EU Big Tech Laws: An Emerging Public Utilities Regulation

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Abstract

This chapter examines whether the new EU Big Tech regulations—the Digital Markets Act and the Digital Services Act—can be interpreted as a form of public utilities regulation. The first section outlines the objectives and obligations established by these laws, along with the institutional ecosystem designed to ensure effective compliance and enforcement. It argues that their overarching goal is to diffuse and better govern the power of Big Tech, thereby restoring the early promises of the Internet. The second section compares the concepts and the evolution of common carrier and public utilities in the United States and the European Union, identifying a regulatory toolkit associated with public utilities. Applying this toolkit to the EU Big Tech laws, the chapter concludes that, while not originally conceived as public utility regulation, these laws share several of its core features and may represent an emerging form of such regulation.

Keywords

Common Carrier, public Utilities, Big Tech Platforms, EU Law, EU Digital Markets Act, EU Digital Services Act

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In 2022, the European Union (EU) established a comprehensive regulatory framework targeting major tech platforms—including operating systems, search engines, app stores, online marketplaces, and social networks. This chapter analyzes the new framework through the lens of public utilities regulatory theory. The first section summarizes the key features of the EU's new Big Tech laws and examines their impact on the four regulatory forces of cyberspace identified by Larry Lessig: law, architecture, markets, and norms. Ultimately, these laws aim to revive the early ideals of a decentralized cyberspace, as famously articulated by John Perry Barlow. The second section explores whether these EU Big Tech laws could be considered as forms of public utilities regulation. After having presented the domains and the regulatory toolkit for public utilities, I show that although the new EU laws were not conceived or designed as public utilities regulation, they exhibit several of its characteristics and could be considered an emerging form of such regulation. A conclusion briefly summarizes the main ideas of the Chapter.

1. The EU Big Tech Platforms Regulation

1.1. The End of Digital Platforms Exceptionalism

As in many jurisdictions,[1] the regulation of tech platforms has progressively intensified in the EU. From their emergence in the 1990s until the mid-2010s, digital platforms were primarily governed by horizontal laws that applied across all sectors of the economy, such as antitrust, consumer protection, and data protection. In some cases, they were even shielded from certain legal responsibilities; the most important example is the content liability exemptions which protect social networks or marketplaces from lawsuits against the illegal content or products they distribute through their platforms.[2] However, every party must come to an end. With the remarkable growth of certain tech platforms and their rise to systemic importance in both the economy and society, the tide began to turn about a decade ago.

During the Juncker Commission (2014–2019), the EU adopted a moderately interventionist approach. This included, on the one hand, the strengthening antitrust enforcement and, on the other hand, the introduction new procedural fairness rules as well as the expansion the scope of existing laws to target specific tech platforms.[3] During this period, the European Commission issued three major antitrust decisions against Google: *Google Shopping*, for self-preferencing its own comparison shopping service in search results;[4] *Google Android*, for tying the Android

[1] E. Bietti, A Genealogy of digital platforms regulation, 7 *Geo. L. Tech Rev.* 1 (2023).
[2] Directive 2000/31 of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (Directive on electronic commerce), OJ [2000] L 178/1, Arts.12-14, which has similarities with Section 230 of the US Communications Decency Act.
[3] A Digital Single Market Strategy for Europe, COM(2015)19. The legal outcome of that strategy is detailed in A. de Streel and C. Hocepied, European Digital Single Market – Delivering improved rights for European citizens and businesses (Study for the European Parliament, 2019).
[4] Commission Decision of 27 June 2017, AT.39 740 *Google Search (Shopping)*, upheld by the Court of Justice in C-48/22P *Google v. Commission*, ECLI:EU:C:2024:726.

operating system with Google Play and Google Search;[5] and *Google AdSense*, for imposing exclusivity clauses on online ad publishers.[6] The Commission also commissioned an interdisciplinary academic team to draft a highly influential report on how antitrust rules and enforcement should be adapted to the digital economy.[7]

In parallel, the EU legislator enacted the *2019 Platform-to-Business Regulation* to impose procedural fairness on both large and small tech platforms;[8] this regulation enhances transparency around contractual terms and ranking criteria, and it improves out-of-court dispute resolution mechanisms. The EU also adopted the *Terrorist Content Online Regulation*, which mandates strict content moderation practices to reduce the dissemination of terrorist content online. [9] Other areas of tech regulation were largely left to co-regulation or self-regulation,[10] particularly those concerning content moderation such as the fight against counterfeit products,[11] hate speech[12] and des-information[13] as well as the protection of children online.[14]

Additionally, the EU introduced three major legal reforms aimed at extending offline laws to certain online platforms. First, the *2018 European Electronic Communications Code* broadened the scope of telecommunications rules to include communications apps such as WhatsApp and Messenger. [15] Second, the revision of the *Audiovisual Media Services Directive* expanded media regulations to cover video-sharing platforms like YouTube.[16] Third, the *2019 Copyright Directive* sought to ensure better copyright compliance by content-sharing platforms. [17]

This moderate approach was soon replaced by a more assertive regulatory strategy under the von der Leyen I Commission (2019–2024). From the outset, that Commission signaled a clear intention to reclaim control over the digital space and to ensure that digital technologies evolve in line with EU democratically agreed values and rights—rather than allowing those values to

[5] Commission Decision of 18 July 2018, AT.40 099 *Google Android*, upheld by the General Court in T-604/18 *Google v. Commission*, ECLI:EU:T:2022:541.
[6] Commission Decision of 20 March 2019, Case *AT.40411 Google Search (AdSense).* This decision has been annulled by the General Court in T-334/19 *Google v. Commission* ECLI:EU:T:2024:634.
[7] J. Crémer, Y.A. de Montjoye and H. Schweitzer, *Competition Policy for the Digital Era* (Report to the European Commission, 2019).
[8] Regulation 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, OJ [2019] L 186/55; Commission Guidelines of 7 December 2020 on ranking transparency pursuant to Regulation 2019/1150 of the European Parliament and of the Council, OJ [2020] C 424/1.
[9] Regulation 2021/784 of the European Parliament and of the Council of 29 April 2021 on addressing the dissemination of terrorist content online, OJ [2021] L 172/79.
[10] A. de Streel and M. Ledger, Regulating the moderation of illegal online content, in European Audiovisual Observatory, *Unravelling the Digital Services Act package* (Iris Special, 2021), 20.
[11] Memorandum of Understanding of 21 June 2016 on Counterfeit Goods.
[12] Commission Recommendation 2018/334 of 1 March 2018 on measures to effectively tackle illegal content online**,** OJ [2018] L63/50; Code of conduct of May 2016 on countering illegal hate speech online.
[13] Code of Practice of September 2018 on Disinformation.
[14] Tech Alliance of 2017 to Better Protect Minors Online.
[15] Directive 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code, OJ [2018] L 321/36.
[16] Directive 2010/13 of the European Parliament and of the Council of 10 March 2010 on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services (Audiovisual Media Services Directive), OJ [2010] L 95/1, as amended by Directive 2018/1808.
[17] Directive 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 and 2001/29, OJ [2019] L 130/92.

be shaped by technological developments alone.[18] Those values are now clarified in the important EU *2022 Declaration on Digital Rights and Principles* which contains six items: (i) putting people at the center of the digital transformation, (ii) solidarity and inclusion, (iii) freedom of choice, (iv) participation in the digital public space, (v) safety, security and empowerment, and (vi) sustainability.[19] As explained by Bradford, this model based on right contrasts with the US model which is more market driven and the Chinese model which is more State driven.[20]

1.2. The Digital Markets Act and the Digital Services Act

On the basis of the Declaration on Digital Rights, the EU legislator adopted two major - and complementary - laws aimed at both diffusing and governing the power of Big Tech. The *2022 Digital Markets Act* (DMA), which is enforced since March 2024, aims to diffuse the power of Big Tech by enhancing the contestability of digital markets,[21] defined as "the ability of undertakings to effectively overcome barriers to entry and expansion and challenge the gatekeeper on the merits of their products and services." [22] The DMA also seeks to address unfairness, understood as "an imbalance between the rights and obligations of business users where the gatekeeper obtains a disproportionate advantage." [23] In essence, the DMA pursues two core objectives: first, to lower entry barriers and foster greater competition; and second, to promote distributional fairness by ensuring that the value collectively generated by digital platforms and their users is more equitably shared.

To achieve its goals, the DMA targets ten digital services, referred to as *core platform services*. These services can be grouped into four layers of the digital stack: (i) at the infrastructural layer: cloud services, operating systems, and virtual assistants; (ii) at the access layer: web browsers, app stores, and online marketplaces; (iii) at the application layer: search engines, communication apps, social networks, and video-sharing platforms; and (iv) at the online advertising layer: online advertising services, when linked to any of the aforementioned core platform services. These services were selected for regulation because their markets have "tipped" in favor of one or a few dominant platforms; tipping which is driven by a set of structural economic factors, including extreme economies of scale, strong network effects, multi-sidedness, limited multi-homing by end-users, vertical integration, and data-driven competitive advantages. As a result, these services exhibit significant lock-in effects and create high levels of dependency for both business users and end-users. [24]

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[18] Shaping Europe's digital future, COM(2020)67.

[19] European Declaration of 15 December 2022 on Digital Rights and Principles for the Digital Decade, OJ [2023] C 23/1.

[20] A. Bradford, *Digital Empires: The Global Battle to Regulate Technology* (Oxford University Press, 2023).

[21] Regulation 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives 2019/1937 and 2020/1828 (Digital Markets Act), OJ [2022] L 265/1. K. Bania and D. Geradin, *The Digital Markets Act: A Guide to the Regulation of Big Tech in the EU* (Oxford University Press, 2024).

[22] DMA, Articles 1 and 12(5b) and Recital 32.

[23] DMA, Recital 33. Also J. Cremer et al, Fairness and Contestability in the Digital Markets Act, *Yale Jour. of Regulation* 40 (2023) 973.

[24] DMA, Recitals 2 and 3. Those characteristics have clearly been identified in a series of report done by or at the request of several authorities across the world such as in the EU: Crémer, de Montjoye and Schweitzer, *Competition Policy for the Digital Era*, note 7 or in the US House Sub-Committee on Antitrust, *Majority Staff Report and Recommendations, investigations of competition in Digital Markets* (2020). Those two reports and

In such markets, traditional antitrust enforcement has proven insufficient to ensure contestability and fairness, for at least three main reasons.[25] First, antitrust cases are typically slow-moving, often lasting more than a decade—an eternity in the fast-paced digital age. Second, antitrust law is good at dealing with strategic and behavioral entry barriers but struggles to effectively address entry barriers that are structural in nature, such as economies of scale and network effects. Third and linked to this, antitrust authorities often lack the tools necessary to adequately monitor compliance with behavioral remedies, such as those involving interoperability or data portability. Given those weaknesses, the EU lawmaker decided to complement antitrust law with an *ex ante* regulatory regime. This regulatory nature of the DMA has been clearly underlined in the *Tik-Tok designation* case by the EU General Court which decided that the implementation of the DMA could not be based on antitrust methodologies and economics, such as market definition, dominance assessment or theory of harm identification.[26] Moreover as the DMA complements—rather than replaces—existing antitrust laws,[27] the European Commission and national competition authorities continue to apply antitrust law to practices or services of designated gatekeepers that fall outside the scope of the DMA, as well as to practices of tech platforms that have not been designated as gatekeepers.

Among the providers of those core platforms services, the DMA only regulates the largest ones, those platforms that possess *gatekeeper power* in providing these services and upon which both business users and end-users are dependent. Indeed, contrary to the misleading rhetoric around disintermediation, some tech platforms have become indispensable, global intermediaries. This gatekeeper power is assessed based on three cumulative criteria: (i) a significant impact on the internal market; (ii) a role as an important gateway for business users to reach end-users; and (iii) an entrenched and durable position in the market.[28] To facilitate and speed up the gatekeeper designation process, the DMA introduces structural presumptions for each of these criteria, in the form of size quantitative thresholds: (i) the significant impact criterion is presumed to be met if the platform provider achieves an annual EU turnover of at least €7.5 billion or a market capitalization of at least €75 billion, and is active in at least three EU Member States; (ii) the important gateway criterion is satisfied if the platform has more than 45 million monthly active end-users in the EU (approximately 10% of the population), and more than 10,000 yearly active business users; and (iii) the entrenched position criterion is deemed fulfilled if the thresholds for end-users and business users have been met for each of the previous three financial years. Based on these criteria, the European Commission has so far designated seven Big Tech

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others are nicely summarized in F. Lancieri and P. Morita Sakowski, Competition in Digital Markets: A Review of Expert Reports, 26(1) *Stanford Journal of Law, Business & Finance* (2021) 65.

[25] DMA, Recital 5. A. Fletcher, J. Cremer, P. Heidhues, G. Kimmelman, G. Monti, R. Podszun, M. Schnitzer, F. Scott-Morton and A. de Streel, The Effective Use of Economics in the EU Digital Markets Act, 20 *Jour. of Competition Law & Economics* (2024), 4.

[26] T-1077/23 *Bytedance (Tik-Tok gatekeeper designation)*, paras 237 and 298, ECLI:EU:T:2024:478.

[27] The relationship between regulation and antitrust is different in the EU and the US. In the EU, regulation is a complement – and not a substitute – to antitrust law: N. Dunne, *Competition Law and Economic Regulation: Making and Managing Markets* (Cambridge University Press, 2015) Chapter 2; P. Larouche and A. de Streel, The integration of wide and narrow market investigations in EU economic law in M. Motta, M. Peitz and H. Schweitzer (eds) *Market Investigations: A New Competition Tool for Europe?* Cambridge University Press, 2022, 164-215.

[28] DMA, Art.3(1). A. de Streel, *Gatekeeper Power in the Digital Economy: An Emerging Concept in EU Law*, Note for the OECD, DAF/COMP/WD(2022)57 (2022) compares the concepts of bottleneck, gatekeeper, economic dependence, and dominant position.

companies as digital gatekeepers for 23 core platform services which are subject to DMA obligations. [29]

However, the structural presumptions under the DMA are rebuttable. A tech platform that meets the size thresholds may present sufficiently substantiated arguments to demonstrate that it does not, in fact, meet the three cumulative gatekeeper criteria.[30] This was the case, for instance, with Bing, which successfully rebutted the presumption by showing that, although the Microsoft search engine is big in size, it is not an indispensable gateway to reach users in particular because the low scale of usage by its end-users.[31] Conversely, if a platform does fulfill the three-criteria test despite falling below the presumptive thresholds, the European Commission may still designate it as a gatekeeper. In such cases, the Commission relies on an open list of quantitative and qualitative indicators, including the relative size of the platform's market, the presence of network effects and data-driven advantages, user lock-in, and conglomerate or ecosystem effects.[32] While not meeting (yet) the end-users thresholds, the Commission designated Apple iPadOS as gatekeeper because of the lock-in of its end-users as Apple leverages its large ecosystem to disincentivize them from switching to other tablets OS, and the lock-in of its business users due to its large and commercially attractive user base and its importance for certain use cases, such as gaming apps. [33]

For designated tech gatekeepers, the DMA imposes a long list of 22 'do and don't', many of them inspired by antitrust cases.[34] To facilitate their analysis, I group them into four main clusters aligned with the DMA twin objectives: contestability and fairness. The first cluster focuses on the *prohibition of anti-competitive leveraging practices*. Within digital ecosystems, such practices can be particularly effective—and therefore particularly harmful to competition—due to the interconnection of services, strong network effects and data synergies. As a result, these behaviors are better prevented *ex ante* with regulation rather than remedied *ex post* through traditional antitrust enforcement. This cluster includes, for example: the prohibition of self-preferencing in ranking, a practice condemned in the *Google Shopping* case and addressed in the *Amazon Marketplace* settlement;[35] or the prohibition of tying and bundling two core platform services, as found anti-competitive in the *Google Android* case. [36]

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[29] *Alphabet* for 8 services (Android, Chrome, Google Play, Google Search, YouTube, Google Maps, Google Shopping, Google Ads), *Amazon* for 2 services (Amazon Marketplace and Amazon ads), *Apple* for 4 services (iOS, iPadOS, Safari and Apple App store), *Booking* for 1 service (Booking.com), *Byte Dance* for 1 service (Tiktok), *Meta* for 5 services (Facebook, Instagram, WhatsApp, Messenger and Meta Ads) and *Microsoft* for 2 services (Window PC OS and LinkedIn): https://digital-markets-act.ec.europa.eu/gatekeepers_en. For an analysis of the Commission designation decisions: F. Bostoen and G. Monti, The rhyme and reason of gatekeeper designation under the Digital Markets Act, *Jour. of Antitrust Enforcement* (2025).

[30] DMA, Art.3(4) and Art.17(3).

[31] Commission Decision of 12 February 2024, DMA.100015 *Microsoft: Online search engines; DMA.100028 Microsoft: Web browsers*; DMA.100034 *Microsoft: Online advertising services*, paras.20-41.

[32] DMA, Art.3(8).

[33] Commission Decision of 29 April 2024, DMA.100047 *Apple- iPadOS*, paras.16-114.

[34] For an analysis of those obligations and their relationship with antitrust cases: A. de Streel and P. Alexiadis, The European Way to Regulate Big Tech: the EU's Digital Markets Act, *in* D. Moura Vicente, S. de Vasconcelos Casimiro and C. Chen (eds), *The Legal Challenges of The Fourth Industrial Revolution: The European Union's Digital Strategy* (Springer, 2023) 91-123.

[35] DMA, Article 6(5); note 4 and Commission Decision of 20 December 2022, Cases AT.40462 - *Amazon Marketplace* and AT.40703 – *Amazon Buy Box*.

[36] DMA, Article 5(7) and (8) and note 5.

The second cluster comprises obligations aimed at *reducing entry barriers on the end-user side* and facilitating multi-homing or switching across core platforms services. These measures are designed to empower users with more control over their digital environment and to lower the dependence on a single gatekeeper ecosystem. This cluster includes obligations that require gatekeepers to allow users to easily uninstall pre-installed apps, change default settings, and be presented with app choice screens. [37] These requirements have already led to significant changes for Europe in the Android and Apple mobile ecosystems. Additionally, this cluster includes the prohibition of anti-steering clauses, and side-loading obligations, which aim to improve consumer choice outside the gatekeeper's ecosystem.[38] These obligations are central to high-profile antitrust disputes in the US and the EU, such as those involving Spotify and Epic Games against Apple[39] and, not surprisingly, still meet resistance from the main mobile ecosystems. This is why the Commission fined in March 2025 Apple €500m and ordered it to remove the remaining technical and commercial restrictions on steering.[40] This cluster also imposes data portability mandates, designed to make it easier for users to switch between digital services without losing access to their personal data.[41]

The third cluster focuses on obligations to *reduce entry barriers on the business-user side* by requiring gatekeepers to open their platforms and data. This includes a range of transformative vertical interoperability obligations aimed at opening the two dominant mobile ecosystems in the EU—iOS and Android—to foster greater competition.[42] These obligations enable the development of new app stores, facilitate the distribution of apps, and allow third-party wearables to connect seamlessly with the existing main mobile ecosystems. The cluster also encompasses horizontal interoperability obligations for communication apps, for instance the interoperability between platforms like Facebook Messenger and Signal.[43] Additionally, gatekeepers must provide business users with access to some categories of data which are key for competition. For example, third-party sellers on Amazon Marketplace should be able to easily access their customer data, [44] and search engines must grant access to click-and-query data. [45] As highlighted by Mario Draghi in his influential Report on EU Competitiveness, such access and interoperability requirements are essential pro-competitive tools for enhancing market competitiveness.[46]

The fourth and final cluster, is specific to the *online advertising stack and increases market transparency and users' choices*, key ingredients for the good functioning of the markets. On

[37] DMA, Article 6(3).
[38] DMA, Article 5(4) and 6(4).
[3939] In the EU: Commission Decision of 4 March 2024, AT.40437 – *Apple – App Store Practices (music streaming)*. In the US: *Epic Games, Inc. v. Apple, Inc*., Case No. 4:20-cv-05640-YGR (N.D. Cal 2020).
[39] DMA, Article 6(9).
[40] Commission Decision of 23 April 2025, DMA.100109 – *Apple – Online Intermediation Services – app stores – AppStore – Art. 5(4).*
[41] DMA, Article 6(9).
[42] DMA, Article 6(7). To improve legal predictability and facilitate the implementation of those vertical interoperability obligations, the Commission adopted two specifications decisions applicable to the Apple mobile ecosystem: Commission Decisions of 19 March 2025, DMA.100204 *Apple - Process* and DMA.100203 *Apple – Features for Connected Physical Devices*.
[43] DMA, Article 7.
[44] DMA, Article 6(10)
[45] DMA, Article 6(11).
[46] M. Draghi, *The future of European competitiveness; Part B: In-depth analysis and recommendations* (Report to the European Commission, 2024), 302.

the one hand, the cluster increases transparency for business users, specifically in favor of publishers and advertisers, regarding how advertisements are targeted and measured. [47] On the other hand, this cluster increases transparency and choices for end-users, ensuring they provide clear and informed consent on the combination of their personal data between services and, if they refuse to consent, are offered an alternative which equivalent and but less personalized service.[48] In November 2023, Meta responded to this obligation by introducing in Europe a binary "Consent or Pay" advertising model, under which users of Facebook and Instagram could either consent to the combination of their personal data for personalized ads or pay a monthly subscription for an ad-free experience. However, the European Commission found this approach non-compliant with the DMA and fined Meta €200 million, arguing that the paid ad-free option was not equivalent to the free personalized ads option.[49] Therefore, an additional free option without personalized ads should have been offered. Following this, Meta introduced in November 2024 a third option: a free service that uses fewer personal data to display ads. The Commission is currently examining whether this option complies with the DMA.

While this series of obligations is fairly comprehensive, the DMA has two main limitations. First, unlike some proposals in the US advocating for the structural breakup of dominant platforms, [50] the DMA focuses on opening up platforms instead of breaking them up. Structural remedies, including breakups or merger bans, are only considered in cases of systematic non-compliance—specifically, if a gatekeeper violates the DMA at least three times within an eight-year period.[51] Second and more fundamentally, the law - and even more so its implementation by the Commission - primarily target digital services such as app stores, marketplaces, and key applications while largely overlooking the tangible infrastructural dimension of Big Tech's power, including telecom networks, data centers, and cloud infrastructure.[52] There are however pressing calls to develop more assertive EU industrial policies for digital tangible infrastructures, in particular those which are critical for competitiveness and strategic autonomy. For instance, the EuroStack report lays out a bold roadmap for achieving European digital sovereignty by building an interoperable, open-source digital stack—from AI and cloud infrastructure to chips and connectivity—aligned with democratic values and designed to reduce reliance on foreign tech while boosting innovation and strategic autonomy.[53]

When the DMA aims to diffuse Big Tech's market power, the *2022 Digital Services Act* (DSA), which is enforced in full since February 2024, changes how this power is governed. [54] The DSA

[47] DMA, Articles 5(9), 5(10) and 6(8).
[48] DMA, Article 5(2).
[49] Commission Decision of 23 April 2025, DMA.100055 – *Meta - Article 5(2)*.
[50] L. Khan, The Separation of Platforms and Commerce, *Columbia Law Rev.* 119 (2019), 973.
[51] DMA, Article 18.
[52] The DMA identifies cloud computing services as a core platform service subject to potential regulation (Art. 2.2). However, the Commission has not yet designated any of the three hyperscalers active in Europe (Amazon Web Services, Microsoft Azure, and Google Cloud) as gatekeepers, as they do not meet the quantitative threshold for business users. Nor has the Commission sought to rebut this presumption by applying qualitative designation criteria, as it did in the case of the iPadOS designation.
[53] https://www.euro-stack.info/ The report calls for mobilizing approximately €300 billion over the next decade, starting with an initial tranche of about €10 billion in a European sovereign technology fund, to jump-start development via initiatives like the "EuroStack Challenge" and "Buy European" procurement strategies.
[54] Regulation 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services (Digital Services Act) and amending Directive 2000/31, OJ [2022] L 277/1. For very good description and analysis of the DSA: M. Husovec, *Principles of the Digital Services Act* (Oxford University Press, 2024); F. Wilman, S. Kaleda and P. Loewenthal, *The EU Digital Services Act* (Oxford University Press, 2024).

focuses on internal governance of Big Tech platforms to reduce illegal or harmful content and products online, as well as to mitigate broader societal risks that Big Tech may raise to liberal democracies. In the *Amazon designation* case, the Vice-President of the EU Court of Justice emphasized the significance of the DSA by stating that: [55]

> *155. (…) The DSA pursues objectives of great importance, since it seeks (…) to contribute to the proper functioning of the internal market and to ensure a safe, predictable and trusted online environment in which the fundamental rights enshrined in the (EU Charter of Fundamental Rights) are duly protected.*

To achieve its goals, the scope of the DSA covers all online intermediaries—both large and small—but imposes stricter and more extensive obligations on the largest platforms that hold systemic influence power, named as Very Large Online Platforms (VLOPs) or Very Large Online Search Engines (VLOSEs). In practice, the DSA focuses on a narrower set of digital services than the DMA, covering search engines, app stores, online marketplaces, social networks, and video-sharing platforms.[56] Within this smaller group, the DSA's designation criteria for the application of the most onerous rules are less stringent than those of the DMA, relying solely on the number of end-users and require that the platforms with more than 45 million average monthly active users. Based on these criteria, the European Commission has designated 23 VLOPs[57] and 2 VLOSEs.[58]

These Big Tech platforms continue to benefit from liability exemptions, a longstanding cornerstone of platform regulation designed to prevent excessive private censorship.[59] As a *quid pro quo*, the DSA complements this legal privilege with a set of due diligence obligations related to content moderation practices. Specifically, the tech platforms are required to establish a notice-and-action system and an internal complaint mechanism to address illegal content more effectively, and they must cooperate with law enforcement authorities. [60] In addition, online marketplaces are obligated to know their third-party sellers and enhance transparency of the marketplace.[61] Perhaps most fundamentally, the DSA imposes robust risk management obligations. Each year, VLOPs and VLOSEs must identify and assess the systemic risks which are created by their products to fundamental rights, civic discourse, and users' physical and mental well-being associated with their services. On the basis, the Big Tech should adopt

[55] C-263/23PR *Commission v Amazon*, ECLI:EU:C:2024:277.

[56] The two kept concept are: *online platform* defined as 'a hosting service that, at the request of a recipient of the service, stores and disseminates information to the public, unless that activity is a minor and purely ancillary feature of another service or a minor functionality of the principal service and, for objective and technical reasons, cannot be used without that other service, and the integration of the feature or functionality into the other service is not a means to circumvent the applicability of this Regulation', and *search engine* defined as 'an intermediary service that allows users to input queries in order to perform searches of, in principle, all websites, or all websites in a particular language, on the basis of a query on any subject in the form of a keyword, voice request, phrase or other input, and returns results in any format in which information related to the requested content can be found': DSA, Article 3(i) and (j).

[57] They include 9 intermediation and e-commerce platforms (AliExpress, Amazon Store, Booking.com, Google Maps, Google Shopping, Shein, Temu, Wikipedia and Zalendo), 2 app stores (Google Play and Apple App Store) 7 social networks (Facebook, Instagram, LinkedIn, Pinterest, Snapchat, TikTok, Twitter/X) and 5 video-sharing platforms, mostly with adult content (Pornhub, Stripchat, Youtube, XNXX and XVideos): https://digital-strategy.ec.europa.eu/en/policies/list-designated-vlops-and-vloses.

[58] Google Search and Bing

[59] DSA, Article 6.

[60] DSA, Articles 16-23.

[61] DSA, Articles 30-32.

measures to mitigate those risks.[62] Thus contrary to some claims in the US, [63] the DSA is not a content law—let alone a censorship law—as it does not define what is legal or illegal online. Instead, it requires platforms to improve moderation practices regarding content or products that have already been deemed illegal, primarily according to Member State laws. In practice, the implementation of the DSA has improved the internal governance of regulated platforms, bringing greater transparency in content moderation, more options to appeal decisions, easier ways to report illegal content, better traceability of business users in online marketplaces, and ultimately, a safer cyberspace in Europe.[64]

The DSA also introduces a series of obligations aimed at strengthening consumer protection and empowerment. First, it prohibits the use of dark patterns and deceptive online choice architectures.[65] Second, complementing the DMA, it increases transparency in the online advertising stack by requiring clear indications when content is an advertisement and by establishing a public repository of advertisers.[66] In addition, advertisements cannot be personalized using sensitive personal data, such as information on racial or ethnic origin, political opinions, religious or philosophical beliefs, sex life, or sexual orientation. Third, the DSA enhances transparency regarding the parameters of recommender systems and mandates the availability of a no-profiling option.[67] Fourth, it provides special protections for minors, most notably through a ban on any form of profiling. [68]

Like the DMA, the DSA has certain limitations. First, it is primarily a managerial solution, regulating the internal governance of Big Tech companies without directly addressing the fundamental incentive problem that Ethan Zuckerman famously called the Internet's "original sin": the fact that major tech platforms providing essential services are predominantly financed through personalized advertising.[69] The problem is that this funding model may incentivize them to collect vast quantities of sensitive personal data and to disseminate illegal or harmful content. However, the DSA does not prohibit personalized advertising, as suggested by Rahman

[62] DSA, Articles 34-35; Commission Guidelines of 26 March 2024 for providers of Very Large Online Platforms and Very Large Online Search Engines on the mitigation of systemic risks for electoral processes pursuant to Article 35(3) of Regulation 2022/2065, OJ [2024] C/2024/3014.

[63] US House of Representative, Judiciary Committee, *The Foreign Censorship Threat: How the European Union's Digital Services Act Compels Global Censorship and Infringes on American Free Speech, Interim Report* (2025).

[64] For some examples of internal governance changes, see https://digital-strategy.ec.europa.eu/en/policies/dsa-impact-platforms

[65] DSA, Article 25. OECD, *Dark commercial patterns*, (OECD Digital Economy Papers, 2022).

[66] DSA, Articles 26 and 39.

[67] DSA, Articles 27 and 38.

[68] DSA, Article 28 and Commission Guidelines of 14 July 2025 on measures to ensure a high level of privacy, safety and security for minors online. The guidelines address issues such as addictive design by disabling features like "streaks" and "read receipts" to reduce excessive use, and combat cyberbullying by enabling minors to block users and preventing unwanted content downloads. They also seek to limit the impact of harmful content by giving minors greater control over recommendations and promoting private-by-default accounts to prevent unwanted contact from strangers.

[69] Ethan Zuckerman, The Internet's Original Sin, https://www.theatlantic.com/technology/archive/2014/08/advertising-is-the-internets-original-sin/376041/
Already back in 1997, the Google founders warned in their seminal paper on PageRank on the danger of financing search with ads: Sergey Brin and Lawrence Page, The Anatomy of a Large-Scale Hypertextual Web Search Engine, Computer Networks and ISDN Systems 30 (1998) 107- 117 observing in Appendix A that: 'For this type of reason and historical experience with other media (…) we expect that advertising funded search engines will be inherently biased towards the advertisers and away from the needs of the consumers'.

and Teachout,[70] but only seeks to regulate it more effectively. Second, as noted earlier, the DSA does not define what constitutes legal or illegal, harmful or beneficial content online; instead, it imposes due diligence obligations only in response to content or product that has already been identified as illegal or systemically harmful.

Table 1: EU Regulatory Framework for Big Tech Platforms

	Objectives	**Scope**	**Obligations**
DMA 2022	*Diffusing power* - Market contestability - Distributional fairness	*Systemic gatekeeper power* Digital gatekeepers of 10 core platforms services - Cloud, OS, VA - Web browsers, intermediation (app stores and marketplaces) - Search engines, communications app, social networks, video-sharing platforms - (associated) online ads	*Reducing entry barriers* - Prevent anti-competitive leverage within an ecosystem - Facilitate end-users switching and multi-homing - Facilitate business users' entry with access to platforms and data - Online ads transparency and choice for business-users and end-users
DSA 2022	*Governing power* - Reduction of illegal and harmful content/products - Mitigation of systemic risks for liberal democracies	*Systemic influence power* - Very Large Online Platforms: OS, app stores, marketplaces, social networks, video-sharing. - Very Large Online Search Engines	*Due diligence obligations* - Better content moderation practices - Annual systemic risks assessment and mitigation - Enhanced consumer protection and empowerment: dark patterns prohibitions; online ads transparency; profiling transparency and basic option without profiling: children protection special measures.

1.3. An Ecosystem of Compliance and Enforcement

Because the DMA and (parts of) the DSA apply to global firms that rank among the most powerful in the world, the EU lawmaker chose to entrust enforcement to the European Commission, rather than the Member States' agencies, which traditionally handle EU law enforcement.[71] This is a major shift in EU Administrative law as for the first time in its more

[70] K. Sabeel Rahman and Zephyr Teachout, *From Private Bads to Public Goods Adapting Public Utility Regulation for Informational Infrastructure* (Knight First Amendment Institute, 2020).

[71] Commission Implementing Regulation 2023/814 of 14 April 2023 on detailed arrangements for the conduct of certain proceedings by the Commission pursuant to Regulation 2022/1925 of the European Parliament and of the Council, OJ [2023] L 102/6; Commission Implementing Regulation 2023/1201 of 21 June 2023 on detailed arrangements for the conduct of certain proceedings by the Commission pursuant to Regulation 2022/2065 of the European Parliament and of the Council, OJ [2023] L 159/51.

than seventy-year history, the European Commission become a federal-style regulatory agency and, ironically, this step forward in the EU integration is thus largely due to US companies, Since 2022, the Commission has rapidly built its capacity and now has more than 300 staff working across three main departments: antitrust, digital regulation, and the research center.

However, the Commission is not acting alone and build on the insights of responsive and participatory regulation scholarship which highlights the importance of leveraging external actors.[72] Thus, the Commission orchestrates a broader ecosystem of compliance and enforcement, [73] including: (i) the *national agencies* of the Member States – in particular the antitrust agencies and the digital regulators- which play a key role in dealing with complaints, supporting investigations and helping to design remedies; (ii) the regulated *gatekeepers and VLOPs*, through an "enforcement pyramid" that begins with persuasion and escalates to sanctions when necessary, while encouraging the development of strong internal compliance systems, reporting, and dedicated functions; (iii) the *market*, by empowering competitors, business users, and end-users to report violations and contribute to the design of effective regulatory remedies; and (iv) the *broader community*, involving civil society organizations, public interest groups, fact-checkers, and auditors as key contributors to oversight and accountability.[74]

For this ecosystem to function effectively—and for the orchestra to play in harmony—two ingredients are essential: information and cooperation. First, all players in the orchestra must share the same score and have sufficient information to perform well. This is why the DMA and DSA impose a range of information-sharing obligations on Big Tech platforms, directed not only to the Commission and national agencies, but also, with appropriate confidentiality safeguards, to businesses, end-users, and civil society. For example, a key provision of the DSA grants independent vetted researchers access to the data necessary to monitor compliance—helping them to open the "black boxes" of Big Tech. [75] Moreover, the DMA and the DSA obliges the Big Tech to produce a number of reports on how they comply with the new laws[76] as well as on how the mitigation risks and some of them have to be reviewed by independent auditors.[77] Second, close cooperation among all players is vital, as the success of implementation depends on everyone's contribution. The DMA and DSA therefore establish

[72] I. Ayres and J Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate* (Oxford University Press, 1992).

[73] The Commission behaves like a platform, as already suggested fifteen years ago by T. O'Reilly, "Government as a Platform" in Lathrop and Ruma (eds) *Open Government: Collaboration, Transparency, and Participation in Practice* (O'Reilly Media, 2010), 11–40.

[74] For example, the European Digital Media Observatory (EDMO) plays a key role in this emerging landscape by promoting collaboration among a multidisciplinary community of stakeholders addressing online disinformation: https://edmo.eu/ EDMO brings together fact-checkers, media literacy experts, and academic researchers, working in partnership with media organizations, online platforms, and media literacy practitioners to analyze and counter disinformation.

[75] DSA, Article 40 and Commission Delegated Regulation of 1 July 2025 supplementing Regulation 2022/2065 of the European Parliament and of the Council by laying down the technical conditions and procedures under which providers of very large online platforms and of very large online search engines are to share data with vetted researchers.

[76] The DMA annual compliance reports by the gatekeepers are available at: https://digital-markets-act-cases.ec.europa.eu/reports/compliance-reports

[77], DSA, Article 37 and Commission Delegated Regulation 2024/436 of 20 October 2023 supplementing Regulation 2022/2065 of the European Parliament and of the Council, by laying down rules on the performance of audits for very large online platforms and very large online search engines.

coordination mechanisms between the Commission and national agencies, including the creation of regulatory networks and a high-level group, [78] as well as channels for collaboration between public authorities, companies, and civil society.

Moving forward, the European Commission has a lot to learn from the modes of operations of the very Big Tech it regulates to improve the effectiveness of enforcement. The Commission could harness big data and artificial intelligence to enhance their regulatory capabilities. As demonstrated in the financial sector with the use of SupTech (supervisory technology), big data and AI-driven tools can significantly improve data collection, reporting, and management. [79] These technologies also enable advanced analytics for market surveillance**,** misconduct detection**,** and prudential supervision.[80] The Commission should also move away from the traditional "regulate and forget" model toward a more dynamic "adapt and learn" approach.[81] This shift involves continuously evaluating the impact of regulatory interventions and adjusting them as needed. For example, the Commission could experiment with different regulatory remedies through A/B testing—either conducted directly or mandated for implementation by regulated platforms. They could also support the introduction of innovative services within regulatory sandboxes, allowing experimentation in a controlled environment. This commitment to iterative feedback aligns with the core principles of adaptive governance—a framework that has long emphasized flexibility and learning, but which is now significantly more feasible thanks to advances in digital technologies.

1.4. Regaining the Promises of the Internet

Having described the goals and the content of the DMA and DSA, I now turn to their potential impact. To analyze this, I draw on the four regulatory forces of cyberspace identified by Larry Lessig in his seminal work: law, technical architecture, market, and social norms.[82] However, unlike Lessig's original framework, I argue that law serves as a key determinant of the other three forces. On that basis, I explore how the EU's Big Tech platform laws are positioned to influence these forces within the European context.

First, the EU's Big Tech laws are poised to reshape the *technical architectures* of the Big Tech platforms. On one hand, the DSA fosters more transparent architectures by requiring VLOPs and VLOSEs to provide various forms of data access to users, regulators, and civil society. Additionally, these platforms must conduct and publicly release annual assessments of systemic risks. On the other hand, the DMA promotes more open architectures. Gatekeepers should

[78] For instance, the DMA High Level group (DMA, Article 40 and Commission Decision of 23 March 2023 on setting up the High-Level Group for the Digital Markets Act, C(2023) 1833) or the European Board of Digital Services (DSA, Articles 61-63).

[79] For an overview of the suptech used by financial supervisors, see the database of the Cambridge SupTech Law at the Cambridge Judge Business School: https://ccaf.io/suptechlab/ as well as the Bank of International Settlement (BIS) Innovation Hub: https://www.bis.org/about/bisih/topics/suptech_regtech.htm. Next to regulators, the antitrust authorities are also exploring the use of big data and AI to improve their operations.

[80] S. di Castri, Hohl S, Kulenkampff A and J Prenio, The suptech generations, *Financial Stability Institute Insights* 19 (2019). More ambitiously, SupTech could be employed to simulate market evolution using agent-based computational modeling**,** providing regulators with a forward-looking tool to anticipate systemic risks and dynamic market behaviors: W. Brian Arthur, Foundations of Complexity Economics, *Nature Review: Physics* 3 (2021) 136-145.

[81] OECD Recommendation of 6 October 2021 of the Council for Agile Regulatory Governance to Harness Innovation.

[82] L. Lessig, *Code and Other Laws of the Cyberspace, Version 2.0* (Basic Books, 2006).

develop new tools that enable more seamless access by the business users to their platforms and design new user interfaces that offer greater choice and more transparent consent mechanisms.

These changes, however, must not come at the expense of security, privacy, or service integrity. To safeguard these values, the DMA introduces new governance mechanisms and mandates the European Commission, working with recognized standardization bodies, to develop technical standards. It also anticipates an active role for private organizations, for instance the Data Transfer Initiative which an independent group of policy experts and technologists working alongside industry partners to develop tools and standards that enhance data portability.[83]

In turn, the EU Big Tech laws, together with the more transparent and open architectures they mandate, are expected to enhance *market contestability* and foster diverse forms of competition. The DMA encourages *inter-platform competition* by facilitating the development of alternative services that could substitute existing platforms, either through similar offerings, such as Microsoft expanding its search engine Bing, or through disruptive innovations like ChatGPT challenging Google Search and the way users do Internet search. The DMA also promotes *intra-platform competition* by supporting the entry and growth of products that complement existing platforms rather than replace them; for instance, Epic Games gaining better access to Apple users both within and outside the iOS ecosystem.[84] In essence, the DMA can be seen as a liberalization policy, one aimed at freeing markets and users not from state control, but from the massive private economic, regulatory, and informational power that Big Tech platforms enjoy. Doing so, the new EU laws should strengthen the role of the market in governing cyberspace.[85]

The implementation of this liberalization policy presents a significant challenge, as Big Tech platforms are unlikely to willingly relinquish the substantial governance and regulatory power they currently hold, particularly when access obligations go against certain Big Tech business models—or even corporate identities— deeply rooted in closed ecosystems. This is exemplified by Apple, which has strongly resisted both the adoption and now the implementation of the DMA, reflecting a longstanding organizational ethos of control and vertical integration inherited from Steve Jobs. Moreover, markets can only function effectively when there is trust among participants. At present, much of this trust is provided by Big Tech platforms, which, for example, guarantee the security of apps on their platforms, the integrity of their services, and the privacy and security of data exchanged. In the future, however, maintaining this trust will require independent governance mechanisms and institutions, including private certification bodies and governmental agencies, both of which take time to establish.

Ultimately, changes in law, architecture, and market should drive shifts in *social norms* across all categories of stakeholders in cyberspace. This is likely the most challenging transformation, as norms tend to be more resistant to change than the other regulatory forces. First, Big Tech platforms must transition from a corporate culture of "moving fast and breaking things" (including laws) to one centered on legal compliance and, potentially, a slower, more cautious

[83] http://dtinit.org/

[84] The DMA explains that both inter-platform and intra-platform types of competition are needed because: 'inter-platform competition is not effective in the short term, meaning that intra-platform competition needs to be created or increased' (recital 32).

[85] For a call for the market to regain power over the cyberspace: V. Mayer-Schönberger and T. Ramge, *Reinventing Capitalism in the Age of Big Data* (John Murray, 2018).

approach. In the future, Big Tech may come to resemble Big Banks, constantly supervised and deeply regulated. Second—and more fundamentally for the success of the new laws—users on both sides of the platforms will need to undergo a shift in social norms. On one side of the platform, business users and tech challengers must begin to see themselves as more independent from dominant platforms and be prepared to assert their rights, including by filing complaints with regulatory agencies or courts when the laws are not properly implemented. On the other side of the platform, end-users will need to adapt to a new paradigm of extended choice. Citizens and consumers must learn to navigate and make informed decisions in more competitive and transparent digital environments—a challenge that, as the post-Communist transition in Europe illustrates, should not be underestimated.

Thus, the success of the EU Platforms laws represents a massive challenge, as it requires transforming each of the regulatory forces shaping cyberspace. To achieve this, the European Commission, orchestrating an ecosystem of compliance and enforcement with the national agencies, the regulated Big Tech, their users and the civil society, must design targeted actions for each force. Regarding technical architectures, regulators need to establish new governance mechanisms that make these architectures more open and transparent without compromising security, privacy, or service integrity. In terms of competition, regulators should ensure that the shift of power from platforms to the market does not undermine the quality of digital services or the trust of users. For social norms, regulators must adopt greater agility and encourage all stakeholders—Big Tech, small tech, and end-users alike—to adapt their habits and corporate cultures. If these governance mechanisms are successfully developed and the EU Big Tech laws manage to reshape the various regulatory forces of cyberspace, there is a significant opportunity to diffuse the concentrated power of Big Tech and reclaim some of the early decentralization promises of the Internet. As eloquently expressed by John Perry Barlow in his 1996 *Declaration of the Independence of Cyberspace*, this vision includes creating "a world that all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth."[86] In complement, the new governance provisions embedded in the DSA may serve as a critical backstop for the power which is not (yet) diffused.

2. Towards a Dynamic Public Utilities Regulation?

Having explained the DMA and DSA and their potential practical impact, I now turn to the question of whether these two pieces of legislation could be considered as forms of public utilities regulation. This section reviews the domains of common carriers and public utilities regulation, along with the associated regulatory toolkit and apply these concepts to the new EU Big Tech laws. While the DMA and DSA were neither originally conceived nor explicitly designed as public utilities regulation, they exhibit several characteristics of it and, ultimately, could be viewed as an emerging form of public utilities regulation.

2.1. The Domains of Common Carriage and Public Utilities

2.1.1. The Scope and the Goals of Common Carriage and Public Utilities in the US and the EU

[86] https://www.eff.org/fr/cyberspace-independence. Also, Y. Benkler, *The Wealth of Networks* (Yale University Press, 2007).

In US law, the domains of common carriage and public utilities regulation are somewhat elusive but closely linked, as public utilities build upon the common law of common carriage.[87] Common carriage was developed in 17th-century English common law, primarily to address concerns of economic dependency.[88] In his notable opinion on Twitter/X, Justice Thomas summarized the main justifications for designating a firm as a common carrier: (i) the firm provides a service of public interest; (ii) the firm holds itself out to the public and offers its service to all; (iii) the firm enjoys substantial market power; (iv) the firm receives countervailing benefits from the government, such as a franchise or legal immunity; or (v) the firm operates within the transportation or communications industry.[89] These five justifications may be interconnected, and many utilities satisfy several—or even all—of them simultaneously.

Building on the common carriage tradition in common law but with a boarder set of values and objectives, public utilities law emerged from special legislation enacted in the United States during the Progressive Era of the early 20th century.[90] This legal framework reflects a broader set of values than common carriage. However, the scope of public utilities remains elusive. Some commentators, influenced by Justice Brandeis, adopt a broad understanding of public utilities, whereas others, guided by industrial organization theory, favor a narrower interpretation. Adding to the complexity, both the goals and the methods of public utility regulation have evolved over time—from restricting competition to actively promoting it.

Under the expansive and politically informed perspective advanced by Justice Brandeis,[91] public utilities law should encompass the most concerning forms of private power—specifically those involving products that possess significant social value as necessities and whose provision would be jeopardized if left solely to market forces. According to Rehman, the public utilities law aims to ensure 'the accountability of private actors to the public good, and ensuring that the constituencies affected by private power—whether workers, consumers, or citizens more broadly—were ultimately treated fairly'.[92] Following this broad understanding of public utilities law, Ricks, Sitaraman, Welton, and Menand explains in their influential *Network, Platform, and Utilities (NPU)* law textbook that public utilities are very different from the other economic sector as they constitute the basic infrastructures of the economy and the society. They identify the main goals and justifications for their regulation as follows: (i) the need to build and scale networks or platforms with integrated systems, while avoiding destructive competition; (ii) the expansion of equal and non-discriminatory access to these networks; (iii) the prevention of monopoly or oligopoly abuses; (iv) the maintenance of continuity of service and guaranteed access; and (v) more broadly, the promotion of commerce, industrial

[87] K. Sabeel Rahman, The New Utilities: Private Power, Social Infrastructure, and the Revival of the Public Utility Concept, 39(5) *Cardozo Law Review* (2018) 1621, 1635.
[88] For recent accounts of the history of common carriers: C.S. Yoo, Common Carriage's Domain, 35 *Yale J. on Reg.* (2018) 991; G. Sitaraman and M. Ricks, Tech Platforms and the Common Law of Carriers 73 *Duke Law Journal* (2024) 1037, 1046.
[89] *Biden* v. *Knight First Amendment Institute at Columbia Univ.*, 593 U. S. ___(2021) (Thomas, J., concurring).
[90] W. Novak, The Public Utility Idea and the Origins of Modern Business Regulation, in N.R. Lamoreux and W. J. Novak *The Corporation and American Democracy* (2017) 139; H.M. Trebing, Public Utility Regulation: A Case Study in the Debate over Effectiveness of Economic Regulation, 18 *J. Econ. Issues* (1984) 223.
[91] L. D. Brandeis, *The Curse of Bigness*, *in* THE CURSE OF BIGNESS: MISCELLANEOUS PAPERS OF LOUIS D. BRANDEIS (Osmond K. Fraenkel ed., 1935).
[92] The New Utilities, note 87, 1628.

development, and liberal democracy that those networks and platforms could support.[93] Taking a distinct infrastructural perspective**,** Rahman argues that public utilities law should apply to infrastructural goods and services characterized by three key features: '(i) have scale effects in their production or provision suggesting the need for some degree of market or firm concentration; (ii) unlock and enable a wide variety of downstream economic and social activities for those with access to the good or service; and (iii) place users in a position of potential subordination, exploitation, or vulnerability if their access to these goods or services is curtailed in some way'.[94]

Under the narrower view advanced by many industrial organization economists, public utilities law should only cover natural monopolies or oligopolies where the market alone cannot maximize consumer welfare. [95] With this narrow understanding, public utilities law seeks to restrict entry in order to prevent ruinous competition and to regulate prices to curb the abuse of monopoly power.[96] Over time, however, the implementation of such monopoly regulation has become increasingly contested some economists and policymakers.[97] The most radical critique, advanced by public choice economists from the Chicago School, argues that regulation often does more harm than good for consumer welfare, largely due to information asymmetries and the risk of regulatory capture. [98] A more moderate position is that regulatory agencies should not only focus on competition (and monopoly) *in* the market, but should also consider competition *for* the market—intervening only when both forms of competition are absent. This perspective draws on the theory of contestable markets, which emerged during the US AT&T antitrust case as an argument against regulation, and which, ironically, now serves as part of the intellectual foundation for the DMA. [99]

These critiques have contributed to what Kearney and Merrill describe as the "great transformation of US regulated industries law."[100] They show that since the late 1970s, public utilities regulation has shifted from a static paradigm, which took monopolistic market

[93] M. Ricks, G. Sitaraman, S. Welton and L. Menand, *Networks, Platforms and Utilities Law and Policy* (2022) Chapter 1, at 11.
[94] The New Utilities, note 87, 1643; K. Sabeel Rahman, Infrastructural Regulation and the New Utilities, 35 *Yale J. on Reg.* (2018) 911, 926.
[95] G.L. Priest, The Origin of Utility Regulation and the Theories of Regulation Debate, 36 *J.L. & Econ.* 289, 301-02 (1993); 55. C.S. Yoo and G. Massarotto, Are Digital Platforms Public Utilities? Lessons from the Concept's Historical Foundations in U.S. Law (2025) trace back the origin of the public utilities regulation to the Report *Municipal and Private Operation of Public Utilities* which was written in 1907 by the Wisconsin economics professor John Commons for the National Civic Federation. The same year, this report led to the Wisconsin statute giving the Wisconsin's Railroad Commission the authority to regulate every "public utility," defined to include every provider of telephone service as well as "heat, light, water or power either directly or indirectly to or for the public.
[96] P.L. Joskow, *Regulation of Natural Monopoly*, *in* A.M. Polinsky and S. Shavell, Handbook of Law and Economics (2007) 1227.
[97] For a key meta-analysis of the effect of public utilities regulation: P.L. Joskow and N.L. Rose, The Effects of Economic Regulation, in R. Schmalensee and R.D. Willig, *Handbook of Industrial Organization*, vol.2 (1989) 1449.
[98] H. Demsetz, *Why Regulate Utilities?*, 11 *J.L. & Econ.* (1968); R.A. Posner, Theories of Economic Regulation, 5(2) *Bell Jour. of Economics and Management Science* (1974) 335; G.J. Stigler, The Theory of Economic Regulation, 2(1) *Bell Jour. of Economics and Management Science* (1971) 3.
[99] W.J. Baumol, J. Panzar and R. Willig, *Contestable Markets and the Theory of Industry Structure* (Saunders College/Harcourt Brace, 1982).
[100] J.D. Kearney and T.W. Merrill, The Great Transformation of Regulated Industries Law, 98(6) *Columbia Law Rev* (1998) 1323. Also, S. Breyer, *Regulation and Its Reform* (Harvard University Press, 1982).

structures for granted, to a dynamic paradigm aimed at altering market structure and fostering competition by supporting new entrants. Under the old static paradigm, regulation encompassed the entire sector and sought to protect end-users directly by replicating the outcomes of competitive markets—imposing retail access and common carriage obligations that were standardized and non-discriminatory. By contrast, the new dynamic paradigm only targets the bottleneck segments of the sector and seeks to improve market functioning by imposing wholesale common carriage obligations in favor of new entrants.

In EU law, there is no specific common carrier doctrine in EU law. The closest equivalent is the "duty to deal" antitrust doctrine under Article 102 TFEU which addresses abuse of dominance. Unlike the US Supreme Court, [101] the EU Court of Justice has in recent years expanded the scope of this doctrine. In the *Google Android Auto* opinion, the EU Court of Justice started by acknowledging the trade-offs involved in imposing a duty to deal, particularly regarding investment incentives both for the dominant firm and for the access-seeking competitors.[102] Then, the Court drew a distinction based on the purpose of the platform's development. If a dominant firm develops a platform solely for its own internal use, a duty to deal can only be imposed under the strict conditions of the essential facilities doctrine, which are rarely met. [103] Conversely, if the platform was developed to enable third-party undertakings to use it—as was the case with Android Auto—then a duty to deal and interoperate may be imposed under more flexible conditions.[104] Specifically, if a refusal to provide access would result in competitive harm, loosely defined as the actual or potential obstruction or delay in the development of a product that is at least potentially in competition with the dominant firm's own product, such conduct may constitute an illegal restriction of competition on the merits. Finally, the Court added that if no interoperability template exists for enabling access, the dominant firm may be required to develop one, unless doing so would be technically impossible or would compromise the security or integrity of the platform.[105]

On the other hand, the importance of the services of general economic interest is recognized and protected directly in the EU Treaties.[106] They cover services which make an important contribution to the overall competitiveness of European industry and to economic, social and territorial cohesion and they are defined mostly at the Member States level.[107] A specific EU public utilities law emerged during the Liberalization Era of the network industries—such as

[101] *Verizon Commc'ns Inc. v. Law Offs. of Curtis V. Trinko*, LLP, 540 U.S. 398 (2004).
[102] C-233/23 *Alphabet v AGCM*, ECLI:EU:C:2025:110, para 42 : 'while, in the short term, an undertaking being held liable for having abused its dominant position due to a refusal to conclude a contract with a competitor has the consequence of encouraging competition, by contrast, in the long term, it is generally favourable to the development of competition and in the interest of consumers to allow a company to reserve for its own use the infrastructure which it has developed for the needs of its business. If access to a production, purchasing or distribution facility were allowed too easily, there would be no incentive for competitors to develop competing facilities. In addition, a dominant undertaking would be less inclined to invest in efficient facilities if it could be bound, at the mere request of its competitors, to share with them the benefits deriving from its own investments.'
[103] C-7/97 *Bronner v MediaPrint*, ELCI:EU:C:1998:569, para 41 establishing the three essential facility conditions: (i) the facility is indispensable inasmuch as there is no actual or potential substitute; (ii) the refusal to give access to the facility is likely to eliminate all competition on the downstream market, and (iii) such refusal is incapable of being objectively justified.
[104] *Ibidem*, para. 47 and 51.
[105] *Ibidem*, para. 74. In such cases, the dominant firm is entitled to reasonable financial compensation.
[106] TFEU, Article 14.
[107] Communication from the European Commission of 20 September 2000, Services of General Interest in Europe, O.J. [2001] C 17/4, 8.

telecommunications, energy, and railways—initiated by the European Commission in the late 1980s.[108] This process developed at the same time as the transformation of US public utilities law and directly embraced the dynamic regulatory paradigm. Its objective was to enhance the competitiveness of both individual sectors and the broader EU economy by fostering greater competition and promoting a more integrated single market, ultimately improving network services for the benefit of all European users.[109] Like Janus, EU public utilities law has two faces—corresponding to two types of access mandates—one looking to the past and the other to the future, echoing the transformation of the law of regulated industries described by Kearney and Merrill. The backward-looking face concerns business-to-consumer (B2C) access, which guarantees the provision of affordable, universal service to all users, regardless of geographic location or economic status. The forward-looking face involves business-to-business (B2B) access, aimed at lowering economic entry barriers and fostering market contestability and competition. Together, these two forms of access ensure that liberalization promotes greater competition while safeguarding services of public interest, preventing market opening from undermining protections for the most vulnerable populations.[110]

2.1.2. Public Utilities and Big Tech

The question of whether Big Tech platforms could or should be considered common carriers or public utilities is highly contested in the U.S. and ultimately depends on how these concepts are defined. Commentators who adopt a broader, more political understanding of public utilities are more inclined to include Big Tech within this category, whereas those with a narrower, more economic perspective are less likely to do so. On one side of the debate, Sitaraman and Ricks argue that Big Tech platforms exhibit the key characteristics of common carriers and should therefore be regulated under that framework. [111] This perspective was echoed by the Fifth Circuit Court of Appeals in *NetChoice v. Paxton*, a case concerning Texas's content moderation law, which endorsed the state's argument that large social media platforms function like common carriers, emphasizing their market power and central role in public discourse.[112] Conversely, the Eleventh Circuit Court of Appeals in *NetChoice v. Moody*, a similar case involving Florida's content moderation law, rejected the application of the common carrier doctrine, reasoning that social networks exercise editorial judgment.[113] When these cases reached the Supreme Court, the Court ultimately did not apply the common carrier framework,

[108] European Commission, Market Functioning in Network Industries - Electronic Communications, Energy and Transport, *European Economy – Occasional Papers* 129 (2013).
[109] R. Baldwin, M. Cave and M. Lodge, *Understanding Regulation: Theory, Strategy, and Practice*, 2nd ed. (Oxford University Press, 2012), Chapter 23. For an account of this liberalization and its economic impacts: C. Decker, *Modern Economic Regulation: An Introduction to Theory and Practice*, 2nd ed (Cambridge University Press, 2023), Chapters 9 and 10 for electricity and gas, Chapter 11 for telecommunications, chapter 12 for payment systems, chapter 14 and 15 for rail and aviation and chapter 16 for water.
[110] Services of General Interest in Europe, note 107.
[111] Sitaraman and Ricks, Tech Platforms and the Common Law of Carriers, note 88, 1037.
[112] *NetChoice, L.L.C. v. Paxton*, 49 F.4th 439, 450 (5th Cir. 2022) where the Fifth Circuit Court of Appeals recognized that Texas permissibly deemed social networks platforms as "common carriers," likening them to entities such as Verizon or AT&T.
[113] *NetChoice, LLC v. Attorney General, Fla.*, 34 F.4th 1196, 1221 (11th Cir. 2022). Similarly, a Delaware County Court of Common Pleas found in 2025 that Google Search does not meet the criteria for common carriage because it exercises editorial judgment in curating and ranking search results and does not indiscriminately transport information: *ex rel.* Yostv. Google LLC, No. 21-CV-H-06-0274, 2021 WL 2333652 (Ohio C.P. Del. Cnty. June 8, 2021).

instead emphasizing First Amendment principles.[114] In his concurring opinion, Justice Thomas suggested though that social networks should be subjected to the common carrier doctrine, a position he had advocated previously in a case involving Twitter.[115]

Standing on the shoulders of Brandeis, Wu contends that the extreme concentration of power in the tech sector threatens democracy and must be constrained through public-utilities-style regulation—imposing rules of neutrality, openness, and mechanisms to ensure private actors remain accountable to the public good.[116] Similarly, Wheeler draws a parallel between Big Tech and the monopolistic "robber barons" of the Gilded Age, advocating for the application of public-utilities-style regulation to these platforms. [117] Rahman goes further, arguing that tech platforms exhibit the three defining characteristics of infrastructural public utilities—significant economies of scale, the ability to enable downstream uses, and the risk of private domination—and should therefore be regulated accordingly.[118]

In a more nuanced way, Hovenkamp opposes the imposition to Big Tech of a traditional public utilities regulation, understood as according to old paradigm, but recommends the imposition of some obligations, such as interoperability and data access and pooling which closely resembles at the new dynamic paradigm of public utilities. [119] Similarly, Rogerson and Shelanski call for the imposing of pro-competitive regulation which is the modern regulatory paradigm for public utilities.[120] On the other side of the debate, Yoo and Massarotto argues that Big Tech do not qualify as public utilities as they are not natural monopolies and caution that presuming monopoly to be inevitable risks producing a self-fulfilling prophecy, whereby regulatory intervention inadvertently entrenches the very market dominance it seeks to prevent.[121]

In contrast to the US, there is much less debate in the EU over whether Big Tech platforms should be characterized as common carriers or modern public utilities. Under EU antitrust law, the EU Court of Justice decided already in *Google Android Auto* opinion—as discussed earlier—that when a firm enjoys substantial market power and holds itself out to the public, a duty to deal resembling a common carriage obligation may be imposed. In its opinion upholding the European Commission's decision in the *Google Shopping* antitrust case, the EU General Court supported this logic. The Court noted that it should be in the economic interest of Google Search to remain open, and it characterized self-preferencing in search rankings as a form of

[114] *Moody v. NetChoice*, LLC, 602 U.S. ___ (2024).
[115] *Moody v. NetChoice*, LLC, No. 22-277, slip op. at 4 (Thomas, J., concurring) and note 89.
[116] T. Wu, *The Curse of Bigness Antitrust in the New Gilded Age* (Columbia Global Report, 2018).
[117] T. Wheeler, *Techlash: Who Makes the Rules in the Digital Gilded Age?* **(**Brookings Institution Press, 2023). MacCarthy also argues that dominant digital platforms should be treated more like public utilities, with oversight that ensures fair competition, protects privacy, and safeguards free expression in the same way utilities are regulated to serve the public interest: *Regulating Digital Industries: How Public Oversight Can Encourage Competition, Protect Privacy, and Ensure Free Speech* (Brookings Institution Press, 2023).
[118] K. Sabeel Rahman, Regulating Informational Infrastructure: Internet Platforms as the New Public Utilities, 2 *Geo. L. Tech. Rev.* (2018) 234. Also J. Van Dijck, D. Nieborg and T. Poell, Thomas, Reframing platform power, 8(2) *Internet Policy Review* (2019) and J.C. Plantin et al, Infrastructure studies meet platform studies in the age of Google and Facebook, 20 *New Media & Society* (2018) 293.
[119] H. Hovenkamp, Antitrust and Platform Monopoly, 130(8) *Yale Law Jour* (2021) 1952.
[120] W.P. Rogerson and H. Shelanski, Antitrust Enforcement, Regulation and Digital Platforms, 168 *PENN. L. REV.* (2020) 1911.
[121] C.S. Yoo and G. Massarotto, Are Digital Platforms Public Utilities? Lessons from the Concept's Historical Foundations in U.S. Law (2025).

abnormal behavior—hinting at a baseline expectation of neutrality akin to a common carrier obligation.[122]

On the regulatory side, Petit argues that tech markets are dominated by a few large players which create a "moligopoly" scenario that blends monopoly power and oligopolistic rivalry and which should not be regulated as public utilities.[123] On the other side of the debate, there have been several calls within the EU to impose common carriage-style obligations on Big Tech platforms and to extend the net neutrality mandate—originally applied to telecommunications networks[124]—to digital platforms. As early as 2014, the French Digital Council, an advisory body to the French government, recommended in the digital value chain the prohibition of any form of discrimination not justified by service quality or legitimate economic reasons. It also advocated for equal access for business users, particularly when these users had become competitors on indispensable platforms.[125] In a similar vein, the French telecommunications regulator proposed in 2018 to extend neutrality mandates to mobile devices, operating systems (OS), and web browsers, highlighting the growing importance of device-level and platform-level gatekeeping in shaping user access and market dynamics. [126]

One year later, Ezrachi and Stucke warned that algorithm-driven markets, like public utilities, risk concentrating power and undermining consumer welfare unless regulation ensures they operate transparently and in the public interest.[127] Then, in a noteworthy study**,** Busch viewed Big Tech as societal infrastructures and increasingly important actors in the area of services of general interest which need to be regulated by a new type of platform infrastructure law to complement the ongoing of antitrust and media law.[128] Such a framework would include: non-discrimination in the provision of digital infrastructure services; due process guarantees for entities seeking access to essential platform infrastructure; [129] universal and affordable access**,** including the establishment of a right to use digital services free from data collection and personalization; and assurances regarding the security of supply for these increasingly essential

[122] T-612/17 *Google v. Commission,* ECLI:EU:T:2021:763. The Court stated that: 'the infrastructure at issue, namely Google's general results pages which generate traffic to other websites, including those of competing comparison-shopping services, is, in principle, open, which distinguishes it from other infrastructures referred to in the case-law, consisting of tangible or intangible assets (press distribution systems or intellectual property rights, respectively) whose value depends on the proprietor's ability to retain exclusive use of them.' (para. 177) and that: 'consequently, the fact, assuming it to be established, that Google favors its own specialized results over third-party results, which seems to be the converse of the economic model underpinning the initial success of its search engine, cannot but involve a certain form of abnormality.' (para. 179).

[123] N. Petit, *The Moligopoly Scenario* (Oxford University Press, 2020).

[124] Regulation 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access, OJ [2015] L 310/1, as amended by Regulation 2018/1971**.**

[125] French Digital Council; *Platform Neutrality: Building an open and sustainable digital environment* (2014).

[126] ARCEP, *Devices, the weak link in achieving an open internet* (2018). Also J. Kraemer and R. Feasey, *Device neutrality: openness, non-discrimination and transparency on mobile devices for general internet access* (CERRE, 2021).

[127] A. Ezrachi and M.E. Stucke, *Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy* (Harvard University Press, 2019).

[128] C. Busch, *Digital platforms as infrastructure for services of general interest* (2021). He refers to an interesting opinion of the German Federal Supreme Court which noted the indispensability of social network like Facebook: "that, at least for a subset of consumers, access to the social network Facebook determines to a considerable extent their participation in social life, so that they cannot be expected to do without it." (BGH, decision of 23 June 2020, KVR 26/19, para. 102).

[129] G. De Gregorio, The Rise of Digital Constitutionalism in the European Union, 19 *International Journal of Constitutional Law* (2021) 41.

services. In a similar spirit, during a hearing before the European Parliament in the legislative process leading up to the DMA and DSA, Smith argued that Big Tech platforms can no longer be treated as ordinary private enterprise and power given their pivotal role in the digital public sphere and their capacity to reshape society both commercially and politically. As such, she contended that these platforms should no longer be regulated solely through private law tools—such as competition law and consumer protection rooted in contractual freedom—but rather through public law principles, reflecting their systemic importance.[130]

Despite these compelling arguments, the EU legislator has not fully embraced this broad vision of public utilities.[131] In particular the DMA is only based on a narrow economic view focusing on market tipping driven by a set of structural economic factors such as economies of scale, network effects, multi-sidedness, vertical integration or data feedback loops.[132] Therefore, the DMA and DSA are not built on the regulatory toolkit associated with public utility regulation. I now turn to that toolkit to examine the extent to which elements of it have nonetheless been incorporated—explicitly or implicitly—into the EU's new Big Tech platform regime.

2.2. The Regulatory Toolkit for Public Utilities

2.2.1. Identifying a Regulatory Toolkit

As with the domain of public utilities, the regulatory toolkit applicable to them is also somewhat elusive and depends on the (broad or narrow) understanding of the public utilities. With their broad and political understanding, Ricks, Sitaraman, Welton, and Menand suggest in their textbook to organize public utilities regulation into three categories of rules.[133] The first category relates to network/platform access; this includes interconnection mandates, equal access (akin common carriage), universal service requirements, exit restrictions, and quality of service requirements. The second category – which is an indispensable complement for the first – relates to the regulation price and profit; this includes rules on non-discrimination, rate setting and profit sharing. The third category relates to industry structure; this includes rules on entry restrictions, ownership restrictions as well as structural separation and line of business restriction.

With a similar broad understanding of public utilities law but from his distinct infrastructural perspective, Rahman proposes a comparable toolkit made of three key regulatory mechanisms.[134] First, affirmative service obligations, particularly aimed at ensuring access for marginalized or underserved populations. Second, structural separation and regulatory firewalls to prevent conflicts of interest and reduce concentration of power and the risks of contagion from one activity to another. Third, the introduction of a "public option", whereby government-

[130] M. Smith, *E-Commerce and the future Digital Services Act: enforcement and cooperation between Member States* (Study for the European Parliament, 2020).
[131] Neither the DMA nor the DSA (nor the preparatory Commission Impact Assessment) mention public utilities once. However, it is interesting to note that the telecommunication universal service includes an Internet connection which is capable of supporting search engine, marketplaces, social network, communications app, indicating that they are considered as essential public service by the EU lawmaker: EECC, Annex V.
[132] See note 24.
[133] *Networks, Platforms and Utilities Law and Policy*, note 93, 24.
[134] K. Sabeel Rahman, Infrastructural Regulation and the New Utilities, 35 *Yale J. on Reg.* (2018) 911, 927.

run or supported services operate alongside private providers to offer a plain, non-extractive alternative, thereby disciplining the market and safeguarding public interest.

Commentators—primarily economists—who adopt a narrower view of public utilities, limiting the concept to natural monopolies or oligopolies, naturally focus the regulatory toolkit on the control of market power.[135] Under the traditional static paradigm, the regulatory toolkit focused on ensuring non-discriminatory retail access for end users, often coupled with retail tariff regulation. It also restricted market entry through regulatory barriers to prevent ruinous competition and to enable implicit cross-subsidization between customers—typically those in urban areas, who paid above-cost rates, and those in rural areas, who paid below-cost rates.[136]

In contrast, the modern dynamic paradigm seeks to foster competition either in the market or for the market where feasible, or, when competition is impracticable, to replicate competitive outcomes. Competition *in* the market can be promoted through measures such as wholesale access obligations and interoperability mandates, which reduce structural barriers to entry—such as high fixed costs and network effects—and enhance market contestability. Competition *for* the market can similarly involve access and interoperability requirements, alongside mechanisms like franchising, whereby firms compete to become the sole provider for a defined period under regulatory oversight. Additionally, the toolkit now includes explicit subsidy schemes designed to maintain affordability in remote geographic areas or for low-income populations.[137]

Turning to EU law, as noted earlier, EU public utilities regulation adopted the dynamic paradigm from the outset. This approach relies on a common toolkit applied consistently across network industries such as telecommunications, energy, transport, and postal services and which can be grouped into six main categories of rules.[138] The first category relates to market structure regulation; this category includes rules designed to reduce regulatory barriers and foster market contestability. Where entry restrictions are necessary—due to reasons such as security concerns or resource scarcity—authorizations and licenses must be granted in a transparent, non-discriminatory and proportionate manner. In certain sectors, such as energy or railroads, this category also comprises rules on structural separation and line-of-business restrictions, aiming to prevent conflicts of interest and ensure fair competition. The second category relates to wholesale network access. This involves access mandates—often paired with cost-based price regulation—to reduce economic barriers to entry. These rules are designed to enable third-party service providers to compete on downstream markets by accessing essential infrastructure under fair and reasonable terms. The third category relates to universal service obligations. This category ensures that all users, regardless of their location or socio-economic status, have affordable access to a basic, "plain vanilla" version of the service. The obligation is typically imposed on private providers, who may be compensated by the State for any net costs incurred in fulfilling this public service mandate.

[135] J.J. Laffont and J. Tirole, *A Theory of Incentives in Procurement and Regulation* (MIT Press, 1993).
[136] Kearney and Merrill, The Great Transformation of Regulated Industries Law, note 100, 1330; R.J. Pierce and E. Gellhorn, *Regulated Industries in a Nutshell* (West Group, 1994).
[137] *Ibidem*.
[138] For an analysis of the 2018 European Electronic Communications Code along those six categories, see A. de Streel and C. Hocepied, 'The EU Regulation of electronic communications networks and services', in P.L. Parcu and E. Brogi (eds), *Research handbook on EU media law and policy*, (E. Elgar, 2021) 110.

The fourth category relates to an enhanced consumer protection. Beyond basic consumer law, public utility regulation often entails sector-specific protections—such as clear contractual terms, transparency requirements, and redress mechanisms—to safeguard users in markets characterized by limited choice or high switching costs. The fifth category related to collective societal protection. This includes rules to ensure the safety, resilience, reliability, and continuity of essential services, especially in the face of crises, disruptions, or natural disasters. These rules reflect the broader public interest function of network industries. The sixth and last category relates to the institutional, compliance, and enforcement framework. EU public utilities regulation pays special attention to the independence, expertise, and capacity of sectoral regulatory authorities. It also provides for coordination mechanisms at the EU level to ensure regulatory convergence and effective enforcement across Member States.

Based on the foregoing analysis, I propose a regulatory toolkit for public utilities which rests on four main pillars: (i) market structure regulations, encompassing entry controls and, where necessary, structural separation to prevent conflicts of interest and preserve competition; (ii) common carriage obligations ensuring non-discriminatory access and fair treatment; (iii) universal service requirements guaranteeing affordable access to basic services for all; and (iv) risk mitigation measures, including enhanced consumer protection at the individual level and continuity and resilience rules addressing collective societal risks.

The first pillar concerns the *market structure* in which public utility services operate. It includes market entry rules which limit entry (in the static paradigm) by maximizing regulatory barriers or, conversely, promote entry (in the dynamic paradigm) by minimizing regulatory barriers and ensure that they are imposed only when necessary (e.g. for safety or resource constraints) and in a non-discriminatory and proportionate manner. It may also include rules on structural separation and line-of-business restrictions which are necessary when non-discrimination obligations imposed under the second pillar are difficult to enforce or monitor. Finally, it may include rules on ownership and control restrictions when platforms or networks are considered strategic assets—critical for national security or strategic autonomy.

The second pillar – maybe the most important and foundational one – relates to *access and interoperability* to networks/platforms. This pillar encompasses different types of access, each with distinct rationales and impacts. Two main dimensions characterize these access types.

- *Retail vs. Wholesale Access*. On the one hand, retail access occurs when end-users are granted access to a network/platform, such as a consumer taking an Internet connection or joining a social network. This form of access, associated with the static paradigm of regulation, primarily concerns fairness in individual transactions and protects users' rights and choices. On the other hand, wholesale access, associated with the dynamic paradigm, occurs when business users gain access to essential infrastructure to build their own services, such as a new telecom operator leasing the incumbent's local loop or an app store developer installing her new store on a dominant mobile OS. This access promotes market contestability and competition by lowering entry barriers.

- *Horizontal vs. Vertical Access*. On the one hand, horizontal access refers to interoperability or access between competitors operating at the same level of the value chain, like interoperability between two telephone networks or two social media

> platforms, enabling seamless user communication across them. On the other hand, vertical access involves interactions between firms at different levels of the value chain, such as an electricity supplier accessing the transmission grid, or an app store gaining access to a mobile operating system.

For an access mandate to be truly meaningful and effective, it must be coupled with a non-discrimination or neutrality obligation, which lies at the heart of the common carriage doctrine. This obligation is particularly crucial when the common carrier is vertically integrated—meaning it operates both the underlying infrastructure and retail services—because it then has a strong incentive to favor its own retail arm over competing retailers. Non-discrimination ensures that all users, whether affiliated or independent, receive fair and equal treatment.

However, non-discrimination alone may not suffice when the common carrier possesses monopoly power or controls a critical bottleneck on which users depend. In such situations, the carrier could exploit this position by charging monopoly prices or imposing unfair and unbalanced contractual terms. To prevent such abuses, price regulation becomes necessary. However, determining what constitutes a just and reasonable price is a very complex and evolving challenge.[139] It has been the subject of extensive economic research and regulatory debate, aiming to balance the carrier's need to cover costs and earn a reasonable return, the while protecting users from exploitative pricing or even ensuring affordable price (in the static paradigm) or stimulating entry (in the dynamic paradigm).[140]

Finally, to ensure that access mandates remain reasonable and proportionate, exceptions are always foreseen. As Sitaraman and Ricks explain, common carriers have traditionally been allowed to exclude users for two primary reasons: on the one hand, to maintain the quality and provision of the service, ensuring that opening the network does not degrade performance for existing users and, on the other hand, to prevent harm to others, excluding users whose actions might disrupt or damage the network or service experience. [141]

Before going to the next regulatory pillar, it is important to note that designing these access obligations—deciding where to open a network or platform, how to do it, and under what conditions—is one of the most challenging aspects of the regulatory toolkit, with significant consequences for the utility and its users. Yoo's review of the impacts of US common carriage obligations highlights five key conditions necessary for successful implementation: (i) the products involved should be commoditized, standardized and interchangeable; (ii) the interfaces should be simple, minimizing technical barriers; (iii) the transmission technology should be stable and uniform across the network; (iv) the transmission network should already be fully deployed; and (v) the demand and market shares should be stable to ensure

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[139] W. Boyd, Just Price, Public Utility, and the Long History of Economic Regulation in America, 35 *Yale J. on Reg.* (2018) 721. Sitaraman and Ricks note that: 'common law of reasonable prices seems to have changed around 1850 in response to the challenge of the railroads. Prior to 1850, the common law on price discrimination appears to have been largely focused on preventing extraction: upward deviations from the standard price. After 1850, treatises and courts increasingly began to reframe the rule as equal treatment, preventing both extraction (upward deviations) and preferences (downward deviations): Tech Platforms and the Common Law of Carriers, note 88, 1054.

[140] Laffont and Tirole, *A Theory of Incentives in Procurement and Regulation*, note 135. For a recent summary of the economic literature: Decker, *Modern Economic Regulation*, note 109, Chapters 4 and 5.

[141] Tech Platforms and the Common Law of Carriers, note 88, 1056.

predictability.[142] When these conditions are satisfied, it becomes relatively straightforward to identify the appropriate points and methods for opening the network. Conversely, in more complex or dynamic environments where these conditions are not met, public intervention risks causing more harm than good due to the difficulty of correctly calibrating access.

The third pillar of the public utility regulatory framework concerns the *universal availability of a basic version of the service at an affordable price*. This principle may require the state to construct, subsidize, or finance infrastructure deployment in underserved or commercially unprofitable areas, thereby ensuring that no one is excluded from essential services. Under the traditional static paradigm, this pillar was partially embedded in the second pillar through the obligation to provide retail-level access. In this context, the price of access was determined not by cost but by what was considered affordable given prevailing living conditions. By contrast, under the dynamic paradigm—where access regulation focuses primarily on the wholesale level—universal service emerges as a distinct pillar. It often necessitates explicit funding and subsidization mechanisms to support below-cost provision of universal services.

The fourth and last pillar of the regulatory toolkit addresses *network-related risks*, which can be individual (affecting consumers) or collective (affecting society or the economy at large). This pillar adds an enhanced layer of consumer protection beyond the general baseline applicable to all sectors, recognizing the essential nature of public utility services. On the individual level, it seeks to empower users by improving information transparency and facilitating switching, thereby preventing lock-in and abuse of dominance. On the collective level, it includes rules on the safety and the resilience of networks and services, ensuring that infrastructure remains functional and accessible even during crises, disruptions, or cyberattacks. Together, these measures protect both consumer welfare and the stability of essential services, reinforcing public trust in infrastructure.

Table 2: Public Utility Regulatory Toolkit

<table>
<tr><th></th><th>Static Toolkit</th><th>Dynamic Toolkit</th></tr>
<tr><td>1. Market structure</td><td>- Maximization of regulatory barriers: Legal monopoly
- Pos. structural separation and line-of-business restriction
- Pos. rules on ownership and control</td><td>- Minimization of regulatory barriers

- Pos. structural separation of the monopolistic bottlenecks
- Pos. rules on ownership and control</td></tr>
<tr><td>2. Access/ common carriage</td><td rowspan="2">- Retail access to network/platform: non-discrimination/neutrality
- Retail price control ensuring fair prices and allowing implicit cross-subsidization
- Exceptions: service integrity and security</td><td>- Wholesale access to network/platform on monopolistic bottleneck
- Wholesale price control based on costs

- Exceptions: service integrity and security</td></tr>
<tr><td>3. Universal service</td><td>- Universal service to network/platform: availability, affordability, quality</td></tr>
<tr><td>4. Risks prevention</td><td colspan="2">- Individual risks: Enhanced consumer protection
- Collective risks: Continuity, security and resilience</td></tr>
</table>

[142] Yoo, Common Carriage's Domain, note 88, at 1007.

2.2.2. Applying the Toolkit to EU Big Tech Laws

Having identified the four core pillars of the static and dynamic regulatory toolkit used for public utilities, I now turn to the EU Big Tech laws to assess whether and how they align with this framework. Regarding the *first pillar on industry structure*, the E-commerce Directive seeks to keep regulatory entry barriers to the minimum as, on the one hand, it limits the ability of the Member States where the platform is established to impose restrictive market access conditions and, on the other hand, it prohibits the other Member States where the platforms provides its services to impose additional conditions.[143] However, neither the DMA nor the DSA introduces structural separation mandates**.** There are no requirements for divestitures**,** line-of-business restrictions, or ownership separation**,** which remain tools reserved for cases of systematic non-compliance under the DMA or for traditional network industries.

The *second pillar, which relates to access and interoperability mandates* is substantially covered by the DMA. The DMA imposes a series of obligations of non-discrimination and neutrality on designated gatekeepers, aimed at ensuring open access to key digital infrastructures, such as operating systems, app stores, marketplaces, and advertising platforms. These access obligations are explicitly pro-competitive: they aim to support inter-platform competition wherever possible, and intra-platform competition otherwise. In certain provisions, the DMA also introduces FRAND (Fair, Reasonable, and Non-Discriminatory) terms as the standard for access to platform functionalities or business user data—thus echoing longstanding principles from telecoms and other utility regulation.[144]

Those pro-competitive access obligations are particularly suited for digital platforms because they may allow different combination of inputs and services in an industry which is intrinsically modular, thereby accelerating innovation and technical progress.[145] However, it is extremely complex to determine the optimal point of openness for digital ecosystems. The theoretical and practical challenges that Yoo identified in applying common carriage to traditional infrastructures are even more acute in the context of digital platforms because they are not static utilities but dynamic, multifaceted ecosystems. These ecosystems actively orchestrate value creation through architectural integration, layered governance, and data-driven optimization.[146] Cennamo and Zhu underscore this complexity of opening digital ecosystems: while open ecosystems can generate significant value for third-party developers, consumers, and the broader digital economy, they also involve heightened coordination costs, risks of ecosystem fragmentation, and challenges in maintaining quality control.[147] Thus, they caution against regulatory interventions that may undermine the flexible and evolving nature of digital

[143] Directive 2000/31 on electronic commerce, note 2, Articles 3-5.
[144] J. Crémer, D. Dinielli, P. Heidhues, G. Kimmelman, G. Monti, M. O'Grady, R. Podszun, M. Schnitzer, F. Scott Morton, A. de Streel, Access Pricing for App Stores Under the DMA, *Jour. of Competition Law & Economics* (2025).
[145] C.Y. Baldwin, *Design Rules, Volume 2: How Technology Shapes Organizations* (MIT Press, 2024).
[146] M. G. Jacobides, C. Cennamo, A. Gawer, Externalities and complementarities in platforms and ecosystems: From structural solutions to endogenous failures, *Research Policy* 53 (2024).
[147] C. Cennamo and F. Zhu**,** *Toward a Better Understanding of Open Ecosystems: Implications for Policymakers* (2023).

ecosystems, warning that excessive standardization could transform diverse, innovative platforms into rigid, commoditized networks.

On the other hand, the DSA regulates the exceptions to access for certain types of platforms—particularly social media and online marketplaces. As previously explained, the DSA is not a speech law, nor does it impose a common carriage obligation on social networks, contrary to what has been suggested in Justice Thomas's opinion in the US context. Rather, the DSA seeks to enhance content moderation practices by imposing due diligence obligations when the content or products disseminated through platforms are deemed illegal. In doing so, it clarifies and codifies in law one of the traditional exceptions to the common carriage principle, namely the ability and obligation to restrict access in order to prevent harm or ensure the safety and legality.

With regard to the *third pillar—universal availability of a basic option*— the EU regulatory framework is less clear. On the one hand, the DSA ensures that every user has access to at least one recommender system that is not based on profiling. On the other hand, the DMA requires that users be offered a meaningful choice when consenting to the combination of their personal data across different services operated by a gatekeeper. Taken together with the GDPR,[148] these provisions may effectively compel Big Tech firms to offer a "basic option": a free, privacy-preserving version of their services supported by contextual (rather than personalized) advertising, a model more akin to that of traditional media. [149] This echoes the proposal of Busch to establish a right to use digital services free from data collection and personalization[150] and can be seen as an early form of universal service provision in the digital space, aiming to ensure that all users, regardless of their willingness to share personal data, can still access essential digital services. However, the synergies between the DSA and the DMA could be clarified and the establishment of profiling free option could be clarified.

With regard to the *fourth pillar on risk reduction*, the DSA significantly enhances consumer protection**.** It introduces rules against dark patterns**,** increases transparency obligations around recommender systems and online advertising, and provides special protections for minors. In addition, VLOPs and VLOSEs are required to conduct annual systemic risk assessments and adopt mitigation measures to address societal harms, including disinformation**,** illegal content**,** and threats to public health and safety.[151]

Thus, while EU Big Tech laws satisfy some pillars of public utility regulation in its dynamic paradigm, others—particularly the provision of a basic service option—are only partially realized. This is unsurprising, given that Big Tech firms share many characteristics with modern

[148] Regulation 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46 (General Data Protection Regulation), OJ [2016] L 199/1.

[149] G. Monti, J. Crémer, A. Fletcher, P. Heidhues, N. Jacobson, G. Kimmelman and M. Schnitzer, Compliant Use of Personal Data for Advertising on Social Networks in Europe, *Yale Tobin Center for Economic Policy Paper 11* (2025).

[150] Busch, note128, 22.

[151] As the DMA and the DSA target intangible infrastructures, it mostly focuses on intangible risks. Tangible risks on tangible digital infrastructures such as telecommunications networks, clouds, data centers, content delivery network or internet exchange points are covered by Directive 2022/2555 of the European Parliament and of the Council of 14 December 2022 on measures for a high common level of cybersecurity across the Union (NIS 2 Directive), OJ [2022] L 333/80, Annex I.

public utilities, yet EU regulation has not been explicitly framed through the lens of public utility law. As many commentators have suggested, future reforms could adopt a more explicit public utilities perspective and apply the regulatory toolkit associated with public utilities more systematically.

3. Conclusions

The EU's evolving regulatory framework for Big Tech, embodied in the DMA and the DSA, marks a historic shift from light-touch governance to a proactive model aimed at restoring contestability, fairness, and accountability in the cyberspace while safeguarding fundamental rights. Through ex ante obligations, enhanced transparency, interoperability mandates, and systemic risk assessments, these laws not only constrain Big Tech power but also seek to reshape platform architectures, market dynamics, and social norms. Enforcement relies on a multi-actor ecosystem led by the European Commission and supported by national agencies, market participants and civil society, with adaptive governance strategies. Ultimately, their success hinges on the EU's ability to foster cultural, technical, and institutional change, ensuring that digital ecosystems evolve in line with democratic values and the early decentralizing promise of the Internet.

While the DMA and DSA were not explicitly conceived as public utility regulations, their design and objectives increasingly align with the modern, dynamic paradigm of utility governance. Traditionally, public utilities regulation evolved from common carriage principles and static frameworks focused on monopoly control toward dynamic models promoting competition, interoperability, and universal service. Big Tech platforms exhibit many features of infrastructural utilities—economies of scale, gatekeeping power, and systemic societal impact—justifying the application of utility-like obligations. The EU's approach reflects this logic: the DMA imposes access and neutrality rules to enhance contestability, while the DSA strengthens consumer protection, systemic risk management, and transparency. Some elements, such as a profiling-free basic option, resemble universal service principles, though a clear basic option remain absent. Ultimately, the EU's regime may represent the progressive emergence of a dynamic public utilities law for digital platforms.