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Audiovisual Law and its impacts on the audience reach of Brazilian Films

Efeitos da Lei do Audiovisual no alcance de público dos Filmes Brasileiros

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Abstract: The emergence of new media technologies in the 1990s led to a surge in the export of audiovisual productions. To strengthen their domestic audiovisual production, many countries implemented policies supporting cinematographic and audiovisual production, including tax incentives and subsidies. In Brazil, the Audiovisual Law (LA) was created in 1993 to stimulate national audiovisual production, which had declinedsince Embrafilme's dissolution. This article analyzed the LA's effects on the audience reach of Brazilian films, comparing it with the Embrafilme era. A quantitative study was conducted using data from Brazilian films released between 1970 and 2019 that had reached over 500,000 spectators. This study used descriptive statistics and the Difference-in-Differences method. The results demonstrate that: (1) films funded through the LA or Embrafilme had a higher average audience when compared to other productions; (2) films produced after the creation of the LA had, on average, a larger audience than productions from before it. However, the LA effect analysis on the audience reach indicates that productions funded through it had, on average, 1,943,919 fewer viewers than other films. The study concludes that, despite the relevance of the LA in financing Brazilian film productions, this policy had negative effects on their audience reach.

Keywords: Audiovisual Law; Film Policy; Embrafilme; Brazilian Film Industry; Fiscal Incentive.

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Resumo: Com o surgimento de novas tecnologias midiáticas, na década de 1990, houve um aumento da exportação de produções audiovisuais. Para fortalecer internamente a produção audiovisual, muitos países adotaram políticas cinematográficas de incentivos fiscais e subsídios. No Brasil, foi criada, em 1993, a Lei do Audiovisual (LA), para estimular a produção audiovisual nacional, que estava em decadência desde a extinção da Embrafilme. Este artigo analisou os efeitos da LA no alcance de público dos filmes brasileiros, comparando-se ao período da Embrafilme. Realizou-se uma pesquisa quantitativa, com dados de filmes brasileiros com mais de 500.000 espectadores lançados entre 1970 e 2019, utilizando estatística descritiva e Diferença em Diferenças. Os resultados demonstram que: filmes financiados através da LA ou Embrafilme tiveram uma média de público maior que as demais produções; filmes produzidos após a criação da LA apresentaram, em média, um público maior que produções do período anterior; porém, a análise dos efeitos da LA no alcance de público dos filmes indica que as produções financiadas através desta tiveram, em média, 1.943.919 espectadores a menos que os demais filmes. Conclui-se que, apesar da relevância da LA no financiamento de produções cinematográficas brasileiras, esta política teve efeitos negativos no alcance de público destas.

Palavras-chave: Lei do Audiovisual; Política Cinematográfica; Embrafilme; cinema brasileiro; incentivo fiscal.

1. INTRODUCTION

Beginning in the early 1990s, with the rise of new media technologies and greater market interaction on the international stage, the export and sharing of audiovisual productions expanded. This series of changes presented new challenges for those involved in the formulation and implementation of film policies (Hill & Kawashima, 2016). Fearing they would fall behind in this dynamic, many countries created tax incentive policies and subsidies to foster the development of a domestic audiovisual production infrastructure (Curtin, 2016).

Brazil was one of the countries that embraced this new dynamic. During a period characterized by the New Public Management movement and a shift in the role of the state, a series of policies were created aimed at directly and indirectly incentivizing national film production. Notably, the political landscape was marked by reforms that primarily affected the cultural sector, beginning with the start of President Fernando Collor de Mello's term in 1990. Several cultural policy instruments were abolished, such as the tax incentive law created during President José Sarney's administration, and

the Ministry of Culture was downgraded to a government secretariat. In the audiovisual sector, the main agencies that supported Brazilian film policy were dismantled, including the Brazilian Film Company (Embrafilme), the Brazilian Film Foundation (FCB), and the National Film Council (Concine) (Ikeda, 2015).

Subsequently, in response to demands from the public and stakeholders in the cultural and film sectors, new policies were created to support these activities, notably the enactment of Law 8,313 (the Rouanet Law) in 1991 and Law 8,685 (the Audiovisual Law) in 1993. Through these tax incentive laws, the market—via individuals and corporations—is allowed to participate in the financing of audiovisual productions by directing funds toward the production phases of films and by supporting cultural projects previously approved by state agencies; these funds can subsequently be deducted from the income tax owed.

This article analyzed the Audiovisual Law (LA), which was enacted during the administration of President Itamar Franco, at a time when efforts were being made to revive and strengthen Brazilian audiovisual production, which had been significantly weakened by the dissolution of Embrafilme. It is worth noting that Embrafilme was a state-owned mixed-capital company, founded on September 12, 1969, established by Decree-Law No. 862, and affiliated with the Ministry of Education and Culture (MEC) and the National Film Institute (INC).

Embrafilme was involved in promoting the production, co-production, and distribution of feature films in Brazil. Although it played a significant role in the production and distribution of Brazilian films, there was criticism regarding a patronage-based approach in the selection of productions to be funded, since this constituted a form of direct state intervention (Amancio, 2000); therefore, the tax incentive policies, created subsequently, would address these criticisms by transferring the funding decision to market entities, which often directed resources toward projects in this field without having a direct role in the sector (Ikeda, 2015).

Although it was established in 1993, the first films produced with funding from the LA were not released until 1995. Initially, the Ministry of Culture (MinC) was responsible for reviewing film projects seeking funding through this program; beginning in 2002, the National Film Agency (ANCINE) took over the responsibility for evaluating and monitoring the progress of these projects. It is worth noting that

ANCINE is an official federal government agency, created in 2001, that serves as the regulatory body for Brazil's film and video industry.

Regarding the application of the Audiovisual Law, there are various criticisms regarding the functioning of this funding model, particularly concerning the fact that incentives for production are often not based on the quality or artistic merit of the films, with a greater emphasis on using this form of funding as a marketing and promotional tool for the funding organizations within the audiovisual product itself (Santos Júnior & Gomes, 2014). In this regard, taking these elements into account, this article seeks to analyze the changes in the national film industry in the period following the implementation of the Audiovisual Law, particularly with regard to audience reach, compared to the period prior to its creation, when Embrafilme was in effect. Accordingly, this article highlights the effects of this film policy on audience access to the produced films and identifies potential performance barriers, drawing on aspects of the literature to substantiate the findings. It should be noted that, for the purposes of this article, "performance" is defined as the greatest possible audience reach achieved by national film productions.

The existing literature on this topic has focused on analyzing the relationship between the acquisition of public incentives and the box office revenue of Brazilian films (Santos Júnior & Gomes, 2014); on mapping the social interactions involved in production and distribution in the Brazilian film industry (Rocha et al., 2018); analyzing the different modes of operation in the Brazilian film co-distribution market (Gimenez & Rocha, 2018); and analyzing the efficiency of audiovisual production companies that secured funding through the LA (Assis, Pereira & Wilbert, 2021). This article differs from the existing literature in that it considers data spanning a broad time period, from 1970 to 2019, and aims to fill gaps regarding the performance of LA in terms of audience reach.

This article is organized into four sections, in addition to this introduction. The second section presents a conceptual and historical review of film policies, Brazilian cinema, and the functioning of LA. Next, the methodological procedures and variables considered in the study are presented. The fourth section discusses the results, describing the use of LA, presenting the estimated model, and identifying performance barriers. Finally, the conclusions drawn from this study are presented.

2.1 Film Policies and Performance Barriers

CONCEPTUAL AND HISTORICAL REVIEW

1.1. Film Policies and Performance Barriers

The film industry operates in a high-risk environment, as production companies and studios may invest a large amount of resources in the production of a film that is ultimately seen by only a few people, resulting in low box office receipts. In this regard, it is common for audiovisual producers to seek strategies that in some way decentralize or mitigate part of the risk (Thom, 2018). To understand these aspects, there are film policies, which are a subfield of cultural policies that specifically address aspects of the relationship between the state and the film and audiovisual sectors. These policies take the form of measures and actions aimed at enabling and promoting film production in a given country, boosting this sector, and establishing criteria that guide the selection and implementation of supported productions (Simis, 2010).

Through film policies, it is possible to promote audiovisual production within a country, integrating it into the global network of infrastructure for producing box-office hits, as well as increasing investment in domestic film productions, creating jobs, attracting foreign professionals and partnerships, and promoting and publicizing the country's film productions on the international stage (Curtin, 2016; Yecies, 2016). The fact that, in many countries, there is significant government investment in sustaining the film industry demonstrates that films are valued as a means of expressing a country's cultural and symbolic value. Furthermore, the existence of film policies represents a form of resistance to aspects of the homogenizing effects of globalization, given that the U.S. film industry, through Hollywood, holds a hegemonic position in terms of film production and export worldwide (Crane, 2014; Falicov, 2018).

Technological advances and constant changes in the ways films are produced and consumed have presented various cultural and economic challenges for the design and formulation of film policies (Hill & Kawashima, 2016). It is worth noting that the type of policy employed in this area varies considerably from one country to another,

with economic, cultural, historical, and political factors influencing the development of strategies for action in this sector, depending on the nature of the public interest. In addition, there are various options for film policies regarding support and financing for film and audiovisual productions, such as: direct support through film funds (selective grants covering all stages of the production chain in the film and audiovisual industries); tax incentive structures (such as measures to attract investors through tax benefits, tax credits during the production and distribution phases, and exemptions from commercial taxes, among other forms); guarantee schemes (improved access to and guarantees for loans and financing); and investment obligations for films produced by television broadcasters or other interested companies (Murschetz, Teichmann & Karmasin, 2018).

The most commonly used tools in various countries are subsidies and tax incentives, which are intended to attract investment to this sector, develop local film production infrastructure, and enhance the skills of the technical and creative workforce active in this sector (Curtin, 2016). Subsidies and tax incentives are fiscal instruments that function by reducing tax revenues that would normally go to the government, redirecting these funds to strengthen sectors of the film industry or promote the consumption of certain products from that industry (Hemels, 2017).

The provision of subsidies and tax incentives for film productions is typically aimed at ensuring that films are produced in the country where the policy is implemented. These incentives are directed toward benefiting foreign production companies—to encourage them to carry out production or post-production in the country—and domestic production companies—to encourage them to produce films in their own country, rather than in other countries (Castendyk, 2018). The use of film policies through subsidies and tax incentives—whether directed directly or indirectly—is intrinsically linked to a country's legal regulatory framework, and such policies are generally established through legislation aimed at protecting domestic productions from competition. In this sense, laws providing subsidies to the film and audiovisual industry can be found in different areas and types of legal practice (Murschetz, Teichmann & Karmasin, 2018).

The use of this type of policy is a way to offset the film industry's production costs. As such, it generally does not involve the direct allocation of funds to production companies, studios, or television networks, but rather the allocation of funds to

individual film projects undertaken by production companies (Thom, 2018). In many places, the primary beneficiaries of these instruments are large film production companies, which are better equipped to develop more consistent projects with clearer cost projections. As a result, film policies have ended up promoting production infrastructures that are dependent on these mechanisms and on the state, where small companies struggle to remain competitive (Curtin, 2016; Johnson, 1993).

It is important to note that there are factors that can act as barriers to the effectiveness of film policies, preventing them from achieving positive results. This is one of the elements this article sought to identify, drawing on Ammons's (2004) model, which notes that to improve the performance of a policy or public organization, it is necessary to recognize existing performance barriers and find ways to overcome them. This author divides potential performance barriers into three groups: environmental, organizational, and individual.

Environmental barriers refer to specific aspects that distinguish the general environment from the environment in which a public policy or organization operates, noting that in the public sector, taking actions to improve performance is more complex than in the private sector. Notable environmental barriers include: political factors that influence decisions, legal restrictions, the existence of counterproductive programs or subsidies, public trust and support, and the perceived need for the policy, among others. Organizational barriers refer to obstacles and impediments encountered in certain public-sector organizations that implement public policy; these barriers vary according to the specific characteristics of the organization. Examples of organizational barriers include: access to data, bureaucratic processes, lack of accountability, delegation of responsibilities, the policy's perceived success, a focus on implementation rather than results, among others. Individual barriers are related to behavioral traits and attitudes of individuals that may hinder the effectiveness of a policy or public organization. Examples of individual barriers include: lack of political support and clarity of objectives, lack of interest, and lack of cooperation, among others (Ammons, 2004; Santos, Ferreira & Campos, 2019).

1.2. Brazilian Cinema: Characteristics and Film Policies

Para alcançar seu objetivo, o Estado se estrutura politicamente na forma de governo e se organiza por meio do uso de suas funções públicas, dentre elas a administrativa. Desta forma, em razão do aparato estatal ser financeiramente sustentado pela sociedade, considerando a arrecadação coercitiva de recursos públicos, é dever do Estado comprovar, na elaboração da prestação de contas, a boa e regular utilização desses recursos (Augustinho et al., 2015).

In the context of Latin American countries, producers and filmmakers sometimes need assistance from government institutions regarding the financing, distribution, and exhibition of their films and other audiovisual productions (Falicov, 2018). Even in countries with a longer history of film production, the development of the film industry exhibits cyclical patterns, marked by periods of success and productivity, yet these are inconsistent and followed by crises (Johnson, 1996).

In Brazil, film policies began to take shape in the 1930s, during the Getúlio Vargas administration, when the first protectionist laws for domestic productions were enacted. The initial legislation mandated the screening of domestic films in Brazilian movie theaters, with the aim of creating a minimum level of demand to foster the development of a national film industry and a consumer market for Brazilian films, in an environment already dominated by foreign cinema (Johnson, 1993). Furthermore, during this period, the National Institute of Educational Cinema (INCE) was established and inaugurated in 1936. The institute viewed cinema as an educational tool with massive potential, and it shaped Brazilian film productions of the era—particularly educational films—which were grounded in elements of Catholic religious morality (Pereira, 2021).

In 1966, during the military dictatorship, the National Film Institute (INC) was created with the goal of developing key aspects of the promotion of national cinema, providing funding for Brazilian film production and establishing measures to ensure that film exhibitors accurately reported box office receipts (Falicov, 2018). In 1969, Embrafilme was created to serve as an arm of the INC in the promotion and distribution of films. Initially, Embrafilme sought to promote Brazilian film productions abroad, but later went on to finance, co-produce, and distribute Brazilian films, becoming the first Brazilian production company to compete on an international level (Oliveira &Pannacci, 2017).

In 1972, Roberto Farias, a leading Brazilian director of the Cinema Novo movement, took over as head of Embrafilme, marking the beginning of a more open period for domestic film productions in relation to the military regime in power at the time, which led a number of Brazilian Cinema Novo directors to return to the country, since many had gone into exile after 1964 (Falicov, 2018).

It is worth noting that Cinema Novo was a Brazilian film movement that emerged in the 1950s and produced films that gained international recognition. It was a movement based on the production of low-budget films, featuring non-professional or little-known actors and shot on location, which focused on presenting critical perspectives on Brazil's social context (Martínez, 2008).

The partnership between Cinema Novo and Embrafilme, beginning in the 1970s, marked a period when it seemed that the Brazilian film industry was moving toward consolidation and self-sufficiency (Johnson, 1993). A recurring pattern was that some productions funded during this period were later censored by other branches of the government, given the prevailing climate of repression. During this period, many sexual comedies—known as pornochanchadas—were produced. These films had the potential to boost the film industry commercially in terms of audience reach and did not contain elements that contradicted the government's ideology (Falicov, 2018). In this sense, this period marks a turning point for Brazilian cinema, with films that became box-office hits and significantly increased the number of viewers of domestic productions, such as the film "Dona Flor and Her Two Husbands" (1976), directed by Bruno Barreto, one of the highest-grossing Brazilian films (Dennison & Shaw, 2004). Canclini (1997) points out that Brazilian cinema of the 1970s and early 1980s, by incorporating elements of national identity and the country's cultural internationalization into its productions, significantly expanded its impact, both domestically and internationally.

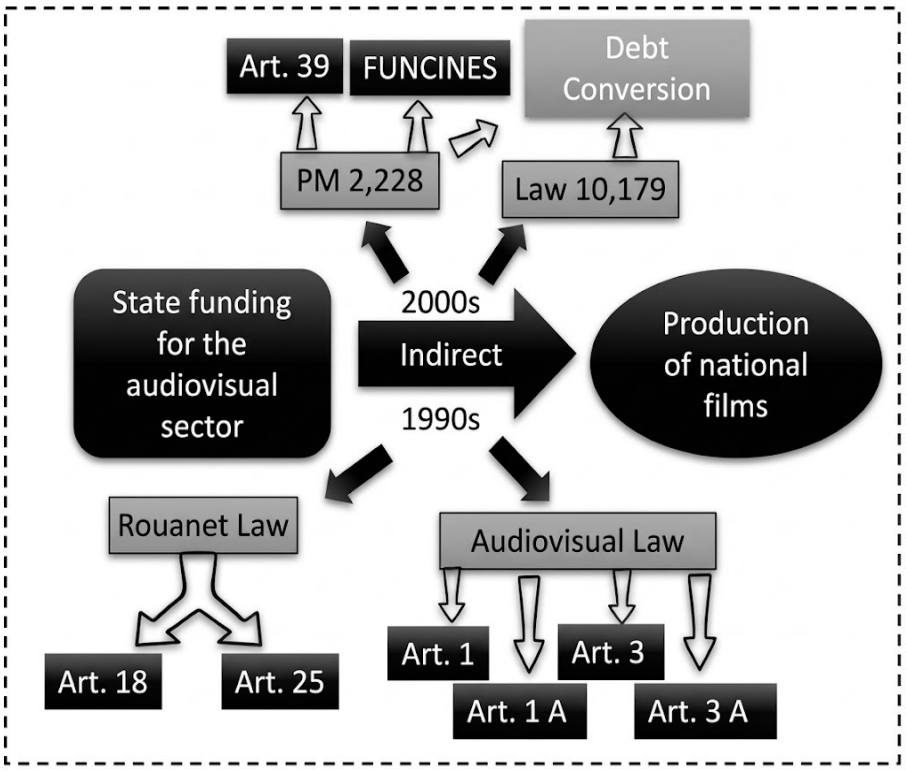
At the beginning of President Fernando Collor de Mello's term in 1990, Embrafilme was dissolved, along with other existing film policies, which considerably weakened the film production sector in Brazil. New policy initiatives in this area emerged with the enactment of the Rouanet Law in 1991 and the Audiovisual Law in 1993, which represented a clear attempt by the Brazilian government to bring the film industry closer to the private sector (Falicov, 2018). Simis (1998) summarizes this period:

> "In the 1990s, a new relationship with the government was established, and the government began to indirectly encourage production. In fact, as a patron of a new form of media—albeit through roundabout means—the Brazilian government is financing audiovisual production, not least because several of the companies that invest in cultural activities are state-owned. (...) In other words, it is the taxpayer who finances production today, even though the credit goes to the private sector. "While, on the one hand, there is no longer government oversight—with committees selecting films eligible for state funding—what matters is the producer's ability to attract a corporate sponsor that, in turn, bears no risk" (Simis, 1998, p. 101, our translation).

In 2001, the National Film Agency (ANCINE) was created during the administration of President Fernando Henrique Cardoso, and it began to govern the implementation of direct and indirect funding policies for this sector. ANCINE is responsible for promoting, regulating, and overseeing the audiovisual market in Brazil. Figure 1 illustrates the set of existing legal mechanisms and policies that serve as forms of indirect financing for this sector.

For this article, the analytical focus was on the Audiovisual Law. In this regard, certain aspects of this law are highlighted to provide an understanding of how this mechanism works, emphasizing the characteristics of each article of the law. It is worth noting that, with the elimination of various film policies in the early 1990s, Brazilian film production declined and nearly disappeared, creating a need to establish new policies aimed at reviving this sector, which historically had always received government support. During this period, tax incentive policies for culture emerged, such as Law No. 8,685 of 1993, the Audiovisual Law. Through this law, which is based on tax waivers granted by the government to channel funds directly from individuals and corporations that purchase Audiovisual Investment Certificates, a significant portion of Brazilian film production became viable (Santos Júnior & Gomes, 2014).

Figure 1: Indirect Financing Mechanisms for Brazilian Film Productions After 1990



Source: The authors.

The Audiovisual Law is designed to encourage investment in Brazilian films and audiovisual productions. The first version of this law was enacted on July 20, 1993, and has since undergone subsequent amendments through provisional measures. Initially, the law was intended to remain in effect through the 2003 fiscal year; however, it was extended for 20 years in 2001 through Provisional Measure No. 2,228, and again in 2020, with the approval of an extension through 2024 via Law 14,044, which originated from Bill No. 5,815 of 2019, authored by Representative Marcelo Calero (Cidadania-RJ). It should be noted that, initially, measures aimed at extending the duration of this law were vetoed by President Jair Messias Bolsonaro.

The LA operates through the injection of funds via investments by individuals and legal entities that acquire shares representing the rights to distribute motion pictures (Audiovisual Investment Certificates), which may subsequently be deducted from

income tax. In this regard, there are four articles that regulate the audiovisual incentive through this instrument.

Article 1 allows for the full amount paid for the purchase of Audiovisual Investment Certificates to be deducted from income tax owed, subject to a limit of 3% for individuals and 1% for corporations. Furthermore, this article allows investors to associate their brand with the audiovisual project they support, in addition to receiving dividends if the project generates profits. Article 1-A authorizes companies and individuals to deduct from their income tax liability—up to a limit of 4% for corporations and 6% for individuals—amounts allocated to the production of feature-length fiction films and other projects in the audiovisual industry, such as exhibition, distribution, preservation, and service infrastructure. Article 3 allows foreign distribution companies to use up to 70% of the income tax on credits and profit remittances abroad for the co-production of Brazilian films. Article 3-A provides funding similar to that of Article 3, but it is directed toward broadcasting companies and national pay-TV programmers (Assis, Pereira & Wilbert, 2021).

2. METHODOLOGICAL PROCEDURES

This article sought to analyze changes in Brazilian cinema in the period following the implementation of the Audiovisual Law (LA), particularly in comparison to the period prior to its enactment, when Embrafilme was in effect. To this end, it adopted a strictly quantitative approach, using descriptive tools and public policy impact assessment methods to analyze the effects of the law in question.

To conduct the research, secondary data were collected from the website of the Brazilian Observatory of Cinema and Audiovisual Media (https://oca. ancine.gov.br/) and from the Brazilian Cinemateque (http://cinemateca.org.br/) regarding Brazilian films that achieved relative box-office success (with audiences exceeding 500,000 viewers), their genres, and the financing policies employed. The primary database used was the “List of Brazilian Films with More Than 500,000 Viewers—1970 to 2019,” chosen because it contains the most comprehensive information on films produced both before and after the Audiovisual Law. The last year considered in terms of available

data on audience attendance at movie theaters was 2019, due to the closure of movie theaters following the onset of the COVID-19 pandemic. Accordingly, the sample of films included in this analysis consisted of 521 Brazilian films released between 1970 and 2019.

In addition to this database, the following database was also used: "List of Brazilian Films Commercially Released in Theaters with Funds Raised Through Incentive Mechanisms and the Audiovisual Sector Fund —1995 to 2019," combined with the database mentioned above, to present the total amount of funds raised by Brazilian films through the Audiovisual Law, as well as the number of films that benefited from the law. It should be noted that the amounts were adjusted using the cumulative 2020 Broad National Consumer Price Index (IPCA), given that one of the shortcomings of data on Brazil's cultural sectors is that they generally do not account for the impact of inflation on monetary values over time (Sá-Earp et al., 2016).

Regarding analytical strategies, descriptive statistics were initially used to present general information about the Audiovisual Law, the number of films that received incentives, the total amount of funding, and the funding allocated under each section of the law. Information was also presented on films with more than 500,000 viewers, highlighting the number of films per year and the number of these that received government support, while identifying potential barriers to performance in relation to the operation of this funding mechanism.

Subsequently, an analysis was conducted of the effects of the Audiovisual Law in terms of public access, using the Difference-in-Differences (or Double Difference) methodology, which calculates two differences: the first refers to the difference in the means of the variables for two groups—a treatment group and a control group—before and after the Audiovisual Law; and the second, the difference between the first difference calculated between the treatment and control groups (Macedo & Ferreira, 2020).

To apply this method, the data are divided into four groups: a control group before the Audiovisual Law, a control group after the Audiovisual Law, a treatment group before the Audiovisual Law, and a treatment group after the Audiovisual Law. The treatment group consists of films that received incentives through the Audiovisual Law, and for the period prior to the law's enactment, the control group comprised films

financed, distributed, produced, or co-produced by Embrafilme, which was one of the main state-run film financing programs in the period preceding the Audiovisual Law. It should be noted that the period prior to the LA considered for this analysis spans the years 1970 through 1994, since the first films funded by the LA were released starting in 1995, even though the law was enacted in 1993.

For the formal representation of the Difference-in-Differences method, it should be noted that a multiple linear regression is estimated using the ordinary least squares (OLS) method, according to the following equation:

$$Y_{it} = \beta_0 + \beta_1 funding_{it} + \beta_2 bef_aftLA_{it} + \beta_3 interaction_{it} + \varepsilon_{it}$$

Where: Y_{it} is the variable under study—in this case, movie attendance before and after the Audiovisual Law; β_0 is the expected value of the attendance variable based on the analysis of the control group prior to the Audiovisual Law; β_1 corresponds to the effects of the "Audience" variable; $funding_{it}$ is a binary variable indicating whether (1) or not (0) funding was obtained through the Audiovisual Law or Embrafilme; bef_aftLA_{it} is a binary variable where t = 1 for films released after the enactment of the Audiovisual Law and t = 0 for films released before the Audiovisual Law; β_2 corresponds to the differences between the treatment and control groups prior to the LA; $interaction_{it}$ refers to the product of the binary variables for fundraising through the instruments and the film's timing—whether prior to or after the LA; β_3 refers to the impact of the LA on the treatment group relative to the control group, considering the Audience variable; and εit represents the error term. The data for the descriptive sections were tabulated and organized using Microsoft Excel. The statistical model was estimated using Stata Statistics/Data Analysis 11.0.

3. RESULTS AND DISCUSSION

3.1. Overview of the Use of the Audiovisual Law

The Audiovisual Law (LA) is the primary funding policy for film productions currently in operation in Brazil. In this regard, it is worth noting that, although other funding policies exist, the amount of funds raised through this law during the period since its inception is substantially greater than that raised through other mechanisms, as shown in Table 1.

Table 1: Amount of Funding by Incentive Mechanism

Financing mechanisms	**Values from 1995 to 2019**	**Percentages hare in total**
Audiovisual Law	3.416.121.623,37	72,20%
Rouanet Law	493.224.168,80	10,42%
Audiovisual Sector Fund	551.824.775,99	11,66%
FUNCINES	70.386.348,92	1,49%
Debtconversion	27.581.350,24	0,58%
Art. 39	19.968.537,08	0,42%
Other Sources	152.440.283,31	3,22%
Total	4.731.547.087,70	100,00%

Source: The authors.

As shown in Table 1, 72.20% of the funding from mechanisms with some form of public involvement comes from the LA. According to ANCINE data, from 1995 to 2019, 1,908 Brazilian films were released in Brazil, of which 1,113 received funding through the LA. In other words, 58.33% of the films released during this period received funding through this mechanism.

The LA provides four funding options, which are not mutually exclusive; a single film project may receive funding under more than one section of the law simultaneously. Over the period during which this law has been in effect, the following distribution of funds by section stands out, as shown in Table 2.

Table 2: Annual Volume of Funds Raised per Article

Mechanism	**Art. 1º**	**Art. 1 º A**	**Art. 3º**	**Art. 3º A**	**Total**
Values	1.506.463.841,65	612.204.298,40	945.825.860,61	351.627.622,70	**3.416.121.623,37**
Percentage	44,10%	17,92%	27,69%	10,29%	**100,00%**

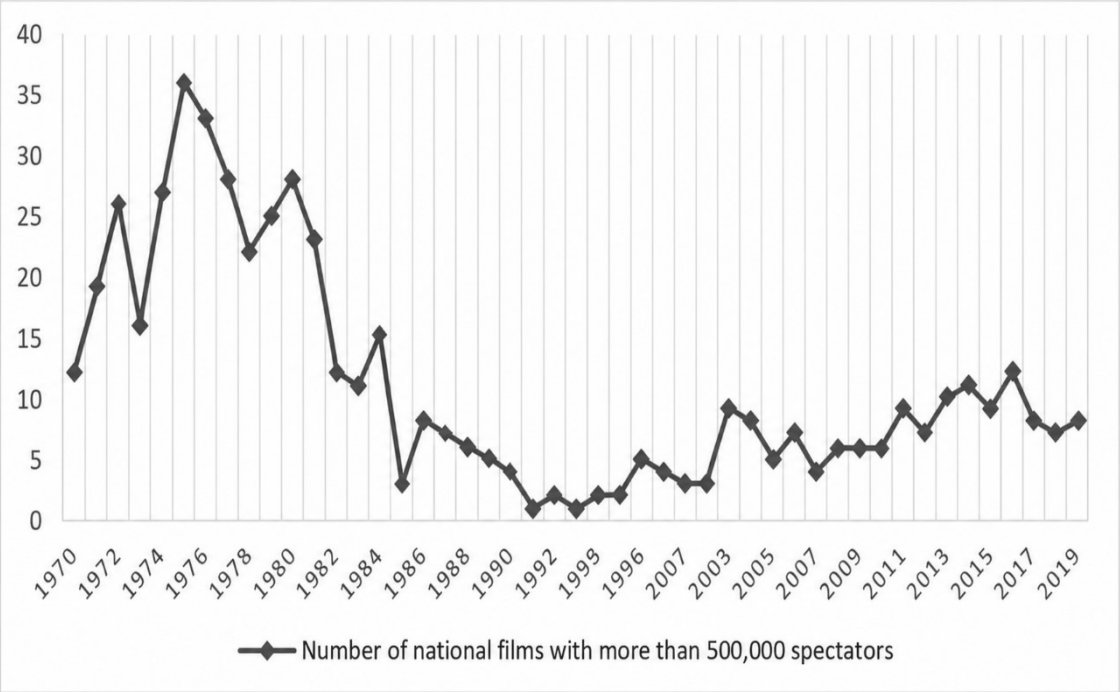
Source: The authors.

Some explanations for the greater concentration of resources in Article 1 relate to the fact that it is more attractive to companies, given its tax rates and deductions (Santos Júnior & Gomes, 2014). Under Article 1 of the LA, it is possible to fully deduct the value of investments in film distribution shares from income tax, as well as to classify this investment as an operating expense, which reduces the tax base and, consequently, the amount of tax due. In other words, this is a substantial deduction, reducing the income tax owed by 125 percent, eliminating the need for companies to invest their own funds in stimulating film production, as they rely solely on the transfer of public funds (Attayde, 2006).

Regarding films with more than 500,000 viewers between 1970 and 2019, it is noteworthy that 521 domestic productions achieved this milestone. Figure 2 shows the distribution of these productions over the period.

Among the data included in the sample, as illustrated in Figure 2, the year 1975 stands out, with 36 films attracting more than 500,000 viewers. From 1975 to 1980, the Brazilian film industry produced a considerable number of films with a wide audience reach, totaling 172 films, which accounted for nearly double the audience for Brazilian productions in the country's movie theaters (Dennison & Shaw, 2004).

Figure 2: Annual number of films with more than 500,000 viewers between 1970 and 2019



Source: The authors.

Several aspects of this period are significant, such as the decline in the number of movie theaters in the country, which fell from 3,276 in 1975 to fewer than 1,100 in 1988 (a 66.42% decrease), as well as a precipitous drop in the number of viewers of Brazilian films from 1978 (with an audience of about 60 million) to 1988 (an audience of less than 24 million)—that is, a 60% decrease. Another aspect worth noting concerns film genres: from 1970 to 1991, of the 367 films that attracted more than 500,000 viewers, 103 belonged to the genres of Erotica, Explicit Sex, or Pornochanchada. This represents 28.06% of the films, with periods during which explicit sex films accounted for the majority of released film productions, particularly between 1981 and 1988 (Johnson, 1993). Following the enactment of the LA, films of this genre virtually disappeared from the list of films with more than 500,000 viewers. This suggests that there was a shift in the type of production that reached the widest audience after the LA took effect.

3.2. Analysis of the Effects of LA on Audience Reach

Table 3 presents descriptive statistics regarding the data considered in this article. Analysis of the information reveals that the average audience size for films that raised funds through LA is higher than the average audience size for films produced, co-produced, or distributed by Embrafilme. Since these films have varying audience outcomes, there is a high degree of dispersion in the data, as evidenced by the standard deviation values.

Table 3: Descriptive Statistics for the Films Under Consideration

Films/Audience	Mean	Numberoffilms	Minimum	Maximum	Standard Deviation
Released before LA	1.311.444,69	367	500.417	10.735.524	1.156.116,31
Released after LA	1.926.618,32	154	506.412	12.184.373	1.901.625,82
Before LA					
with Embrafilme participation	1.619.598,01	141	506.133	10.735.524	1.466.586,78
Others	1.119.189,74	226	500.417	5.028.893	855.791,90
After LA					
with LAfunding	1.795.390,11	140	506.412	11.146.723	1.551.064,79
Others	3.238.900,43	14	596.624	12.184.373	3.718.289,38

Source: The authors.

Of the 367 films released before the LA, from 1970 to 1991, 141 films (38.42%) were financed, produced, co-produced, or distributed by Embrafilme, which, at the time, represented the primary form of state funding for national film productions. Regarding the period following the establishment of the LA, starting in 1995, there were 154 films with more than 500,000 viewers, of which 140 films (90.90%) secured funding through this mechanism. This indicates that after the creation of the LA, this mechanism played a significant role in productions that reached the widest audiences.

In this regard, we sought to understand the effects of this policy on the audience for film productions.To this end, we estimated a multiple linear regression using the

Differences-in-Differences method. The results of this regression are presented in Table 4.

Table 4: Values from the Estimated Equation

Audience	Predictor	Coefficient	Standard Error	T	P>|t|	Confidence Interval	
Fundraising via LAor Embrafilme	funding	500408,3	149190,9	3,35	0,001	207313,4	793503,1
Period before or after the creation of LA	bef_aftLA	2119711	382877,9	5,54	0,000	1367523	2871899
Multiplication of variables (funding x year)	interaction	-1943919	417260,6	-4,66	0,000	-2763653	-1124184
Constant term	_cons	1119190	92473,8	12,10	0,000	937519,1	1300860

Source: The authors.

The estimated regression has a relatively poor fit (adjusted $R^2 = 0.0767$), but the F-statistic (3.517) is significant at the 1% level, indicating that at least one of the coefficients of the predictors used is nonzero. It should be noted that for the type of analysis proposed, a high adjusted R^2 was not expected, since there are several other uncontrolled factors that influence audience reach, which are accounted for by the error term.

All variables considered were significant at the 1% level (with p-values equal to 0.001 or 0.000). Regarding the variable of funding through LA and Embrafilme, the treatment group (films that received funding) had, on average, an audience of 500,408.3 more people than the control group (films that did not receive funding). This demonstrates that, over this period, films that received public funding for their production—through Embrafilme or LA—reached a larger audience, which can be explained by the prior analysis of film projects or by higher-quality production resulting from the funds invested. Furthermore, these funding policies fostered integration

between distributors and production companies, which enabled the creation of films aimed at reaching a broad audience (Ikeda, 2011; Santos Júnior & Gomes, 2014).

With regard to the difference in viewership following the enactment of the LA, there was an average difference of 2,119,711 more viewers than in the control group, compared to films from the previous period. This indicates that films from 1995 to 2019 stood out substantially in terms of audience reach. Bahia (2012) notes that, with the end of Embrafilme, there was a significant decline in Brazilian film production, as well as a rise in the average ticket price, leading to the elitization of cinema as a form of entertainment and driving audiences away. The massive reduction in the number of movie theaters in Brazil during this period reflects this weakening of the national film industry. The author points out that, following the resumption of Brazilian film production in the 1990s, there was a significant increase in the release of domestic films and, consequently, a notable return of audiences to movie theaters (Bahia, 2012).

The Difference-in-Differences, estimated by β3 (interaction), shows the impact of LA on the audience, at the 1% significance level. Films that raised funds through LA (treatment group) had, on average, 1,943,919 fewer viewers than films that did not raise funds through this mechanism (control group). This finding suggests that although the LA has played a significant role in box-office hits released since its inception, compared to previous periods and policies, the mechanism has not yielded positive effects in terms of expanding the audience reach of these productions. These results can be linked to the points raised by Santos Júnior and Gomes (2014) regarding the main criticisms of film financing through tax incentive laws, in which they state that this model "does not stimulate the quality and artistic potential of films, but essentially cultural marketing—that is, institutional promotion through an artistic-cultural product" (Santos Júnior & Gomes, 2014, p. 25).

To understand the findings, a survey was conducted to identify potential barriers to LA performance. Image 1 presents some of these elements, based on the literature and data from the Statistical Yearbook of Brazilian Cinema, a publication made available by ANCINE.

Image 1: Barriers to the Implementation of the Audiovisual Law in Terms of Audience Reach

Environmental Barriers	- Although the number of movie theaters in Brazil is on the rise, data from the IBGE reveal that 39.9% of the Brazilian population lives in municipalities that do not have movie theaters, which hinders access to films. This is because only 10% of Brazilian municipalities have movie theaters; - Growth of the streaming platform market in Brazil, which represents a form of competition for the film industry; - The existence of movie piracy in the country (Marvasti& Canterbury, 2005); - Political and economic instability (Johnson, 1996). - The distribution and exhibition phases for domestic films have failed to keep pace with the growth in the number of Brazilian films produced, which hinders their absorption by the market (Bahia, 2012).
OrganizationalBarriers	- The government's hands-off approach to the sector, which primarily focuses on evaluating film projects and overseeing bureaucratic matters; - There are no prior requirements regarding the technical and commercial feasibility of film projects eligible for LA funding (Attayde, 2006); - Shortcomings in the tax incentive provisions of this law that cause its funds to be concentrated primarily in the production stages, to the detriment of the other stages (distribution and exhibition) (Attayde, 2006). - Concentration of raised funds in a small number of projects, given the difficulties that applicants face in finding sponsors willing to comply with the law's procedures. Furthermore, geography stands out as a barrier, as the majority of sponsors and applicants for film projects are located in the Southeast region of the country (Assis, Pereira & Wilbert, 2021).
Individual Barriers	- The public's preference for foreign films, which is evident in the low number of Brazilian films among the top annual box office hits; - A steady, average increase in ticket prices (Bahia, 2012); - A preference for accessing films through streaming platforms or other means.

Source: The authors.

This article corroborates the findings of previous studies on the LA, which highlighted a number of issues regarding this film policy, and seeks to address gaps in the literature—particularly with regard to aspects of the audience reach of film productions (Assis, Pereira & Wilbert, 2021)—by considering a set of data that had not yet been explored in the literature on this law.

5. CONCLUSIONS

This article analyzes changes in the Brazilian film industry in terms of audience reach during the period following the implementation of the LA, compared to the period prior to the creation of this film policy, when Embrafilme was in effect. To this end, a quantitative study was conducted to analyze the effects of this policy on the audience for these productions, based on a sample of 521 Brazilian films released between 1970 and 2019 that attracted an audience of more than 500,000 viewers.

Based on the findings, it is evident that the LA plays a significant role in national film productions; from 1995 to 2019, 58.33% of the films commercially released in theaters in Brazil received funding through this mechanism. However, in terms of the LA's impact on audience reach—when compared to the previous period, during which the government's primary role was carried out by Embrafilme—the law had negative effects, resulting in a significantly lower average audience. Some factors that may explain this result may be related to the decline in the number of movie theaters in Brazil during the 1980s and 1990s, as well as the introduction of new media technologies that facilitated access to this type of content, which may have reduced the public's interest in viewing these productions in movie theaters. Other factors were identified and presented as performance barriers that this film policy faces, which should be considered as obstacles to be overcome in order to achieve better results.

Regarding the contributions, it should be noted that, in addition to considering data spanning a broad time frame—from 1970 to 2019—this article proposed an analysis unprecedented in the literature on the LA, which is one of Brazil's main film policies. In this regard, the findings of this article may be useful to public and private actors involved with the LA, whether through evaluation, the proposal, or the promotion of film projects through this mechanism. In addition, it serves other interested parties—the general public—who, in one way or another, view these productions and take an interest in Brazilian cinema.

Regarding the limitations of this article, the composition of the treatment and control groups stands out first and foremost, since the analysis compares films that

received funding through Embrafilme prior to 1995 with films that received funding under the Audiovisual Law after 1995. Although this analytical strategy allows for a comparison between different cultural policy instruments, it does not fully isolate the effect of the Audiovisual Law on film performance, since the observed differences may also reflect changes that occurred over time in the Brazilian film industry, in production and distribution conditions, in audience behavior, and in other cultural and institutional policies implemented during the periods considered in the analysis. In this regard, the results should be interpreted with caution, especially when it comes to attributing causality exclusively to the incentive policy established by the Audiovisual Law.

Furthermore, another limitation is the use of data only from films that achieved relative box-office success (more than 500,000 viewers), which may introduce a selection bias and limit the ability to generalize the findings regarding the effects of this law, given that it excludes from the analysis a significant portion of Brazilian audiovisual productions that did not reach this audience threshold. In this regard, for future studies, we suggest analyzing the remaining films with fewer than 500,000 viewers, as well as other information about the films, such as the revenue they generated and the number of theaters in which they were shown, among other aspects that may shed light on the landscape of Brazilian film production.

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