

THE PROPER SCOPE OF ANTITRUST: BEHAVIOURAL REMEDIES BETWEEN COMPETITION LAW ENFORCEMENT AND REGULATORY INTERVENTIONS

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ABSTRACT

This article examines the evolving role of behavioural remedies in competition law enforcement and their increasing convergence with regulatory approaches. Based on a typology of remedy design, it identifies a continuum from rule-based injunctions to adaptive conduct obligations that resemble sectoral regulation. While dynamic markets - particularly in the digital economy - may justify greater flexibility, we argue that unconstrained discretion or permanent oversight risks transforming antitrust into de facto regulation. The paper proposes a framework for implementing bounded flexibility through predefined revision mechanisms, ensuring remedies remain both effective and consistent with competition principles. By delineating the frontier between competition law and regulation, this analysis contributes to ongoing debates on the proper institutional scope of antitrust enforcement.

KEYWORDS

Antitrust, behavioural remedies, competition law, regulation, dynamic markets, digital economy.

JEL

K21, L40, L50, L86.

The Proper Scope of Antitrust: Behavioural Remedies Between Competition Law Enforcement and Regulatory Interventions

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Abstract

This article examines the evolving role of behavioural remedies in competition law enforcement and their increasing convergence with regulatory approaches. Based on a typology of remedy design, it identifies a continuum from rule-based injunctions to adaptive conduct obligations that resemble sectoral regulation. While dynamic markets - particularly in the digital economy - may justify greater flexibility, we argue that unconstrained discretion or permanent oversight risks transforming antitrust into *de facto* regulation. The paper proposes a framework for implementing bounded flexibility through predefined revision mechanisms, ensuring remedies remain both effective and consistent with competition principles. By delineating the frontier between competition law and regulation, this analysis contributes to ongoing debates on the proper institutional scope of antitrust enforcement.

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1. Introduction

The introduction of the Digital Markets Act (DMA)¹ in European Union (EU) has blurred the traditional boundaries between antitrust enforcement and regulation, as well as between ex-ante and ex-post interventions (Bougette *et al.*, 2025a). The obligations imposed on firms designed as gatekeepers can be seen as competitive injunctions - prohibitions or requirements regarding specific behaviours - that have been shifted into the ex-ante realm. These obligations are long-lasting, as they apply for as long as a firm retains its gatekeeper designation, and they exhibit a certain degree of rigidity.

At the same time, competition law decisions have also evolved beyond a model in which interventions are limited to fines and potential asset divestitures (Motta, 2004). Increasingly, such decisions incorporate behavioural remedies that constrain the sanctioned firm's conduct over an extended period, with the duration set by each specific ruling (Buccirossi, 2008). These remedies may include prohibitions on certain practices, which limit the firm's contractual freedom but still leave it with negative liberty - that is, the firm remains free to choose its future behaviour, within the boundaries of the prohibition. While these constraints are long-term, they are determined once and for all. Recent cases illustrate this trend, such as the European Commission's acceptance of commitments offered by Amazon in 2022 and the behavioural remedies imposed on Google by a U.S. court in 2025.²

¹ European Parliament and Council, *Regulation (EU) 2022/1925 of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act)*, OJ L 265, 12.10.2022, p. 1–66.

² Case AT.40462 - Amazon Marketplace & Case AT.40703 - Amazon Buy Box. (2022). *Commission decision of 20 December 2022 making commitments offered by Amazon legally binding pursuant to Article 9 of Council Regulation (EC) No 1/2003*; United States v. Google LLC, No. 1:20-cv-03010 (D.D.C. 2025). *Final remedies order*. Washington, DC: U.S. District Court for the District of Columbia.

However, the level of constraint increases significantly when the remedy entails positive behavioural obligations. In such cases, the firm must, over a sustained period, implement specific actions designed to benefit its competitors or other market participants.

Two main challenges must be addressed. The first concerns the regulatory nature of behavioural remedies. Are such remedies merely intended to restore competitive conditions by correcting the effects of the sanctioned anticompetitive practice? Or can they also aim to enhance the competitive functioning of the market, rebalance market positions, or redistribute surplus? This ambiguity is particularly relevant in digital markets.

One illustrative case highlighting this intertwining of competition and regulatory logics is the litigation surrounding the 2019 European Directive on neighbouring rights in copyright law.³ Under this directive, online content aggregators (such as Google News) are required to compensate publishers and news agencies for providing “snippets,” that is, a headline, a photo, and a few lines of summary that are integrated in their news feeds. The directive mandates that negotiations be conducted in good faith and with transparency, so that publishers can retain a reasonable share of the value created by their content.

From a regulatory perspective, this intervention aims to prevent an unbalanced distribution of revenues from undermining the economic capacity of publishers and agencies to produce the “quality information” essential to the health and integrity of the democratic debate and accountability of both public authorities and private economic powers (Besley and Prat, 2006). While aggregators undoubtedly add visibility to journalistic content and can generate traffic to publishers’ websites, this redirection is not systematic (for instance, when users merely scroll through the snippets), and the advertising revenues captured may raise concerns given Google’s

³ Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC. OJ L 130, 17.5.2019, p. 92-125.

dominant position in online advertising.⁴ Accordingly, the measure can be read as a regulatory attempt to rebalance value-sharing in vertical relationships in light of a broader public interest objective: preserving the positive externalities arising from the production of high-quality information.

At the same time, as demonstrated by proceedings before the French Competition Authority, the issue may also be framed in antitrust terms as a case of exploitative abuse.⁵ Publishers and news agencies may be subject to unfair or discriminatory trading conditions resulting from the informational advantage enjoyed by an unavoidable trading partner - one able to impose contractual terms that would not be accepted under more symmetric market conditions. In this sense, the neighboring rights litigation resonates with the concerns embodied in Regulation 2019/1150 on transparency and fairness in P2B relations,⁶ and it can be located on a continuum ranging from classic antitrust concerns to the treatment of significant vertical imbalances, and ultimately to questions of sectoral regulation.⁷

The second challenge relates to the disconnect between the dynamic nature of competition⁸ and the rigidity of behavioural remedies - another phenomenon especially salient in the digital sector (e.g., Rubinfeld, 1998; Kwoka, 2014). Within the framework of European competition proceedings, behavioural remedies (whether injunctions, commitments, or corrective

⁴ EU Commission, Google - Adtech and Data-related practices, case AT.40670, prohibition decision, 5 September 2025.

⁵ Autorité de la concurrence, décision n°24-D-03 du 15 mars 2024 relative au respect des engagements figurant dans la décision de l'Autorité de la concurrence n° 22-D-13 du 21 juin 2022 relative à des pratiques mises en œuvre par Google dans le secteur de la presse.

⁶ Regulation (EU) 2019/1150 of the European Parliament and of the Council of 20 June 2019 on promoting fairness and transparency for business users of online intermediation services.

⁷ See Colangelo (2022) for a critique of the use of competition law in this field.

⁸ On the concept of dynamic competition and its implications for antitrust analysis, see in particular Sidak & Teece (2009), Petit & Teece (2021), and Stöhr & Budzinski (2025). These contributions emphasize the need to move beyond static models of market power and to integrate innovation, ecosystem dynamics, and systemic effects into competition policy.

measures⁹) allow only for downward adjustments. However, the more imperfect the initial informational framework in which such remedies are defined, and the more turbulent the competitive dynamics, the greater the risk that these long-lasting obligations may become ineffective, inefficient, or even counterproductive.

In previous work related to merger control (Bougette *et al.*, 2024), we proposed the implementation of *flexible remedies*, that is, remedies that can be adapted over time. This framework was subsequently extended to all behavioural remedies (Bougette *et al.*, 2025b), including those arising from antitrust proceedings such as injunctions and commitments. This approach advocates for the inclusion of revision clauses in decisions involving behavioural remedies, to allow for their adjustment when needed.

However, introducing such flexibility raises the question of the boundary between competition logic and regulatory logic. In this respect, it is worth recalling some fundamental differences: (1) regulation primarily seeks to address structural market failures, whereas competition law focuses on sanctioning and deterring anticompetitive practices; (2) regulation pursues objectives that go beyond mere efficiency, often incorporating broader policy goals; and (3) regulation naturally entails a form of “steering,” which presupposes the possibility of ongoing adjustments depending on circumstances. Against this backdrop, the present article aims to examine under which conditions revision mechanisms may legitimately be activated, and how the modalities of behavioural remedies could evolve accordingly.

To that end, the article is structured as follows. Section 2 explores the specific role of behavioural remedies in European competition law in comparison with the U.S. approach.

⁹ Behavioural remedies can take several forms. *Injunctions* are orders imposed by a competition authority or court prohibiting or mandating specific conduct (e.g. a ban on exclusivity clauses, or the obligation to provide access on fair terms). *Commitments* are voluntary undertakings offered by firms under investigation, which become binding once accepted by the authority (for instance, pledges not to combine certain datasets, or to ensure non-discriminatory treatment). *Corrective measures* refer to ongoing obligations designed to adjust business practices over time, such as transparency requirements, interoperability obligations, or restrictions on the use of data.

Section 3 examines the wide spectrum of behavioural remedies in actual decision-making practice. Section 4 discusses the need for flexibility in these remedies from a dynamic competition perspective. Section 5 proposes a typology of competition decisions based on the nature of behavioural remedies and their varying degrees of flexibility. Section 6 places the issue of adaptability within a stylized framework that seeks to delineate the respective scopes of antitrust enforcement and sector-specific regulation. Section 7 then turns to the specific place of the Digital Markets Act (DMA) within this framework. Section 8 concludes.

2 The Role of Behavioural Remedies in the U.S. and the EU

The DMA is undeniably grounded in antitrust precedents. Its list of “dos and don’ts” echoes several decisions issued by the European Commission under Article 102 TFEU¹⁰. In many respects, the DMA represents a shift of competition enforcement from an ex-post to an ex-ante framework. This shift is explained by several obstacles the Commission encountered in applying competition law to digital markets - namely, the excessive length of proceedings, the complexity of conducting effects-based assessments, and the limited capacity of ex-post enforcement to fully remedy harm to competition.

2.1 The Dual Purpose of Remedies: Deterrence and Restoration

Remedial outcomes are central to competition decisions. As Hovenkamp (2025) observes, any antitrust action should ideally rest on sufficiently robust theories of harm to ensure its success, and it should be initiated only if there is at least a plausible prospect of identifying remedies capable of addressing the competitive injury. In other words, the very possibility of crafting an adequate remedy can be seen as a necessary condition for enforcement.

¹⁰ See, for instance, Fletcher *et al.* (2024), who discuss the role of economic reasoning in the design and enforcement of the DMA, and Crémer *et al.* (2025), who explore more specifically the question of access pricing for app stores under the DMA framework.

A typical decision aims to achieve two main effects. The first is deterrent and primarily relies on financial sanctions. The second seeks to restore the competitive conditions that would have prevailed had the infringement not occurred. This restorative function is crucial not only for protecting the competitive process but also for deterrence: a financial sanction may fail to deter if the infringement was profitable (since the fine is typically based on turnover, not excess profit), or if the infringing firm has gained a dominant position that is now hard to challenge. Restoration relies mainly on the imposition of remedies.¹¹

In adversarial proceedings (leading to prohibition decisions), competition remedies generally fall into two categories: structural and behavioural (Motta, 2004; Bougette, 2022). Structural remedies typically involve divestitures. Behavioural remedies, by contrast, constrain the strategic autonomy of the infringing firm for a set period (often several years). They may require ceasing certain practices or adopting conduct that benefits competitors.

Structural remedies are particularly suited to addressing market structure issues. They can directly reduce dominance, especially when abuses are intrinsic to the dominant position itself. Behavioural remedies can halt specific practices that distort competition and, when designed positively, may compel firms to take steps to mitigate the effects of past conduct.

2.2 Structural or Behavioural? Contrasting Antitrust Approaches Across the Atlantic

Both types of remedies interfere with fundamental corporate rights: structural remedies affect property rights, while behavioural remedies limit contractual freedom. However, the EU and U.S. antitrust regimes differ significantly in their preferred approaches. In the EU, structural remedies are rarely used in prohibition decisions (Bougette & Marty, 2012), with behavioural remedies generally preferred so as not to infringe too heavily upon property rights. Structural

¹¹ Here we emphasize the hypothesis of complementarity between sanctions and remedies. In Bougette *et al.* (2025c), however, we argued that a substitutability may exist under certain conditions - at least to the extent that a heavy sanction (outside of monopoly contexts) handicaps the sanctioned firm in competition.

remedies are mainly applied in commitment procedures and merger control, where they are voluntarily proposed by firms. In adversarial cases, they can be imposed only when no equally effective behavioural alternative is available. This restrictive approach is largely explained by the high level of judicial scrutiny that applies to structural remedies: because they amount to a direct interference with ownership rights, competition authorities must demonstrate both their strict necessity and their proportionality. By contrast, behavioural remedies, while still intrusive, are less exposed to such intense judicial review, which partly explains their more frequent use in European practice.

Moreover, EU behavioural remedies are not limited to cease-and-desist obligations. They increasingly prescribe positive obligations aimed at restoring merit-based competition. Given that the infringement has already distorted initial market conditions, these remedies often have an asymmetric nature: they go beyond preserving the status quo to actively reconstruct competitive dynamics.

The preliminary ruling of the Court of Justice in the *Android Auto* case provides a useful illustration of the quasi-regulatory dimension that may emerge from competition law decision-making.¹² In that case, Google had refused to grant *Android Auto* access to an application developed by ENEL that allowed users to locate and reserve available electric charging stations through a navigation software. The refusal, justified by the unavailability of an interface protocol (a template), was assessed by the Italian Competition Authority as constituting an abuse of dominant position.¹³ Google's strategy could be regarded as a form of self-preferencing aimed at foreclosing access to a future market until equivalent services could be developed (Motta & Peitz, 2024).

¹² Court of Justice, Judgement of the 25 February 2025, case C-233/23, Alphabet (Android Auto).

¹³ ICA Decision of April 27, 2021, No. 29645, Case A529, Google/compatibilità app Enel X Italia con sistema Android Auto.

The Court examines the case under the essential facilities doctrine, while at the same time extending its scope significantly. The gatekeeper firm of an open digital ecosystem may be required not only to reorganize its services to grant third-party access but also to undertake specific developments to make such access technically feasible. This must moreover be done under transparent, fair, and non-discriminatory conditions, with the mere technical impossibility of access no longer accepted as an objective justification. Unlike the earlier *Frankfurt Flughafen* decision,¹⁴ where the obligation was limited to restructuring existing facilities and to optimizing their operation conditions, the obligation here extends to active investment to enable access (Stylianou, 2025). The quasi-regulatory nature of such an intervention can also be seen in the potential oversight of access pricing conditions and of the required investments.

By contrast, in U.S. antitrust enforcement, structural remedies are in principle the default option. If monopoly power has been acquired, maintained, or extended through means other than merit, asset divestiture is often considered the most effective one-shot solution (Majumdar, 2021). Behavioural remedies are commonly viewed with scepticism due to concerns over judicial capacity to monitor compliance (Cavanagh, 2005). U.S. antitrust is rooted in an ex-post philosophy focused on deterrent sanctions and structural fixes to restore competitive conditions. However, there are significant counterexamples. In the *Microsoft* case, Judge Jackson initially ordered the break-up of the company in 1998, but this decision was later overturned on appeal and replaced by a set of behavioural remedies. More recently, in the *Google Search* monopolisation cases (2024-2025), the Department of Justice and several States advocated for

¹⁴ Commission Decision of 14 January 1998 relating to a proceeding under Article 86 of the EC Treaty (IV/34.801 FAG - Flughafen Frankfurt/Main AG).

structural separation, yet the courts ultimately opted for behavioural measures.¹⁵ These examples highlight a paradox: even if structural remedies are formally part of the enforcement toolbox and are regularly invoked, they are rarely applied in practice. In this sense, they can be seen as carrying mainly a ritualistic threat value (Hovenkamp, 2025), in contrast with the European experience, where structural remedies are seldom even placed on the table in adversarial proceedings.

A striking illustration lies in the divergent remedies sought in the *Google Search* cases. In the European Union, the Commission fined Google €2.42 billion in Google Search (Shopping),¹⁶ and required the company to treat competing comparison shopping services equally - a behavioural remedy framed as a non-discrimination obligation. In contrast, in the United States, the DOJ's 2020 antitrust complaint¹⁷ initially focused on exclusive agreements, but was followed in 2023 by a second complaint,¹⁸ in which the Department of Justice demanded structural remedies - namely, the divestiture of Chrome as an immediate measure, and Android as a contingent remedy should behavioural obligations prove insufficient.

The recourse to structural injunctions nevertheless appears unlikely in future cases in light of the decision handed down in the United States in *Google Search* on 2 September 2025.¹⁹ Following the precedent set in *Microsoft* in the early 2000s, the U.S. court ultimately confined

¹⁵ United States v. Google LLC, Case No. 1:20-cv-03010 (D.D.C.), Plaintiffs' Revised Proposed Final Judgment, 7 March 2025. See also State of Colorado et al. v. Google LLC, Case No. 1:20-cv-03715 (D.D.C.). The DOJ initially requested a structural separation between Google Search and Chrome, but the District Court endorsed behavioural remedies instead.

¹⁶ Case AT.39740, decision of 27 June 2017.

¹⁷ U.S. et al. v. Google LLC, No. 1:20-cv-03010, filed 20 October 2020.

¹⁸ U.S. et al. v. Google LLC, No. 1:23-cv-00108, filed 24 January 2023.

¹⁹ U.S. Department of Justice. (2025, September 2). Department of Justice wins significant remedies against Google. Office of Public Affairs. <https://www.justice.gov/opa/pr/departments-justice-wins-significant-remedies-against-google>

itself to behavioural injunctions.²⁰ Structural remedies in antitrust therefore seem to be envisaged primarily in the context of commitment procedures, as illustrated by the European Commission’s decision in *Google Adtech* of 5 September 2025. Beyond the fine and the order to cease the practices at issue, the Commission required Google to propose remedies capable of addressing the competitive risks associated with its ability to engage in self-preferencing strategies. As stated in its press release: “*The Commission has already signalled its preliminary view that only the divestment by Google of part of its services would address the situation of inherent conflicts of interest, but it first wishes to hear and assess Google’s proposal.*”²¹

2.3 The Essential Facilities Doctrine and the Boundary with Regulation

Interestingly, in the U.S., regulation - not antitrust - is the main vehicle for imposing behavioural constraints in cases of structural market failure. For instance, the EFD, which may lead to an obligation to deal, is not part of U.S. antitrust due to the primacy of contractual freedom, even for monopolists (see *Trinko*, 2004). Instead, such obligations fall under sector-specific regulation. In *Trinko*, the Supreme Court held that “the mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system.”²² The Court went further, stressing that “as a general matter, the Sherman Act does not restrict the long recognized right of a trader or manufacturer engaged in an entirely private business, freely to exercise his own independent

²⁰ US Department of Justice, “Department of Justice Wins Significant Remedies Against Google”, 2 September, Press Release, 25-902.

²¹ EU Commission, “Commission fines Google €2.95 billion over abusive practices in online advertising technology”, Press Release IP 25_1992, 5 September 2025.

²² *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398 (2004), at 407, opinion by Justice Scalia.

discretion as to parties with whom he will deal.²³” Instead, obligations to supply or share access are typically imposed through sector-specific regulation, not through antitrust enforcement.

In the EU, however, the EFD is frequently used in competition enforcement. It applies across regulated sectors and increasingly to digital markets and intangible assets. EU case law even goes beyond basic non-discrimination or reasonableness requirements, sometimes mandating proactive conduct by the firm controlling the essential facility (as in *Frankfurt Flughafen*²⁴ or *Android Auto*²⁵). Furthermore, the criteria for activating the EFD - such as indispensability, the emergence of a new product, or incentive balances - are often interpreted in favour of complainants.

The modalities for activating the essential facilities doctrine illustrate the tension between the strict application of competition rules and the asymmetric regulation of competition, particularly in the context of policies aimed at constructing competitive markets, such as sectoral liberalisation. As noted above, the obligations imposed on dominant firms may concern assets that only partially meet the criteria of essentiality - especially when entrants could, at least in principle, access the market without them. Access obligations may therefore extend to quasi-essential assets, inasmuch as they create significant barriers to entry or expansion, or expose entrants to prohibitive sunk costs in the event of failure (Bougette *et al.*, 2021).

The line between a legitimate intervention within a narrow conception of competition enforcement (i.e. preventing a market failure) and asymmetric regulation (i.e. facilitating entry) can become blurred once the notion of an “essential facility” drifts toward that of a “convenient

²³ *United States v. Colgate & Co.*, 250 U.S. 300 (1919), at 307.

²⁴ European Commission, Decision of 14 January 1998 relating to a proceeding under Article 86 of the EC Treaty (IV/34.801 FAG - Flughafen Frankfurt/Main AG).

²⁵ CJEU (2023), Judgment of the Court of Justice of the European Union of 4 July 2023, *Meta Platforms Inc. (formerly Facebook Inc.) v Bundeskartellamt*, Case C-252/21.

facility” (Ridyard, 2004). Several factors contribute to such an evolution away from the strict criteria set out by the Court of Justice in *Bronner*.

A first factor lies in the use of commitment procedures, which may induce firms to anticipate the authorities’ expectations by proposing remedies that go beyond restoring competition and actively facilitate market entry - as illustrated by the GVG (Georg Verkehrsorganisation GmbH) decision in the railway sector.²⁶

A second factor is more specific to digital markets, where access obligations appear easier to impose. Competition authorities tend to consider that it is virtually impossible for a new entrant to bypass the gatekeeper’s central position within an ecosystem, and that a refusal of access would make no economic sense outside an exclusionary strategy, given that such ecosystems were ostensibly designed to be open to third parties. This reasoning, already visible in *Android Auto*, was also implicit in *Google Shopping*.²⁷ The gatekeeper’s control over its ecosystem is thus perceived as a form of private regulation liable to hinder free entry and fair competition. Competition enforcement thereby shifts toward scrutinising the conditions under which such private regulation is exercised.

3. From Theory to Practice: The Expansive Scope of Behavioural Remedies

The traditional opposition between structural and behavioural remedies, often used to contrast the antitrust philosophies of the United States and the European Union, must be revisited considering actual enforcement practice. In the U.S., behavioural measures have been employed in landmark cases, such as the Microsoft settlement in 2000 (where the initial break-up order was overturned and replaced by conduct obligations²⁸) and the *Google Search* monopolisation cases in 2025 (where structural separation was requested but ultimately rejected in favour of

²⁶ EU Commission, decision of the 23 August 2003, Case COMP/37.685 GVG/FS.

²⁷ EU Court of Justice, Judgment of the 10 September 2024, Case C-48/22P, *Google Shopping*.

²⁸ *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000)

behavioural remedies). These examples illustrate that behavioural obligations, while often treated with scepticism in principle, are nonetheless a recurring feature of U.S. antitrust enforcement. On the European side, the use of behavioural remedies extends far beyond contentious procedures, encompassing both commitment decisions and merger control frameworks.

3.1 The U.S. Experience: Consent Decrees and the Role of Preventive Intervention

Contrary to the perception that behavioural remedies are marginal in U.S. antitrust, historical developments show that consent decrees have long played a central role. Initially introduced by the Federal Trade Commission (FTC), they became widespread under the Antitrust Division of the Department of Justice (DoJ) by the late 1930s. The 1914 creation of the FTC by Congress was not intended to duplicate Section 2 of the Sherman Act by introducing a new punitive instrument, but rather to provide a preventive and forward-looking tool for identifying conduct potentially harmful to competition (Winerman, 2003). This preventive logic allowed for the establishment of behavioural rules through negotiation with firms, giving rise to the model of consent decrees. The use of negotiated settlements to constrain market behaviour can already be traced back to the 1906 crisis, when President Theodore Roosevelt advocated for voluntary commitments rather than strict enforcement. The practice was further institutionalized under Thurman Arnold's leadership after 1938, as behavioural remedies became an important component of revived antitrust actions under Section 2 (Waller, 2004).

The prominence of behavioural remedies in U.S. antitrust is exemplified by the *Microsoft* case,²⁹ in which the trial court initially ordered a structural break-up in 1998. That remedy was overturned on appeal, and replaced with a comprehensive set of behavioural obligations. In the

²⁹ U.S. District Court for the District of Columbia - 97 F. Supp. 2d 59 (D.D.C. 2000); US Court of Appeals for the District of Columbia Circuit - 253 F.3d 34 (D.C. Cir. 2001); *Final Judgment*, U.S. v. Microsoft Corp., Civil Action No. 98-1232 (D.D.C. 2002).

more recent *Google Search* case, following the August 2024 monopolization ruling, the DoJ proposed a structural divestiture of Chrome while opting for a behavioural remedy for Android - conditional upon its demonstrated effectiveness. These examples reveal that behavioural measures remain a significant part of the U.S. enforcement toolkit.

The question of resorting to structural remedies periodically resurfaces in major U.S. antitrust cases. Lina Khan (2019) advocated such an approach to address issues of self-preferencing in online retail, particularly when a marketplace adopts a dual role as both market organizer and market participant. Similarly, in the *Google Search* case, the Department of Justice (DoJ) proposed structural remedies in the fall of 2024 and again in the spring of 2025, despite the change in administration. To remedy the alleged practices of monopolization, the Department considered that Google should divest Chrome and, possibly, Android, should behavioural remedies prove insufficient to restore competitive conditions in the latter market. In this respect, U.S. antitrust enforcement appeared to return, more than twenty-five years later, to the logic of the *Microsoft* judgment, in which Judge Jackson had likewise proposed the breakup of a firm found guilty of monopolization. While *Microsoft* ultimately escaped such a remedy on appeal (Cavanagh, 2005), *Google* was subjected to structural measures as early as the first-instance decision.

The reluctance of competition authorities to impose structural remedies is also apparent in the decision delivered by the European Commission on 5 September 2025 in the *Google AdTech* case. The case concerned practices of self-preferencing. According to the Commission, Google leveraged its two dominant positions in the markets for advertiser servers and publisher ad servers in programmatic advertising to extend its dominance to the market for ad exchanges. The Commission imposed a fine and an order to cease the infringing conduct. However, the restoration of competition on the merits was left to the company, which was required to propose commitments to that effect. The Commission merely reiterated its preference for structural

remedies, insofar as it considers that self-preferencing practices are inherently linked to market structures. Yet, structural injunctions remain unprecedented. Only structural commitments have been occasionally observed. Indeed, divestitures have been performed in the case of negotiated proceedings under EU competition law. Still, the prospect of structural remedies emerging from fully adversarial proceedings remains, on both sides of the Atlantic, largely theoretical.

In fact, the trade-off between behavioural and structural remedies is often depicted as analogous to that between medical treatment and surgical intervention. The latter is, by its very nature, radical, as it directly affects the structure of the economic operator and, by definition, interferes with its property rights. It may also jeopardize the sustainability of efficiency gains achieved by the firm. Behavioural remedies, by contrast, have the theoretical advantage of constraining only the firm's contractual freedom. Their implementation, however, encounters several difficulties arising from the imperfect informational environment in which they are defined and enforced. As a result, such remedies are frequently criticised for implicitly transforming the competition authority into a sectoral regulator - one that must continuously monitor the firm and its market and adjust the firm's obligations considering observed market developments. Yet competition authorities generally lack both the human expertise and the legal instruments required to perform such a role.

Nevertheless, experience with structural remedies³⁰ shows that they, too, demand significant monitoring and supervisory capacity and often give rise to extensive litigation. Hence, the terms of the trade-off are far less straightforward than they might appear.

3.2 From Enforcement to Regulation: The Expanding Role of Behavioural Remedies

Behavioural obligations in the U.S. are increasingly perceived as instruments operating at the boundary between antitrust enforcement and sectoral regulation. The 2020 House Judiciary

³⁰ The most notable precedent being the breakup of AT&T in 1984.

Inquiry into Competition in Digital Markets³¹ explicitly recommended the use of behavioural remedies alongside legislative reform. Measures addressing self-preferencing practices, for instance, were included in proposals such as the American Innovation and Choice Online Act³² but also resonate with regulatory logics. These obligations can be linked to common carrier principles or public utility doctrines, used to justify access obligations imposed on digital gatekeepers. Khan (2019) similarly advocates either structural separations or neutrality obligations, drawing from regulatory analogies such as the 1992 Cable Act.

Khan (2019), in her defence of structural remedies as a response to the competitive risks inherent in digital ecosystems, identifies several concerns that may be more effectively addressed through structural rather than behavioural measures. This is notably the case for self-preferencing practices (as discussed above in relation to the European Commission's *Google AdTech* decision), but also for potential anticompetitive leveraging strategies toward adjacent markets. She further highlights the advantages of structural remedies in terms of administrability when compared with behavioural commitments and discusses the extent of potential efficiency losses or harm to innovation that such interventions might entail. This reveals a conceptual dichotomy in which structural remedies are predominantly associated with antitrust enforcement, while behavioural obligations serve regulatory purposes.

The possibility of imposing structural injunctions functions, in practice, has a deterrent element. In the European *Google AdTech* case, the reference to structural remedies was made conditional upon the commitments that the firm might propose. It represents an option for which the Commission expressed a clear preference, while allowing the company to submit

³¹ U.S. House of Representatives, Subcommittee on Antitrust, Commercial and Administrative Law (2020), *Investigation of Competition in Digital Markets: Majority Staff Report and Recommendations*, Committee on the Judiciary, 116th Congress, Washington, D.C., October. Available at: <https://www.govinfo.gov/content/pkg/CPRT-117HPRT47832/pdf/CPRT-117HPRT47832.pdf>

³² <https://www.congress.gov/bill/117th-congress/senate-bill/2992>

behavioural commitments that could be deemed equivalent in effect. In the U.S. *Google Search* case, beyond the deterrent dimension of the Department of Justice's request for a breakup (through the divestiture of Chrome), the additional demand for a potential divestiture of Android - should behavioural remedies prove insufficient - was particularly noteworthy. It constituted, in effect, a mechanism for adapting remedies. By introducing such flexibility, the decision sought to mitigate the risk of moral hazard, namely the firm's potential non-cooperative behaviour in complying with the injunction. The framework thus enabled an adaptive approach while maintaining a credible threat of sanction, capable of disciplining the firm.

In the European context, behavioural remedies also serve purposes that go beyond the restoration of competition. As previously discussed, antitrust decisions involving refusal to deal can invoke the essential facilities doctrine (EFD), sometimes interpreted expansively. In such cases, obligations may extend to requiring dominant firms to invest actively in enabling access for third parties, even when the asset does not meet the strict indispensability threshold. The *Android Auto* ruling exemplifies this broader approach, as it moved beyond mere access to require the dominant firm to take positive steps to ensure compatibility with third-party applications.

According to the Court of Justice, "[...], the undertaking in a dominant position is required to develop such a template, within a period which is reasonable and necessary for that purpose and in return for, depending on the circumstances, appropriate financial consideration, taking into account the needs of the third-party undertaking which requested that development, the actual cost of the development and the right of the undertaking in a dominant position to derive an appropriate benefit from it" (§81). Such a view departs from the traditional treatment of

refusal to supply cases (and from the traditional criteria used to activate the EFD) to converge toward an asymmetric regulation of competition.³³

The logic of regulation becomes even more evident in commitment procedures. Since remedies are proposed voluntarily by the firms, the reviewing courts do not apply the same proportionality test between structural and behavioural options.³⁴ This greater degree of freedom has led to commitments that exceed the formal requirements of sector-specific liberalization policies (de Hauteclocque *et al.*, 2010). In the energy sector, for example, some incumbent operators have agreed to divest key transport assets, effectively accepting vertical separation beyond what EU legislation mandates. Antitrust remedies have thus played a supporting role in deepening market liberalization³⁵. Behavioural commitments can contribute similarly. The 2007 *Direct Énergie* decision granted new entrants access to a share of EDF's nuclear production at a set price and for a defined period.³⁶ This solution, initially reached through commitments, was subsequently codified by legislation in 2010 and extended for fifteen years. In the transport sector, the *GVG* railway case³⁷ demonstrated that behavioural obligations could rest not on essential but on so-called “convenient facilities,” thus reflecting a form of asymmetric regulation aimed at promoting market access. Such obligations can have long-term effects that amount to indirect subsidization of new competitors.

³³ See on the *Android Auto* judgment Hornung (2025) and Marty and Pillot (2025).

³⁴ See CJEU, 29 June 2010, Commission *c/ Alrosa*, aff. C-441/07 P.

³⁵ See for instance EU Commission decision of 29 September 2010, case COMP 39.315 -ENI and EU Commission decision of 26 November 2008, case COMP 39.388 German Electricity Wholesale Market and case COMP 39.389 German Electricity Balancing Market -E.On.

³⁶ French Competition Authority (Autorité de la concurrence), *Decision No. 07-D-21 of 28 June 2007* regarding a complaint by *Direct Énergie* concerning abuse of dominant position by EDF on the electricity supply market. Available at: <https://www.autoritedelaconcurrence.fr/en/communiqués-de-presse/28-june-2007-market-electricity-supply-complaint-direct-energie>

³⁷ European Commission, *Decision 2004/33/EC of 27 August 2003*, Case COMP/37.685 – GVG/FS, OJ L 11, 16.01.2004, p. 17–35.

Remedies that effectively require incumbent operators to subsidize market entry by newcomers can be illustrated by certain competition decisions in sectors undergoing liberalization, such as the railway industry (Bougette *et al.*, 2021). For instance, in the *GVG* case, the European Commission required the Italian historical operator to grant access to some of its specific assets to a new entrant, even though these assets did not fall within the category of non-replicable assets in the *Bronner* sense.³⁸ A similar approach was adopted by the French Competition Authority in a decision concerning rail freight services.³⁹ In both cases, the incumbent operator was obliged to lease part of its assets (such as locomotives or wagons) to the entrant, insofar as the time required to acquire such assets, as well as the associated costs and financial risks, could otherwise have deterred market entry.

Underlying these cases is a logic familiar from the liberalization of telecommunications, known as the investment ladder approach (Cave, 2014). The aim is to enable the entrant to access infrastructures (even those not deemed essential) controlled by the incumbent, thereby facilitating service-based competition. It is expected that, once the entrant has acquired a sufficient customer base, this will mitigate financiers' risk aversion and eventually lead to infrastructure-based competition.

3.3 Merger Control: Behavioural Remedies as a Tool for Market Shaping

Merger control is another field in which behavioural remedies are frequently used and may take on regulatory characteristics. Their objective is to limit the structural distortions to competition caused by mergers and acquisitions. This can be achieved either through structural divestitures, proposed by the notifying firms themselves, or through behavioural commitments.

³⁸ Commission Decision of 27 August 2003 (COMP/37.685 GVG/FS).

³⁹ Autorité de la Concurrence, Décision 12-D-25 du 18 décembre 2012 relative à des pratiques mises en œuvre dans le secteur du transport ferroviaire de marchandises.

These commitments may prohibit specific post-merger conduct or impose positive obligations toward competitors. In the *Google/Fitbit* case,⁴⁰ for example, remedies were set for a ten-year period, renewable once. While proportionality remains a requirement, the fact that remedies are proposed voluntarily alters the standard of scrutiny.

Authorities may seize upon merger notifications by key players to promote broader competitive improvements. In this sense, behavioural remedies serve not only to neutralize anticompetitive effects but also to pursue procompetitive reforms, aligning with the agenda once described by Farrell (2003) as “enforcement as market shaping.”

However, the widespread use of both structural and behavioural remedies in merger control, especially in the EU, warrants a closer examination of their actual effectiveness. Despite their theoretical appeal, structural remedies, particularly divestitures, have often failed to preserve or restore competition in practice. A growing body of empirical literature, led by Kwoka (2024), has challenged the assumed superiority of divestitures over behavioural remedies. Drawing on a series of merger retrospectives and using difference-in-differences methodology, Kwoka demonstrates that divestitures are frequently ineffective, with price effects similar to those of mergers cleared without remedies. His findings suggest that the viability of divested assets is not a reliable indicator of competitive restoration, and that nearly half of divestiture remedies fail to achieve even minimal competitive outcomes (see also Kwoka & Valletti, 2025). These failures reflect not only information asymmetries but also strategic behaviour by merging parties, who may structure divestitures in ways that undermine their effectiveness. Such results underscore the need to revisit the presumed hierarchy between structural and behavioural remedies, especially in the face of dynamic and complex market environments.

⁴⁰ European Commission, *Decision of 17 December 2020*, Case M.9660 – Google / Fitbit, under Article 8(2) of Council Regulation (EC) No 139/2004 (EU Merger Regulation).

4. Behavioural Competition Remedies and the Challenge of a Dynamic Conception of Competition

European competition law is marked by a far more extensive reliance on behavioural remedies than its American counterpart. These remedies, however, exhibit characteristics that become particularly problematic when viewed through the lens of a dynamic conception of competition. Behavioural remedies are often applied over long time horizons, which increases the risk that they become ill-adapted, ineffective, or even counterproductive. This risk is exacerbated when remedies do not merely prohibit certain practices but instead impose ongoing obligations toward third parties. Even remedies that consist solely of prohibitions may, over time, be circumvented or neutralized by strategic behaviour on the part of the firm.

When behavioural remedies are designed to play a constructive role - such as maintaining the conditions of undistorted competition or enhancing competitive intensity on a market over time - the very dynamism of competition may render these remedies obsolete. In other words, the more a remedy resembles a regulatory instrument, the more problematic its rigidity becomes. This is particularly true in sectors characterized by strong informational asymmetries, such as liberalizing network industries, or where technological and competitive turbulence is high.

In such contexts, it would be desirable for remedies to be adjustable in light of newly acquired information or market evolution. Competition law decisions, however, rarely lead to such adaptive regulatory tools. Instead, these remedies tend to be rigid and static. If they constitute a form of regulatory contract, then it is inevitably an incomplete one. Moreover, such a contract is not “responsive” in the sense intended by the theory of responsive regulation - that is, it does not adjust according to the observed behaviour of the regulated firm.

To address this challenge, one might argue for the development of flexible remedies akin to economic regulation contracts that include provisions for regular revisions and renegotiations.

But can such an approach be meaningfully implemented within the standard framework of antitrust and competition policy? At the other extreme, so-called "reviewable" behavioural remedies - those that include sunset clauses or renegotiation mechanisms - may lack the robustness of true regulatory instruments aimed at managing sectoral dynamics on a multi-criteria basis. To avoid confusion, it is worth stressing that in our framework "flexibility" differs from mere "adaptability": while flexibility refers to the possibility of revising the sanctioning mix over time, adaptability designates a more contractual logic, closer to a "smart contract" structure with pre-defined if-then clauses that automatically adjust remedies to observable market contingencies (Bougette *et al.*, 2025c).

This raises a deeper tension between the legal certainty required for antitrust remedies (which hinges on temporal coherence, predictability, and protection from discretionary revisions) and the adaptability characteristic of regulatory tools. In short, are we dealing with genuinely adaptive regulatory remedies, or simply with remedies that are legally revisable under narrow conditions? These conceptual distinctions are explored in the next section, where we propose a typology of competition decisions based on the design of their behavioural remedies and their degree of flexibility.

In any event, it would be misleading to draw an overly sharp distinction between, on the one hand, a competition policy grounded in clear rules that would offer firms full legal certainty, and, on the other, a sectoral regulatory framework portrayed as erratic and discretionary. In practice, sectoral regulation itself relies on stable rules and transparent procedures. One of the primary objectives of a regulatory authority is precisely to provide market participants with predictability and clarity, thereby supporting long-term investment decisions. Multiannual regulatory contracts governing airport charges exemplify this rationale.⁴¹

⁴¹ This is also worth noting for the position adopted by the French Energy Regulatory Commission (*Commission de régulation de l'énergie*), according to which the reimbursement of regulated electricity tariffs is based not only

All these considerations must also be viewed considering the difficulties arising from the current dynamics of markets - particularly digital ones - which are increasingly structured as ecosystems and marked by intense technological turbulence. Such turbulence often results less in a reshuffling of the competitive landscape than in a redrawing of market boundaries, raising renewed concerns over the expansion of firms' spheres of competitive control. These developments significantly heighten the risks of market foreclosure and resonate with the notion of systemic market power (Budzinski and Stöhr, 2024).

Within this market configuration, traditional antitrust tools - based on the assessment of conduct according to its net effects within a given relevant market - can no longer operate effectively. The effects of corporate practices increasingly unfold across interconnected markets and depend on the dynamic interplay between competing firms' strategies, including processes of mutual adaptation and learning.

Ecosystem-based market structures thus effectively transform certain firms into de facto market regulators. The corresponding oversight may therefore take the form of an adaptation of competition rules - as exemplified by Section 19a of the German *Gesetz gegen Wettbewerbsbeschränkungen* (GWB) - or through the establishment of dedicated regulatory instruments such as the DMA.

5. A Typology of Competition Decision Frameworks Between Antitrust and Regulation

It is possible to outline a continuum of competition decision frameworks that range from a strict application of antitrust rules to a more regulatory logic driven by antitrust enforcement (see Table 1 below). The underlying idea of this typology is to show that there exists a fundamental distinction between an antitrust model that uses adaptable behavioural remedies to account for

on the protection of consumers but also on the preservation of price stability, which is viewed as essential for firms' investment decisions in new production capacity (CRE, 2024).

the dynamic nature of competition, and a regulatory logic built on fully flexible behavioural remedies. In the subsections that follow, we present successively each of these models of behavioural intervention.

5.1 Behavioural Remedies Within a Narrow Antitrust Logic

This model refers to competition decisions where the sole objective is the cessation of the harmful practice or, alternatively, a structural remedy. Restoring undistorted competition depends on the elimination of the structural conditions that enabled the abuse or on the termination of the harmful conduct. There is no need for the sanctioned firm to actively support competitors to re-establish effective competition. The harm caused is considered reversible. Deterrence is ensured through financial penalties. Once the firm complies with the injunction, it retains full autonomy over its future market behaviour.

This model does, however, raise concerns regarding moral hazard. The sanctioned firm may attempt to bypass or neutralize the imposed injunctions - either through contractual means or by exploiting legal loopholes. In such cases, the effectiveness of the remedy depends on the competition authority's or court's ability to interpret and enforce the injunction and, if necessary, to requalify the conduct as a repeated infringement. The same logic applies to potential re-integration strategies by the firm, which may need to be addressed through merger control mechanisms.⁴²

⁴² There are several cases in which a company has been able to re-acquire assets it had previously been required to divest (Salop & Sturiale, 2024). For instance, in the United States, Hertz was obliged in 2012 to divest some of Dollar Thrifty's businesses, but later repurchased part of them following the bankruptcy of the initial buyer. See Federal Trade Commission. (2014, May 14). *FTC approves Franchise Services North America's application to sell certain Advantage Rent-A-Car locations* [Press release]. <https://www.ftc.gov/news-events/news/press-releases/2014/05/ftc-approves-franchise-services-north-americas-application-sell-certain-advantage-rent-car-locations>

Overall, this model reflects a classical law-and-economics approach. The remedy - whether behavioural or structural - is intended to reset the competitive environment, while the financial penalty alters the firm's economic calculus and deters future misconduct.

5.2. Behavioural Remedies Imposing Prescribed Conduct for a Fixed Duration

This second model is the most common in EU antitrust practice. It involves obligations and prohibitions imposed on the future conduct of the sanctioned firm to restore effective competition. What distinguishes this model is the presence of positive obligations: the firm is required to take specific actions in favour of competitors.

The remedy is defined ex-ante, fixed for a determined period, and not subject to upward revision unless the firm itself requests a reduction based on a change in circumstances. The authority that imposed the measure cannot modify it based on the firm's strategic behaviour or evolving market conditions. This creates two key risks. First, the firm may formally comply while circumventing the spirit of the remedy. Second, as the remedy remains static, it may become ineffective or even counterproductive over time in a dynamic market.

Long-term obligations can be necessary when the harm to competition is significant. However, the longer the duration of the injunction, the greater the risk of misalignment with actual market developments. The Google Shopping case is a clear example of this model, where rigid behavioural injunctions were imposed in a rapidly evolving competitive environment. These remedies often take the form of command-and-control rules and may generate unintended consequences due to informational asymmetries at the time of their design.

5.3 Behavioural Remedies with Built-In Flexibility via Predefined Revision Clauses

The third model introduces the idea of behavioural remedies that are revisable based on predefined clauses. It responds to the inherent informational incompleteness of antitrust

proceedings and the structural turbulence that characterizes many digital and high-tech markets. In this framework, flexibility is embedded in the remedy through review clauses or option structures defined at the time of the decision.

Such flexibility is not discretionary. The authority does not possess an open-ended right to alter the remedy. Instead, revisions are triggered according to conditions and procedures set out ex-ante. This framework could evolve toward a model akin to a regulatory contract, potentially taking the form of a smart contract or a revisable commitment governed by procedural safeguards similar to those applied in antitrust decisions.

The firm would no longer have full certainty about the behavioural obligations that will apply over the duration of the remedy. It could, however, request downward revision where the remedy becomes unjustified or excessively burdensome. While such mechanisms already exist in EU competition law, the innovation here lies in symmetrical revision rights for the authority, enabling upward adjustments in response to changes in market conditions or the firm's behaviour (Bougette *et al.*, 2024).

Upward revisions may arise under several circumstances. First, remedies may become misaligned due to unforeseen competitive developments. In that case, the remedy - initially incomplete - would require adjustment. Second, the firm may engage in opportunistic behaviour that undermines the remedy's effectiveness, triggering more stringent measures or even a shift to a structural remedy. This reflects the logic of responsive regulation applied to competition law enforcement (Makris, 2023), in which the strength of regulatory obligations varies with the degree of cooperation from the regulated firm.

A third and more controversial scenario would involve revising the remedy to correct its initial design flaws, rather than addressing market dynamics or firm behaviour. Here, the issue is not incompleteness or opportunism, but adverse selection - a poor choice made at the outset by the authority. In practice, distinguishing between these sources of misalignment is difficult,

if not impossible, which raises the spectre of discretionary intervention. If authorities can continuously adjust remedies over time, the line between restoring competition and actively steering market dynamics may blur.

While the idea of upward revision remains largely theoretical, the possibility of switching from behavioural to structural remedies has already emerged in practice. For example, in April 2025, the DoJ proposed such a turn in the Google Search case, following the August 2024 monopolization ruling.⁴³

5.4 Behavioural Remedies as Instruments of Regulatory Steering

The fourth and final model represents a further step toward regulation, where behavioural remedies are used not simply to restore past competition, but to guide the future evolution of a market. In this scenario, the authority enjoys significant discretion over the adjustment of remedies, possibly without needing to issue new decisions. The control mechanisms may also be weaker, especially if procedural safeguards are relaxed.

This model may be justified in contexts of high turbulence or in situations where the sanctioned firm retains substantial market power and the capacity to influence market outcomes over time. The goal shifts from neutralizing past harm to actively channelling the dominant firm's behaviour to induce a more desirable market equilibrium. The remedy becomes forward-looking, not merely tied to past infringements, but aligned with broader structural concerns in the affected sector.

If remedies can be adapted continuously and broadly based on perceived needs - rather than on the firm's behaviour - this marks a shift from dynamic antitrust to sectoral regulation. The

⁴³ United States of America, et al., v. Google LLC, Plaintiffs's remedies pre-trial brief, Case No. 1:20-cv-03715-APM, 16 April 2025.

behavioural obligation is no longer tied to a static infringement, but to a sustained regulatory contract aimed at shaping competitive outcomes.

In this model, the evolution of remedies is not governed by clearly defined activation mechanisms written into an initial contract. Rather, they depend on ongoing assessments or audits conducted by the authority. Adjustments are then made based on how the sector evolves and the authority's own strategic objectives. Such an approach transforms the nature of competition enforcement, introducing continuous, asymmetric, and potentially open-ended oversight, regardless of whether the firm has complied with prior obligations.

This does not merely adapt responsive regulation to antitrust - it redefines antitrust remedies as fully embedded in a flexible regulatory regime, where obligations evolve not only based on firm behaviour but according to the authority's evolving goals.

6. Discussion

The continuum described above highlights both the growing need to adapt behavioural remedies to market environments marked by deep informational imperfections and the increasing relevance of technological and competitive turbulence. The idea of embedding flexible remedies within an initial decision through predefined options raises several challenges.

The first challenge concerns the reduced predictability of the remedy's consequences for firms. Adjustments could be triggered not only by the firm's own behaviour (i.e. its compliance or lack thereof) but also by market developments over which it has no control. The second challenge lies in the procedural complexity of such an approach. If the adaptation of remedies requires new decisions to guarantee the firm's rights of defence, the initial ruling and any subsequent revisions may become entangled. This creates a risk of legal uncertainty, especially if a judicial review on the proportionality of the original remedies coincides with an active revision process.

A second difficulty arises from the need to define clearly the conditions under which revisions may be triggered, which directly raises the issue of the discretionary scope of competition authorities. One possible solution could involve relying on independent trustees or third-party monitors to provide procedural safeguards and ensure accountability.

A third challenge concerns the boundary between antitrust and regulation, particularly in cases where adaptive remedies drift from a logic of restoring competition toward actively steering competitive dynamics. The more prolonged the remedy, the more dynamic the market, and the more complex the authority's objectives, the greater the risk that antitrust remedies evolve into forms of regulatory intervention. This may lead to frequent and erratic interventions, or to a "Nirvana fallacy": not simply aiming to restore the conditions for competitive rivalry, but attempting to construct an idealised efficient market, detached from real-world competitive dynamics. As Salais (2015) argued, such interventions may amount to a project of organising markets through rules - here, behavioural remedies - designed to produce a stylised model of perfect competition⁴⁴.

This perspective could be expanded through a convention-based framework applied to competition law (Marty, 2015), distinguishing between different "possible worlds" of action and the interventions they imply. Two axes can help structure the typology of intervention models, as shown in Figure 1 below. The horizontal axis distinguishes between one-off interventions and continuous interventions (i.e., those occurring repeatedly over a defined time frame). The vertical axis separates interventions based on general rules (horizontal, rule-based) from those based on discretionary, firm-specific decision-making (vertical interventions). These two axes define four quadrants, each corresponding to a distinct (ideal-typical) world of intervention.

⁴⁴ Such an approach would amount to constructing markets through organizational rules. The institution thus results from an intentional design. However, its evolution is not governed solely by formal and directive rules, since dynamics also emerge from firms' adaptation and their active engagement with the regulatory framework.

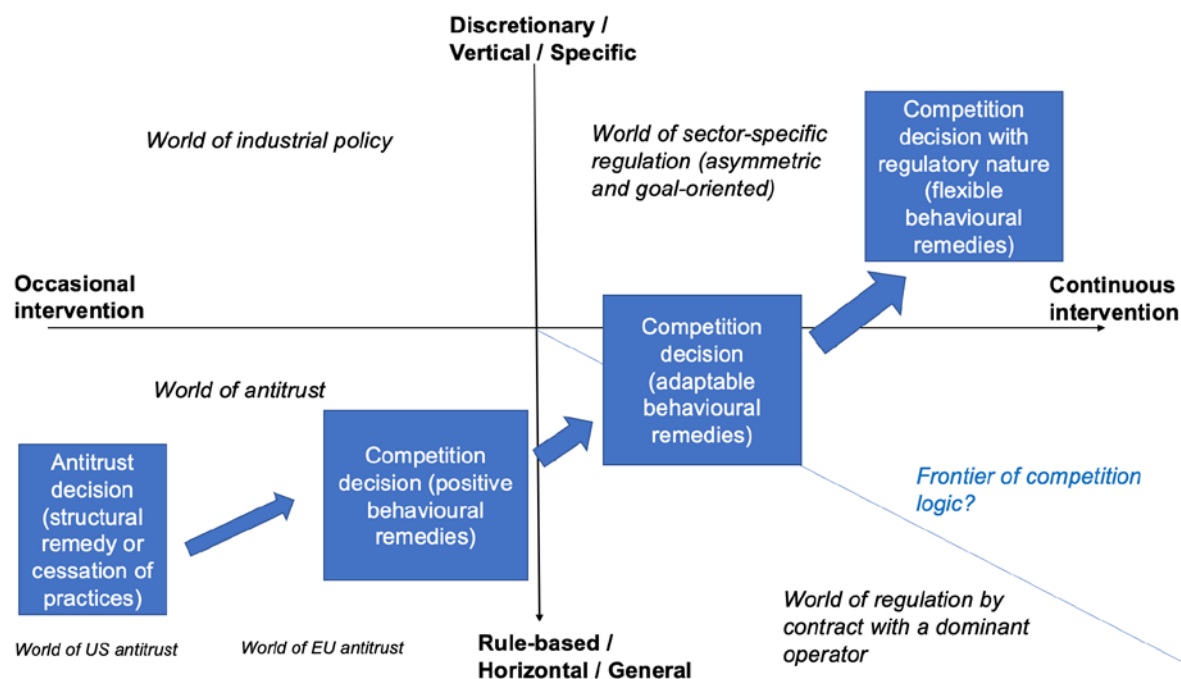


Figure 1. Mapping the Frontier between Competition Policy and Regulation

The north-west quadrant corresponds to industrial policy - vertical and one-off interventions. While not directly applicable to competition enforcement, it can be illustrated by examples such as the ministerial override in merger control, where the Minister of the Economy may take over a strategic merger case from the competition authority (Budzinski & Stöhr, 2021).

The south-west quadrant aligns most closely with traditional antitrust logic. This is the world of rule-based, one-off interventions, such as cease-and-desist orders or structural divestitures. In this model, consistent with the classical U.S. approach (Majumdar, 2021), the firm remains free to define its future market strategy, as long as it refrains from repeating the sanctioned practice. However, when the remedy imposes positive future conduct, the logic begins to shift toward the south-east quadrant.

In the south-east quadrant, interventions are still rule-based, but now continuous over time. Once the behavioural remedy unfolds over an extended period and imposes asymmetric obligations, the intervention begins to move away from the idealised model of minimal

antitrust. This is the space occupied by many European competition law remedies, especially those relying on the EFD, which often entail long-term behavioural constraints.

This quadrant also accommodates adaptable behavioural remedies, which involve sequential decision-making to adjust remedies over time. While still grounded in the initial decision, the mechanism remains predominantly rule-based and non-discretionary. But if the remedies become more flexible and less strictly defined ex-ante, the intervention shifts toward the north-east quadrant.

The north-east quadrant represents a genuinely regulatory model, characterised by ongoing intervention and discretionary adjustment. The authority actively shapes the behaviour of the dominant firm, not merely to address past conduct but to guide future market outcomes. Here, the firm is embedded in a framework of continuous and asymmetric oversight, whose evolution may be only loosely tied to the original infringement or decision.

At this point, we are no longer speaking of antitrust - even in a dynamic sense - but rather of asymmetric regulation, anchored in an evolving contractual logic. The remedy becomes a regulatory instrument, not simply activated through clauses predefined in an initial decision, but governed by ongoing monitoring, audits, and objectives that are external to the firm's past or present behaviour.

It may also be useful to relate this perspective to the role played by certain firms occupying a pivotal position within digital ecosystems. Their dual role implies that they act both as private regulators of the market and as economic operators within it. This position inherently entails a conflict of interest, which they may exploit to their own advantage.

An access controller, particularly in the digital sphere, can be viewed as a regulator endowed with quasi-omniscience and quasi-omnipotence, yet with little incentive for benevolence. The pivot firm holds information that is, if not perfect, at least far more complete and symmetrical than that available to its complementors and other stakeholders. It therefore has the capacity to

restrict third-party market access and to manipulate competitive conditions within its ecosystem. Its decisions may distort competition dynamics to its exclusive benefit. Such conditions of internal competition regulation (Budzinski, 2025) may ultimately call for external regulatory oversight, in the logic of supervision by a public authority.

It is possible, based on this analytical framework, to reflect on the boundaries of what should be considered the domain of strict antitrust policy. Our hypothesis is that this domain is not confined exclusively to the south-west quadrant. The specific challenges of dynamic competition support the introduction of a necessary degree of flexibility in behavioural remedies. However, this flexibility must not devolve into discretionary or continuous intervention. These two logics could alter the competitive nature of such remedies.

The first logic would allow authorities to revise obligations without being bound by procedural rules or the limits defined in the original decision. This could lead to a model in which competition policy effectively becomes a form of active regulation, aimed not only at maintaining balance among market actors but at steering the competitive trajectory of the market itself. Such a model would reflect a type of regulation tinged with industrial policy objectives.

The second logic would involve reshaping the structure of competition decisions around rule-based remedies, but with frequent revisions and the possibility of substantially increasing their scope. Within this framework, only part of the south-east quadrant could still be meaningfully classified within the realm of competition policy.

7. Does the Digital Markets Act Pertain to a Regulatory Approach?

At this stage, it is useful to return to a final form of convergence between competition law and regulation - namely, the European DMA. This instrument can be viewed as the ex-ante transposition of lessons learned from the ex-post application of competition rules. From this

perspective, it operates as an “advanced ex-post” mechanism, designed not only to overcome the usual enforcement challenges - such as the excessive length of proceedings and the difficulty of establishing the anticompetitive nature of conduct - but also to prevent forms of competitive harm that could not be remedied afterwards.

However, despite this conceptual proximity to competition law, the DMA is characterized by the absence of any requirement to demonstrate economic effects or market harm. As Fletcher et al. (2024) emphasize, the regulation deliberately excludes the economic methodologies that underpin standard antitrust analysis - including the definition of relevant markets, the assessment of market power, or the weighing of efficiencies - in favour of clear and administrable rules aimed at speed and legal certainty. The Commission does not have to prove that the designated firms hold substantial market power, nor that their behaviour produces measurable welfare losses; conversely, gatekeepers cannot bring economic evidence to justify exceptions. In Fletcher et al.’s words, “*while the DMA was specifically designed ex ante to prevent or undo economic harm, there is no requirement for the Commission to demonstrate case-specific harm to enforce it*” (p. 3). This shift marks a decisive departure from traditional competition enforcement, aligning the DMA more closely with supervisory regulation (such as banking or utilities oversight), where economic insights guide rule design rather than rule application.

At first glance, however, the DMA appears to lack the flexibility typically associated with regulatory frameworks. This assessment should be qualified, though, considering certain provisions of the DMA - particularly the updating clause (Article 12) concerning the list of “dos and don’ts” and the anti-circumvention clause (Article 13). Both mechanisms can, in principle, adjust to opportunistic shifts in firms’ strategies or to competitive dynamics that are difficult to foresee.

While these mechanisms entail implementation conditions and procedural timelines that prevent the DMA from serving as a substitute for a genuinely regulatory application of competition law, they nonetheless place it within a logic of complementarity with traditional antitrust enforcement. Indeed, the diversification of competition policy instruments extends beyond the articulation between regulation and conventional competition rules. It also implies a diversification of enforcement approaches that can enhance the effective oversight of access controllers and account for dynamic market interactions in the design of remedies.

In this respect, it is crucial to develop a broader range of procedures and intervention tools to ensure both the effectiveness and the efficiency of market supervision. This includes the use of instruments such as market investigations, which enable firms whose strategies or activities may entail competitive risks to voluntarily propose commitments aimed at preventing such risks or guaranteeing access to their complementors and competitors. In doing so, these mechanisms promote competition that is free, fair, and merit-based (Budzinski and Mendelsohn, 2023).

8. Conclusion

The growing reliance on behavioural remedies in competition law reveals a fundamental tension between antitrust logic and regulatory reasoning. While such instruments can help restore effective competition, their extended duration, asymmetry, and potential adaptability bring them closer to the realm of sectoral regulation. Drawing on a four-model typology - from one-off injunctions to fully flexible conduct obligations - we have shown that the more sophisticated forms of behavioural intervention risk blurring the line between ex-post competition enforcement and ex-ante market shaping.

In dynamic and technologically volatile markets, some degree of flexibility may be warranted. However, this flexibility must remain bounded: neither entirely discretionary nor detached from the initial infringement. Otherwise, the role of the competition authority risks

shifting toward implicit regulation or even industrial policy, at the cost of legal certainty and firms' strategic autonomy.

We therefore advocate for an intermediate path, based on predefined revision mechanisms that can be triggered symmetrically and under clear conditions. Such a framework would allow for behavioural remedies to evolve over time without drifting into continuous regulatory oversight. This balanced approach offers a pragmatic compromise between the effectiveness of competition policy and the foundational principles of antitrust enforcement.

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