Economic and competitive assessment of Bill 2768/2022: international experience, identification of companies subject to regulation, and estimation of economic impacts

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Who we are[1]

The **Latin American Internet Association** (**"ALAI"**) is an international civil association that brings together companies committed to thinking about and developing the Internet in Latin America.

ALAI promotes the **inclusive development** of the economy by maintaining and strengthening open Internet, with support of public policies that contemplate and favor entrepreneurship, **innovation**, opportunities for new applications of technology, respect and the exercise of human rights.

The Association maintains permanent dialogue with the public sector, private sector, international organizations, academia, and global civil society.

Over the years, it has become a frequent speaker on issues of regulation, competition, personal data protection, artificial intelligence, content moderation, freedom of expression, elections, governance, e-commerce and human rights, with a permanent focus on Latin America's potential and demands.

ALAI works with the conviction that an open and accessible Internet is paramount to the inclusive growth of our region, promoting opportunities that benefit all sectors of society.

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[1] See: ALAI. Available at: https://alai.lat/alai/. Accessed on: June 7, 2024.

Summary

Introduction

The Latin American Internet Association ("**ALAI**") has developed a study to assess the economic and competitive impacts of Bill 2,768/2022 ("**Bill**") [2] currently being processed by the National Congress. This study aims to support the investigation and possible studies that will be developed for other agents. This report has the technical support of LCA, economic consulting firm, for the purposes of economic estimates and data analysis.

This report is divided into three sections, each covering a different dimension of the economic analysis of the Bill.[3] i) qualitative analysis of the criteria for designating regulated companies and segments both in Brazil and around the world; ii) identification of the firms that fit the criteria of proposed Bill 2768/2022; and iii) quantitative estimation of the economic impacts of the legislative proposal based on the increase in costs generated by it.

The first section analyzes the quantitative criteria defined by proposed Bill 2768/2022 for designating firms subject to regulation and compares it with other regulatory proposals worldwide. These include the Digital Markets Act presented by the European Union, which, despite its international notoriety, is not a framework being adopted worldwide. In this respect, we note the framework's main limitations including the vagueness of definitions, criteria, and obligations; the implementation of the same regulatory model for a wide range of sectors marked by heterogeneity; and the lack of case-by-case analysis of the particularities of the performance of each of the companies and segments possibly regulated. It should also be noted that the Brazilian proposed Bill reproduces many of these limitations due to the dynamics of regulatory transplantation, which ignores the specificities of the Brazilian digital landscape and the expertise of the national competition authorities.

The second section seeks to identify the companies subject to regulation according to the designation criteria presented by proposed Bill 2768/2022. To do so, databases and

[2] Brazil (2023). Chamber of Deputies. Bill nº 2768/2022. Available at: https://www.camara.leg.br/propostas-legislativas/2337417.

[3] Each section seeks to answer a different set of questions posed by ALAI, specifically: i) what criteria has the Bill chosen to designate regulated agents; ii) what criteria have other jurisdictions chosen to designate regulated agents; iii) which firms will be designated by the Bill; iv) what are the economic repercussions of the Bill's approval? Questions i) and ii) are addressed in section 1; question iii), in section 2; and, finally, question iv), in section 3.

methodological structures from public (e.g., the Brazilian Federal Revenue Service, "*Receita Federal"*), private (e.g., Crunchbase), and academic sources are used. Given the imprecision and scope of the Bill's criteria, we identified that the universe of firms subject to regulation is extensive and includes a wide range of sectors. Based on a broad analysis of the sector, 258 companies were identified in more than 24 sectors of the economy. In addition, the large number of companies in some sectors, especially in retail, is further evidence of the ill-defined characterization of "power to control essential access" which is present in the Brazilian proposal.

The third and final section focuses on quantifying the economic effects of proposed Bill 2768/2022. To this end, we start by analyzing the increases in cost arising from the regulatory provisions presented by the proposed Bill, with special emphasis on Articles 14 and 15, which determine the implementation of a 2% annual fee - called the Inspection Fee - calculated on the platforms' gross operating revenue[4]. Grounded on this fee, a model based on the chain passthrough generated by the regulation is applied to estimate the potential damage to every segment of the market structure: consumers, platforms, and small and medium-sized business. In addition, we consider scenarios (based on ranges) that take into account the cost of compliance (adaptation to the regulation) and cost variations relating to the obligations established in the proposed Bill, which are vaguely defined and, therefore, difficult to measure. The analysis also considers qualitative elements related to the general equilibrium effects generated by the regulatory proposal.

Based on the analysis of multiple public and private data sources and the survey of academic literature on the subject, it was found that, in a conservative scenario, the regulatory proposal would generate around R$ 2.5 billion in damages to consumers and business users, and, in a worst-case scenario, this figure could reach approximately R$10 billion.

[4] It is unclear from the Bill if this refers only to the company or to its economic group, and also if the fee refers to global or domestic revenue. The following models uses single-company domestic revenue for all purposes.

1. Brazil compared to the international experience: criteria for designating firms subject to regulation

Proposed Bill 2768/2022, presented in November 2022 by Congressman João Maia (PL-RN), proposes a new regulatory framework focused on the competitive realm of digital platforms' functioning and operation. The proposed Bill aims to regulate digital platforms, above a certain size, which offer services to the Brazilian public and that hold "the power to control essential access".

Initiatives to regulate digital platforms are not exclusive to Brazil. There are debates in several jurisdictions regarding the sufficiency of current antitrust enforcement tools to control anticompetitive conduct in the so-called digital markets. This first section provides a high-level overview of the different regulatory frameworks and legislative proposals in the main jurisdictions based on three distinct focuses: the European Union's ("**EU**"), the United States' ("**US**"), and the United Kingdom's ("**UK**") regulations proposal. Finally, we present an evaluation of the criteria presented in proposed Bill 2768/2022.

This international benchmark allows for an assessment of how the criteria for constituting the companies subject to regulation were developed in the jurisdictions mentioned above. Finally, the criteria at an international level are compared to those present in proposed Bill 2768/2022, making it possible to identify problems, limitations, and points for attention within the scope of the proposed Brazilian regulation.

1.1 Regulatory transplant and the DMA model: criticisms and limitations of the European proposal

The proposed Bill presented in Brazil is openly inspired by the Digital Markets Act ("**DMA**"),[5] developed within the European Union. The DMA regulates the commercial practices of a small number of companies designated as "gatekeepers", which operate "core platform services" ("**CPS**"). Besides, it creates a complex framework of

[5] European Union (2022). Digital Markets Act. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R1925.

prohibitions and broad requirements that must be met by the gatekeepers it appoints. This set of obligations are, in turn, inspired by individual antitrust decisions or pending investigations into the particular conduct of a certain company, in a specific EU market context, not relevant or applicable to the Brazilian case.

In this regard, proposed Bill 2768/2022 is an attempt to transplant a foreign regulatory structure that has yet to demonstrate its positive impacts on elements of innovation and competition. In contrast, the DMA is characterized as a still experimental model whose benefits aren't clear. It has already begun exhibiting negative outcomes in the EU's digital ecosystem, such as higher prices for consumers, the withdrawal of products or the introduction of suboptimal offerings, and reduced innovation. As a notable example, Microsoft opted to not release Copilot an AI-driven tool designed to enhance the Windows user experience in Europe, due to concerns related to the DMA.[6] Moreover, a joint initiative by Amazon, Meta, and Snap to innovate in-app purchasing—a strategy aimed at improving consumer choice and market competitiveness—has faced substantial setbacks in the EU due to these regulations.[7] In reaction to the DMA, Apple has implemented additional charges and limitations beyond its App Store, leading to debates about potentially creating a more convoluted and less secure user environment.[8] Meta is evaluating the possibility of introducing subscription fees for its ad-free social media services within Europe.[9] Additionally, behavioral experiments show that regulatory measures such as the DMA lead innovators to decrease their investments in research and development by around 8.6% for global players and 3.9% for local players.[10]

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[6] A, M. (2023) *Windows copilot is not available the EU due to Digital Markets Act but there's a workaround, Neowin*. Available at: https://www.neowin.net/news/windows-copilot-is-not-available-the-eu-due-to-digital-markets-act-but-theres-a-workaround/.

[7] DJAN, N. (2023) *Snap, Meta ink deals with Amazon to offer in-app shopping features, Yahoo! Finance*. Available at: https://finance.yahoo.com/news/snap-meta-ink-deals-amazon-024212300.html?guccounter=1.

[8] *Apple blasts 'less secure' iPhones to comply with EU rules, Politico Pro*. Available at: https://pro.politico.eu/news/174715.

[9]GOUJARD, C. (2023) *Meta weighs fees for ad-free social media in Europe*, *Politico Pro*. Available at: https://subscriber.politicopro.com/article/2023/10/meta-weighs-fees-for-ad-free-social-media-in-europe-00119682.

[10] Oxera (2021). The Digital Markets Act and incentives to innovate. May 2021, Available at: https://www.oxera.com/wp-content/uploads/2021/05/The-Digital-Markets-Act-and-incentives-to-innovate_final.pdf.

Indeed, these effects could have been anticipated by policy makers. The self-executing (*ex ante*) nature of the DMA – which covers companies from very distinct sectors with very different business models – is argued to be too rigid and could lead to several unintended consequences, including higher consumer prices, lower investments, and a general decrease in legal certainty (e.g., Carugatti, 2020, Oxera, 2020; Cennamo and Sokol, 2021). While it is acknowledged that governmental interventions invariably introduce market costs and distortions, the evidence pertaining to the DMA's effects so far highlights a possible imbalance, with negative impacts emerging without a corresponding demonstration of the positive effects that these measures are intended to achieve.

As presented in its purposes, the Brazilian proposed Bill claims to be directly inspired by the DMA, noting that it aims to provide a less defined regulation, but one that still follows the same general principle: mitigating the "power to control essential access" of "digital platforms." However, although the DMA cites previous European Commission decisions which have resulted in penalties against some of the companies the proposed Bill also references (such as Google and Apple), Brazil has not registered analogous decisions by its competition authority which would justify similar concerns.

To assess the criteria in the Brazilian proposed Bill for designating companies subject to regulation, it is essential to understand the concerns identified in each jurisdiction and, consequently, the purposes declared by their laws or bills. In addition, delimiting the objectives and the scope of a regulation is essential for establishing the services of interest and the criteria for defining the regulated companies ("essential access controllers", or, in the context of the DMA, "gatekeepers"). The aforementioned regulatory transplant developed in Brazil is based on reproducing several of the DMA's provisions. In the case of the European legislation, the regulation aims to guarantee elements of innovation and quality in digital products and services based on two central objectives: increasing "fairness" and "contestability".[11]

At the same time, there is also vagueness in the definition of the services and practices confined to the "digital markets sector" (in the DMA's own terms). While regulated segments such as telecommunications, aviation, and the banking sector have their

[11] Both terms are relatively recent and vague concepts in the application of antitrust law. They have only recently been referenced in a significant way (after 2014), being widely and indefinitely used as guiding principles in the public debate and in the subsequent drafting of the DMA (Colangelo, 2023; Gerard, 2018).

economic activity clearly delimited and well-defined, the so-called “digital markets” do not imply a single, clearly delimited economic activity. Despite regulatory efforts to better define it, the term usually groups together a wide range of firms and services with relevant differences among them. This issue of vagueness in definition equally applies to the so-called “digital platforms”. The term also encompasses a diverse spectrum of online businesses without a singular and precise delineation.

In this regard, the DMA does not present a consistent definition of what digital services or markets are (or of the companies offering/acting in them), but it does highlight ten types of services considered strategic given their impact on the activities of users and businesses ("core platform services", or "CPS").[12] Under the DMA, each of the ten CPSs has a corresponding definition: for example, "online intermediation services" are defined as services that facilitate the beginning of direct transactions between business users and consumers.[13]

The set of services under the scope of the DMA is mainly focused on digital operations that act as intermediaries between commercial and end users,[14] as well as being characterized by common elements such as economies of scale, network effects, and the ability to connect through the multilateral nature of these services. According to the documents supporting the DMA’s drafting process,[15] the selection of these digital services was mainly based on investigations previously carried out by the European Commission in the context of analyzing individual unilateral conducts of specific platforms.

The DMA structures the asymmetric regulation model based on the establishment of three qualitative criteria for the designation of a company as a "gatekeeper". These criteria are presumed to be met if their corresponding quantitative criteria are met. **Table 1** presents the criteria for the designation of a "gatekeeper".

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[12] The 10 CPSs are: i) online intermediation services; ii) online search engines; iii) online social networking services; iv) online video sharing platforms; v) number-independent interpersonal communication services; vi) operating systems; vii) web browsers; viii) virtual assistants; ix) cloud computing services; x) online advertising services.

[13] "Allow for business users to offer goods or services to consumers, with a view to facilitating the initiation of direct transactions between such business users and consumers, regardless of where such transactions are actually concluded". Article 2, Paragraph 2.b. Regulation (EU) 2019/1150 of the European Parliament and of the Council of June 20, 2019, on promoting fairness and transparency for business users of online intermediation services. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R1925.

[14] The exception are cloud computing services, which are not characterized by the intermediation between business users and end users.

[15] European Union (2020). Impact assessment of the Digital Markets Act. Available at: https://digital-strategy.ec.europa.eu/en/library/impact-assessment-digital-markets-act.

Table 1 - Quantitative and qualitative criteria for defining gatekeepers

	Qualitative criteria	Quantitative criteria
i.	To have a significant impact on the internal market;	The qualitative criterion is presumed to be met if (i) the supplier of a CPS has a turnover in the EU of more than €7.5 billion in the last three years or a market capitalization of more than €75 billion in the last financial year and supplies the same CPS in at least three EU Member States;
ii.	To operate at least one CPS that serves as an important gateway for business users to reach end users; and	The qualitative criterion is presumed to be met if (ii) the CPS has at least 45 million monthly active end users and at least 10,000 active business users located or established in the EU;
iii.	To benefit from an entrenched and durable position in its operations or the foreseeability of benefitting from such a position in the near future	The qualitative criterion is presumed to be met if (iii) the second threshold above has been met in each of the last three financial years.

Source: European Union (2022).

In addition to this specific set of criteria, the DMA also provides that a company can be designated by the European Commission as a "gatekeeper" if it meets only part of the qualitative criteria, even if it does not meet the presumed quantitative criteria after the market investigation is carried out.

It should be noted that during the development of the DMA, the European Commission proposed different quantitative thresholds. The aforementioned approved criteria were decided during the legislative approval process within the Council and the European Parliament. After their approval, the European Commission did not present any documents explaining the methodology for establishing these quantitative thresholds. Several experts, commentators, and researchers point out that the adoption of these thresholds is marked by a high degree of arbitrariness, aimed at regulating a specific and predetermined set of companies (Ballell, 2021; Schweitzer, 2021).[16, 17]

[16] Commentators also note that the European Commission did not use economic criteria supported by a logic of rationality aimed at maximizing the effectiveness of the obligations imposed by the DMA. The increase in the quantitative billing criterion between the initially presented version and the final version approved by the European Council/Parliament also suggests a retroactive process in the construction of the criteria, which would have clear and pre-established goals concerning the designation of the set of "gatekeepers" subject to regulation.

[17] In September 2023, the European Commission designated 22 CPSs as *gateways of* interest. These, in turn, are offered by six companies considered "*gatekeepers*": Alphabet (Google), Amazon, Apple, ByteDance (TikTok), Meta (Facebook, Instagram, WhatsApp), and Microsoft.

The choice of parameters for defining "gatekeepers" has also been criticized for oversimplifying the identification of these companies. One example is the absence of indicators that capture the degree of multihoming of each platform and service - in other words, not considering whether users make frequent substitutions between different providers of similar services (Geradin, 2021; Schweitzer, 2021; Cabral et al., 2021). Recent research shows that, when presented with different options, consumers tend to use more than one service, not restricting their use to and reducing their dependence on a specific platform (Barua & Mukherjee, 2021; Barcevičius et al., 2021).

The DMA is also criticized for the lack of consideration of the different business models used by digital platforms, which impact the restrictions and obligations imposed by its regulatory framework. The fact that scholars argue that the obligations imposed by the DMA should have been adapted to the specific characteristics of each CPS (Ducci, 2021; Schweitzer, 2021; Scott Morton & Caffarra, 2021) further highlights this limitation.

The vagueness of the DMA's text raises a number of elements that should be considered by the Brazilian regulatory proposal, given its inspiration in the European approach:

i. **The lack of case-by-case analysis** makes it challenging for companies to apply the regulatory framework and comply with it. The DMA imposes 24 separate obligations on designated gatekeepers, covering a wide range of conducts. These obligations are applied to gatekeepers without requiring the European Commission to conduct a case-by-case analysis of likely effects, efficiencies, or objective reasons. However, given that no case-by-case analysis is carried out beyond those which inspired the drafting of the individual obligations (within the framework of the legal instructions previously developed by European antitrust enforcement), the European Commission has no knowledge of the specific market facts and dynamics in order to decide whether or not certain conducts comply with the provisions of the DMA;

ii. **Broadly defined obligations** present three central challenges: i) the DMA imposes a difficult compliance dynamic on companies due to the lack of

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The Commission also opened four investigations into whether the following platforms could qualify as CPSs: Bing, Edge, and Microsoft Advertising (Microsoft); and iMessage and iPadOS (Apple). Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_4328.

clarity of the obligations; ii) the general provisions of the DMA are too vague, which can lead to lengthy litigation processes and, consequently, a delay in their effective implementation; and iii) the unclear obligations of the DMA can discourage innovation and other beneficial effects for the consumer, given they can cause the inhibition - not originally desired by legislators - of pro-competitive conduct.

iii. **Developing a general approach for multiple economic segments ("one size fits all") is counterproductive in the digital space.** Unlike the sectoral regulation of network industries such as energy and telecommunications, the DMA does not regulate a homogeneous economic space. On the contrary, the regulatory framework in question covers specific companies in markedly different sectors and with very different business models. Given that the DMA does not require a direct finding of the existence of market power, abusive conduct, or likely effects, it is possible that "gatekeepers" are forced to adapt their activities in markets in which there are many players and in which, in reality, the said "gatekeepers" do not have effective market power. This dynamic creates a series of perverse incentives in which competitors (even incumbents) end up insulated from competitive pressures precisely because of the comprehensive application of the DMA. For example, the DMA's broad application favors offline competitors, which may have significant market power in specific segments, yet compete directly with online "gatekeepers" without being subject to the same rigorous regulations[18].

1.2 Other regulatory initiatives worldwide

In addition to the abovementioned set of limitations, it is also important to note that the DMA is an exception worldwide, it is neither the only nor the most popular strategy for regulating competition in the so-called digital markets. Therefore, it is worth looking briefly at how this issue is addressed in different jurisdictions.

[18] This scenario could notably play out in certain retail segments, such as traditional B&M firms which compete with online sales platforms, potentially leveraging their established market presence without the constraints imposed on their digital counterparts.

Taiwan[19] and Germany are some of the examples.[20] After concluding that the country had no latent competition problems related to digital markets, Taiwan chose not to implement *ex-ante* legislation specific to digital platforms but rather to use and enforce its existing competition law to respond to competition problems involving so-called “digital platform conduct".[21] Germany, on the other hand, has opted for significantly expanding the powers of the German Federal Cartel Office (FCO), effectively enabling the FCO to dictate what conduct is appropriate. Germany has implemented changes to Section 19a of its competition law, adding specific provisions for digital platforms and conglomerate structures, but without establishing a strict *ex-ante* framework. Designation is not based on quantitative criteria but rather following a market investigation.[22]

In addition to these examples, efforts in the United States and United Kingdom stand out, assessed in terms of the global importance of their antitrust jurisdictions. In the U.S., Congress has proposed several legislative proposals to regulate digital platforms, but none have been approved due to concerns regarding their negative impact on consumers and innovation. Some of these were inspired by certain provisions of the DMA, such as the Digital Consumer Protection Commission Act of 2023 (DCPC),[23] proposed by Senators Elizabeth Warren and Lindsey Graham; the Digital Platform Commission Act of 2023 (DPC),[24] proposed by Senators Michael Bennet and Peter Welch; and the American Innovation and Choice Online Act (AICOA),[25] initially

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[19] The regulatory proposal presented in Taiwan bears similarities to the European DSA but also has central elements related to the competition debate.

[20] According to the OECD (2021, 2023), other proposals for regulating digital markets have been put forward in jurisdictions such as South Korea, India, Japan, and the African Union of Nations.

[21] McConnell, C. (2021). *Taiwanese officials say the competition agency is not considering digital platform regulation.* Global Competition Review. Available at: https://globalcompetitionreview.com/article/taiwanese-official-says-competition-agency-not-considering-digital-platform-regulation.

[22] Bauermeister, T. (2022). *Section 19a GWB as the German "Lex GAFA" - lighthouse project or superfluous national solo run?* Jean Monnet Network on EU Law Enforcement. Available at: https://jmn-eulen.nl/wp-content/uploads/sites/575/2022/05/WP-Series-No.-23-22-Section-19a-GWB-as-the-German-Lex-GAFA-Bauermeister.pdf.

[23] Warren, Elizabeth (2023). S.2597 - Digital Consumer Protection Commission Act of 2023. Available at: https://www.congress.gov/bill/118th-congress/senate-bill/2597/text?s=4&r=2&q=%7B%22search%22%3A%5B%22warren%22%2C%22Elizabeth+Warren+and+Lindsey+Graham%22%2C%22Elizabeth+Warren+and+Lindsey+Graham%22%5D%7D.

[24] Bennet, Michael F. (2023). S.1671 - Digital Platform Commission Act of 2023. Available at: https://www.congress.gov/bill/118th-congress/senate-bill/1671/text?s=6&r=2&q=%7B%22search%22%3A%5B%22Digital+Consumer+Protection+Commission+Act+of+2023%22%5D%7D.

[25] Klobuchar, Amy (2023). S.2033 - American Innovation and Choice Online Act. Available at: https://www.congress.gov/bill/118th-congress/senate-bill/2033/text?s=3&r=1&q=%7B%22search%22%3A%5B%22American+Choice+and+Innovation+Online+Act%22%5D%7D.

proposed by Congressman David Cicilline in the House and Senator Amy Klobuchar and Senator Chuck Grassley in the Senate. Among these, AICOA is the only bill that gathered some momentum and voted out of committee in the 117th Congress (spanning January 3, 2021 – January 3, 2023) but never reached a floor vote due to insufficient support.

In the UK, the Digital Markets, Competition and Consumers Bill (DMCC) is currently pending before Parliament and it is the main and only initiative in this regard, originating from the national competition and consumer protection body, the Competition and Market Authority's (CMA).[26, 27, 28] We will analyze the mechanisms for identifying the firms to be regulated and the criteria for selecting the platforms to be regulated that are present in the UK's proposal.

The UK's proposal does not list specific digital services that will be regulated. Instead, it uses a broad definition of "digital activities", which includes (i) the provision of services delivered via the Internet, (ii) the provision of digital content, or (iii) any other activity that supports this. As the nomenclature does not specify services, it allows services and firms that are created in the future to be targeted by the proposed regulation. Some argue that this very broad definition creates uncertainty and reduces the propensity for innovation.[29] To identify the digital platforms that should be regulated, the British proposal creates the concept of Strategic Market Status (SMS). To be considered an SMS, the CMA will initiate an investigation to determine whether a company has:

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[26] United Kingdom (2023). New Bill to stamp out unfair practices and promote competition in digital markets. Available at: https://www.gov.uk/government/news/new-bill-to-stamp-out-unfair-practices-and-promote-competition-in-digital-markets;

United Kingdom (2023). New Bill to crack down on rip-offs, protect consumer cash online, and boost competition in digital markets. Available at: https://www.gov.uk/government/news/new-bill-to-crack-down-on-rip-offs-protect-consumer-cash-onlineand-boost-competition-in-digital-markets.

[27] Scott Morton, F.; Caffarra, C. (2021). The European Commission Digital Markets Act: A translation. Available at: https://cepr.org/voxeu/columns/european-commission-digital-markets-act-translation.

[28] United Kingdom (2021). A new pro-competition regime for digital markets. Available at: https://www.gov.uk/government/consultations/a-new-pro-competition-regime-for-digital-markets; https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1073164/E02740688_CP_657_Gov_Resp_Consultation_on_pro-comp_digital_markets_Accessible.pdf.

[29] United Kingdom (2022). A new pro-competition regime for digital markets - government response to consultation. Available at: https://www.gov.uk/government/consultations/a-new-pro-competition-regime-for-digital-markets/outcome/a-new-pro-competition-regime-for-digital-markets-government-response-to-consultation#part-3-strategic-market-status

i. A digital activity linked to the United Kingdom;
ii. Substantial and entrenched market power;
iii. Significant strategic position in the context of digital activity;
iv. Revenue of at least £1 billion in the UK or £25 billion in global revenue.

These criteria are vaguely defined in the proposal and can lead to uncertainty about which companies will be designated as SMS firms.

The regulatory landscape across various jurisdictions reveals that countries like the United States, the United Kingdom, Taiwan, and Germany have each conducted their own assessments and opted not to strictly emulate or transpose the DMA's approach. This decision underscores a global apprehension regarding the potential adverse effects such regulation might impose on innovation, market competitiveness, and economic dynamism in the digital sector. In contrast, the proposed Bill 2.768/2022 indicates a move to closely replicate the EU regulatory model, positioning Brazil in alignment with one type of regulation model.

1.3 Vague definitions and problems regarding specification within the criteria in Bill 2768/2022

Unlike the European and British cases, the Brazilian regulatory proposal does not confer the enforcement powers or responsibilities associated with regulating digital platforms to antitrust authorities, but rather assigns them to the Brazilian National Telecommunications Agency ("**ANATEL**"). Given the set of provisions presented in the proposal Bill, it seems to be the result of little dialogue with the agents and authorities working in the Brazilian antitrust system as it largely ignores the Brazilian Administrative Council for Economic Defense's ("**CADE**") jurisprudence and expertise in analyzing cases within the so-called digital markets.

In addition, as already explained, the document justifies the regulatory initiative on the grounds of the need to mitigate the market power of "large digital platforms", referred to as "holders of the power to control essential access". As observed mainly in the European case, but also in other jurisdictions, the purpose of the Brazilian proposal is also unclear, disregarding the need for enforcement to be based on a well-established market failure in each of the markets of interest. Instead, it seeks to guarantee "broad

and fair competition between platforms and between the economic agents that are affected by these activities".

The proposed Bill is also inspired by the DMA in its listing of the "modalities" of interest or, in other words, the services subject to regulatory action. The list presented in proposed Bill 2768/2022 in Article 6 directly emulates the majority of those included in the DMA, listing eight services analogous to CPSs: a) online intermediation services; b) online search engines; c) online social networks; d) video sharing platforms; e) interpersonal communications services; e) operating systems; g) cloud computing services; and h) online advertising services offered by operators of digital platforms offering the services listed above. However, the proposed Brazilian Bill does not provide any specifications regarding services operated between users and companies, leaving space for the regulation of B2B services due to the vagueness of its definitions.

Regarding the designation of companies subject to regulation, the proposed Brazilian Bill is even vaguer than its peers, as it only considers the "annual operating revenue" of more than R$ 70 million to be the criteria for designating firms with "the power to control essential access" (Article 9). As the Organization for Economic Co-operation and Development (“**OECD**”) points out (2023), the determination of the so-called "power to control essential access" seems to be related to the idea of determining market power, but there is no definition of the term nor adoption of criteria that can actually be associated with the dominance in a given economic segment. The proposal ignores the particularities and heterogeneity of the so-called digital platforms in question, disregarding competitive drivers, competitive pressures, and relevant elements such as multihoming and switching costs.

1.4 Conclusion

Given these limitations in the current Bill, the process of regulating competition in digital markets in Brazil must consider that the country has a particular economic and legal context. Specifically, it should be considered that the Brazilian economy - and especially its digital dimension - is still emerging, and it is essential to observe the particularities of this context, which are not easily translated into the scenarios of economies that are already largely digitally developed, such as those of the European Union, the United Kingdom, and the USA.

In fact, the development of this specific regulatory mechanism must i) start by identifying market failures that justify the need for remediation; ii) consider that the model adopted in the European Union through the DMA is developed specifically based on the economic and legal characteristics of that trading block; iii) consider that this model is still relatively experimental and that it has not been effectively applied, preventing its possible benefits from being assessed in comparison with its possible problems (reduction in innovation, reduction in investments, increase in prices, etc.).

2. Identifying companies subject to regulation according to the designation criteria of proposed Bill 2768/2022

It is important to understand how the criteria proposed by proposed Bill 2768/2022 applies to the national reality. In this sense, given the vagueness and the broad scope of the criteria for designating firms with the "power to control essential access", in addition to the great heterogeneity of the services covered by Article 6 of the Bill, this section develops a methodology for listing the universe of sectors and firms possibly affected by the regulatory initiative in its current form.

The characterization and quantification of the universe of firms covered by proposed Bill 2768/2022 is a fundamental step in assessing the economic and competitive impacts of the Bill. However, despite growing regulatory interest, there is a lack of clear definitions, consolidated data and standardized methodologies for identifying and classifying the group of economic agents that can be defined as “digital platforms” in the Brazilian context. As previously mentioned, this dynamic is further hampered by the vague specification of the criteria presented by the Bill, resulting in a large number of markets and agents possibly being subject to regulation.

This section presents the methodology used to measure the size of the universe of firms affected by the regulatory model proposed in Bill 2768/2022. Public APIs, microdata, and private databases are used to identify the platforms possibly covered by the regulatory framework in question. The final list developed using the methodology here described can be found in Annex I.

2.1 The methodology for listing firms possibly affected by the designation criteria presented by Bill 2768/2022

The methodology used here draws on a set of databases from public, private, and academic sources in order to identify the firms impacted by the Bill. Despite the limitations of each of the different approaches and the specification problems previously discussed in relation to the Bill’s text, it is possible to develop a robust

mapping of the universe of digital platforms possibly affected by combining different data sources and references.

The listing effort is divided into three distinct stages. Initially, data is collected from the Brazilian Federal Revenue Service ("**RFB**" or "***Receita Federal***"), wishing to identify the firms of interest based on their tax regimes and economic activities. In the second stage, the methodology developed by Silva, Chiarini & Ribeiro (2022) is used to identify the firms of interest based on key terms within the scope of the private data available on Crunchbase.[30] Finally, a process of consolidating the two methodologies is carried out, allowing the presentation of a final list of 258 firms in 24 different sectors that would be subject to regulation according to the criteria presented by Bill 2768/2022.

2.1.1 Stage 1: gathering data from public databases and repositories (the Brazilian Federal Revenue Service)

The first stage of the analysis is based on exploring public databases and building an initial list of the universe that could be defined as "digital platforms" in Brazil based on information from the Brazilian Institute of Geography and Statistics ("**IBGE**") and the Brazilian Federal Revenue Service.

Firstly, we mapped the economic activities of the main firms that could most closely align with the services outlined in proposed Bill 2768/2022. The National Classification of Economic Activities ("**CNAE**") codes were used for this analysis and 87 relevant CNAEs were identified, that is, 87 economic activities were identified among the pre-selected firms[31,32]. The survey of CNAEs resulted in the identification of 181 different economic activity codes, which were subsequently reduced to a group of 15 CNAEs of interest based on the activities with the highest frequency of registration and greater proximity to the scope of the present analysis, as specified by Article 6 of the Bill. **Table 2** shows the final set of CNAEs of interest.

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[30] Crunchbase is the leading provider of prospecting and research solutions for private companies. The company is based on developing partnerships with various firms and investors worldwide to provide databases.

[31] The CNAE is an indicator of a company's area of activity systematized by the Brazilian IBGE. It consists of 7 digits representing section, division, group, class, and subclass, respectively. It is worth highlighting that this means that, at some point, these firms had to judge and decide, within the list of CNAEs available, which of them best correspond to their commercial activities.

[32] Examples of companies that could be contemplated by the services of Bill 2768/2022 includes Meta, Google, Microsoft, 99, AirBnB, Amazon, Decolar.com, IFood, Uber, Loft, Mercado Livre, X (Twitter), Tinder, TikTok, Baidu, Pinterest, etc.

Table 2 - Final list of CNAEs of interest

CNAE	Description
74.90-1-04	Intermediation and agency activities for services and business in general, except real estate
63.19-4-00	Portals, content providers, and other information services on the Internet
62.03-1-00	Development and licensing of non-customizable computer programs
63.11-9-00	Data processing, application service providers, and web hosting services
62.02-3-00	Development and licensing of customizable computer programs
62.09-1-00	Technical support, maintenance, and other information technology services
73.19-0-99	Other advertising activities not previously specified
73.11-4-00	Advertising agencies
73.12-2-00	Agency for spaces for advertising, except in communication vehicles
53.20-2-02	Fast delivery services
73.19-0-02	Sales promotion
73.19-0-03	Direct marketing
79.90-2-00	Reservation services and other tourism services not previously specified
68.22-6-00	Real estate property management and administration
79.11-2-00	Travel agencies

Source: The Brazilian National Classification Commission ("CONCLA"), within IBGE. Developed by LCA.

Based on the set of CNAEs identified as mentioned above, we can cross-reference them with official databases of the Federal Revenue Service to identify companies with relevant digital activity. The goal of this process is to identify firms that meet two criteria: (*i*) registration of at least one of the digital activities observed from the CNAEs survey and (*ii*) subject to the Actual Profits tax regime ("*regime tributário de Lucro Real*"), or the Actual Profits Method ("**APM**").

The Actual Profits Method, which is part of the Brazilian tax system, stands out not only for its complex accounting and administrative structure but also for the additional obligations it imposes on companies. While many smaller companies opt for simplified regimes, such as the Presumed Profits Method ("**PPM**"; in Portuguese, *Lucro Presumido"*) and the National Simplified Tax Method ("*Simples Nacional*"), due to their adaptability and lower compliance costs, those with an annual turnover of more than R$ 78 million are required to comply with the Actual Profits Method.[33] Given that Article 9 of Bill 2768/2022 establishes an eligibility criteria based on an annual operating revenue threshold of more than R$ 70 million, the Actual Profits regime is the best approximation - based on public data - for identifying firms that would be susceptible to regulation under the legislative proposal.[34]

[33] Brazil (2013). Law Nº 12.814, of May 16, 2013. Available at: https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2013/lei/l12814.htm.

[34] The use of the Actual Profits tax regime as a preliminary criterion for identifying potential digital platform companies affected by Bill 2768/2022 broadens the study's representativeness by including not only companies that meet the billing criteria but also those that, for various

In addition to the list of firms registered under the Actual Profits tax regime and included in the Brazilian Federal Revenue Service's tax regime databases, the CNPJ number data, company name, trade name, and the primary and secondary CNAEs of the group of firms found in other databases of the national tax system were also taken into account. This set of information allows for a more precise characterization of the companies, making it possible not only to identify the firms by name but also by the nature of their operations summarized in the CNAE codes, enabling a cross-referencing process that allows for the identification of firms that meet the two criteria previously mentioned: economic activities of interest and registration under the Actual Profits Method.

As a result of this cross-checking process, around 2 million firms that fit into at least one of the economic activities of interest were identified, and 210,000 firms were registered under the Actual Profits Method. In order to reduce the universe of firms subject to regulation, additional filtering was carried out, observing two conditions: (i) registration under the Actual Profits Method and (ii) different matching models between the 15 CNAEs of interest initially selected. **Table 3** shows the five different matching scenarios analyzed.

Table 3 - Matching criteria between the analyzed CNAEs

Scenario	Matching criteria	Firms captured
(a)	At least one of the 15 CNAEs of interest	26,086
(b)	Most frequent CNAE (intermediation activities) or at least one of the remaining 14 CNAEs	11,406
(c)	Most frequent CNAE (intermediation activities) and at least one of the remaining 14 CNAEs	3,570
(d)	Second most frequent CNAE (portals, providers, and other information services on the Internet) +	2,460

reasons, choose this tax regime. This is particularly relevant for *startups* looking to optimize their tax burden in scenarios of low profitability or zero profit, as well as for companies in the financial sector and fintech firms, in which tax peculiarities often lead to the adoption of the Actual Profits Method. This approach, while ensuring comprehensive coverage by broadening the spectrum of analysis, has the limitation of potentially including companies with a turnover of less than R$ 70 million, which would not fit the initial turnover criteria. In the following sections, we present the strategies used to mitigate these limitations.

Scenario	Matching criteria	Firms captured
	at least one of the remaining 14 CNAEs	
(e)	Most frequent CNAE (intermediation activities + Second most frequent CNAE (Portals, providers, and other information services on the Internet) + at least one of the remaining 13 CNAEs	867

Developed by LCA. Note: The criterion used to select the firms is in red.

Based on the results obtained from the different scenarios analyzed, scenario C was chosen to proceed with the identification of the list of firms to be subject to the proposed regulation. It was chosen as it showed the greatest adherence to the listing of 87 economic activities initially selected (highlighted in the table above). With the sample reduced to a set of 3,570 firms, an individual analysis of the companies identified was undertaken in order to increase the accuracy of the selection of the final listing. This process started with a firm-by-firm investigation of the more than 3,000 listed companies and, when applicable, their services and applications, with the aim of determining whether their operations and business strategies aligned with the digital platform concept used in proposed Bill 2768.

Given the lack of clarity in proposed Bill 2768/2022 in defining the object of its regulation, i.e., the "digital platforms", the characterization and identification of digital platforms was based on a methodology similar to the one employed by Silva, Chiarini & Ribeiro (2022). In particular, the individual analysis was based on the definitions established by Belleflamme & Peitz (2021) and on extensive academic literature in economics dedicated to the analysis and typology of digital platforms, based on three factors:

i. **Platforms operate in two- or multi-sided markets.** This dynamic is based on the platform's ability to facilitate interactions between distinct groups of economic agents on different sides of the market. (Rochet & Tirole, 2006; Evans & Schmalensee, 2013; Hagiu & Wright, 2015; Belleflamme & Peitz, 2021).

ii. **Platforms can create network effects**, meaning the value a user gets increases as more people join. Imagine a social network your friends are already. One would get more value because onecan connect with them.

Network effects can be direct (users benefit from each other's presence) or indirect (one side benefits from users on the other side). (Belleflamme & Peitz, 2021; Tucker, 2019).

iii. **Digital platforms can be characterized by a model of industrial organization in which marginal costs tend towards zero.**[35] Varian, Farell & Shapiro (2004) point out that for some digital platforms the cost of adding a new user can be close to zero.

Based on these three criteria, systematic research of the selected companies was conducted, through which a researcher cataloged and grouped these firms into four categories: i. platform; ii. inconclusive; iii. *fintech*; and iv. non-platform. Once the first round of classification had been completed, a *double-check* process was implemented to ensure the accuracy of data, in which a second researcher, ignoring the results of the first categorization, carried out the same dynamic selection and individual analysis.

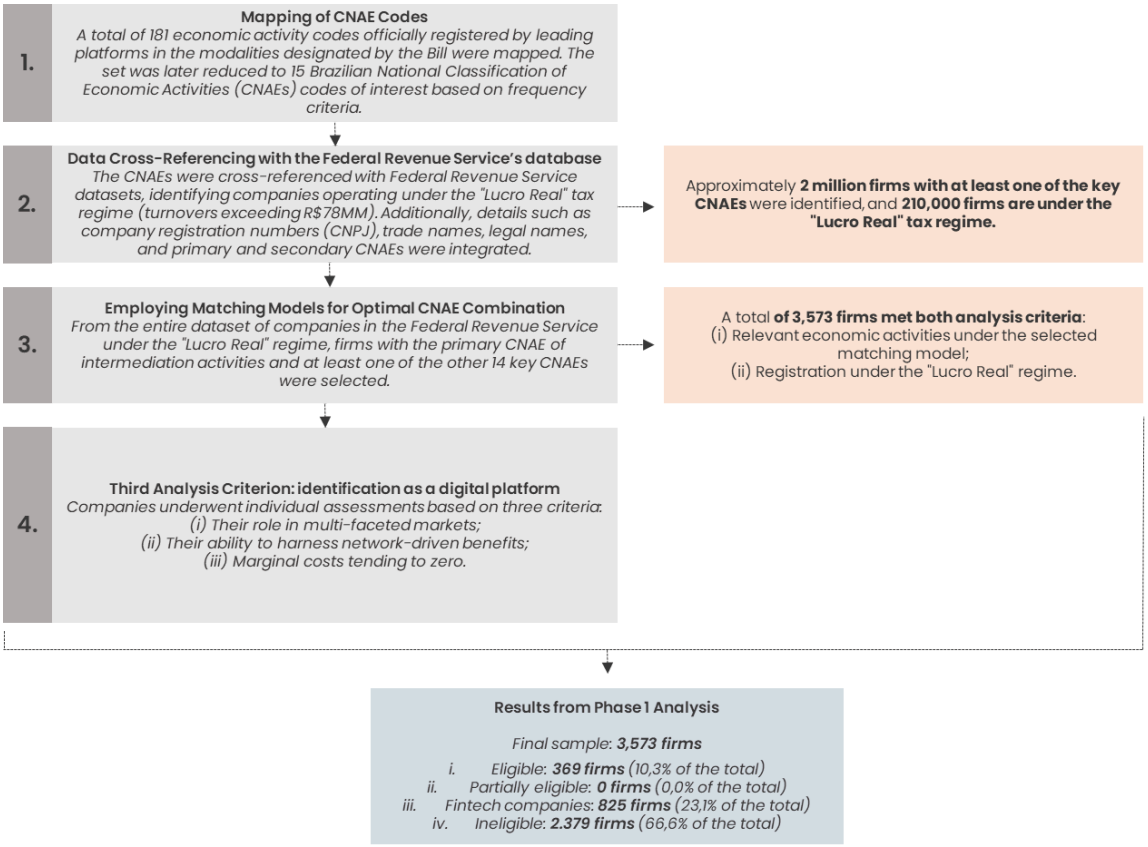
After this review, some firms remained difficult to classify as digital platforms. These firms showed characteristics of digital platforms, but their business models or operations were too unclear for a straightforward answer. This reflects the challenge of defining "digital platform" without a clear definition in the proposed Bill. Some companies simply operate in a gray area due to the complexity of their activities.

After selecting and validating the results, we obtained an intermediate list of companies that met additional criteria for analysis: (i) designation according to the matching of selected economic digital activities (CNAEs); (ii) registration under the Actual Profits Method, and therefore, a turnover of more than R$78 million, and (iii) categorization as a digital platform based on the criteria for defining this model of industrial organization. Finally, based on the analysis of public data from the Federal Revenue Service and of the set of 3,570 firms present in the final sample, 369 firms (10.3% of the total) met the criteria for designation as a digital platform.

Figure 1 shows a schematic summary of the methodological approach and the processes developed within the scope of the first stage of developing the list of firms affected by Bill 2768/2022.

[35] Although some associate digital products with marginal costs close to zero, this characterization has relevant exceptions and nuances. For example, platforms like Amazon, which operate large physical logistics infrastructures, can have significant marginal costs associated with product delivery. In addition, for platforms that handle large volumes of data or traffic, the costs of maintaining and expanding servers can be substantial. These particularities were taken into account in the selection process.

Figure 1 - Schematic summary of the processes carried out in Stage 1 of developing the list of firms, based on public data from the Brazilian Federal Revenue Service



Developed by LCA.

As highlighted above, although the analysis based on the set of databases and public repositories of the Federal Revenue Service allows for the observation of a broad universe of firms that can be categorized as digital platforms and that tend to have annual revenues of more than R$ 78 million, some limitations are still evident. These include: (i) it is possible that firms with a turnover of less than R$ 78 million are identified in the database due to elements of tax compliance or the company's choice of the Actual Profits Method, as it is the case with financial companies; and (ii) the R$ 78 million cut-off may exclude platforms with a turnover of between R$ 70 and R$ 78 million.

Although it is reasonable to assume that these factors do not significantly affect the results, with a view to reducing these biases, other methods of analysis were developed using private data sources and different methodological approaches to come up with the final list of impacted firms.

2.1.2 Stage 2: Crunchbase Data

To complement the information obtained through public data analysis and overcome the limitations of that approach, we utilized another database to build a parallel list of eligible platforms. Inspired by Silva, Chiarini & Ribeiro (2022), we aimed to create a comprehensive picture of the digital platform landscape in Brazil.

We employed Crunchbase data to identify and verify potential platforms, similar to the process used in Stage 1. Crunchbase is a leading source of business information with more than 600,000 contributors[36] and data on more than 33,000 companies based in Brazil. The data mapped for each firm is diverse and includes acquisition history, number of employees, turnover, textual descriptions of the company's activities, etc.[37]

By analyzing the informative "description" and "full description" fields in Crunchbase, we considered a series of keywords to filter companies relevant to the Bill's definition of digital platforms. This helped us focus on companies with a higher likelihood of meeting the criteria. **Table 4** shows the list of key terms used by Silva, Chiarini & Ribeiro (2022), which is emulated in the analysis carried out in Stage 2.

Table 4 - List of terms used to filter digital platforms

*application software**	*internet search solution*	*online gaming*	*social media (platform)***
*delivery platform**	*internet shopping*	*online marketplace*	*social media content*
digital marketplace	*marketplace platform*	*online platform*	*social media management*
digital payment	*mobile game*	*online reservation*	*social media marketing*
digital platform	*mobile payment*	*online social media*	*social media strategy*
e-commerce	*mobile platform*	*open-source platform**	*social network*
e-payment	*on-demand economy**	*payment platform*	*social networking services*
innovation platform	*online advertising service*	*search engine*	*software platform*

[36] More information can be found at: https://about.crunchbase.com/partners/#:~:text=An%20active%20community%20of%20contributors,date%20and%20accurate%20as%20possible.

[37] It is important to note that the data extracted by Crunchbase, especially for Brazilian companies, also has its limitations. Not all the companies listed on the platform have complete information on turnover and other relevant variables. In addition, it is possible that, for certain global platforms, the figures stated for turnover and number of employees, for example, refer to their global figures and not specifically to those related to the company's operations in Brazil. To address the challenge posed by the necessity of turnover estimates for classifying firms under the proposed Bill's quantitative criteria, this information was manually checked when necessary.

internet marketplace	*online booking*	*serverless computing*	*transaction platform*
internet platform	*online game*	*services marketplace**	*transactional marketplace**

Source: Silva, Chiarini & Ribeiro (2022). Authors' highlights (with textual changes): (*) key terms included to capture the specificities of Crunchbase; (**) additional inclusion of the term "platform". Developed by LCA.

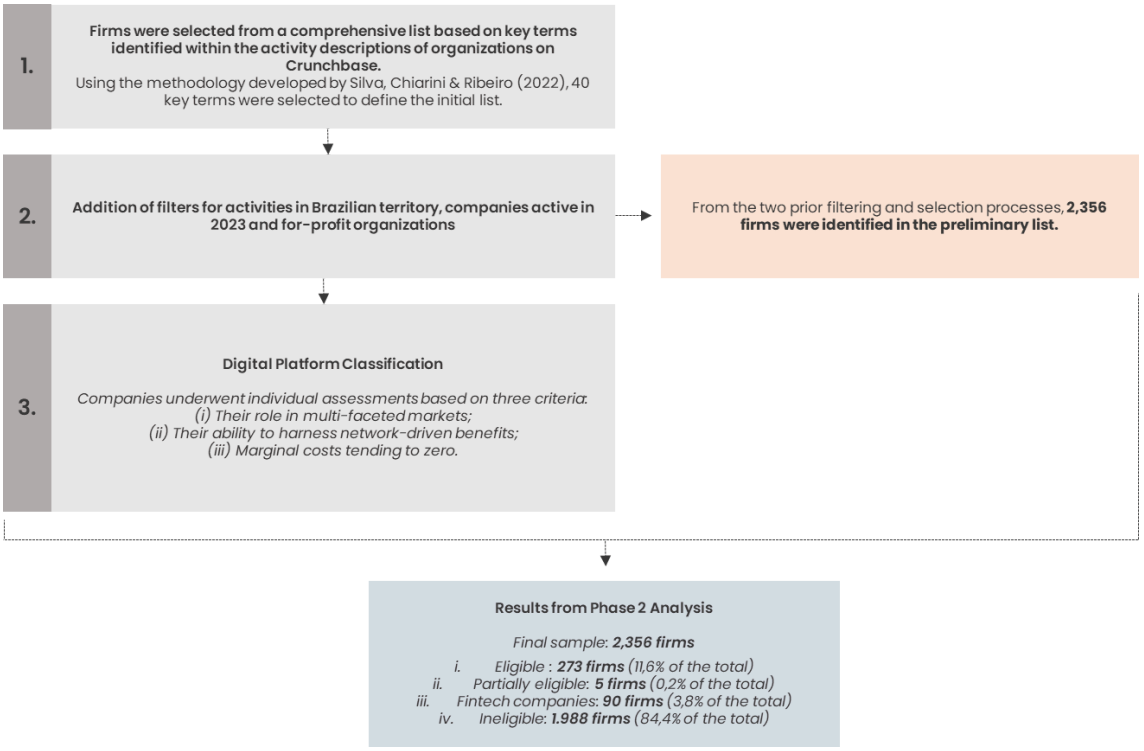
In addition to use of key terms, filters to select for-profit organizations, with activities in Brazil that were active in 2023 were also added. This produced a preliminary list of 2,356 companies potentially aligned with the characteristics of digital platforms.

In order to refine the selection and guarantee its accuracy, the same process of individual selection of the set of 2,356 firms was adopted, based on the three criteria defined by the academic literature and previously described in Stage 1: (i) operating under a two-sided market (intermediation between groups); (ii) potential network externalities (direct or indirect); and (iii) marginal costs tending to be zero (a particularity not exclusive to digital goods).[38] Once the initial analysis was complete, a *double-check* process was once again implemented, with an independent analysis and of these over two thousand firms, carried out by a second researcher which was not involved in the first round of evaluation. This process resulted in a final list of 273 (11.6% of the total) companies defined as digital platforms**.**

Figure 2 shows a diagram of the methodological approach and the processes developed within the scope of the second stage to develop the list of firms affected by Bill 2768/2022.

[38] As mentioned above, the three main characteristics of the operation of digital platforms were used to identify the firms potentially subject to regulation. Firstly, they operate in multi-sided markets, intermediating interactions between different groups, a characteristic which is intrinsically linked to the operation and purpose of the platforms. Secondly, they can potentially create network externalities, which means that the value for a user increases as the number of users grows, creating a valuable interdependence between the platform's sides. Thirdly, they are marked by a model of industrial organization in which marginal costs tend to be close to zero, allowing for significant economies of scale in the digital context. This last characteristic, although not exclusive to the operation of digital platforms, can be a significant part of their operation and it is related to the nature of digital goods, in which the cost of producing an additional unit - or the cost of an additional user - is extremely low (Varian, Farrel & Shapiro, 2004; Belleflamme & Peitz, 2021).

Figure 2 - Diagram summary of the processes carried out in Stage 2 to develop the list of impacted firms, based on data from Crunchbase



Developed by LCA.

Developing the list using Crunchbase data has certain limitations. Even if the list created in Stage 2 manages to accurately capture a large set of firms, it cannot be ruled out that some platforms may be inadvertently omitted if they do not use specific key terms in their descriptions. To mitigate these problems and arrive at a final list, a third stage of analysis is carried out to consolidate the information gathered in the two previously described stages.

2.1.3 Stage 3: consolidating information from public data from the Brazilian Federal Revenue Service and Cruchbase data

Given the complementary nature of the information obtained from the Internal Revenue Service (IRS) and Crunchbase, a *cross-checking* process was carried out between these different databases. We focused on companies listed by the IRS that are not included in the final Crunchbase sample of 273 firms.

Crunchbase offers a wider range of company details and more accurate turnover estimates. This allowed for a more precise evaluation of whether these firms meet the proposed Bill's quantitative criteria for revenue.

As a result, we have obtained two distinct sets of data from Crunchbase:

i. The first set: This set comprises 269 firms identified in Stage 1 through analysis of the IRS databases.

ii. The second set: This set of 273 firms emerged from Stage 2, based on the keyword analysis conducted within Crunchbase.

Combining these two lists resulted in a preliminary sample of 542 firms. However, there were 31 duplicates between the lists, bringing the total down to 511 firms[39].

Further Refinement based on Crunchbase Data:

We recognized that the initial keyword analysis might have missed some relevant companies. As an example, the "Apps" category in Crunchbase, which contains many digital platforms, wasn't included in the initial keyword set.

To address this, an additional analysis within Crunchbase was conducted using broader key terms. These terms targeted firms that:

- Meet specific turnover thresholds based on Crunchbase data.
- Possess business models consistent with digital platforms.
- Fall into categories relevant to digital platforms but weren't captured in the previous methodologies.

This additional analysis identified 142 new firms. Notably, 112 of them were concentrated in the "Apps" category[40].

[39] The small overlap between firms obtained by the two methodologies can be attributed to the fundamentally different approaches employed in constructing these databases. The IRS database specifically targets companies classified under the 'real profit' tax regime and with CNAE codes for intermediation activities, which inherently focuses on firms of a larger scale. Conversely, the Crunchbase search utilized key-term analysis to identify firms, casting a net that includes a broader array of digital activities without the same tax regime or CNAE classification.
[40] This change included 112 firms concentrated essentially in the Apps category of Crunchbase, which was absent from the methodology presented in Section 2.1.2, but has several relevant digital platforms.

By incorporating these additional firms, we arrived at our final list of 653 potential digital platforms.

Two additional groups of firms were included in our analysis to create a more comprehensive picture: fintech firms (235) and companies with possible digital platform characteristics (154)[41]. These latter companies showed signs of being digital platforms but weren't definitively classifiable due to the complexities of their business models or operations. This highlights the challenge of defining "digital platform" perfectly, as some companies operate in a gray area.

By incorporating these broader categories, we reached a **total of 1,041 firms**. This wider scope allows for a more thorough analysis of the potential digital platform landscape in the country.

Following the creation of the initial list of 1,041 firms, we conducted a detailed evaluation of each company. This evaluation involved analyzing various sources of public information, including websites, news articles, investment data, and apps.

The proposed Bill's revenue threshold of over R$70 million was used as a filter. Additionally, services and firms under the same parent company were consolidated under the controlling shareholder, further refining the sample.

Through this process, the **total number of companies was reduced to 358**. This final list comprised:

- **252 digital platforms**: These firms met the proposed Bill's definition of a digital platform.
- **85 fintech companies**: While fintech companies are a type of digital platform with a specific focus on financial services, they were categorized separately for further analysis.
- **21 firms with ambiguous platform characteristics:** These firms exhibited some characteristics of digital platforms, but further investigation is needed to categorize them in a definitive way.

The 358 companies identified span across 24 different sectors of the Brazilian economy.

[41] These firms displayed features indicative of digital platforms but were not definitively classifiable due to the inherent ambiguity in their business models or operations. This reflects the complexity of defining a digital platform, acknowledging that some companies may straddle the boundaries of this classification due to the nuanced nature of their activities.

The final list excludes fintech, digital payment, and healthtech companies, even though many meet the proposed Bill's definition of a digital platform. This decision reflects the proposed Bill's potentially broad reach, which could encompass these sectors despite their existing regulatory frameworks. **The final list of 252 digital platforms showcases the broad scope of proposed Bill 2768/2022.** It encompasses platforms of all sizes and functionalities, from established names like Usados BR (used cars) and AppGas (cooking gas) to dating apps (Tinder, Grindr, Bumble), pet service booking apps (PetBooking), and diverse freight and delivery platforms (Eu Entrego, Frete.com). Notably, the list even includes sophisticated operational systems (OS), search engines, and cloud service providers like Microsoft, Google, and Oracle.

This diversity raises concerns about the proposed Bill's potential incoherence. Imagine applying the same regulations to:

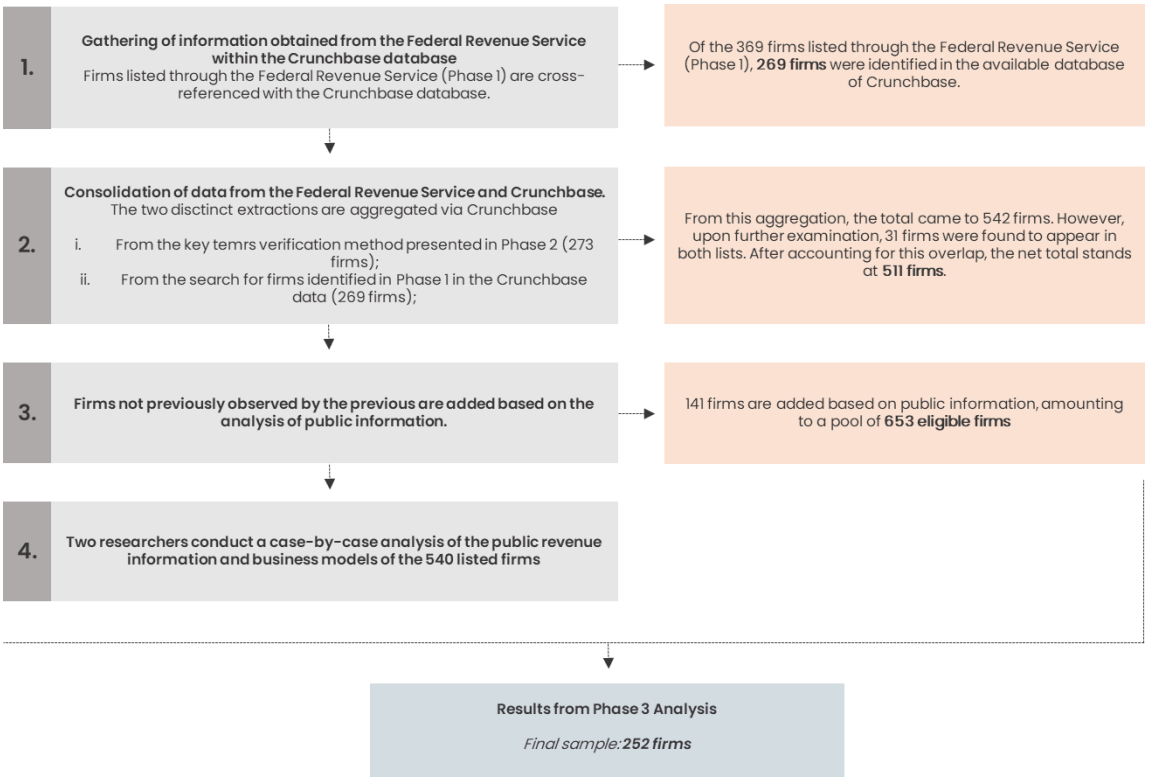
- Advanced operational systems that manage complex infrastructure for businesses.
- Simple online marketplaces connecting pet owners with service providers.
- Targeted advertising services that personalize user experiences.

The specific regulatory needs of each type of platform are vastly different.

This highlights a potential mismatch between the proposed Bill's goal and its selection criteria. The proposed Bill aims to regulate digital platforms, but the criteria used to identify them may be overly broad, capturing a diverse range of companies with distinct functionalities and regulatory needs.

Figure 3 shows a diagram summary of the methodological approach and the processes undertaken in Stage 3 to develop the list of firms affected by proposed Bill 2768/2022.

Figure 3 - Review processes carried out in Stage 3, consolidating information from public data from the Brazilian Federal Revenue Service and Crunchbase data [42]



Developed by LCA.

2.2 Results

A total of 24 sectors and 252 platforms operating in Brazil that could possibly be subject to regulation were identified, according to the current wording of Bill 2768/2022. As presented in detail in the methodological description, data from public and private sources was analyzed to identify the platforms operating in Brazil, taking into account the list of activities in the Bill and then singling out platforms with a turnover of over R$ 70 million.[43] Unlike the DMA, which officially published the full list of 22 core services

[42] The final list can be filtered to include only one company per economic group. This filter groups different companies from the same economic conglomerate under a single entry, excluding smaller companies or branches of these companies. In the case of Google, for example, only the Google entry was considered, encompassing other platforms in the group, such as YouTube and Gmail, among others.

[43] With regard to turnover figures, estimates from the Crunchbase extract were taken into account, or when the database did not provide company revenue data, research was carried out using information from investment reports, press articles, and virtual databases that estimated the revenue of the selected platforms.

platforms operated by six different "gatekeepers", a much wider range of companies and sectors would be subject to regulation if Bill 2768/2022 is approved with its current wording. For example, **Table 5** shows some of the cases in this list. In general, it can be noted that, in its current state, the regulatory proposal will affect platforms of varied sizes and a broad range of sectors of the economy. Retail is the sector that will concentrate the largest number of companies affected by the regulation. The final list can be found in Annex I.

Table 5 - Examples of platforms that would be subject to regulation according to the criteria established by Bill 2768/2022

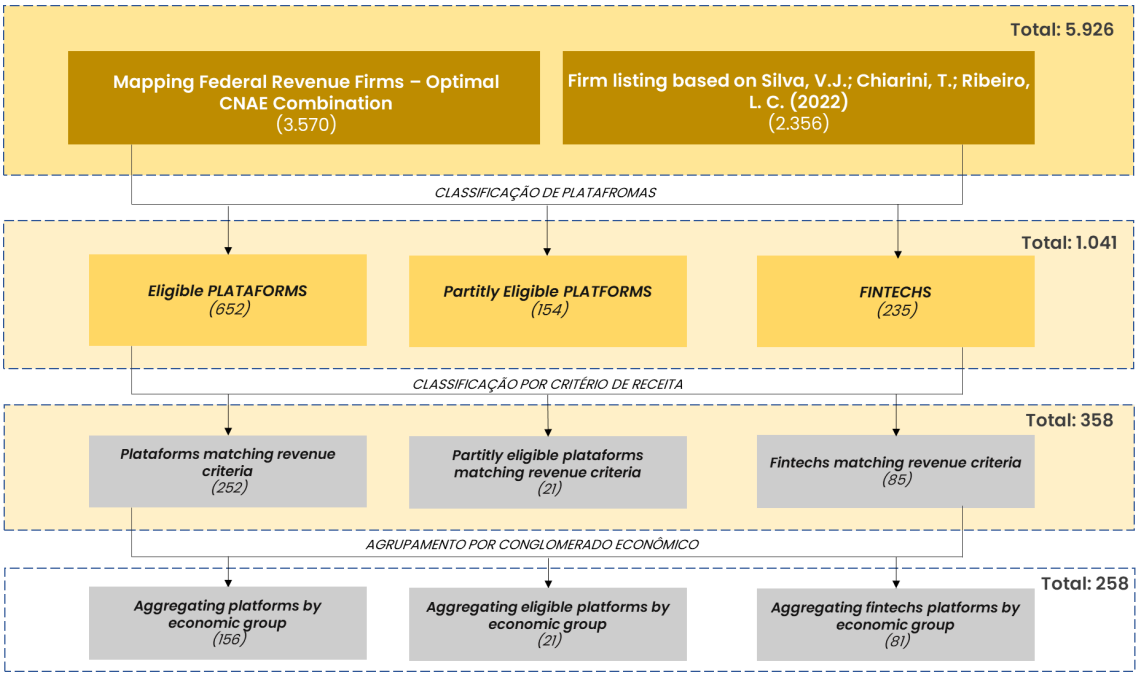
Segment	Firms
Retail/Marketplaces	Mercado Livre; Amazon; Magalu; B2W; Mobly; Lojas Renner; enjoei; Submarino; Viva Decora; Mobly; AppGas
Social networks	Facebook; Instagram; TikTok; Kwai; X (formerly Twitter); Pinterest; Discord
On-demand delivery services	iFood; Rappi; Daki; Aiqfome; Glovo;
Transportation	Uber; 99; Lalamove; FlixBus; Frete.com; EasyTaxi; Buonny
Travel	Decolar.com; Hurb; Airbnb; Booking; HomeToGo; 123Milhas
Entertainment	Ticketmaster; Uhuu; Eventim; Sympla; LiveMode
Streaming/Digital *Content*	Netflix; YouTube; Hotmart; Spotify; Storytel
Property classifieds	QuintoAndar; Zap Imóveis; Viva Real; Ache Apê Fácil
Education	Qconcursos; Playkids; ClassApp; UOL EdTech
Fitness	Gympass; Fitdance; BTFIT
Dating	Tinder; Bumble; Grindr

Developed by LCA.

Figure 4 below shows the number of firms in each stage of the analysis that concluded that 252 platforms operating in Brazil in 24 sectors should be subject to the regulation proposed by Bill 2768/2022. The figure shows, in a simplified form, the filtering stages conducted through the database that included almost 6,000 firms, considering information from the Brazilian Federal Revenue Service and Crunchbase. The filtering methodology for each stage is detailed in the subsection above.

Figure 4 also shows the results for the firms' other classifications, such as fintech companies and those that partially meet the technical criteria for classification as a platform. We highlight once more that this level of descriptive detail is not presented by the Bill, making the analysis of a vaguely defined regulatory object more complex.

Figure 4 - Simplified diagram of the elaboration of the list of affected firms



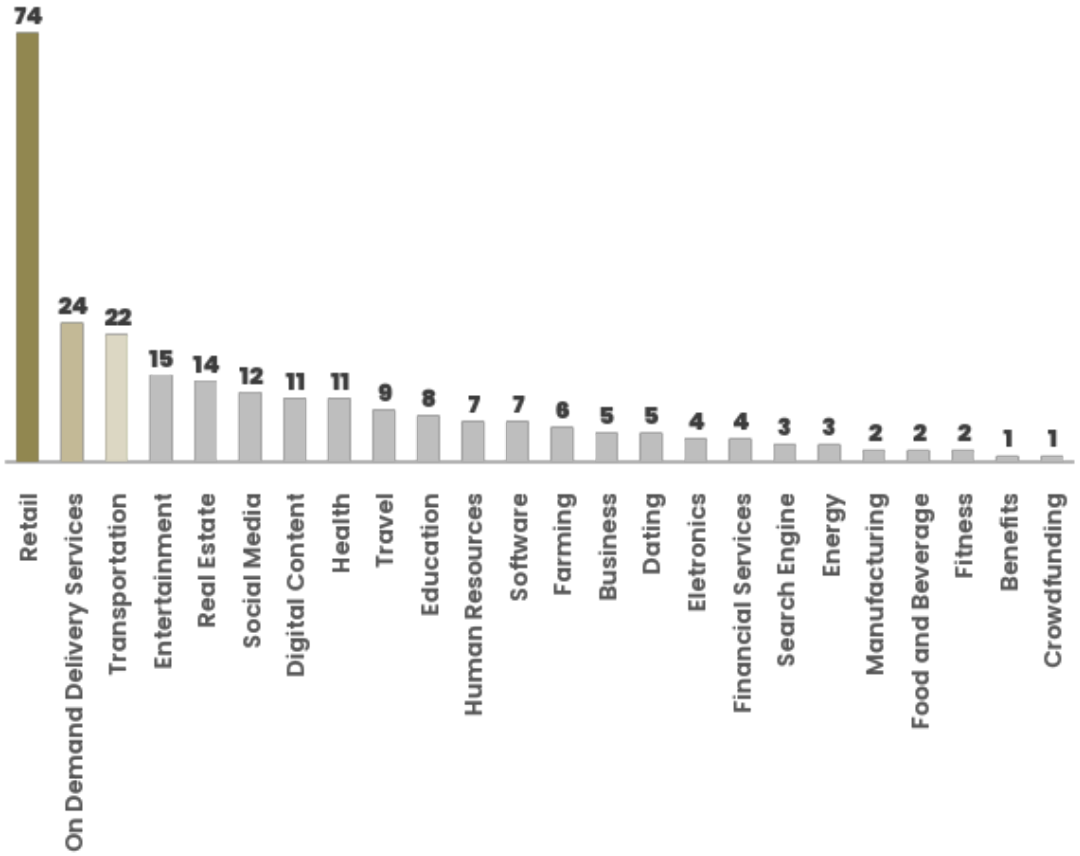
Developed by LCA. Note: For each group, the total number of firms present in that segment is stated in brackets in each box. Each of the iterations with the list is represented by the arrows between the boxes.

To make it easier to see the sectoral nature of the results, **Figure 5** below shows the number of firms impacted by sector.[44] These are mostly concentrated in the Retail sector (74), with companies such as *Leroy Merlin*, *Submarino*, and *Magalu*; in the On-Demand Delivery Services sector (24), represented by companies such as *Lalamove*, *Zé Delivery*, and *Glovo*; and in the Transportation sector (22), with companies such as *Fretebras*, *Clickbus*, and *Waze*. It is evident that a broad range of sectors - often with a vast number of firms - would be subject to the proposed regulatory framework. The fact that numerous platforms in many segments would be affected by the regulation, this challenges the concept of "power to control essential access": if numerous companies control what would be, in theory, "essential access",

[44] For each entry in the list extracted from Crunchbase, the sectors in which that digital platform operates are shown. The main sector considered here is the one in which the firm concentrates its efforts.

each of them individually would have no power in such control since users would have several to many alternative offers of access.

Figure 5 - Companies listed by economic sector (main sector per company)



Source: Crunchbase. Developed by LCA.

2.3 Conclusion

Proposed Bill 2768/2022 does not identify the market failures it seeks to regulate, as discussed at length in the first section. The proposed Brazilian regulation does not establish clear definitions of the market power of digital platforms. As a result, the universe of firms subject to regulation becomes extensive and encompasses a wide range of sectors.

The large number of companies present in some of the sectors, especially in retail, is further evidence of the ill-defined characterization of the "power to control essential access" in the Brazilian proposal.

Furthermore, companies from different sectors of the economy will be targeted by the same regulatory model, which ignores the particularities of each business model and the economic implications for each activity. The very criteria used to select the firms fail to capture the heterogeneity of the many sectors in which these digital entities operate, underscoring the inadequacy of imposing a homogeneous regulatory framework on such a diverse landscape. When the criteria capture several platforms from a single sector with a view to regulating companies with the "power to control essential access", it can be inferred that either the regulation has a different purpose, or the criterion is incapable of capturing the particularities of each segment. In other words, the regulatory proposal may fail to capture the competitive peculiarities of each sector, treating more concentrated and less concentrated markets as one, and while also ignores the competitive pressures from traditional or offline companies.

3. Quantitative estimation of the costs and economic impacts of proposed Bill 2768/2022: analysis of the burden generated by the proposed regulatory intervention

Proposed Bill 2768/2022's economic impacts could be multifaceted. The regulations might cause cost increases for businesses, potentially rippling through various economic sectors. This, in turn, could stifle innovation and create barriers for new entrants in the affected markets.

To offer a conservative assessment, this section will primarily focus on the most readily quantifiable effects, particularly cost-related impacts. Additionally, broader consequences will be explored, such as the Bill's potential influence on digital innovation and competition.

This analysis aims to compare the proposed Bill's potential benefits with its downsides, providing a clearer picture of the trade-offs involved in implementing such regulation.

Proposed Bill 2768/2022, through its Articles 14 and 15, proposed an annual 2% fee on the platforms' gross operating revenue, called the Inspection Fee. From a Brazilian public law perspective, such fees are classified as taxes. This introduces a fiscal element to the Bill’s implementations, which will be discussed in detail in this section.

A key concern regarding the Inspection Fee is its impact on demand for platform services. Research suggests that taxes on revenue, particularly for digital services, can create cascading effects (Keen, 2013; Ross, 2016; Pellefigue, 2019; Russo, 2019; Bunn et al., 2020; Pomp, 2021). These effects occur when additional costs are passed on to different stages of the value chain, potentially leading to higher prices for consumers.

The proposed Bill’s broad scope, encompassing a wide range of services and business models (Article 6), could intensify these cascading effects. To estimate the potential economic consequences of the Inspection Fee, we conducted an analysis using a partial equilibrium model inspired by the work of Pellefigue (2019). The methodology compares pre- and post-tax scenarios to assess the potential

redistribution of the tax burden between digital platforms, professional users, and end consumers.

The methodology applied uses data from the Brazilian digital ecosystem and supply and demand elasticity parameters, allowing the impact of the tax on prices, quantities, and the economic well-being of the agents involved to be quantified. We acknowledge the scarcity of data and methodologies specifically designed to estimate elasticity in the context of Brazilian digital services. Therefore, we have adopted an average of elasticity estimates derived from relevant academic studies focused on digital platforms in other countries. These estimates represent various sectors categorized as "digital" and should not be directly applied to any single sector within the Brazilian market.

The results point to a wide-ranging impact of the Inspection Fee, with professional users and end consumers absorbing most of the burden. These effects suggest that the implementation of the Inspection Fee proposed by proposed Bill 2768/2022 should lead to a rise in the price of goods and services. It should be noted that, in addition to the Inspection Fee, companies incur various costs to comply with the regulation, which also tend to be passed on to professional and end users, as the literature indicates (Mas-Colell *et al.*, 1995; Aaronson, 2001; Kim *et al*., 2008; Pellefigue, 2019).

3.1 Economic impact of the increases in regulatory costs

3.1.1 Literature review on the economic impact of the increases in costs

The economic impact of taxes is rarely limited to the firms that are nominally obliged to pay them. Often, firms subject to these charges pass on part of the additional burden generated by taxation to other links in the chain, such as consumers and suppliers (Atkinson & Stiglitz, 1972). This transfer can manifest itself in various ways and it depends on factors such as the sensitivity of the demand and the supply to price variations, and the structure of the affected markets (Fullerton & Metcalf, 2002).

Tax design in particular can also play a crucial role in determining the economic incidence of the tax, thus defining who actually bears the final burden. For example, according to Fullerton & Metcalf (2002), the structure of a consumption tax may be

such that the burden is predominantly borne by consumers, while a capital tax may have different distributional implications that affect both investors and workers. The passthrough mechanism, in this context, is not uniform and a detailed analysis is required to quantify the effects on the different economic agents involved.

In this sense, when considering the Inspection Fee proposed by proposed Bill 2768/2022 in the broader context of its tax design, it can be seen that its structure and application bear a striking resemblance to the Digital Service Taxes (DSTs) proposed in Europe, which range from 2% to 5%.[45] Both tax instruments[46] are levied on the operating revenues of digital platforms and apply a fixed percentage rate of a similar amount. It could be said that proposed Bill 2768/2022, in Articles 14 and 15, proposes an Inspection Fee which, in essence, is equivalent to the application of a 2% DST in Brazil.

Therefore, it is important to note that the existing literature on the effects of DSTs suggests that such taxes, when levied on the revenues of specific digital services, tend to be largely passed on to consumers (Lowry, 2019; Pellefigue, 2019; Russo, 2019; Bunn, 2020; Pomp, 2021). Lowry (2019) argues that DSTs should be more properly understood as "specific taxes" or "excise taxes″ since they are levied on revenues generated by specific services, such as online advertising and digital intermediation. Studies on the implementation of these taxes on various products and services reveal that prices often increase to an equivalent extent (Besley & Rosen, 1999; Berardi *et al*., 2016; Bergman & Hansen, 2019; Conlon & Rao, 2020).

In this sense, the author concludes that economic theory and extensive empirical research on "excise taxes" predict that DSTs are likely to result in increased prices in the affected markets, reduced quantity supplied, and decreased investment in these sectors. Russo (2019) argues that empirical evidence indicates that consumers often bear the burden of indirect taxes, such as turnover taxes, in the form of higher prices. Both authors point out that the economic impact of taxes such as the DSTs on the revenue of digital platforms is distributed among various economic agents, largely affecting the end consumers of these services.

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[45] Commonly, DSTs applied in Europe implement levies on operating revenues of between 2% and 5%. Available at: https://taxfoundation.org/data/all/eu/digital-tax-europe-2020/.

[46] According to the Federal Constitution, "Art. 145. The Union, the States, the Federal District, and the Municipalities may institute the following taxes: II. fees, due to the exercise of police power or the actual or potential use of specific and divisible public services, provided to taxpayers or made available to them".

However, it is plausible that the economic impact of tax instruments such as DSTs and the Inspection Fee stipulated by proposed Bill 2768/2022 is not confined solely to the consumer segment. Unlike traditional markets, digital platforms often operate as multi-sided markets, acting as intermediaries between various user groups – typically consumers and professional users who provide goods and services. This characteristic makes the tax passthrough dynamic considerably more complex and less predictable than the one in one-sided markets, given that the burden can be shared between consumers and professional users (e.g. micro, small and medium-sized businesses).

Pellefigue (2019), when empirically analyzing the impact of the French experience with the DST on marketplaces and the digital advertising sector, concluded that most of the economic cost of the 3% tax on the operating revenues of digital platforms would be divided symmetrically between consumers, through higher prices and lower volume consumed, and professional users, through lower earnings.

The potential for professional users to shoulder a significant portion of the proposed Inspection Fee's cost warrants close examination. Economic literature suggests that the burden of a tax often falls more heavily on the side of the market more inelastic (Kotlikoff & Summers, 1987). In simpler terms, if one side of the market has fewer alternatives, they may be less able to absorb the cost increase caused by the tax. For example, professional users such as ride-hailing drivers and couriers, who often have lower levels of formal education, tend to be on the more inelastic side due to limited opportunities to obtain income in the formal job market. In this context, the Brazilian socio-economic scenario adds an additional layer of complexity to the discussion on incidence.

In addition, specific evidence reinforces the conclusions of the academic literature on the passing of costs generated by taxation on digital platforms. In several jurisdictions, the application of taxes on digital services has resulted in corresponding increases in the fees and prices charged by platforms. For example, in response to the implementation of a 2% DST on platforms' operating revenue in the UK, the various digital platforms increased their prices by the same amount.[47] A similar picture was

[47] Hyde, M. (2020). Amazon to escape UK digital services tax that will hit smaller traders. The Guardian. Available at: https://www.theguardian.com/technology/2020/oct/14/amazon-to-escape-uk-digital-services-tax-that-will-hit-smaller-traders.

observed following the implementation of taxes in France,[48] Turkey,[49] Austria,[50] Australia,[51] and Chile.[52] In short, the international examples indicate that the cost of the fee is passed on in full along the platforms' value chain.

To illustrate the complexity and the potential cascading effects that can be generated by proposed Bill 2768/2022, we present a practical example encompassing various segments of the digital value chain in **Figure 6**. Suppose a consumer uses a search engine platform to plan a trip. In this case, the search engine connects the consumer with a hotel platform, which, in turn, connects the consumer with the hotel. The platform also uses a cloud computing service to store its data and make its operation viable. If each of these links in the chain chooses to pass on the additional cost of proposed Bill 2768/2022, such as the Inspection Fee, to the next stage in the chain, the cumulative impact on the final consumer price could be significantly higher than initially expected. All the platform segments mentioned are covered by Article 6 of proposed Bill 2768/2022.

[48] Asen, E.; Bunn, D. (2019). Amazon Passes France's Digital Services Tax on to Vendors. Tax Foundation. Available at: https://taxfoundation.org/blog/amazon-france-digital-tax/.

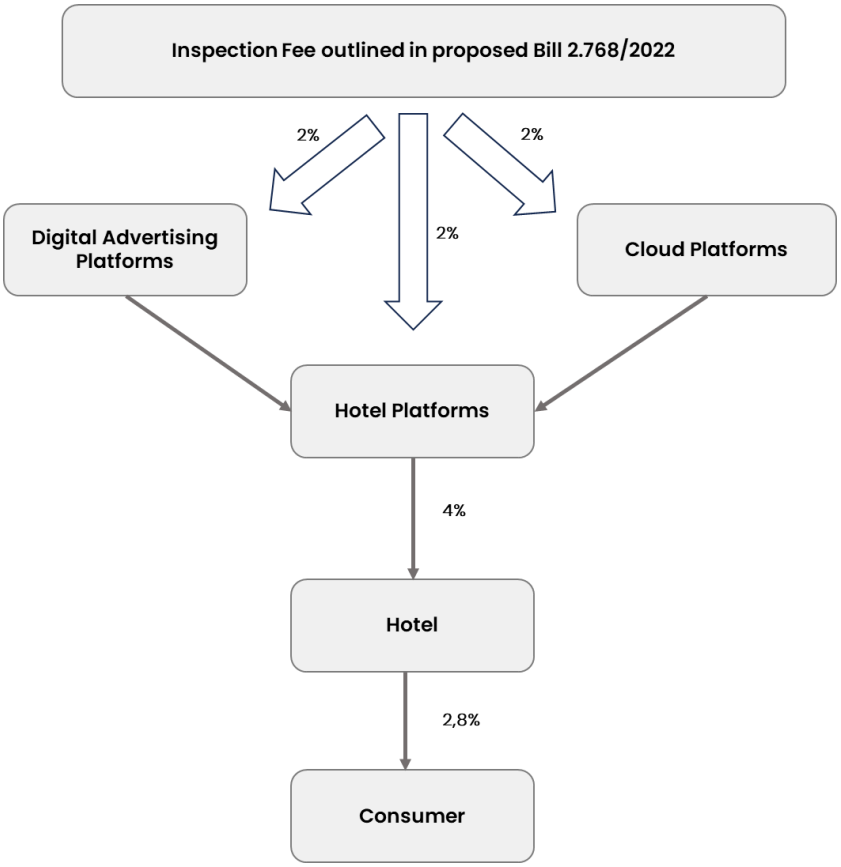
[49] Vincent, J. (2020). Apple, Google, and Amazon respond to European tech taxes by passing on costs. Available at: https://www.theverge.com/2020/9/2/21418114/european-uk-digital-tax-services-apple-google-amazon-raise-prices.

[50] Marvin, G. (2020). Advertisers to absorb Google's digital services taxes in UK, Austria, Turkey. Available at: https://searchengineland.com/advertisers-to-absorb-googles-digital-services-taxes-in-uk-austria-turkey-340065.

[51] Dudley-Nicholson, J. (2017). Australia's 'Netflix Tax': which digital services are raising their prices? Available at: https://www.news.com.au/entertainment/tv/australias-netflix-tax-which-digital-services-are-raising-their-prices/news-story/55f4c3c072b5a361fdd38f319be7ba0e.

[52] New VAT application to digital services, such as Netflix, Amazon Prime and Spotify. Creative Law. Available at: https://www.creativelaw.cl/en/new-vat-application-to-digital-services-such-as-netflix-amazon-prime-and-spotify/.

Figure 6 - Stylized model of the cascading effect of proposed Bill 2768/2022



Developed by LCA. Note: To simplify the illustration, it is assumed that the platforms fully pass on the additional cost generated by proposed Bill 2768/2022 and the professional user only passes on 70% of the charged increases in cost. Digital Advertising and Cloud Platforms acts as the sole inputs of Hotel Platforms. Each faces a 2% fee and pass this cost entirely to the Hotel Platforms. In turn, Hotel Platforms also incur a 2% fee on their operations, which is added to the increased costs already passed on to them, totaling an increase of 4%. They then pass on 70% of this cumulative cost to the consumer, resulting in a final price increase of 2.8%, higher than the 2% initially expected.

In advertising, in particular, the market structure has features that exacerbate the cascading effects of tax on revenue. In this space, the incidence of taxation is not restricted to agents who directly purchase advertisement. On the contrary, it permeates the entire economic structure, and it even impacts the end consumers of the products and services advertised. This dynamic suggests that the true economic incidence of taxation may be substantially more complex and extensive than initial assessments might anticipate (Lowry, 2019). Regarding cloud computing services and operating systems, tax incidence manifests itself with comparable complexity, albeit under different dynamics. These services often act as infrastructure for a range of economic activities, from startups to large corporations. Taxing the revenues from these services not only raises the operating costs of the companies that use them directly, but also has the potential to alter intermediate prices along the production chain.

Article 6 of proposed Bill 2768/2022 encompasses a wide range of activities, from online intermediation services to operating systems and cloud computing services, as well as social networks and online search engines, among others. The fact that proposed Bill 2768/2022 circumscribes practically all types of digital services as potential targets for taxation should be taken into consideration. Such comprehensiveness not only reinstates the likelihood of double taxation on the same good or service but also introduces an additional layer of economic complexity, potentially leading to market distortions and allocative inefficiencies that reduce the economic output and welfare (deadweight loss) across the Brazilian economy (Heady, 1993; Keen, 2014; Ross, 2016; Russo, 2019; Bunn *et al*., 2020; Bilicka *et al.,* 2022).

3.2 Methodology for estimating the economic impact of the increase in costs

The Bill introduces a series of measures that could increase the operating costs of digital platforms. These include the Inspection Fee on operating revenue as discussed above, and indirect factors that are difficult to quantify, such as the costs to be incurred in meeting regulatory requirements.[53] **The costs associated with the Bill will impact not only the direct targets of proposed Bill 2768/2022 - the digital platforms - but also the professional and end users of these platforms,** according to the described literature review**.**

The methodology used here aims to estimate the economic damage resulting from the proposal and how it would be transferred through the value chain to quantify the total damage incurred by each of the affected agents. To this end, a partial equilibrium model is implemented, inspired by the work of Pellefigue (2019), and adjusted to the Brazilian context, making it possible to assess *ex-ante* the burden generated by proposed Bill 2768/2022 on the national digital ecosystem.

Obtaining data in this study – and in most quantitative economic studies – is the main challenge. To overcome this issue and ensure the robustness of the results, our analysis used a set of databases covering public, private, and academic sources. The

[53] The vague way in which the rules in Article 10 are defined (for example, citing the "appropriate use of data") stands out. One could also highlight the isonomic treatment in the offer of services which would certainly represent an additional cost for digital platforms, even though it is not yet possible to know how such norms will actually be implemented,

main source of data used was *Statista,*[54] which offers a wide range of statistical data relevant to the country's digital context. In addition, we used information from trade associations, which provide specific data on Brazilian digital platforms. The sources are supplemented with academic studies and specialized literature. Whenever there is insufficient data, theoretical and qualitative assumptions are considered, ensuring that the analysis is carried out in line with economic practice.

3.2.1 Affected services considered in the estimate

Article 6 of proposed Bill 2768/2022 outlines the online services to be regulated. For the impact estimates, grounded on the methodology developed and applied by Pellefigue (2019) - we use the below categories to encompass all services included in the proposed Bill:

i. **Goods Marketplaces**: These platforms facilitate the sale of physical goods between different users.Examples include product marketplaces such as Mercado Livre and Enjoei.

ii. **Service Marketplaces:** Platforms that connect users to receive services from other users. Examples include food delivery (Rappi), lodging (Airbnb), and ride-hailing (Uber) platforms.

iii. **Digital Advertising Platforms**: These platforms primarily generate revenue by selling advertising space online. This category includes social media platforms, search engines, and some video-sharing platforms like YouTube (user-generated ad-supported content, AVoD).

Our goal in defining these categories is to balance the need for specific analysis with the broader applicability of the model.

[54] Statista is an online portal that aggregates statistical data obtained from more than 22,500 different sources and it is commonly used as a source for studies of this nature. The tool makes data whose individual collection would be unfeasible or even impossible accessible, given the exclusivity of some information obtained through surveys conducted by the platform itself.

Table 6 showcases the 2022 revenue for impacted activities grouped by category for easier analysis.[55]

Combined, goods and services marketplaces generate a significant portion of the Brazilian economy. Their estimated combined revenue exceeds R$ 311 billion, representing roughly 3.14% of Brazil's GDP. Goods Marketplaces account for the largest share, with almost 1.8% of the Brazilian GDP. The Services Marketplaces sector had revenues of R$ 118 billion, which represent around 1.19% of Brazil's GDP. Finally, Digital Advertising Platforms, with a turnover of R$ 20.7 billion, represent 0.21% of the Brazilian GDP.

Table 6 - sectors affected by proposed Bill 2768/2022

	Categories	Revenue	% GDP
1	***Goods Marketplace***	**R$ 177,031,079,420.00**	**1.79%**
1.1	Online Retail and App Stores	R$ 177,031,079,420.00	1.79%
2	***Services Marketplace*:**	**R$ 118,054,916,911.42**	**1.9%**
2.1	*Food Delivery*	R$ 8,298,238,234.00	0.08%
2.2	*Shared Mobility*	R$ 107,481,569,000.00	1.09%
2.3	Hospitality	R$ 1,436,400,000.00	0.01%
2.4	Short-term rentals	R$ 838,709,677.42	0.01%
3	**Digital Advertising Platforms**	**R$ 20,736,000,000.00**	**0.21%**
	Total	**R$ 315,821,996,331.42**	**3.19%**

Source: LCA estimates based on data from Statista, NieslenQ, Fecomércio, Oxford Economics and Insider Intelligence. Developed by LCA.

It is important to note that the potential impact of Bill 2768/2022 on digital advertising has the capacity to affect the economy as a whole. Given that digital advertising is one of the main marketing tools today, any increase in costs imposed on platforms could be

[55] Turnover estimates were obtained as follows: (i) Marketplace Retail - Data from Statista indicates that E-commerce turnover in Brazil was R$ 196 billion in 2022. To find out the amount spent on platforms we used the Webshoppers NielsenQ report, which points out that 78% of all volume traded in e-commerce is carried out through platforms; (ii) Hospitality - Estimates from the Federation of Trade in Goods, Services and Tourism ("**Fecomércio**") indicate that the turnover of the hotel sector was R$ 171 billion in 2022. According to data from Statista, 84% of consumers negotiated hotel accommodation through platforms; (iii) The turnover of the short-term rental sector was estimated using data from the Oxford Economics study for Airbnb, which shows that, for every R$ 10.00 spent on the platform, R$ 52.00 are spent in the rest of the economy (in total, Airbnb was responsible for a turnover of R$ 5.2 billion); (iv) Digital Advertising Platforms - Data on the amount spent on digital advertising was obtained from Statista and from a report by Insider Intelligence.

passed on to advertisers, which, in turn, could lead to an increase in the prices of advertised goods and services (Lowry, 2019; Pellefigue, 2019). In a broader analysis, this could result in a general reduction in demand and a slowdown in economic growth.

Although the turnover of digital advertising platforms represents a small part of the Brazilian GDP (0.21%), the actually affected segment - all products that are advertised digitally, especially B2C sectors - is certainly larger. In addition to revenue, the legislative proposal could also affect a large number of jobs. According to the Brazilian IBGE, around 1.5 million people in Brazil work through platforms, such as delivery drivers and couriers. This corresponds to 1.7% of the population employed in the private sector.

3.2.2 Transfer of the tax burden

Determining the distribution of the tax burden resulting from proposed Bill 2768/2022, based on partial equilibrium models, is done by comparing two scenarios: one without the implementation of the regulation ("Pre-Regulation" state) and the other with the implementation of the legislative proposal ("Post-Regulation" state). This analysis aims to assess the impact of the policy on the following groups: (*i*) the impacted entities, comprising marketplaces and digital advertising platforms; (*ii*) the professional users of these entities; and (*iii*) consumers and end users.

To quantify the distribution of the burden after the implementation of the regulation generally involves the following steps for each impacted group:

i. **Examining a range of factors to calculate the impact of the post-regulation state:**

    1. **The establishment of new commission rates and service and advertising prices (upstream passthrough)**: As discussed, after the increase in platforms' operating costs generated by a regulation, there is likely to be some passing on of these costs to professional users. This transfer of costs, called upstream passthrough, tends to be a direct response by platforms with a view to mitigating the financial impact of new regulations. This could manifest itself in the form of higher commission rates, increases in the prices of offered services, and higher advertising costs.

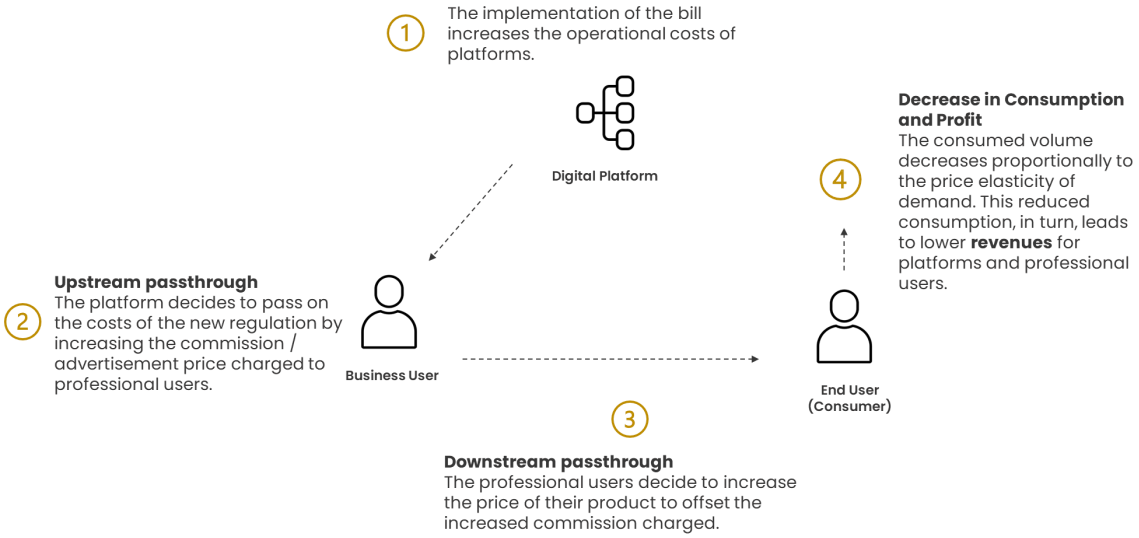
2. **Consumer price adjustment (downstream passthrough)**: Professional users, sellers in marketplaces, and digital advertisers, seeing their margins reduced by the increases in the fees charged by platforms, choose to pass on part of these additional costs to end users through increases in the prices of their products and services.

3. **Reduction in the volume consumed (price-demand elasticity)**: Faced with higher prices, the response of consumers, in terms of the percentage reduction in the volume, which is purchased, decreases in line with the price elasticity of demand. In sectors in which consumers are less sensitive to price variations, with lower elasticity, the economic impact incurred by these agents can be greater, as they tend to continue consuming similar quantities even with higher prices. In sectors with an elastic demand, on the other hand, there is a greater decrease in the amount consumed, reducing, to a greater extent, the turnover of platforms and professional users.

4. **Recalculation of the revenue of taxed agents and platforms' professional users**: In this step, the revenue of platforms and professional users is recalculated given the lower volume consumed after the regulation is implemented.

ii. **Calculating the fiscal impact for each group**: The burden for each group will be measured by the difference in economic welfare measures between the two states. For burdened entities and their professional users, this measure is represented by the change in profits earned. For consumers, the burden is calculated by the change in consumer surplus, which is influenced by both the price and the quantity of goods consumed.

Figure 7 - Transmission of the burden of enforcing the Inspection Fee



Developed by LCA. Note: It is an example of how the methodology described can work for goods and services marketplaces.

For the sake of brevity, the formal description of the model, including the equations that govern the process and the economy described above, is shown in **Annex II** of this document, for further reference. With data on the categories' turnover and values for the four parameters mentioned above - upstream passthrough, price-demand elasticity, downstream passthrough, and profit margins for professional users - it is possible to apply them to these equations to calculate the burden generated in each group impacted by the regulation. The following section discusses the methods and approaches adopted to obtain these parameters, highlighting how they apply and adapt to the specific context of digital platforms operating in Brazil.

3.2.3 Defining the key model parameters

To analyze the economic impact of the post-regulation state, we relied public economic data and specific information on the operation of different platforms' business models in Brazil. We also used existing academic literature in economics as an auxiliary source for determining these parameters. Definitions for each of the parameters considered in this analysis are detailed below.

i. **Upstream Passthrough:** As discussed above, there is extensive empirical and theoretical evidence to suggest that the passthrough of additional regulatory and tax costs by platforms might be high. However, the task of accurately predicting how they will react to the policy is complex, as it

requires precise estimates of upstream price-demand elasticity and other market dynamics. In this sense, we opted for an approach that contemplates three different scenarios of upstream passthrough for all the digital segments evaluated. These include a scenario in which the platforms pass on the cost increases in full (100%), an intermediate scenario with a 75% passthrough, and a lower passthrough scenario with a 50% passthrough.

ii. **Price elasticity of downstream demand:** Due to the scarcity of data and methodologies available to estimate elasticity in the context of digital services, an average of the estimates found in the little existing academic literature was adopted. For the goods marketplace sector, there are four articles that focus on estimating price-demand elasticity in online retail (Goolsbee & Chevalier, 2002; Einav *et al.,* 2014; Pellefigue, 2019).[56] The average of the values found in this literature points to a downstream elasticity of -1.41. For the services marketplace sector, Bibler *et al*. (2018) - using market data from *Airbnb* - estimate the price-demand elasticity for the short-term rental sector to be -0.52. Cohen *et al*. (2016), using big data from the ride-sharing platform Uber, found an elasticity of -0.55. Granados *et al*. (2012) obtained a value of -1.1 for the elasticity of airline ticket platforms. Calculating the average of the values found in the literature reviewed gives a downstream elasticity of -0.67. Finally, in the absence of estimates of the price elasticity of demand of the sectors that advertise digitally in Brazil, the same value used in Pellefigue (2019) of -0.4 is adopted. The value was obtained from a study by *Copenhagen Economics,* which estimates the elasticity for various sectors of the European economy.[57]

iii. **Downstream Passthrough:** For goods marketplaces, in economic terms, an increase in the commission rate charged by the platform can be comparable to the effect of an increase in the sales tax rate for the professional user. The extensive literature on the subject shows results that indicate a tax passthrough of between 60% and more than 100% of the tax

[56] Goolsblee & Chevalier (2002) estimate that the price elasticity of demand for American online retail is -0.6, while Einav *et al.* (2014), using individual transaction data from the *Amazon* platform, find a value of -2 for the elasticity of this sector. Finally, Pellefigue (2019) uses an elasticity of -2.2 for his exercise.

[57] Study on reduced VAT applied to goods and services in the Member States of the EU - Appendices, Copenhagen Economics, 2007

to consumers (Poterba, 1996; Besley & Rosen, 1999; Benedek *et al.,* 2015; Berardi *et al.*, 2016; Bergman & Hansen, 2017; Russo, 2019; Pellefigue, 2019; Conlon & Rao, 2020). It is important to note that the vast majority of articles point out that sales taxes tend to be passed on in full. However, to follow a conservative approach, we opted for a 70% downstream passthrough in this market. For services marketplaces, on the other hand, it is difficult to make a similar diagnosis, given the heterogeneity of the firms that make up the sector. Therefore, we resorted to estimating the passthrough rate directly using the price-demand elasticity discussed above. Using an elasticity of demand of -0.67, the segment's downstream passthrough rate is estimated at 72%.[58] Similarly, this is still a conservative figure, given that, in many cases, marketplaces have a policy of passing on tax charges directly to end users. Finally, for digital advertising platforms, the conclusions of studies evaluating the relationship between spending in advertising and product prices suggest a significant passing on of advertising costs to consumers. Specifically, the studies by Rauch (2013) and Pellefigue (2019) estimate that the passthrough of taxes on digital ads tends to be proportional or more than proportional to the amount of the tax. Thus, a downstream passthrough rate of 100% from digital advertisers to consumers is used.

iv. **Profit margin of professional users**: For the goods marketplace sector, a methodology was adopted based on the analysis of specialized retail segments using data from the Annual Trade Survey (*Pesquisa Annual do Comércio*, or "**PAC**"). This approach makes it possible to identify the average profit margin of retail segments that align with the products commonly sold online, such as computer and communication products, sporting goods, and miscellaneous household items.[59] Thus, the profit margin for professional users of goods marketplaces was set at 52%. For services marketplaces, due to the scarcity of data and the heterogeneity of the firms that make up the sector, obtaining estimates for the profit margin of

[58] The consumer's pass-through price elasticity can be calculated from: $\mathrm{dpdt}=\mathrm{DS\text{-}D}$, where D is the price elasticity of demand, and S is the price elasticity of supply. The literature used provides both, which allows the parameter to be estimated. The seller's pass-through is then recovered as follows: $\text{consumer's pass-through} = 1+\text{seller's passtrough} = 72\%$

[59] The CNAEs used were Computer and communication equipment; Household appliances, audio and video equipment, musical instruments, and accessories; Furniture, lighting articles, parts and accessories, and other household articles; Cultural, recreational, and sports articles.

professional users required us to recourse to a theoretical, qualitative premise. Considering that, in this sector, fixed costs often represent a significant portion of revenue, the profit margin for these service providers was set at 80%. Thus, this estimate takes into account the nature of these providers' cost structure, which tends to be predominantly fixed, directly influencing the profitability of their operations on digital platforms. Finally, given the same limitations, the estimate for the cost structure of advertisers on platforms was based on the work of Pellefigue (2019), who analyzed the financial statements of 26,209 companies operating in the B2C sector and found that the variable costs of advertisers represent approximately 25% of revenue, indicating that the gross margin of such companies can be rounded up to 75%.[60]

3.3 Results of the economic impact estimates

3.3.1 Base Scenario: Inspection Fee only

Proposed Bill 2768/2022, in its current form, proposes a number of provisions that could potentially raise operating costs for digital platforms. These potential increases stem from numerous factors, including the cost of regulatory compliance and ambiguities within the Bill's text.

While uncertainties exist regarding the application of the Inspection Fee, one of the Bill's more clearly defined elements serves as a useful starting point for analyzing the potential economic impact on Brazilian digital platforms. The Fee, levied as a 2% charge on the gross operating revenue of covered firms, can be viewed as a direct increase in *ad valorem* costs for these companies. Therefore, the base scenario presented here contemplates only the impact that the Inspection Fee would have on the Brazilian economy, including its implications for consumers, professional users, and digital platforms. **Table 7** below shows the results obtained by the exercise, breaking down the effects in three different upstream passthrough scenarios in the columns: 100%, 75%, and 50%. The rows show the expected reductions for each group of agents involved.

[60] The theoretical premise used here is to assume that the B2C sector is representative of the digital advertiser segment.

The results show that although the Inspection Fee may seem modest nominally, it can have a broad impact on professional and end users of the platforms. The loss of consumer surplus is significant, ranging from approximately R$ 1.3 billion in the case of a full passthrough to R$ 650 million in the case of a 50% passthrough. At the same time, the reduction in profits for professional users ranges from around R$ 680 million to almost R$ 340 million, while platforms could face a decrease in profits of up to R$ 813 million, depending on the degree of passthrough applied.

However, while the percentage passed on significantly alters the effects on different agents, the total accumulated damage varies very little between each passthrough scenario, exceeding R$ 2 billion in the 100% scenario to around R$ 1.8 billion in the 50% scenario. Not only does the total estimated damage suggest a broad impact of the tax, but it also exceeds the amount of revenue expected from the policy. This discrepancy between the damage and the expected revenue raises important questions about the effectiveness and cost-benefit of the regulation. The analysis suggests that the negative financial impact on digital platforms - affecting consumers, professional users, and platforms - may, in fact, outweigh or even exceed the expected tax benefits.

Table 7 - Impact of proposed Bill 2768/2022 (R$): Inspection Fee only

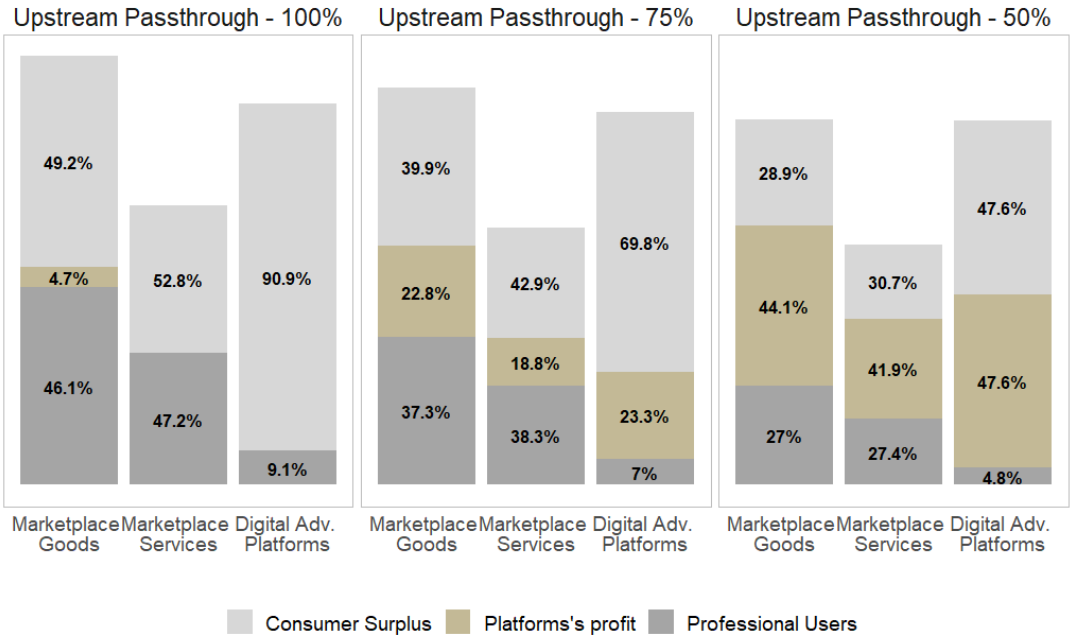
Description	Upstream Passthrough 100%	Upstream Passthrough 75%	Upstream Passthrough 50%
	(1)	(2)	(3)
1. Goods marketplace			
Reduction in consumer surplus	393,869,691	295,636,655	197,247,361
Reduction in profit for professional users	368,708,023	276,480,141	184,286,046
Reduction in platform profits	37,776,654	169,312,138	300,937,566
Total damage in the sector	800,354,368	741,428,934	682,470,973
2. Services Marketplace			
Reduction in consumer surplus	274,991,023	206,324,392	137,603,677
Reduction in profit for professional users	246,049,281	184,439,233	122,894,267
Reduction in platform profits	-6,846,247	90,483,634	187,786,790
Total damage in the sector	514,194,057	481,247,258	448,284,734

Description	Upstream Passthrough 100%	Upstream Passthrough 75%	Upstream Passthrough 50%
3. Digital advertising platforms			
Reduction in consumer surplus	647,934,766	485,963,306	323,983,692
Reduction in profit for professional users	64,800,000	48,600,000	32,400,000
Reduction in platform profits	0	162,000,000	324,000,000
Total damage in the sector	712,734,766	696,563,306	680,383,692
4. All Categories			
Reduction in consumer surplus	1,316,795,480	987,924,352	658,834,729
Reduction in profit for professional users	679,557,304	509,519,374	339,580,313
Reduction in platform profits	30,930,406	421,795,772	812,724,356
5. Total Damage	**2,027,283,191**	**1,919,239,498**	**1,811,139,399**
6. 2% Revenue	**1,360,870,596**	**1,356,293,288**	**1,351,714,717**

Source: LCA estimates, which are based on data from Statista, PAC, and Pellefigue (2019). Developed by LCA.

Figure 8 below shows a visualization that summarizes the distribution of the economic impact as presented above:

Figure 8 - Distribution of the impact of the fee proposed by proposed Bill 2768/2022 (Inspection Fee only)



Source: LCA estimates, which are based on data from Statista, PAC, and Pellefigue (2019). Developed by LCA.

3.3.2 Scenario 2: Inspection Fee + Compliance Costs

Although the calculations above, which exclusively considers the impact of the Inspection Fee, already reveals expectations of a strong negative economic impact from proposed Bill 2768/2022, it is not the only harm. Certainly, the implementation of a new tax mechanism along the lines currently proposed would entail additional compliance costs related to the payment of the tax, given that platforms would need to adapt their accounting systems and internal processes and to train staff to ensure compliance with the new tax obligations. It is expected that part of this extra layer of expense will be passed down the chain, affecting not only the taxed companies but also their consumers.

The magnitude of this transfer in the case of proposed Bill 2768/2022 is still uncertain. The literature on the subject in the Brazilian context is scarce. Even so, it is possible to obtain estimates and orders of magnitude based on comparable economic analyses. Slemrod (2004) found that the compliance cost associated with paying US corporate income tax corresponds to 23.7% of the total amount of tax collected. It is important to note that the US tax is considered complex and challenging, requiring companies to make a significant compliance effort.

Similarly, the costs associated with paying this tax could be comparable to those generated by the implementation of proposed Bill 2768/2022. Taxes on corporate income and taxes on firms' revenues - such as the Inspection Fee - are similar in nature and, especially in sectors such as digital platforms, which operate in several markets on multiple sides simultaneously, could present similar challenges. We highlight here the Brazilian tax context, which is renowned for its complexity. It is, therefore, plausible to consider that the results obtained by Slemrod (2004) are applicable in this context.

The results shown in **Table 8** below represent estimates for a scenario in which not only the Inspection Fee but also the compliance costs associated with paying the new tax would be passed on along the value chain, considering the findings mentioned above.[61]

[61] In the context of the Inspection Fee, passing on a compliance cost of 23.7% of the total amount of tax collected is equivalent to applying a fee of 2.474%. $\text{Platform's additional cost} = \text{FeeRevenue} + \%\text{ComplianceFee} \times \text{Revenue} = \text{Fee}*1 + \%\ \text{ComplianceRevenue} = 2{,}47\% \times \text{Revenue}$

Overall, the new results expose an even more pronounced impact on digital platforms and its participants. The loss of consumer surplus, under the adjusted scenario, ranges between approximately R$ 1.6 billion and R$ 850 million, depending on the degree of passthrough, indicating a significant increase on the initial estimate. Similarly, the reduction in profit for professional users amounts to a range from R$ 840 million to R$ 420 million, and platforms see their profit potentially reduced by up to R$ 1 billion. The total damage calculated for all impacted reflects a substantial increase, with the full passthrough scenario suggesting that the aggregate impact of the policy could exceed R$ 2.5 billion. This amount also exceeds the projected tax collection, which remains at around R$ 1.35 billion, reinforcing the argument that the economic costs of proposed Bill 2768/2022 may outweigh the expected tax benefits.

Table 8 - Impact of proposed Bill 2768/2022 (R$): Inspection Fee + Compliance Costs

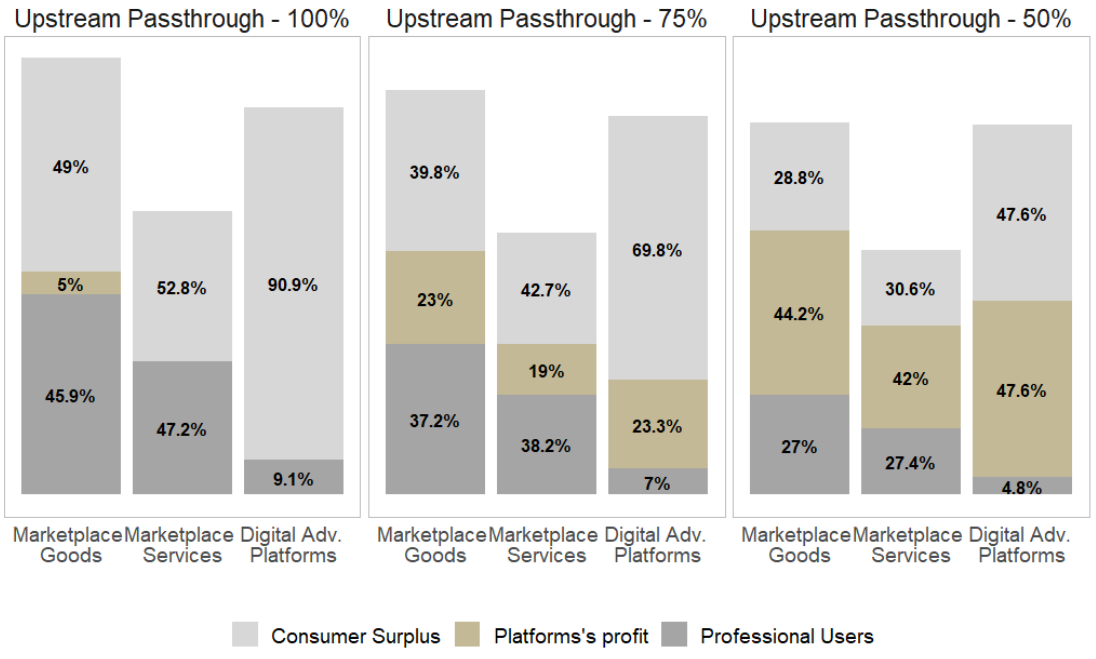
Description	**Pass- Upstream 100%**	**Pass- Upstream 75%**	**Pass- Upstream 50%**
	(1)	(2)	(3)
1. Goods marketplace			
Reduction in consumer surplus	486,850,329	365,496,397	243,903,365
Reduction in profit for professional users	456,171,074	342,050,705	227,981,823
Reduction in platform profits	50,090,784	211,921,000	373,888,575
Total damage in the sector	993,112,186	919,468,102	845,773,764
2. Services Marketplace			
Reduction in consumer surplus	340,037,053	255151923	170,184,038
Reduction in profit for professional users	304,515,605	228,237,297	152,058,461
Reduction in platform profits	-6,202,836	113,639,064	233,440,407
Total damage in the sector	638,349,822	597,028,284	555,682,906
3. Digital advertising platforms			
Reduction in consumer surplus	801,476,181	601,125,852	400,763,045
Reduction in profit for professional users	80,157,600	60,118,200	40,078,800
Reduction in platform profits	0	200,394,000	400,788,000

Description	Pass- Upstream 100%	Pass- Upstream 75%	Pass- Upstream 50%
Total damage in the sector	881,633,781	861,638,052	841,629,845
4. All Categories			
Reduction in consumer surplus	1,628,363,563	1,221,774,172	814,850,448
Reduction in profit for professional users	840,844,279	630,406,202	420,119,084
Reduction in platform profits	43,887,948	525,954,063	1,008,116,983
5. Total Damage	**2,513,095,790**	**2,378,134,438**	**2,243,086,515**
6. 2% Revenue	**1,360,611,445**	**1,354,978,003**	**1,349,342,624**

Source: LCA estimates, which are based on data from Statista, PAC, and Pellefigue (2019). Developed by LCA.

Figure 9 below shows a visualization that summarizes the distribution of the economic impact as presented above:

Figure 9 - Distribution of the fee by proposed Bill 2768/2022 (Inspection Fee + Cost of Compliance)



Source: LCA estimates, which are based on data from Statista, PAC, and Pellefigue (2019). Developed by LCA.

3.3.3 Scenario 3: Increased Cost

The scenario above incorporates, in the analysis, the compliance costs exclusively associated with the payment of the new tax proposed by proposed Bill 2768/2022 in Articles 14 and 15. However, it is reasonable to anticipate that other sources of regulatory compliance costs would emerge from the implementation of the legislation. Article 10, for example, establishes obligations that might generate significant additional expenses for platforms. The rules address topics such as the "proper use of data" and "interoperability", which are undefined but probably imply investments to ensure that the collection, storage, and use of data, as well as their entire operational structure, comply with the new obligations imposed by proposed Bill 2768/2022.[62] In addition, the lack of definition of what actually characterizes a "digital platform" and the vagueness of the activities to be regulated and broad obligations create legal uncertainty for companies. This uncertainty, in turn, can result in higher costs for platforms as they seek to understand and protect themselves against legal and regulatory risks.

These additional cost factors cannot be quantified precisely at this moment. However, given the above elements, it is plausible to conjecture that the implementation of proposed Bill 2768/2022 will generate incremental burdens for platforms beyond those created by the new tax, including cascade effects. To quantify these burdens, we used a model to estimate increase in the costs of regulated firms that goes beyond the Inspection Fee. The model incorporates two scenarios with cost increases of 5% and 10% of the platforms' operating revenue. These percentages are not derived from a formal empirical analysis, but rather serve as illustrations within the context of the Bill's uncertainties. A complex and uncertain regulatory environment, as potentially created by the Bill 2768/2022, would likely require significant investments in areas like IT systems, compliance processes, and regulatory risk management. The results obtained are shown in **Table 9** and **Table 10** below.

Table 9 - Impact of proposed Bill 2768/2022 (R$): Increased Cost of 5%

Description	Pass-Upstream 100%	Pass- Upstream 75%	Pass- Upstream 50%
	(1)	(2)	(3)

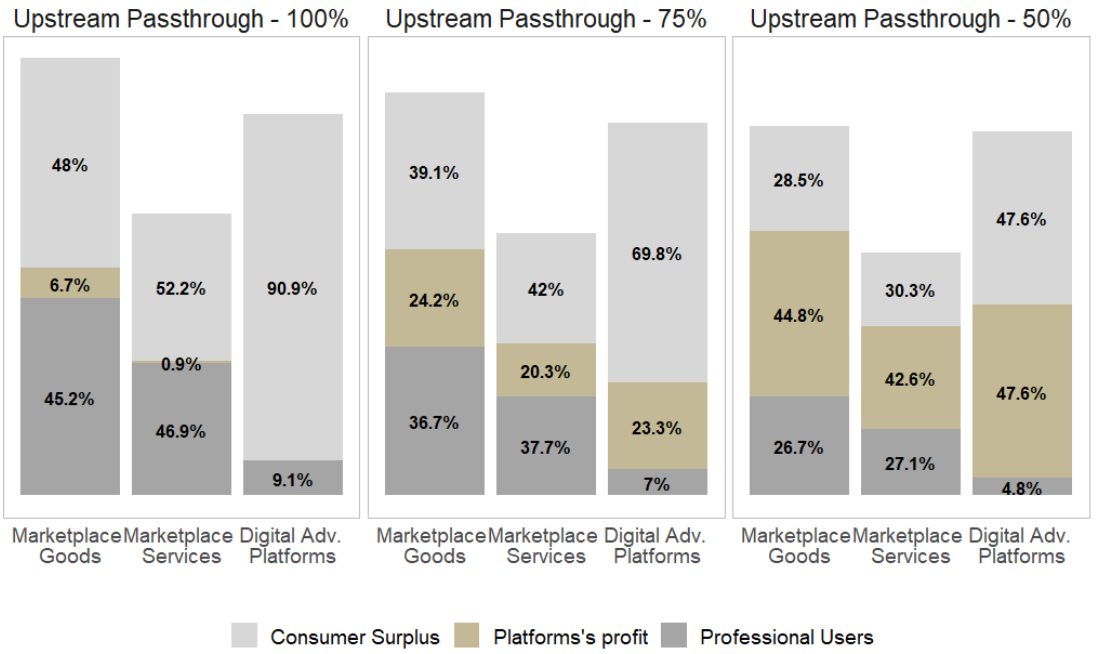
[62] Studies such as Johnson *et al*. (2023) and Peukert *et al*. (2022), for example, find empirical evidence that regulations aimed at promoting such practices in the platform segment, such as the General Data Protection Regulation (GDPR), have substantially increased the compliance costs of these firms.

Description	Pass- Upstream 100%	Pass- Upstream 75%	Pass- Upstream 50%
1. Goods marketplace			
Reduction in consumer surplus	979,986,501	736,454,790	491,946,470
Reduction in profit for professional users	922,773,868	691,768,852	460,969,495
Reduction in platform profits	137,382,242	454,995,337	773,163,354
Total damage in the sector	2,040,142,611	1,883,218,978	1,726,079,319
2. Services Marketplace			
Reduction in consumer surplus	685,855,076	514,898,333	343,603,572
Reduction in profit for professional users	617,070,406	462,195,453	307,724,306
Reduction in platform profits	11,895,987	248,106,806	484,159,221
Total damage in the sector	1,314,821,469	1,225,200,591	1,135,487,099
3. Digital advertising platforms			
Reduction in consumer surplus	1,619,592,289	1,214,770,662	809,898,072
Reduction in profit for professional users	162,000,000	121,500,000	81,000,000
Reduction in platform profits	0	405,000,000	810,000,000
Total damage in the sector	1,781,592,289	1,741,270,662	1,700,898,072
4. All sectors			
Reduction in consumer surplus	3,285,433,866	2,466,123,785	1,645,448,114
Reduction in profit for professional users	1,701,844,274	1,275,464,305	849,693,802
Reduction in platform profits	149,278,228	1,108,102,142	2,067,322,575
5. Total Damage	**5,136,556,368**	**4,849,690,232**	**4,562,464,491**
6. 2% Revenue	**1,360,870,596**	**1,356,293,288**	**1,351,714,717**

Source: LCA estimates, which are based on data from Statista, PAC, and Pellefigue (2019). Developed by LCA.

Figure 10 below shows a visualization that summarizes the distribution of the economic impact as presented in the tables above.

Figure 10 - Distribution of the impact of the tax by proposed Bill 2768/2022 (Increased Cost of 5%)



Source: LCA estimates, which are based on data from Statista, PAC, and Pellefigue (2019). Developed by LCA.

The findings suggest that the economic impacts of Bill 2768/2022 may be substantially greater than what anticipated earlier. In this new scenario, the total damage, representing the sum of the reduction in consumer surplus and the reductions in profits for professional users and for the platforms, exceeds R$ 5 billion in the context of the full transfer of costs. This represents a significant leap from the previous baseline scenario, in which the total estimated damage was around R$ 2.5 billion.

Furthermore, while, in the previous scenario, losses for consumers ranged from R$ 1.3 billion to R$ 650 million, now these losses are between R$ 1.6 billion and R$ 850 million. Similarly, the reduction in profit for professional users, which was previously between R$ 680 million and R$ 340 million, now rises to a range from R$ 840 million to R$ 420 million. The difference between the total damage and the amount of tax collected is even greater, with an average difference of approximately R$ 3.5 billion.

The same analysis applies to the scenario of a 10% increase in costs, although the total losses are significantly higher in all sectors, with the Total Damage standing at around R$ 9.5 billion on average.

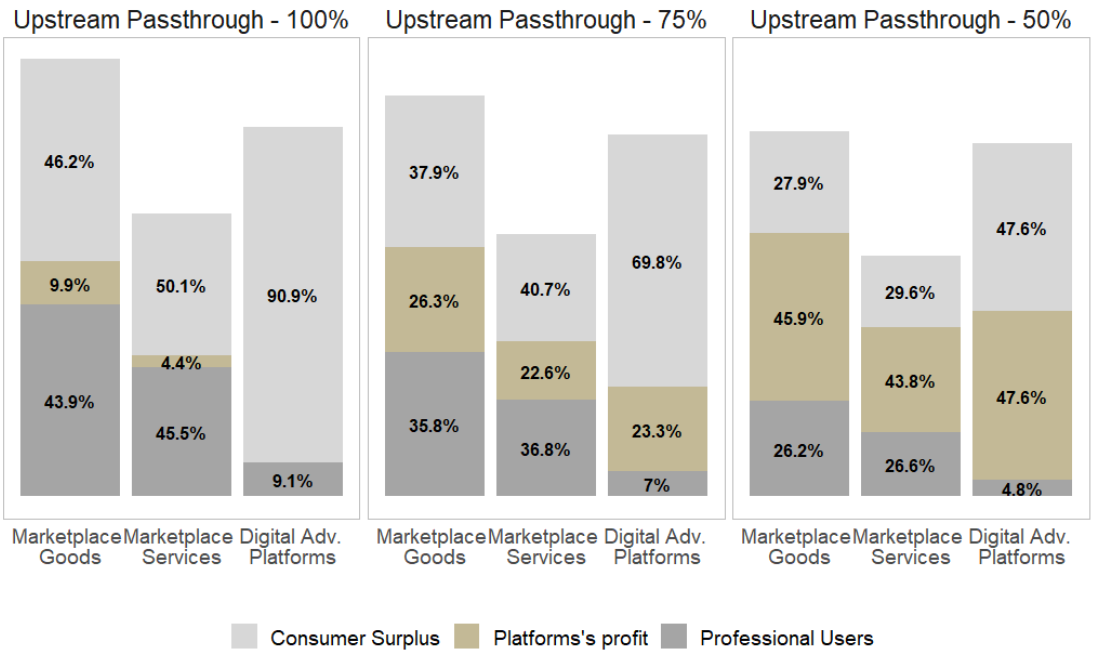
Table 10 - Impact of proposed Bill 2768/2022 (R$): Increased Cost of 10%

Description	Upstream Passthrough 100%	Upstream Passthrough 75%	Upstream Passthrough 50%
	(1)	(2)	(3)
1. Goods Marketplace			
Reduction in consumer surplus	1,944,347,245	1,464,120,092	979,986,501
Reduction in profit for professional users	1,848,789,345	1,385,388,643	922,773,868
Reduction in platform profits	417,339,986	1,015,369,132	1,615,564,197
Total damage in the sector	4,210,476,577	3,864,877,867	3,518,324,566
2. Services Marketplace			
Reduction in the consumer surplus	1,366,301,879	1,026,754,512	685,855,076
Reduction in profit for professional users	1,240,575,443	928,025,164	617,070,406
Reduction in platform profits	120,776,781	569,355,034	1,017,355,187
Total damage in the sector	2,727,654,103	2,524,134,710	2,320,280,669
3. Digital advertising platforms			
Reduction in consumer surplus	3,238,369,155	2,429,082,650	1,619,592,289
Reduction in profit for professional users	324,000,000	243,000,000	162,000,000
Reduction in platform profits	0	810,000,000	1,620,000,000
Total damage in the sector	3,562,369,155	3,482,082,650	3,401,592,289
4. All categories			
Reduction in consumer surplus	6,549,018,280	4,919,957,254	3,285,433,866
Reduction in profit for professional users	3,413,364,788	2,556,413,807	1,701,844,274
Reduction in platform profits	538,116,767	2,394,724,166	4,252,919,384
5. Total Damage	**10,500,499,835**	**9,871,095,227**	**9,240,197,524**
6. 2% Revenue	**1,350,726,868**	**1,329,794,720**	**1,308,830,816**

Source: LCA estimates, which are based on data from Statista, PAC, and Pellefigue (2019). Developed by LCA.

Figure 11 below shows a visualization that summarizes the distribution of the economic impact as presented in the table above.

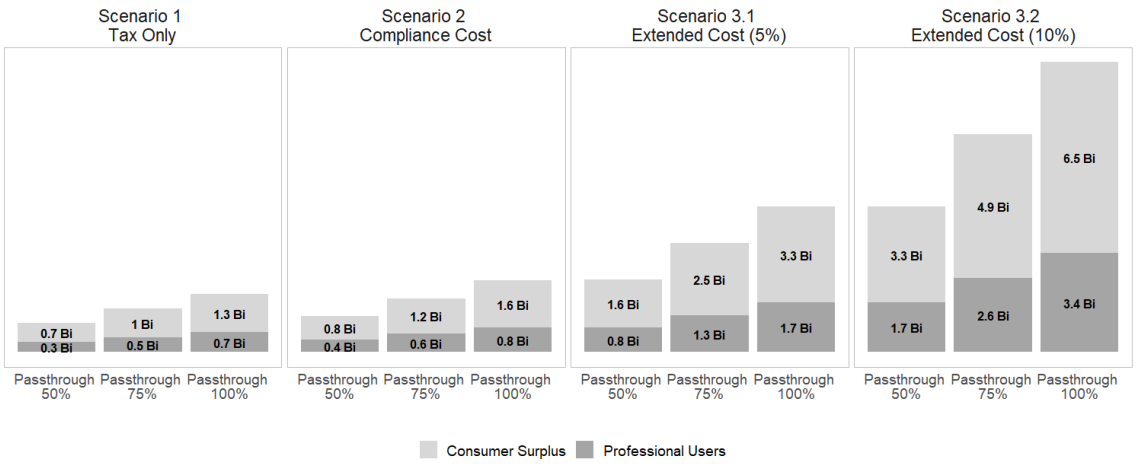
Figure 11 - Distribution of the impact of the fee by proposed Bill 2768/2022 (Increased Cost of 10%)



Source: LCA estimates, which are based on data from Statista, PAC, and Pellefigue (2019). Developed by LCA.

The different scenarios presented above can be summarized in **Figure 12** below. For each different passthrough scenario, it is shown how professional users and consumers are affected by distinct levels of taxation (i.e. cost increases given the post-regulation scenario).

Figure 12 - Damage distribution between professional users and consumers (Different Scenarios, R$ Billions)



Source: LCA estimates, which are based on data from Statista, PAC, and Pellefigue (2019). Developed by LCA. Note: Scenario 2, labeled as "Compliance Costs", includes the cumulative effects of both the inspection fee and the associated compliance costs.

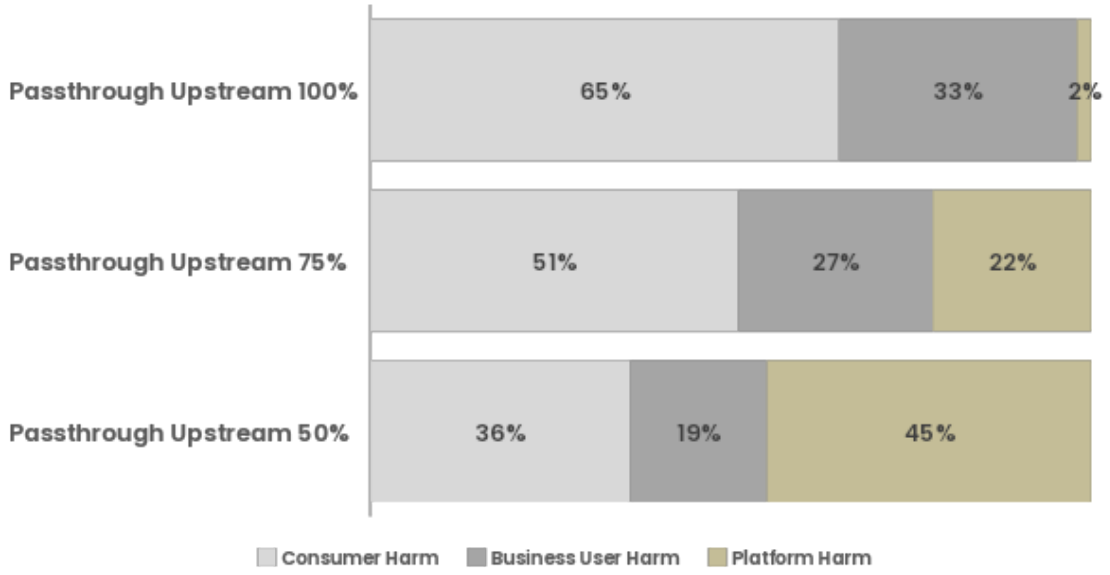
3.3.4 Allocation of the burden of proposed Bill 2768/2022

The distribution of the economic impact generated by proposed Bill 2768/2022 across platforms, professional users, and end users depends on the passthrough rate at each stage of the chain. The higher the passthrough to the next stage in the chain, the greater is the cost burden that gets transmitted.

In the scenarios considered - 100%, 75%, and 50% upstream passthrough - consumers, on average, bear the largest share of the impact. This translates to an estimated range of R$ 0.7 billion to R$ 6.5 billion in losses for consumers, depending on the specific passthrough rate.

Professional users also face a considerable burden, with 33% of the impact in the full passthrough scenario, falling to 19% in the lower passthrough scenario. Finally, the targeted platforms are least affected by proposed Bill 2768/2022, bearing 2% and 22% of the burden in the first two passthrough scenarios and 45% of the total damage in the lowest passthrough scenario, as shown in **Figure 13** below:

Figure 13 - Damage distribution based on different upstream passthrough rate scenarios (50%, 75%, and 100%)



Source: LCA estimates, which are based on data from Statista, PAC, and Pellefigue (2019). Developed by LCA.

In the scenario with the lowest passthrough (50% upstream passthrough), there is a reversal of the average trend, and the platforms bear the largest share of the burden, dividing the cost of the policy almost equally with their users. However, it is important to note that this scenario can be considered optimistic, and it contradicts the evidence in academic literature that supports that platforms would pass on most of the additional costs incurred to their users. In this context, the scenarios that consider 100% and 75% passthrough rates would be closer to the reality of the economic impact regarding its division between the agents in the value chain.

In short, the regulation proposed by proposed Bill 2768/2022, in its current form, may inadvertently impose a significant burden on consumers and professional users of the platforms. In combination with the previous results, despite the nuances between the different scenarios, users in particular bear a strong impact in all of them.

Digital platforms are now an integral part of people's lives, offering not only widespread goods and services but also connection and convenience. Price increases for these services could restrict access to these essential tools and increase the cost of living, possibly disproportionately affecting those in situations of economic vulnerability. Workers who rely on digital platforms for their income, such as app drivers and couriers, could face substantial reductions in pay for their work, furthering inequalities.

For consumers, such changes could limit their access to options of services that have become indispensable, such as fast deliveries and transportation.

Small and medium-sized businesses (SMEs), independent professionals, and lower-income consumers are particularly sensitive to price hikes. These groups would likely feel the effects of proposed Bill 2768/2022 most acutely.

Therefore, before implementing proposed Bill 2768/2022, policymakers and the society as a whole should carefully consider the practical consequences of this regulation. First, one should identify the problem it seeks to fix in order to protect innovation, economic growth, and those who are most susceptible to cost shocks to ensure digital inclusion is not compromised.

3.3.5 General equilibrium effects

The quantitative analyses carried out above, based on a partial equilibrium model, can offer estimates of the short-term impacts resulting from the implementation of proposed Bill 2768/2022. However, such assessments may underestimate the broader, long-term ramifications of the proposed policy. Over the long term, the effects of regulatory provisions and distortions in prices and profits are likely to evolve into more far-reaching changes in the market structure, agent behavior, innovation, and competitive dynamics of the digital space. Considering the broad and vague wording of Bill 2768/2022, a comprehensive quantitative assessment on the welfare loss that could result from the long-term implications cannot be done. However, it is possible to list a series of potential negative effects that could be anticipated with the implementation of proposed Bill 2768/2022:

(i) Reduced innovation in the digital space

Academic literature has found that regulations of an asymmetrical *ex-ante* nature, such as those proposed by Bill 2768 and the DMA, can lead to the opposite effects on innovation and the competitive dynamics of the digital market. Oxera (2020) argues that regulations of this type, by seeking to impose stricter obligations in an asymmetrical manner, create an unequal playing field that potentially penalizes success and discourages companies from seeking market leadership through recent technologies. There are two main reasons for this. Firstly, large platforms, despite being incumbents in some markets, often play the role of innovative entrants in others.

Thus, policies based on the premise that regulation should only focus on large entities and limit their expansion may inadvertently inhibit the entry and development of innovative technologies and services, reducing effective competition in the digital space. Secondly, asymmetric *ex-ante* regulation creates artificial barriers to expansion and growth, reducing the contestability of the market by protecting inefficient companies from fiercer competition.

Beyond the nature of the proposed regulation, tax mechanisms such as the Inspection Fee introduced in proposed Bill 2768/2022 could have the same effect of reducing innovation. By penalizing companies that exceed certain size by revenue thresholds, it discourages expansion and growth, crucial elements for the economies of scale and the continuous innovation present in the digital space. In addition, such policies can raise the cost of capital by reducing the return expected by investors, thus discouraging investment in startups, which can jeopardize competitiveness and economic growth (OECD, 2018; Kofler & Sinnig, 2019; Megersa, 2020).

(ii) Effects on competition

There are several channels through which the regulation proposed by proposed Bill 2768/2022 could negatively affect competition in the Brazilian digital space. Topic (i) mentioned above can serve as a starting point for discussion. Oxera (2020) finds that regulations of the nature adopted by Bill 2768/2022 stiffen the innovative performance of platforms and reduce competition for new markets. The cascading effects discussed in the literature review section, in turn, may inadvertently favor firms that operate in a vertically integrated manner. This is because, on these platforms, the possibility of multiple tax incidences is internalized within the company's own structure. In contrast, platforms that operate in only one segment of the value chain face the risk of being taxed multiple times as their services or products move along the chain, increasing their costs relatively more than in the case of vertically integrated companies (Keen 2013; Pomp, 2021).

Finally, the mechanisms proposed by proposed Bill 2768/2022, given their nature of taxing operating revenues, would disproportionately affect companies with lower profit margins (Bunn *et al*., 2020; Pomp, 2021). To illustrate the dynamics and potential repercussions of this form of taxation, consider, for example, a firm that generates an operating revenue of R$ 1 billion and makes a profit of R$ 10 million. Under the imposition of a 2% tax on the operating revenue, the company's annual profit, which

initially amounted to 10 million, would be wiped out, turning into an annual loss of the same amount. In this context, if such a tax were applied to a competitor with greater market power and, consequently, a stronger profit margin, the dynamics of absorbing the tax impact would be different.

Unlike the first company, this competitor would have a greater capacity to absorb the impacts of the tax on operating revenue, given its more substantial profitability, conferring to it a marked competitive advantage over the first firm. By operating with wider profit margins, this competitor could maintain a more resilient financial position when faced with the tax imposition, while the first company, with tighter margins, would find it more challenging to sustain its operations and competitiveness in the market.

3.4 Conclusion

Proposed Bill 2768/2022 is likely to have a negative impact on the Brazilian economy, since its provisions could impact the operating costs of designated digital platforms and put pressure on the prices of goods and services traded digitally in Brazil, negatively affecting the demand for these services.

Our estimates suggest that the total short-term economic damage from the proposed Bill could exceed R$2 billion, even in optimistic scenarios.

It should be noted, however, that regulatory compliance costs associated with the regulations in proposed Bill 2768/2022, the cascading effects, and the increase in legal uncertainty generated by deficiencies in the legislative text can increase this impact, suggesting that the total damage caused by the policy could be close to R$ 5 billion.

The analysis indicates that consumers and professional users (e.g., independent sellers) would likely withstand the worst of this economic burden. Depending on the specific cost and pass-through scenarios, they could shoulder between 78% and 98% of the total cost, translating to a range of R$0.99 billion to R$4.9 billion.

Consumers in particular are expected to be the most impacted group. Estimates suggest they could bear between 36% and 65% of the total deadweight loss (economic output lost due to the Bill) – a range of R$0.7 billion to R$6.5 billion[63]. This impact is

[63] A deadweight loss is the fall in total surplus that results from a market distortion, such as a tax.

likely to be more pronounced for small and medium-sized enterprises (SMEs) and lower-income consumers who are typically more sensitive to price changes.

Regarding the cost-benefit perspective concerning the regulation, strictly related to the Inspection Fee, in all the scenarios analyzed, the total estimated damage exceeded the amount of revenue that would be obtained from implementing proposed Bill 2768/2022. In many of them, the harm was up to two or more times greater than the amount of tax collected. The discrepancy between the damage generated and the amount of tax collected alone indicates that a more cautious analysis of the proposed Bill's terms needs to be considered. Finally, in a long-term context, the measure could have implications on innovation and competition in the digital space.

In conclusion, it should be noted that, although the regulatory intention may be aimed at regulating digital platforms above a certain size, the economic consequences of implementing this proposal go far beyond the digital platforms, harming consumers and businesses of all sizes across the Brazilian economy. The possibility of a considerable increase in the economic burden on consumers and professional users and the potential reduction in innovation and competitive dynamics in the affected markets are effects that contradict the very purpose of the regulation and competition policy, and therefore, indicate that the current legislative proposal is unfit and misguided.

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Annex I – List of possibly affected firms

Table 11 - Complete list of platforms subject to regulation according to the criteria established by proposed Bill 2768/2022

	Plataform	Sector
1	*Apple*	Eletronics
2	*Lenovo*	Eletronics
3	*Pinterest*	Social Media
4	*Meta*	Social Media
5	*Farfetch*	Retail
6	*Uber*	Transportation
7	*Rakuten*	Retail
8	*Airbnb*	Travel
9	*X (formerly Twitter)*	Social Media
10	*Rappi*	Delivery
11	*Microsoft*	Software
12	*Lalamove*	Delivery
13	*Hotmart*	Digital Content
14	*Kuaishou Technology*	Social Media
15	*Storytel*	Digital Content
16	*FlixBus*	Transportation
17	*Alice*	Health
18	*Yahoo*	Search Engine
19	*Revelo*	Human Resources
20	*Solfácil*	Eletronics
21	*Buser*	Transportation
22	*Baidu*	Search Engine
23	*Hotel Urbano*	Travel
24	*TROCAFONE*	Retail
25	*Plethora*	Manufacturing
26	*Ticketmaster*	Entertainment
27	*QuintoAndar*	Real Estate
28	*Sympla*	Entertainment
29	*BoxDelivery*	Delivery
30	*Nomah*	Real Estate
31	*Juntos Somos Mais*	Retail
32	*Uello*	Delivery
33	*BossaBox*	Human Resources
34	*Easy Taxi*	Transportation
35	*Merqueo*	Delivery
36	*ChefsClub*	Delivery
37	*Fretadão*	Transportation
38	*Nestlé*	Food and Beverage
39	*123Milhas*	Travel
40	*Daki*	Delivery
41	*Cytiva*	Health

	Plataform	Sector
42	*Booking*	Travel
43	*Mobly*	Retail
44	*Tetra Pak*	Food and Beverage
45	*Recargo*	Transportation
46	*Leroy Merlin*	Retail
47	*Decolar.com*	Travel
48	*Ache Laboratorios Farmaceuticos S.A.*	Health
49	*Pernambucanas*	Retail
50	*Compra Agora*	Retail
51	*UOL EdTech*	Education
52	*Kabum*	Retail
53	*Zap Imóveis*	Real Estate
54	*Fast Shop*	Eletronics
55	*Magalu*	Retail
56	*AgroGalaxy*	Agriculture
57	*TruckPad*	Transportation
58	*Fretebras*	Transportation
59	*Submarino*	Retail
60	*Imovelweb*	Real Estate
61	*LiveMode*	Entertainment
62	*Ingresso.com*	Entertainment
63	*Kanui*	Retail
64	*Auto Avaliar*	Retail
65	*Lojas Americanas*	Retail
66	*Synapcom*	Retail
67	*Tmov*	Transportation
68	*EPharma*	Health
69	*Menu.com.vc*	Delivery
70	*Viva Decora*	Retail
71	*Ingresso Rápido*	Entertainment
72	*Zee.Now*	Retail
73	*Record TV*	Entertainment
74	*Veet*	Education
75	*Lockey*	Real Estate
76	*ShopB*	Retail
77	*Appetit Delivery*	Delivery
78	*wemobi*	Travel
79	*Arezzo*	Retail
80	*Passarela*	Retail
81	*Flashboy*	Software
82	*InfoProp*	Real Estate
83	*CMB Imóveis*	Real Estate
84	*bomnegócio.com*	Retail
85	*Tem Cartões*	Benefits
86	*Reche Frotas*	Transportation
87	*Expedia*	Travel
88	*Agrofy*	Farming

	Plataform	Sector
89	*Amazon*	Retail
90	*Auto Arremate*	Transportation
91	*Azos*	Financial Services
92	*Buonny*	Transportation
93	*BYJU'S*	Education
94	*ByteDance*	Social Media
95	*Catho*	Human Resources
96	*Cluster21*	Crowdfunding
97	*ConectCar*	Transportation
98	*CredPago*	Financial Services
99	*Dafiti*	Retail
100	*Doutor123*	Health
101	*Edenred*	Human Resources
102	*Estante Virtual*	Retail
103	*Eu Entrego*	Delivery
104	*Eventim Brasil*	Entertainment
105	*Facily*	Retail
106	*Glovo*	Delivery
107	*Gympass*	Fitness
108	*HomeToGo*	Travel
109	*Inventa*	Retail
110	*Live Nation Entertainment*	Entertainment
111	*Minutrade*	Digital Content
112	*Mobiauto*	Retail
113	*Mottu*	Transportation
114	*Nuuvem*	Software
115	*Orbia*	Farming
116	*PlayKids*	Education
117	*Portal de Compras Públicas*	Retail
118	*Privalia*	Retail
119	*Rapiddo Entregas*	Delivery
120	*RX PRO*	Health
121	*SuperCampo*	Retail
122	*Superlógica Tecnologias Ltda.*	Software
123	*Supermercado Now*	Retail
124	*TAQE*	Energy
125	*Tricae*	Retail
126	*TruggHub*	Transportation
127	*Uhuu*	Entertainment
128	*Usadosbr*	Retail
129	*VIACOM PARAMOUNT +*	Digital Content
130	*Yandeh*	Delivery
131	*YOP*	Retail
132	*Iugu*	Retail
133	*Zoom*	Digital Content
134	*iFood*	Delivery
135	*Pollen*	Retail
136	*Olist*	Entertainment

	Plataform	Sector
137	*Nuvemshop*	Retail
138	*Loggi*	Delivery
139	*MadeiraMadeira*	Retail
140	*Loft*	Real Estate
141	*GetNinjas*	Retail
142	*InstaCarro*	Retail
143	*Agrotools*	Farming
144	*Zé Delivery*	Delivery
145	*Elo7*	Retail
146	*enjoei*	Retail
147	*VivaReal*	Real Estate
148	*Hi Platform*	Entertainment
149	*Bee*	Financial Services
150	*Mercado Eletrônico*	Retail
151	*VOLL*	Travel
152	*ClickBus*	Transportation
153	*Rede Vistorias*	Real Estate
154	*100 Open Startups*	Business
155	*Letz App*	Transportation
156	*AppGas*	Retail
157	*Apê11*	Real Estate
158	*Talura*	Transportation
159	*Apontador Busca Local*	Business
160	*Já Vendeu*	Retail
161	*Love Mondays*	Human Resources
162	*Agro2Business.com*	Farming
163	*Méliuz*	Retail
164	*Donamaid*	Retail
165	*Edools*	Education
166	*Nuflow*	Financial Services
167	*B2W Digital*	Retail
168	*Promobit*	Retail
169	*TaqTaq*	Social Media
170	*Quero Educação*	Education
171	*Ushare*	Retail
172	*Namoro Fake*	Dating
173	*Wappa*	Delivery
174	*Bpool*	Retail
175	*Parperfeito*	Dating
176	*Qconcursos*	Education
177	*Empregos.com.br*	Human Resources
178	*Farma Delivery*	Health
179	*Embelezze.me*	Retail
180	*FitDance*	Fitness
181	*More Talent Tech*	Human Resources
182	*Pet Booking*	Retail
183	*DeuBom*	Entertainment
184	*Submarino Viagens*	Retail

	Plataform	Sector
185	*Drogarias Pacheco*	Health
186	*OFERTIX*	Retail
187	*Post2B*	Social Media
188	*Shoptime*	Retail
189	*SODE*	Delivery
190	*Veiling Holambra*	Retail
191	*Isabela Flores*	Retail
192	*Gibi Girls*	Digital Content
193	*WImóveis*	Real Estate
194	*Tradenergy*	Energy
195	*CleanClic*	Energy
196	*Country Stores*	Farming
197	*Empreendemia*	Business
198	*Achar Apê Fácil*	Real Estate
199	*Garcia Imóveis*	Real Estate
200	*PRESS Prestação de Serviços*	Manufacturing
201	*LocalChef*	Delivery
202	*Zoom na Oferta*	Retail
203	*Boomerangoo*	Entertainment
204	*BFOR2B*	Retail
205	*Cuponzeria*	Retail
206	*HairBooking*	Retail
207	*MeuMerchan*	Business
208	*ZipPharma*	Health
209	*Google*	Search Engine
210	*Shein*	Retail
211	*Spotify*	Digital Content
212	*Bumble*	Dating
213	*MercadoLibre*	Retail
214	*Tinder*	Dating
215	*Deezer*	Digital Content
216	*Merama*	Retail
217	*Discord*	Social Media
218	*Grindr*	Dating
219	*99*	Transportation
220	*Steam*	Software
221	*AliExpress*	Retail
222	*Carrefour*	Retail
223	*Shopee*	Retail
224	*Frete.com*	Transportation
225	*Lojas Renner S.A.*	Retail
226	*Lojas Riachuelo*	Retail
227	*GPA*	Retail
228	*C&A*	Retail
229	*Netflix*	Digital Content
230	*Twitch*	Digital Content
231	*YouTube*	Digital Content
232	*Waze*	Transportation

	Plataform	Sector
233	*Facebook*	Social Media
234	*Instagram*	Social Media
235	*WhatsApp*	Social Media
236	*Oracle*	Software
237	*Messenger*	Social Media
238	*Prime Video*	Digital Content
239	*DoubleClick*	Business
240	*Alive App Brasil*	Retail
241	*Bee Delivery*	Delivery
242	*ClassApp*	Education
243	*Delivery in Box*	Delivery
244	*Delivery Much SA*	Delivery
245	*Estapar*	Transportation
246	*Farmácias APP Delivery*	Health
247	*Gringo*	Transportation
248	*Homer - Real Estate Partnerships*	Real Estate
249	*Ingresse*	Entertainment
250	*James Delivery*	*Delivery*
251	*Venturus*	*Software*
252	*Aiqfome*	*Delivery*

Developed by LCA.

Annex II – Formal description of the quantitative model for assessing the economic impact of the regulatory proposal via chain passthrough

II.1 *Marketplaces (Goods and Services)*

I. State of Nature without Inspection Fee

We can write the intermediary platform's revenue as follows:

$$R_1 = [(P_1^V * Q_1) * k_1]$$

Where P_1^V is the price charged by the professional user V (seller), Q_1 is the quantity demanded by consumers, and k_1 is the commission rate. The platform's profit can be written as:

$$\pi_1 = [(P_1^V * Q_1) * k_1] - Fixed\ Cost$$

Where it is assumed that the marginal cost of digital platforms is equal to zero, an assumption commonly used in the specialized literature (see references)

From the point of view of sellers (professional users), the commission paid to the platforms, *k,* is similar to a traditional sales tax. As they have a marginal cost greater than 0, the seller's profit can be written as follows:

$$\pi_1^V = (P_1^V * Q_1)(1 - k_1) - Total\ Cost$$

For consumers, their spending function can be described by the parameters already defined as:

$$C = P_1^V * Q_1$$

II. State of Nature without Inspection Fee

We can write the revenue of digital platforms as follows:

$$R_2 = [(P_2^V * Q_2) * k_2](1 - t)$$

Where P_2^V is the price charged by the professional user V (seller) after the implementation of the Inspection Fee, t, Q_2 is the quantity demanded by consumers after the implementation of the fee, and k is the commission rate. The platform's profit can be written as:

$$\pi_2 = [(P_2^V * Q_2) * k_2](1 - t) - Fixed\ Cost$$

However, under the adoption of the Inspection Fee, the upstream passthrough mechanism is triggered, changing the commission rate, *k,* according to a specific parameter ρ_1. This parameter reflects the proportion of the Inspection Fee that the platform chooses to pass on to professional users by increasing the commission rate. Thus, the adjusted commission, k_2, is calculated by using the equation:

$$k_2 = k_1 * (1 + t) * \rho_1$$

The result is an increase in the cost that the professional user has to bear, which can, in turn, be partially passed on to the final prices. This passthrough is quantified by the downstream passthrough parameter, ρ_2, which determines the proportion of the increase in the commission rate that will be reflected in the prices charged by the seller to the consumer. The expected percentage change in downstream prices can be expressed by the formula:

$$\Delta P^V = \rho_2(k_2 - k_1)$$

Given an increase in prices, the response of consumers can be evaluated through the price elasticity of downstream demand ε_i. This measure, which captures the sensitivity of the demanded quantity in relation to changes in price, allows us to project the percentage change in the volume consumed using the following equation:

$$\Delta Volume\ Consumed = \Delta P^V * \varepsilon_i$$

Finally, given the financial volume initially consumed, how much it varies with the implementation of the tax, and the new prices, the impact of the new tax is estimated through the differences that are lost with its implementation.

i. For consumers : $Q_2 * (P^V_2 - P^V_1)$

ii. For sellers : $\pi^V_2 - \pi^V_1$

iii. For platforms: $\pi_2 - \pi_1$

II.2 Digital Advertising Platforms

In the digital advertising platform segment, the chain of economic impacts of the Inspection Fee changes significantly when compared to other digital sectors. Unlike marketplaces, in which the focus is on professional users selling goods or services, here, the primary agents in the downstream chain are digital advertisers. They are the buyers of advertising space, and their ability to advertise in a cost-effective way, as in the digital marketplace, determines the visibility and reach of their products.

While the equations described for marketplaces remain the same in nature, the passthrough mechanism becomes not the commission charged by the platform but the cost of the ad. Similarly, when digital ad platforms face high costs due to the Inspection Fee, the tendency is for these costs to be incorporated into the price of the ads. Advertisers, in turn, in order to maintain profit margins, may choose to pass on these costs to the final price of the advertised products. This passthrough can have significant effects, as it is not limited to the digital sphere; it is transmitted to the general market for goods and services that advertise digitally, affecting the final price to the consumer and, potentially, the total demand.

Thus, the profit of digital advertisers can be described as:

$$\pi_i = P_i * Q_i - Fixed\ Cost - Variable\ Cost - Ad\ Cost_i$$

Where *i* indicates the state of nature. The mechanism for advertisers' passthrough becomes:

$$P_2 = P_1 * (1 + t) * \rho_2$$

In line with Pellefigue's study (2019), the model assumes that the price-demand elasticity of ads (upstream elasticity) is 0, that is, the volume of ads contracted after regulation does not vary. Therefore, the platforms' profit can be described in the state after the implementation of Bill 2768/2022 as follows:

$$\pi_2 = \pi_1 * (1 + t * \rho_1 - t)$$