging remedies.

2.2.2 Strategic behaviour by the merging companies and the competition agencies

In addition to the bad-aging of remedies and the procedural deficiencies, the strategic game between the merging companies and the competition authorities is shaped by the ex-ante nature of defining and implementing remedies. For companies, remedies represent an option "to get their deal through", thereby circumventing the prohibition of the transaction. Consequently, these companies are motivated to propose remedies that (i) persuade the authorities while (ii) minimizing the extent to which their post-merger market power is curtailed.

The merging companies possess a distinct advantage in terms of asymmetric information pertaining to post-merger market conditions, encompassing structural changes and shifts in the market landscape. As a result, they are incentivized to suggest remedies that appear effective in the present but are likely to lose their efficacy over time. If later modifications realistically can only get milder (see section 2.1), this incentive is increased since companies can – up to a certain degree – gamble on remedies. Imperfect monitoring and controlling capacities and competencies of competition authorities further increase such incentives. Obviously, this is overall more relevant for behavioural remedies than for structural remedies.

In the context of incomplete and asymmetric information, the competition authority is often confronted with the dilemma of having to make decisions despite imperfect information. In such circumstances, it may be subject to incentives for excessive intervention, referred to as "overfixing," with the aim of proactively offsetting potential instances of moral hazard or hold-ups stemming from the involved companies (Farrell, 2003). The agency only plays once and has substantial power on the parties (different to abuse of dominance cases (Art. 102), in which this is a notorious problem, since the merger project can only go ahead if the authority allows it). This may be especially true if the authority senses its "golden" opportunity to "sanction" a dominant firm for abuses of a dominant position that it has not been able to sanction in the past. Similarly, competition agencies may be biased in favour of (broad-in-scope) structural remedies knowing that informational imperfections make the design and monitoring of behavioural remedies hazardous. If these incentives dominate an authority's behaviour, the interests regarding the remedies between the merging parties and the authority are very much in contrast with lower probabilities of mutual agreement and frequent de jure or de facto (i.e., prohibitive remedy demands by the authority) prohibitions. Moreover, a high probability of court procedures against the agency's decision occurs.

Yet, if the success in safeguarding competition is not systematically evaluated ex-post and/or the authority can expect to be not held accountable for the effectiveness of the remedies, then the picture changes somewhat. Now, the institutional goal of protecting the competitive process may compete with the strategic goal of reaching a consensus with the merging companies because prohibitions as well as prohibitive obligations may lead to court procedures and – in case they get lost – to reputation damages of the authority.[33] Thus, the observable tendency to

[33] As it so famously happened in the early 2000s.

make behavioral remedies overly complex and implement excessive procedure duration may be explained by the strategic desire of the authority to (i) demonstrate an impact, (ii) reach a consensus, and (iii) avoid accountability if these remedies are difficult to assess ex-post, so that they can be sold as a success anyway. The consensus part, then, works best if the complexity of the behavioral remedies offers loopholes for undetected escape for the companies. From the perspective of the authority, the holdup problem resulting from the combination of asymmetric information and the lack of post-merger upward adjustment options does not change this picture much if accountability is low enough. Given the absence of a systematic reassessment of imposed remedies, the agency experiences minimal incentives to dedicate resources to identifying ineffective remedies, as it lacks the power to rectify the situation. Furthermore, there is a potential risk of reputational harm if the authority were to disclose deficiencies of the remedies it has imposed.[34]

Taking the strategic interests of the merging companies and the competition authority together reveals a certain probability for a deal equilibrium involving ineffective remedies (Budzinski & Kuchinke, 2012). Note that the involvement of third-party competitors may alleviate the incentive issues to some degree but that requires the presence of outside competitors that are both strong enough and not tempted by possible coordinated effects. The presence of such competitors, however, may alleviate the anticompetitive concerns in the first place premediating the remedy discussion.

3. MOVING TOWARDS A BIFURCATED MERGER CONTROL SYSTEM?

This section conceptually outlines a policy proposal, which addresses the need for a two-shot, bifurcated system in merger control. It begins by examining the design elements and procedural aspects of this framework. Subsequently, it highlights the advantages associated with implementing this new approach to merger control. Finally, it delves into the potential limitations of this policy proposal.

3.1 Designing a system with more flexible remedies

The preceding analysis revealed that (i) dynamic competition may lead to ex-ante remedies getting outdated and, thus, ineffective (see section 2.2.1). This happens particularly with the critical cases and is increased by the digital environment. Furthermore, (ii) the current asymmetric one-shot system (strong dominance of ex ante instruments) provides incentives for both parties to find a regulatory equilibrium in overly complex but low-effective remedies (see section 2.2.2). Consequently, although the current guidelines allow for a narrowing of the scope and duration of Phase-II merger remedies based on ex-post market developments (see section

[34] According to Makris (2023, p.241), the use of static models of competition law enforcement can result in insufficient and occasionally excessive or inefficacious remedies, particularly in rapidly evolving and dynamic markets (Marsden, 2020 provides an illustrative example in the antitrust domain, discussing the Google Shopping case). This assessment is infrequently undertaken, as the regulatory authority lacks the capacity to rectify the extent and potency of the remedies. Embracing a more adaptable approach would compel all stakeholders to allocate resources towards gathering information regarding the actual efficacy of existing remedies.

2.1), there is a lack of systematic review of remedy effects and no systematic provision to adjust remedies upwards, towards more stringent or fundamentally different measures.

A *bifurcated* merger control system combines systematic and comprehensive ex ante elements (like the two-step Phase I and Phase II proceedings by the Commission) with systematic and comprehensive ex post elements. We call such a system "bifurcated" to distinguish it from the two steps within the ex ante procedure (Phase I and Phase II): the bifurcated system introduces a second "shot" (*rendezvous* clause) at the merger after a defined time after the ex ante merger control took place and after the merger was consummated. Thus, the system is bifurcated in an ex ante and a novel ex post part.

While we assume for reasons of simplicity that the ex ante part remains as it is, the institutional design of the novel ex post part – go way beyond the current provisions – requires description and discussion. These design elements give rise to several inquiries, particularly in terms of procedural aspects:[35]

- *Which cases are reviewed?* In line with the current merger control regime, we envision Phase-II decisions of *clearance with commitments* to be the (sole) candidates for a rendezvous clause. One option would be an automatic review of all these cases, which, however, would imply that mergers in less dynamic industries and such in more dynamic industries are treated the same. Moreover, although the proportion of cases falling into this category is relatively small compared to the total number of mergers (299 cases out of 8,862 notifications at the EU Commission Level from September 1990 to May 2023),[36] Phase-II decisions involving commitments amount to 146 cases (i.e. 48.8 per cent of Phase-II cases), necessitating significant resources. An alternative option would be to activate the rendezvous clause as part of the original merger control decision, so that only "marked" cases get reviewed. This approach enables a targeted examination of critical cases within dynamic industries, optimizing the allocation of competition agencies' resources. However, it also introduces the potential drawback of potentially overlooking relevant cases since the determination of whether a second review is warranted is now made ex-ante.
- *What triggers the review?* Alternatives are (i) an automatic (and thus "mandatory") review, (ii) a review upon request of the authority and/or the merged parties, as well as (iii) a complaint mechanism for other market participants. The options (ii) and (iii) would economize on the authority's resources and the parties' transaction costs.
- *What is the time of review?* If there is an activation mechanism, it makes sense to have a time window (for instance, between 3 and 7 years after the original merger control decision) for activating the second review. Given the changing nature of market environments and the idea that this should not become a permanent regulatory supervision, longer time periods seem to be unfeasible. The alternative to a time window would be a fixed point in time (e.g., after 5 years) which looks less flexible.

[35] We abstain here from jurisdictional issues assuming that the current international practice of the effects doctrine holds – despite its shortcomings especially in dynamic markets (recently summarized by Budzinski 2022).
[36] See the European Commission's website, https://competition-policy.ec.europa.eu/mergers/statistics_en

- *Length of the review:* The maximum length of the ex-post review could be designed analogous to EU Phase-II investigations, i.e., a maximum of 4 months with extensions requiring consent of the merged company.
- *What are the investigation competencies?* Ideally, the second review can be done with the same investigative competencies for the authority than the original review. For the ex-post analysis of the post-merger development, access to company data and in-depth analysis may be a necessary precondition in critical cases to reliably evaluate the original remedies and to come up with better ones. A limited review without full competences would be less resource-intensive but also hardly offer scope for improvement in critical cases.
- *Who suggest the second-round remedies?* One possibility is to keep the current EU-system where the companies suggest commitments and the competition authority may or may not accept these commitments as remedies (see section 2.1). Alternatively, the authority may be assigned the competency to suggest and/or to mandate remedies. Since – in contrast to the original review at the time of the merger proposal – the merger has already been consummated at the time of the second review, the question about the threat point arises:
- *If the parties fail to propose or agree upon adequate second-round remedies, would the merger be subject to dismantlement?* While an ex-post prohibition can serve as an effective bargaining tool (although it entails various considerations such as financial, transactional, and operational costs, as evident in discussions surrounding divestiture or dismantling options (inter alia, Kwoka & Valletti 2021) for dominant players in the event of anticompetitive practices being sanctioned), the authority's ability to impose remedies in the absence of consensus with the parties could also be effective. However, an effective threat point for the authority is a precondition for the workability of a bifurcated system.

The primary focus revolves around the adjustment of remedies. In addition to retaining the option of reducing or even discarding remedies (downward adjustment), a bifurcated system encompasses the capacity to strengthen remedies, switch between different types of remedies, and introduce novel remedies (upward adjustment):

- *Adjusting existing remedies*: This option refers to tightening or relaxing remedies but sticking with its fundamental type. Thus, structural remedies can be modified to adjust their scope or deal with failures (e.g., merging parties being unable to find an upfront buyer[37]). The same holds for behavioral remedies, which can be modified to deal with moral hazard issues, for instance, or to adjust to conduct that newly/unexpectedly emerged post-merger.
- *Changing remedies*: This option refers to the case of switching from behavioral to structural remedies or (probably less often) vice versa. The second review may reveal

[37] For example, within the French banking sector, the implementation of a structural remedy in a merger case faced significant challenges due to the absence of a viable purchaser, particularly within a highly specific context involving an overseas territory. This issue arose in the decision rendered by the French Autorité de la concurrence (decision n°09-DCC-16, 22 June 2009), which pertained to the merger between Caisses d'Epargne and Banque Populaire.

that behavioral remedies, which are notoriously difficult to police (inter alia, Himes et al. 2021), do not work, for instance because of moral hazard. Thus, the competition authority, in order to enforce the competition-preserving effects that the behavioral remedies failed to achieve, may now switch to structural remedies.

- *Implementing new remedies*: If the second review reveals that the remedies have been largely ineffective to protect competition and the anticompetitive concerns have remained severe or have even risen in the meantime, then this option would allow the competition authority to define completely new remedies based on the additional knowledge gained post-merger in the time since the original decision. This may go as far as to de facto unbundle the merger and break-up the company in question.

A bifurcated system of merger control can be structured to incorporate either all or a subset of these three alternatives, such as exclusively the first two. Although the first two options are economically viable, the third option significantly diverges from the current legal framework within the EU and poses challenges for its integration.

3.2 The pros

The obvious advantage of implementing a bifurcated system of ex-ante and ex-post merger control as described is the resilience of the system because of a better tolerance towards decision mistakes (as they can be corrected in the light of post-merger knowledge). In dynamic competitive environments, the quality of merger control decisions can be enhanced by leveraging a deeper understanding of post-merger market dynamics and considering the effects on innovation more comprehensively. At the same time, this also means that decisions rely on a richer and less asymmetric information framework. Thus, it clearly improves the problems rooted in the dynamics of markets and in potential structural breaks in the post-merger competitive process (see section 2.2.1).

Furthermore, the strategic behavior of merging companies (see section 2.2.2) is limited by a deterrence effect on anticompetitive merger proposals. If companies enjoy an information advantage on the mid-run anticompetitive character of the combination (i.e., they are aware of their true intentions), they can currently exploit this advantage within the existing system by strategically deceiving the authority into accepting remedies that may prove to be largely ineffective. If they know that remedies can be reversed when or once they show their true face, it may mean they are going to abandon the project ex-ante. Thus, the bifurcated system limits moral hazard by incentivizing firms to “better” (in the sense of the protection of competition) self-select their projects.

The competition authority gains competencies and power. But how does that change its strategic incentives (see section 2.2.2)? First, the bifurcated system limits the tendency to overfix in the ex-ante decision since, by contrast to the current system, any error or any remedy that did not work or was too soft can be adjusted during the application of the ex-post element. Moreover, since (and if – depending on the exact design, see section 3.1) ex-post reviews of remedies take place anyway and, thus, the effectiveness of the original remedies is likely to be revealed, the incentives for the authority to engage in overly complex behavioral remedies with

questionable effectiveness and enforceability are also reduced. Quite in contrast, the reviewability of remedies (i.e., whether their success can be measured) may become a relevant criterion for selecting first-round commitments, in the first place. Eventually, the competition authority does not face the same danger of a hold-up anymore since it gets a second chance with better knowledge. Altogether, the probability of mutually beneficial deals at the expense of competition and innovation gets reduced, albeit certainly not to zero.

From a societal perspective, the implementation of a responsive merger regulation framework can potentially result in improved decision-making and consequently lead to a more dynamic-welfare-oriented approach in the selection of mergers and acquisitions.

3.3 The cons

However, there are also drawbacks associated with implementing a bifurcated system of merger control. Of course, the gains in knowledge and decision quality are limited to the additional insights retrieved from the post-merger period between the two rounds of investigation. Market dynamics beyond this limited time frame remain outside the knowledge scope and, at the end of the day, the remedies set or being modified in the second review again face an uncertain future and may also become outdated by market dynamics. Therefore, a bifurcated system is capable of delivering an improvement but does not represent a perfect system in any way. Nevertheless, as the causal relationship between a merger or acquisition event and subsequent market evolution weakens with the passage of time, we do not consider the inability to capture long-term post-merger effects as a prohibitive concern.

Furthermore, the ex-post review presents a challenging identification issue, especially in markets characterized by dynamic competition. Determining the reasons behind a remedy's failure to produce the anticipated outcomes may necessitate examining the market's development in the absence of the merger event—an inherently counterfactual matter that is notoriously challenging to identify and explain. While there exist instruments and econometric techniques for deriving counterfactual scenarios (often used in ex-post cartel studies), the problem may be less severe than forecasting the future. Furthermore, the advances of artificial intelligence and its use by competition authorities may also improve investigation tools and capabilities (Casey & Niblett 2021; Himes et al 2021; Schrepel 2021). Nonetheless, it remains a potential limitation and a well-known hurdle in conducting ex-post studies.

Regarding the incentives for strategic behavior, one can wonder whether companies may now behave for the time window between the ex-ante and the ex-post elements and start their anticompetitive plans after the final review. However, on the one hand, that would still be an improvement over defecting immediately, and, on the other hand, it will require very special circumstances for such a strategy to be feasible, in particular, a long-lasting opportunity for profitable defections from behavioral remedies. More relevant may be incentives to prepare for the ex-post review during the post-merger period in the sense that they can successfully lobby for more lenient remedies in the ex-post round (as a form of rent-seeking behavior).

Of greater concern is the adverse impact on the authority's incentive. Given the opportunity to fix more issues in the ex-post round, there are even less incentives for the competition

authority to outright prohibit mergers. Agencies who are reluctant to prohibit anyway now may be even more willing to allow under commitments because it delays the difficult part to a later point in time (wait-and-see attitude). If the empirical evidence, as demonstrated by Seldeslachts et al. (2009), indicating that prohibitions are more effective in safeguarding the competitive process than clearances with commitments, extends to improved remedies in the bifurcated system, the diminished use of outright prohibitions further diminishes welfare.

Additionally, there may be a persistence of pro merger decision as it is always more difficult to revise something that is there than to just let the existing regulation continue (normative power/force of the factual). The extent of this effect, well-known from and empirically supported for various regulatory arenas, depends, inter alia, on the design of the bifurcated system. If a second-round (if codified in the original merger control decision) is automatically triggered so that an ex-post review/analysis is mandatory (and maybe even must be made public), persistence of the original remedies is less likely as in a system where the agencies can decide to trigger or not-trigger the ex-post round. The persistence-problem could be further alleviated if remedies have the character of sunset regulations: if no ex-post round is triggered, they expire automatically. The latter, however, may then again create adverse incentives for companies (lobbying for rendezvous avoidance).

One clear drawback of a bifurcated system is its increased cost compared to the current regime, both in terms of administrative expenses and transaction costs for the merging companies. The already lengthy merger control proceedings are further extended by an ex-post procedure involving costly ex-post analysis of remedy effects, expensive negotiation rounds with the merged company, and expensive market tests for remedy revision proposals. While the number of cases requiring this additional effort may be limited (section 3.1), the competition authority would still require additional resources, and companies would have to bear substantial expenses such as for legal consulting. Moreover, there are opportunity costs involved, including the time and working capacity of top officials and managers. Furthermore, the increased flexibility provided by the bifurcated system also brings about increased legal uncertainty for the merging company. The revision of remedies, particularly when transitioning from behavioral remedies (imposed initially) to structural remedies, can be particularly costly. However, the worst-case scenario would be the potential need for the company to “un-merge.” Therefore, the advantages in decision quality (see section 3.2) must outweigh these additional costs.

4. CONCLUSION

Our study underscores a pronounced need for more adaptable merger remedies in markets typified by innovation-driven, dynamic competition. Using the European Union’s competition policy framework – a leading exemplar globally – as a case study, the prevailing system appears to incentivize suboptimal merger control decisions (section 2.2.1) and engenders strategic behaviors by involved entities, thereby undermining the system’s societal efficacy (section 2.2.2). Nonetheless, this critique must be contextualized within the overarching positive impact of competition policy on society and the intrinsic challenges associated with decisions based

on forecasts and pre-emptive assessments (ex-ante merger control). While effecting improvements may pose challenges, they warrant serious consideration. Notably, the academic literature remains relatively silent on this matter.

Beginning with the existing European framework, which incorporates minimal and rather unsystematic ex-post measures—specifically, downward adjustments under stringent conditions with a limited scope—we conceptually advance the design elements of a bifurcated merger control system. This system integrates ex-ante processes with more systematic and comprehensive ex-post measures. Such an approach can address the shortcomings of the current system and, consequently, holds the potential to enhance merger control in dynamic markets. Nevertheless, it's essential to balance three potential trade-offs:

(i) *Better remedies of conditional merger clearances versus a decreasing number of outright prohibitions.*
If we follow the existing empirical evidence that blocking mergers is superior in terms of the protection of the competitive process than conditional clearance with remedies, then the introduction of a bifurcated merger control system must be accompanied by safeguarding the incentives for the competition authority to block anticompetitive mergers. The literature on enforcement problems in merger control offers a number of especially institutional improvements (inter alia, Budzinski 2010; Salop 2018; Valletti 2021) that could serve to dissolve the trade-off and to balance out the effects.

(ii) *Better remedies of conditional merger clearances versus increasing costs for competition authorities.*
The implementation of a bifurcated merger control system, combing ex-ante with (more systematic and more comprehensive) ex-post elements, poses a significant challenge for competition authorities considering their limited resources. One of the crucial issues lies in pricing this option for the competition authority.

(iii) *Better remedies of conditional merger clearances versus legal uncertainty and further transaction costs for companies.*
Balancing the need for extended regulatory supervision with the constraints of dynamic competition, which requires firms to maintain strategic autonomy and seek legal certainty, is a complex task. To promote a more flexible enforcement of competition law in dynamic markets, it becomes necessary to establish a "more responsive regulation of competition." Although this approach may introduce uncertainty, it also offers the potential for better-suited remedies and serves as a safeguard against excessively conservative remedies. Achieving this balance requires careful consideration and exploration of innovative measures that can adapt to the changing dynamics of markets while preserving competition and protecting consumer welfare.

While we consider these trade-offs and balancing tasks to be challenging, we do not think they are prohibitive. Nevertheless, further research especially into the institutional design of a bifurcated merger control system as well as into its interplay with other merger control elements and other competition policy areas is warranted. The prospect of improving the problematic

remedy system is worth to put this issue more firmly on the – admittedly not necessarily short – competition policy reform agenda. Ideally, it could be part of a general approach that better highlights the dynamic character of competition to foster a competitive environment that encourages innovation, safeguards consumer interests, and ensures long-term market resilience.

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In the Light of Dynamic Competition: Should We Make Merger Remedies More Flexible?