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Teaming up: how the DMA could be combined with development banks to improve the contestability of digital markets in Europe

Unindo forças: como o DMA pode ser combinado com bancos de desenvolvimento para melhorar a competitividade nos mercados digitais na Europa

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Abstract: This paper explores the limited alignment between the regulatory objectives of the Digital Markets Act (DMA) and the strategic orientations of European development banks. Although DMA aspires to increase contestability and reduce concentration in digital markets, these development institutions have not incorporated such aims into their innovation and investment mandates. The findings suggest that regulatory proportionality, when interpreted narrowly and detached from broader market-structuring effects, is unlikely to produce sustainable increase in competition. Moreover, the European Commission's cautions reading of the DMA tend to constrain the adoption of structural remedies capable of generating meaningful deterrence and market entry opportunities. Against this backdrop, the paper argues that the deliberate use of development banks as complementary instruments of competition policy could enhance the effectiveness of the European digital market framework. It concludes by identifying a gap in institutional coordination that invites comparative research, particularly with reference to development banks in other jurisdictions that have acted to foster contestability in strategic sectors.

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Resumo: Este artigo examina o alinhamento limitado entre os objetivos regulatórios do Digital Markets Act (DMA) e as orientações estratégicas dos bancos de desenvolvimento europeus. Embora o DMA aspire a aumentar a contestabilidade e reduzir a concentração nos mercados digitais, essas instituições de fomento não incorporaram tais objetivos em seus mandatos de inovação e investimento. Os achados indicam que a proporcionalidade regulatória, quando interpretada de forma restrita e dissociada de efeitos mais amplos sobre a estrutura de mercado, dificilmente produzirá um aumento sustentável da concorrência. Além disso, a leitura cautelosa do DMA pela Comissão Europeia tende a limitar a adoção de remédios estruturais capazes de gerar efeitos dissuasórios significativos e oportunidades reais de entrada no mercado. Nesse contexto, o artigo sustenta que o uso deliberado dos bancos de desenvolvimento como instrumentos complementares de política de concorrência poderia fortalecer a efetividade do arcabouço europeu para os mercados digitais. Conclui-se identificando uma lacuna de coordenação institucional que convida a pesquisas comparativas, especialmente com referência a bancos de desenvolvimento de outras jurisdições que atuaram para fomentar a contestabilidade em setores estratégicos.

Palavras-chave: Digital Markets Act. Contestabilidade de mercado. Financiamento ao desenvolvimento. Remédios estruturais. Integração das políticas de concorrência.

Contents:

1 Introduction

Although the entry into force of the DMA is still recent, having occurred in May 2023, it is already possible to grasp how the legislation is being applied in some cases decided by the European Commission. For example, Apple and Meta were recently fined €500 million and €200 million respectively.

In Apple's case, the company was supposed to allow developers to distribute their apps via Apple's App Store, informing consumers, free of charge, of alternatives outside of the App Store. Apple was supposed to direct them to such offers and allow them to make purchases. Yet, Apple failed to comply with this obligation.[1] In the case of Meta, the problem was the "consent or pay" advertising model. In such a framework, Facebook and Instagram users in the European Union had to choose between forcibly consenting to a combined use of their personal data or paying a monthly subscription for an ad-free service.[2]

[1] EUROPEAN UNION. European Commission. Commission designates first gatekeepers under the Digital Markets Act. Brussels, 2025. Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_25_108. Accessed on: May 19, 2026.

[2] EUROPEAN UNION. European Commission. Commission designates first gatekeepers under the Digital Markets Act. Brussels, 2025. Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_25_108. Accessed on: May 19, 2026.

The DMA was enacted against a backdrop of antitrust law precedents that were deemed insufficient to cope with the speed of digital markets. The very ex-post nature of antitrust rulings was a challenge in digital markets. In this type of institutional design, it is expected that the waiting time between the investigation of a case, the application of remedies or sanctions, and the effective change in conduct, would be large. In addition, the scope of antitrust law is restricted, as the effectiveness of the decisions of the competent authority is usually limited to a specific event or a particular market. In short, decisions take a long time, and when implemented, they only solve one problem at a time.

In view of this scenario, the European Parliament approved the DMA, specifying that regulation has two main objectives, namely, fairness and contestability. As for the latter, it can be said that it relates to the ability of new entrants to effectively overcome barriers to entry, expand and challenge the gatekeeper on the merits of their products and services.[3]

During the discussions for the regulation edition, the European Commission pointed out that factors such as economies of scale, powerful network effects, the ability to connect many business users to end users through a multi-sided platform, lock-in effects, and the lack of multi-homing are more prevalent in digital platform markets.[4] In summary, the European Commission understood that the lack of contestability and unfair practices would be enabling and encouraging the market failures highlighted above.

The DMA differs from other antitrust laws that aim only to protect previously existing competition, as competition in European digital markets was already frail at the time of the law's enactment. The idea of the DMA, in this regard, is to enable the inauguration of a competitive digital environment, with the entry of new firms into markets where gatekeepers operate.[5] The obligations it imposes are more systemic, they go beyond Article 102 TFEU, and can be understood as competition policy, even if the DMA is not a competition law in the traditional sense.[6]

Thus, the hypothesis this article aims to investigate is that the objective of contestability of the DMA is not being used in an integrated way with the development banks. We will evaluate the integration of the DMA – and its objectives – with the

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3 EUROPEAN UNION. Regulation (EU) 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 (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act), recital 32.

4 EUROPEAN UNION. Regulation (EU) 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 (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act), recital 13.

5 PETIT, Nicolas. The proposed Digital Markets Act (DMA): a legal and policy review. 11 May 2021. Available at: http://dx.doi.org/10.2139/ssrn.3843497. Accessed on: May 19, 2026.

6 SCHWEITZER, Heike. The art to make gatekeeper positions contestable and the challenge to know what is fair: a discussion of the Digital Markets Act proposal. Zeitschrift für Europäisches Privatrecht, n. 3, p. 503-544, 2021.

financing and investment decisions of the national development banks of the European Union member countries ("NDBs") and the multilateral development banks of which the EU is a shareholder ("MDBs").

To investigate this possibility, we will analyze the annual reports of the main European national development banks – by the criterion of total assets in the four countries with the largest GDP in continental Europe – i.e., Germany, France, Italy and Spain. In addition to these banks, Europe's leading multilateral development bank will also be included in the scope of the research.[7]

The results will serve as an invitation to future investigations to understand whether it makes sense to integrate DMA actions with the tools available to development banks and, if so, how to do it in the most efficient way.

2 Theoretical framework

2.1 Historical context of the edition of the DMA

The DMA has two fundamental objectives, namely, to make digital markets fair and contestable. According to Recital 32 of the DMA, contestability is "the ability of undertakings to effectively overcome barriers to entry and expansion and challenge the gatekeeper on the merits of their products and services".[8]

Recital 7, in turn, defines unfairness as an imbalance between the rights and obligations of business users where the gatekeeper obtains a disproportionate advantage.[9]

The DMA was inspired by competition law and designed to remedy the limits inherent in enforcing the prohibition of abuse of dominance power provided for in Article 102 of the Treaty on the Functioning of the European Union.[10] One of the main complaints regarding TFEU's framework was regarding the enforcement procedures, which by nature require fact-intensive assessments that are incompatible with digital markets.[11]

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7 Therefore, KfW, Bpifrance, CDP, ICO will be the NDBs surveyed. The European Investment Bank will be the MDB surveyed.

8 EUROPEAN UNION. Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector. Official Journal of the European Union, L 265, p. 1-66, 12 Oct. 2022.

9 EUROPEAN UNION. Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector. Official Journal of the European Union, L 265, p. 1–66, 12 Oct. 2022.

10 BOSTOEN, Friso. Understanding the Digital Markets Act. 2023. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4440819. Accessed on: May 19, 2026.

11 BOSTOEN, Friso. Understanding the Digital Markets Act. 2023. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4440819. Accessed on: May 19, 2026.

There was a growing consensus among policymakers, academics, and practitioners that competition law may not be sufficient to provide timely and adequate responses to business users affected by anticompetitive conduct and unfair behavior by large digital platforms.[12]

The time to define a relevant market, establish dominance, and show foreclosure effects, are complex tasks that the Commission must perform in traditional competition law.[13] The DMA, on the other hand, is an ex ante legislation, designed based on a diagnosis that digital markets have markedly anticompetitive characteristics, in which gatekeepers exploit business users under unfair terms and conditions of usability.[14]

Thus, the framework proposed by the legislation has different objectives from antitrust legislation and is not restricted to simply protecting competition without distorsions,[15] but to promote contestability. The objective of the DMA is more interventionist than the regulatory regime of EU telecoms, for example.[16]

2.2 Promoting contestability: what does it mean?

For the purposes of this article, it is essential to investigate whether the objective of contestability has characteristics of regulatory promotion. The historical framework above shows us that despite being inspired by antitrust law, the regulatory objectives of the DMA are distinct from competition law. This is because the DMA was conceived from a previous diagnosis that digital markets were not working in a more comprehensive way, due to market failures such as network effects, self-preferencing, lock-in effects, and the lack of multi-homing.

But what kind of *ex ante* regulatory intervention does the DMA actually propose? When referring broadly to the promotion of market characteristics that are not presently observed, one addresses an intervention in the economic domain that may be more precisely framed as a design solution strategy.[17] It is a modality of

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[12] GERADIN, Damien. What is a digital gatekeeper? Which platforms should be captured by the EC proposal for a Digital Markets Act? Feb. 2021. Available at: https://ssrn.com/abstract=3788152. Accessed on: May 19, 2026.

[13] GERADIN, Damien. What is a digital gatekeeper? Which platforms should be captured by the EC proposal for a Digital Markets Act? Feb. 2021. Available at: https://ssrn.com/abstract=3788152. Accessed on: May 19, 2026.

[14] GERADIN, Damien. What is a digital gatekeeper? Which platforms should be captured by the EC proposal for a Digital Markets Act? Feb. 2021. Available at: https://ssrn.com/abstract=3788152. Accessed on: May 19, 2026.

[15] IBÁÑEZ COLOMO, Pablo. The draft Digital Markets Act: a legal and institutional analysis. Journal of European Competition Law & Practice, v. 12, n. 7, p. 561-575, Sept. 2021. DOI: https://doi.org/10.1093/jeclap/lpab065.

[16] IBÁÑEZ COLOMO, Pablo. The draft Digital Markets Act: a legal and institutional analysis. Journal of European Competition Law & Practice, v. 12, n. 7, p. 561-575, Sept. 2021. DOI: https://doi.org/10.1093/jeclap/lpab065.

[17] BALDWIN, Robert; CAVE, Martin; LODGE, Martin. Understanding regulation: theory, strategy, and practice. Oxford: Oxford University Press, 2011.

regulation that is more similar to a "architecture regulation" as proposed by Lessig with regards to cyberspace.[18] The point is that the DMA does not aim to restore, but to inaugurate a more competitive market, despite opinions that attribute to the act the purpose of restoring a previous more competitive stage.[19] In fact, the DMA seeks to promote actions and behaviors that would allow the construction of a market with fewer failures.

Nonetheless, in the context of digital markets, more interventionist regulatory approaches would only be justifiable insofar as it can be demonstrated that existing structural barriers are significant enough to preclude the resolution of contestability issues through, first, the ordinary functioning of the market and, second, the application of conventional competition law.[20] The DMA was designed based on the premise that innovative products are having difficulties entering digital markets due to high barriers to entry.[21]

However, the lack of contestability in European digital markets may stem from a multiplicity of factors that are unlikely to be remedied through regulatory intervention alone. An alternative analytical lens is offered by the field of development law. In that case, attention should be directed to the fact that limited contestability of European firms in digital markets is, at least in part, the result of long-standing disparities in capital allocation – namely, decades of abundant public and private capital in Silicon Valley, as well as sustained financial backing from Chinese state-owned development banks for companies such as Huawei and Alibaba.

In addition, European competitors have to deal with other important structural competitive disadvantages, including higher energy costs than those observed in the United States and Chin; reduced access to private capital compared to what was available in the Silicon Valley in the aftermath of the 2007-09 financial crisis, in China throughout the 2010s, and even compared to the current levels in the venture capital and private equity industries in those countries.

Furthermore, the public capital market has become increasingly concentrated in the United States, a dynamic that persists despite recent volatility in the U.S. sovereign debt market – a theme that will be examined in greater depth in the following section, which addresses European competitive advantages.

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18 LESSIG, Lawrence. The Law of the Horse: What Cyberlaw Might Teach. Harvard Law Review, v. 113, n. 2, p. 501–546, 1999.

19 PEITZ, Martin. The prohibition of self-preferencing in the DMA. CERRE Issue Paper, 2022.

20 NICOLETTI, Giuseppe; VITALE, Cristiana; ABATE, Carolina. Competition, regulation and growth in a digitized world: dealing with emerging competition issues in digital markets. Paris: OECD Publishing, 2023. 42 p. (OECD Economics Department Working Papers, n. 1752). Available at: https://www.oecd.org/en/publications/competition-regulation-and-growth-in-a-digitized-world_1b143a37-en.html. Accessed on: May 19, 2026.

21 KNAPSTAD, Tone. Breakups of digital gatekeepers under the Digital Markets Act: three strikes and you're out? Journal of European Competition Law & Practice, v. 14, n. 7, p. 394-409, Oct. 2023. DOI: https://doi.org/10.1093/jeclap/lpad035.

Consequently, the American and Chinese digital companies that have attained dominant positions have done so by leveraging the market failures discussed above, thereby placing European firms at a persistent competitive disadvantage. From a structural standpoint, Europe's position within the global digital economy increasingly resembles that of countries in the Global South, a parallel that is often overlooked.[22]

2.3 The limitations of proportionality and necessity in the DMA framework

Despite the fact that the diagnosis of lack of contestability is evident and proven on several practical occasions, the DMA may not work decisively as a tool for the systemic promotion of contestability because the decisions of the European Commission are restricted by the criteria of proportionality and necessity in each case, as mentioned in several points of the DMA, such as, e.g., in Recitals 27, 28, 65, Article 18 (4). As an expression of this, structural remedies, including breakups, would be a last resort, i.e., the most severe enforcement measure of the DMA.[23] In other words, remedy design choices are limited by the principles of proportionality and necessity, even though authors such as Knapstad advocate for a greater discretion in remedy design under the DMA.[24]

Put another way, there is a normative mismatch between the objective of systematically fostering contestability and the adequacy of the measure to the behavior or structure of the individual gatekeeper, through the application of the criteria of proportionality and necessity in each specific case. Thus, measures that would be, in theory, "disproportionate" if analyzed in isolation in relation to a specific gatekeeper may be necessary in a systemic sense, to promote contestability in that specific market.

To illustrate this point, consider a gatekeeper's app store that only partially complies with Article 6(12) of the DMA – which requires gatekeepers to enforce fair, reasonable, and non-discriminatory (FRAND) conditions of access for business users to their services – specifically app stores, search engines, and social media platforms. Assume that the app store applies a variable commission according to the developer's tier, e.g., small, medium and large, without disclosing objective criteria for tier allocation and with a slow and opaque reclassification process.

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[22] KWET, Michael. Digital colonialism: US empire and the new imperialism in the Global South. Race & Class, v. 60, n. 4, 2019.

[23] KNAPSTAD, Tone. Breakups of digital gatekeepers under the Digital Markets Act: three strikes and you're out? Journal of European Competition Law & Practice, v. 14, n. 7, p. 394-409, Oct. 2023. DOI: https://doi.org/10.1093/jeclap/lpad035.

[24] KNAPSTAD, Tone. Breakups of digital gatekeepers under the Digital Markets Act: three strikes and you're out? Journal of European Competition Law & Practice, v. 14, n. 7, p. 394-409, Oct. 2023. DOI: https://doi.org/10.1093/jeclap/lpad035.

In such circumstances, the Commission might deem the infringement unintentional and therefore levy a "proportionate" fine. However, the systemic damage to contestability – resulting from the competitive disadvantage created for smaller developers, who are left without clear or equal access to the conditions of competition – could not be fully considered by the Commission. The Commission's calibrated focus on the specific conduct would therefore coexist uneasily with the broader market distortion.

This tension is not merely theoretical. For example, during the course of proceedings opened on 25 March 2024 against Apple's potential non-compliance with Article 6(3) of DMA, in conjunction with Article 13(4) and (6) of the same act, the European Commission identified three user-facing obstacles on iOS: (i) the inability to un-install any software applications on iOS; (ii) to easily change default settings on iOS; and (iii) to choose their default web browser in the browser choice screen.[25]

In response to the proceedings and following intense regulatory dialogue with the Commission, Apple announced on 22 August 2024 that it would implement measures to comply with the DMA, such as, allow users to "uninstall a number of Apple's apps which were previously not un-installable, such as the App Store, Messages, Camera, Photos, and Safari apps.[26] Moreover, "a 'Default Apps' section would be introduced, providing new options for setting defaults for various functionalities like messaging and managing passwords.

For users with Safari as the default browser, a choice screen, which provides an additional way to choose a default web browser from a list of most popular web browsers in the given EU country, would appear as of installing iOS 18.2, unless another browser was already set as the default".[27] In the light of these developments, the European Commission eventually decided that, in accordance with Article 29 (7) of the DMA, it would close the proceedings.[28]

[25] EUROPEAN COMMISSION. Commission Decision of 23.4.2025 pursuant to Article 29(7) of Regulation (EU) 2022/1925 of the European Parliament and of the Council on contestable and fair markets in the digital sector: Case DMA.100185 – Apple – Operating systems – iOS – Art. 6(3). Brussels, 23 Apr. 2025. Available at: https://ec.europa.eu/competition/digital_markets_act/cases/202525/DMA_100185_1229.pdf. Accessed on: May 19, 2026.

[26] EUROPEAN COMMISSION. Commission closes investigation into Apple's user choice obligations and issues preliminary findings on rules for alternative apps under the Digital Markets Act. Brussels, 28 Apr. 2025. Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1086. Accessed on: May 19, 2026.

[27] EUROPEAN COMMISSION. Commission Decision of 23.4.2025 pursuant to Article 29 (7) of Regulation (EU) 2022/1925 of the European Parliament and of the Council on contestable and fair markets in the digital sector: Case DMA.100185 – Apple – Operating systems – iOS – Art. 6(3). Brussels, 23 Apr. 2025. Available at: https://ec.europa.eu/competition/digital_markets_act/cases/202525/DMA_100185_1229.pdf. Accessed on: May 19, 2026.

[28] EUROPEAN COMMISSION. Commission Decision of 23.4.2025 pursuant to Article 29(7) of Regulation (EU) 2022/1925 of the European Parliament and of the Council on contestable and fair markets in the digital sector: Case DMA.100185 – Apple – Operating systems – iOS – Art. 6(3). Brussels, 23 Apr. 2025. Available at: https://ec.europa.eu/competition/digital_markets_act/cases/202525/DMA_100185_1229.pdf. Accessed on: May 19, 2026.

However, it seems that the proportionality standard adopted by the European Commission does not consider on each case the overall business conduct of Apple. The decision prompts a broader question: to what extent does the proportionality test, applied case bt case, capture patterns of systemic non-compliance evidenced by other ongoing investigations (e.g. DMA 100109, 100203, 100204)?

This dilemma recalls Baldwin, Cave and Lodge's (2011) analysis of competition law as "market-harnessing" control. Although, on the one hand, the lesser intrusion of competition law is an advantage, on the other hand, there is difficulty in relying on principles developed judicially because this development occurs as the cases unfold, sporadically and slowly, having to consider the difficult position of business decision-makers (Baldwin, Cave, Lodge, 2011).

As much as the DMA establishes an *ex ante* regulation that moves away from competition law, the fact is that these criteria of proportionality and necessity serve to look individually at the situations of dominant companies in digital markets and do not see systemic opportunities to change the balance of power between market participants. This is not to say that the systemic effects of DMA are disposable, but it may indicate that they need to be supplemented.

Combining less intrusive strategies such as competition law with more invasive rules – such as command and control norms – can be useful even in markets with fewer competition problems compared to digital markets in Europe.[29] Added to this whole picture is the fact that *more bitter ex ante* structural remedies – such as breaking the activities of dominant firms[30] – are unfeasible from a jurisdictional point of view for Europe, given the countries where big *techs are located*.

For these reasons, financial promotion tools for new entrants in digital markets could work as an important addition to the DMA rules in a digital strategy to systematically recover contestability in the European Union's digital markets. The fact that Europe's NDBs and MDBs are not restricted to typically binding criteria and guidelines for regulatory and competition authorities, makes them an important instrument for the promotion of contestability, as the DMA aims to do.

2.4 Where Europe can be competitive: the fiscal aspect

As seen earlier, the European venture capital and private equity market is less developed than the American and Chinese ones. To put this assertion into numbers, the assets under management (AuM) of the European venture capital

[29] BALDWIN, Robert; CAVE, Martin; LODGE, Martin. Understanding regulation: theory, strategy, and practice. Oxford: Oxford University Press, 2011.

[30] KHAN, Lina M. Amazon's antitrust paradox. The Yale Law Journal, New Haven, v. 126, n. 3, p. 710-805, Jan. 2017. Available at: https://yalelawjournal.org/pdf/e.710.Khan.805_zuvfyyeh.pdf. Accessed on: May 19, 2026.

and private equity market are 1.3% of GDP and 6.6% of GDP, respectively. In the United States, venture capital AuM corresponds to 4.9% of GDP and private equity AuM to 12.4% of GDP.[31]

In China, CICC Capital alone, the private equity investment arm of CICC, had an AuM of about $61 billion as of December 2024, which is equivalent to about 0.33% of Chinese GDP. In the Chinese private market, according to data from the Shanghai Asset Management Association, at the end of 2023 there were 12,893 venture capital and private equity managers in China, managing 54,644 investment products, with a total AuM of RMB 14.31 trillion, or about $2 trillion at the exchange rate at the time, which would be equivalent to 11% of Chinese GDP in the same year.

EIB in a recent report identified that European innovative companies suffer from a scale-up gap, especially after the fourth or fifth year of operation.[32] By the time they reach their tenth year of operation, European companies raise 50% less capital than their American counterparts.[33] Regarding China, the same report highlights that venture capital investment in the European Union is significantly lower than the Asian country in all periods evaluated, namely: 2017-2020, 2021, 2022, 2023.[34]

In the public capital market, a patent asymmetry also exists between Europe and the American and Chinese competition. A detailed exposition may be unnecessary, as the disparity is both well-documented and widely acknowledged. As of January 2025, the market capitalization of American exchanges totaled approximately USD 62 trillion in January 2025,[35] the market capitalization of Mainland China (Shanghai and Shenzen) was USD 11.5 trillion in January 2025,[36] and Hong Kong's totaled USD 4.4 trillion in January 2025.[37] In Continental Europe, according to data from

31 GIORDANO, Massimo et al. Investment: taking the pulse of European competitiveness. McKinsey Global Institute, 20 June 2024. Available at: https://www.mckinsey.com/mgi/our-research/investment-taking-the-pulse-of-european-competitiveness. Accessed on: May 19, 2026.

32 EUROPEAN INVESTMENT BANK. The scale-up gap: financial market constraints holding back innovative firms in the European Union. Luxembourg: European Investment Bank, 2024. DOI: https://doi.org/10.2867/382579.

33 EUROPEAN INVESTMENT BANK. The scale-up gap: financial market constraints holding back innovative firms in the European Union. Luxembourg: European Investment Bank, 2024. 56 p. Available at: https://www.eib.org/en/publications/20240130-the-scale-up-gap. Accessed on: May 19, 2026.

34 EUROPEAN INVESTMENT BANK. The scale-up gap: financial market constraints holding back innovative firms in the European Union. Luxembourg: European Investment Bank, 2024. 56 p. Available at: https://www.eib.org/en/publications/20240130-the-scale-up-gap. Accessed on: May 19, 2026.

35 STATISTA. Largest stock exchange operators worldwide as of 2025, by market capitalization of listed companies. Statista, 2025. Available at: https://www.statista.com/statistics/270126/largest-stock-exchange-operators-by-market-capitalization-of-listed-companies/. Accessed on: May 19, 2026.

36 CEIC DATA. China market capitalization. CEIC Data, 1995-2026. Available at: https://www.ceicdata.com/en/indicator/china/market-capitalization. Accessed on: May 19, 2026.

37 HONG KONG EXCHANGES AND CLEARING LIMITED. Market capitalisation. Hong Kong: HKEX, 2025. Available at: https://www.hkex.com.hk/Market-Data/Statistics/Consolidated-Reports/Securities-Statistics-Archive/Market_capitalisation?sc_lang=en#select1=0&selection=2025-2026-%28up-to-the-end-of-previous-month%29. Accessed on: may 19, 2026. For the conversion from HKD to USD, the approximate exchange rate applicable at the time was used, according to TRADING ECONOMICS. Hong Kong dollar. Available at: https://tradingeconomics.com/hong-kong/currency. Accessed on: May 20, 2026. Calculation: HKD 34,521,683,319,099 ÷ 7.83204 = USD 4,408,896,969,561.47, approximately USD 4.41 trillion.

December 2024, Euronext's market capitalization is around USD 5.4 trillion, Deutsche Borse AG's totals around USD 2 trillion, and Nasdaq Nordic and Baltic Exchanges totals around USD 1.79 trillion.[38]

That said, the fiscal situation of the main European economies is, in relative terms, significantly more robust than that of the United States and China.[39] This distinction matters insofar as GDP reflects the annual flow of income, whereas indicators related to private and public capital markets capture the depth of capital stock available for long-term financing. At the same time, sovereign debt levels constitute an important constraint on an economy's capacity to mobilize funding.[40] Lower levels of European indebtedness suggest a broader fiscal space for strategic public investment aimed at correcting market failures – particularly those that may compromise the effective contestability of digital markets, even in a post-DMA regulatory landscape.

Furthermore, the limited availability of private risk capital – especially capital with long term investment horizons – poses structural challenges for European firms seeking to innovate in digital markets. This underscores the need to consider public investment as a complement to regulation in fostering a more competitive and innovation-friendly environment in the digital markets.

That said, it is the case that there are significant differences amongst European countries, and some such as Germany, the Netherlands and Poland are clearly better positioned in this regard than countries such as France or Italy. As per the table below:

Table 01 – Comparison of the debt-to-GDP ratio in major European jurisdictions relative to the United States and China. Data for Germany, Spain, the United States, France, Italy, and Poland are based on IMF data (2023). Data from China and the Netherlands are from World Economics (2024). The data for EA-20 and EU-27 are from Eurostat (2024).

(Continua)

Country	Debt-to-GDP ratio
Poland	39.60%
Holland	44.30%
Germany	44.80%

38 WORLD FEDERATION OF EXCHANGES. Market statistics. WFE Focus, Feb. 2025. Available at: https://focus.world-exchanges.org/issue/february-2025/market-statistics. Accessed on: May 19, 2026.

39 ARNAL, Judith; FEÁS, Enrique. Competitiveness: the widening gap between the EU and the US. Real Instituto Elcano, 29 Oct. 2024. Available at: https://www.realinstitutoelcano.org/en/analyses/competitiveness-the-widening-gap-between-the-eu-and-the-us/. Accessed on: May 19, 2026.

40 BOYER, Pierre; ROBERSON, Brian. Using public debt to deliver long-term investments and reforms. VoxEU, 2 Sept. 2024. Available at: https://cepr.org/voxeu/columns/using-public-debt-deliver-long-term-investments-and-reforms. Accessed on: May 19, 2026.

(Conclusão)

Country	Debt-to-GDP ratio
EU-27	**81.50%**
Euro Area (EA-20)	88.10%
China	**90.10%**
France	92.30%
Spain	98.10%
United States	**112.20%**
Italy	131.60%

If one is to carry out a more prospective analysis, based on current information, it should be projected a more pressured scenario for the United States, in which public debt as a GDP ratio has already risen to the highest levels since World War II.[41] This scenario tends to intensify if fiscal deficits remain a constant in the United States. The escalation of 30-year treasury bonds beyond 5% underlined investor concerns about the worsening US fiscal situation.[42]

In light of the above picture, there is moderate fiscal space for Europe to close the financing gap for local companies to seriously challenge the dominant positions of big tech, whether in existing or new digital markets. Without this movement, the trend is that digital markets will continue to be concentrated in a few players from the United States and China, where there is still more private capital and know-how, including in relation to the next generation of digital products related to artificial intelligence. In other words, it would be utopian to rely solely on the DMA to increase the contestability of these markets without addressing the market failures that concern the availability of funding and know-how for European companies.

2.5 How can development banks help?

Alongside private institutions, the European development banks of the time functioned as instruments to provide liquidity for long-term projects.[43] What is proposed in this article is that they can once again fulfill this relevant role, in a context of the return of industrial policies around the world.[44] It is very important to clarify that we are not proposing an innocent view of this type of intervention in

[41] OECD. OECD Economic Surveys: United States 2024. Paris: OECD Publishing, 2024. DOI: https://doi.org/10.1787/cdfff156-en.

[42] UBS. US fiscal outlook and the effort to contain bond yields. POTUS 47, 28 May 2025. Available at: https://www.ubs.com/us/en/wealth-management/insights/investment-research/potus-47/articles/us-fiscal-outlook.html. Accessed on: May 19, 2026.

[43] CHANDRASEKHAR, C. P. National development banks in a comparative perspective. Rethinking Development Strategies after the Financial Crisis, v. 2, p. 21–30, 2016.

[44] EVENETT, Simon; JAKUBIK, Adam; MARTÍN, Fernando; RUTA, Michele. The return of industrial policy in data. IMF Working Papers, v. 2024, n. 001, 2024. DOI: https://doi.org/10.5089/9798400260964.001.

the economic domain, much criticized by neoclassical economists.[45] This type of discussion was extensively held in the literature in the 1990s and 2000s, and the results are mixed, essentially as for any regulatory intervention.

In fact, we propose a new starting point, warning that market failures observed in developing and developed countries, which historically justify interventions of this kind, are present in the European reality of digital markets today.

The lack of financing for projects that require long-term capital is traditionally the main market failure that requires the action of development banks.[46] This is because commercial banks, despite their role as efficient agents of technical decisions for financing and monitoring credit,[47] are more inclined to maintain shorter-term positions, especially due to prudential rules.[48]

In addition to this problem — which hinders the emergence of competitive companies in European digital markets — another way of looking at the problem of the lack of a contestable digital market is the social externality not only of a technological lock-in, but of the consolidation of a digital ecosystem that is not aligned with the principles of the European community. Put another way, the existence of digital markets compatible with such principles can be understood as a collective good constructed, at least in part, by private agents.[49]

From this angle, development banks can be important in fostering investment in companies entering digital markets that observe the European "rules of the game". Without such instruments, Europe may find itself faced with a difficult dilemma: choosing between maintaining functioning digital markets or systematically enforcing its legal system.

3 Methodology

The countries with the highest absolute GDP in the European Union were selected, i.e. Germany, Spain, France, Italy. This criterion was selected because it expresses, albeit imperfectly, the strength of European economies, given that economic power is related to the relevance of the public policies adopted by the

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45 PACK, Howard; SAGGI, Kamal. Is there a case for industrial policy? A critical survey. The World Bank Research Observer, v. 21, n. 2, p. 267-297, Fall 2006. DOI: https://doi.org/10.1093/wbro/lkl001.

46 RODRIK, Dani. Industrial policy for the twenty-first century. Cambridge: Harvard University, 2004. Available at: https://jacksondetoni.wordpress.com/wp-content/uploads/2012/09/texto-4-rodrik-pi-sc3a9culo-xxi.pdf. Accessed on: May 19, 2026.

47 DIAMOND, D. W. Financial intermediation and delegated monitoring. The Review of Economic Studies, v. 51, n. 3, p. 393–414, 1984.

48 RODRIK, Dani. Industrial policy for the twenty-first century. Cambridge: Harvard University, 2004. Available at: https://jacksondetoni.wordpress.com/wp-content/uploads/2012/09/texto-4-rodrik-pi-sc3a9culo-xxi.pdf. Accessed on: May 19, 2026.

49 OLSON, Mancur. The logic of collective action: public goods and the theory of groups. Cambridge, Mass.: Harvard University Press, 1965.

jurisdictions. Then, the European Union was selected because of its ability to produce public policies that are independent and distinct from its individual member countries.

Then, the largest NDBs from these jurisdictions were selected: KfW, Bpifrance, CDP, ICO. The European Investment Bank was selected as the main development bank linked to the European Union, founded in 1958 by the Treaty of Rome. The selection of banks was based on the total assets criteria.[50] [51]

After the selection of the banks, the 2024 annual reports were collected for the NDBs and the MDB. This time frame was chosen because it is after the entry into force of the DMA and the most recent annual report available.

The information collected sought to express the centrality of the theme of innovation in the strategy of development banks, while at the same time allowing the assessment of whether banks mentioned the DMA in their annual reports or, at least, the problem of the concentration of digital markets or the market power of leading companies in these markets.

To ascertain the centrality of "innovation" in the strategy of the development banks analyzed, we read the annual reports based on the criteria listed below:

Table 02 – Methodology for assessing the centrality of innovation in the strategy of development banks

Factor	Scores	Criteria
Centrality of "innovation" in the bank's strategy? (1-4)	1- low 2- average low 3- average high 4- high	specific mention to innovation (0/1) 1 if yes specific chapter in the report (0/1) 1 if yes specific governance (0/1) 1 if there is a specific director, board, committee invested amount (0/1) 1 if it plans to expand investments in innovation and/or digitalization

4 Findings

The results found are available below. The data show that the theme of innovation is central to the main European development banks, without exception. The reports of all the banks mention the topic of innovation and most of them have a specific chapter and their own governance dedicated to this topic.

[50] XU, Jiajun; MARODON, Régis; RU, Xinshun. Mapping 500+ development banks: qualification criteria, stylized facts and development trends. Agence Française de Développement Research Papers, n. 192, p. 4-60, 2021.

[51] SOVEREIGN WEALTH FUND INSTITUTE. Top 69 largest development bank rankings by total assets. SWFI, [s. l.], [s. d.]. Available at: https://www.swfinstitute.org/fund-rankings/development-bank. Accessed on: May 19, 2026.

Table 03 – Competition issues in digital markets and the centrality of innovation in the strategy of development banks

Bank	Type of bank	Document	Does the document mention "Digital Markets" (Y/N)	Does the document mention "concentration (of markets)" or "market power" in the context of digital markets in any way? (Y/N)	Does the document mention "Innovation"? (Y/N)	What is the centrality of "innovation" in the development bank's strategy? (1-4)
Bpifrance	NDB	2024 Universal Registration Document Including the Annual Financial Report	No	No	Yes	3
CDP	NDB	Annual Report 2024 Gruppo CDP	No	No	Yes	3
EIB	MDB	2024 Activity Report - Priorities for Prosperity	No	No	Yes	3
ICO	NDB	Estado de Información No Financiera 2024	No	No	Yes	2
KfW	NDB	Financial Report 2024 Enabling Growth	No	No	Yes	3

The results also allow us to conclude that the development banks analyzed do not mention the DMA or the problem of "market concentration" – in a given sector – or "market power" in their annual reports.

5 Conclusion

The results do not allow us to be exhaustive, but there are indications of the lack of integration in the strategies of European development banks when it comes to innovation. More than that, the NDBs of the main European countries do not have the clear objective of working together with the DMA to deconcentrate dominant positions of foreign companies in their digital markets.

The objective of increasing contestability in European digital markets, however, will probably not be achieved only with "proportional" regulatory interventions, especially if it is understood that the proportionality of sanctions in an individual way and little attention to the deterrent and fomenting effect of structural sanctions. Although some advocate that structural remedies would be compatible with the language of the DMA,[52] its interpretation by the European Commission tends to be more conservative. This is not to say that the effects of the DMA will be innocuous on the contestability of digital markets, but they will probably be insufficient.

Therefore, the use of development banks to encourage a more competitive environment in digital markets is an interesting complement. Currently, however, the present paper has shown that there is no integration between the objectives of the DMA and the strategies of the main European NDBs and the EIB. This scenario is inviting for future investigations on the subject, perhaps with the use of paradigms from other development banks that have acted in similar scenarios in other relevant markets.

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52 KNAPSTAD, Tone. Breakups of digital gatekeepers under the Digital Markets Act: three strikes and you're out? Journal of European Competition Law & Practice, v. 14, n. 7, p. 394-409, 2023. DOI: https://doi.org/10.1093/jeclap/lpad035.

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