Article

Analysis of the dynamics and specialization of creative activities in Brazilian capitals and Unesco creative cities

Análise da dinâmica e especialização das atividades criativas nas capitais brasileiras e cidades criativas da Unesco

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ABSTRACT

The main objective of this study is to discuss the growth of creative activities, which interface with tourism, in the 27 Brazilian capitals and in the creative cities recognized by the United Nations Educational, Scientific and Cultural Organization of Santos (state of São Paulo) and Paraty (state of Rio de Janeiro), in Brazil. To this end, a statistical application was carried out with data from the Annual Social Information Report from 2011 to 2020. To compare local potentialities in different periods, the location quotient, shift-share, and its Esteban-Marquillas formulation were used. The results illustrate that, as of 2017, the shrinkage rates of creative activities were higher than the shrinkage rates of conventional activities. The location quotient elucidates that there were no abrupt structural changes in terms of spatial concentration of creative activities; the shift-share emphasizes the worsening of the shrinkage of the creative economy, coinciding with the periods of economic/institutional crises and social distancing due to the COVID-19 pandemic.

Keywords: Creative economy. Shift-share. Creative cities.

RESUMO

Este artigo tem por objetivo discutir o crescimento das atividades criativas, que fazem interface com o turismo, nas 27 capitais brasileiras e nas cidades criativas reconhecidas pela Organização das Nações Unidas para a Educação, a Ciência e a Cultura de Santos (SP) e Paraty (RJ). Para tanto, realizou-se uma aplicação estatística com dados da Relação Anual de Informações Sociais de 2011 a 2020. Para comparar as potencialidades locais em diferentes períodos, optou-se pelo uso do quociente locacional, shift-share e seu desdobramento Esteban-Marquillas. Os resultados encontrados ilustram que, a partir de 2017, as taxas de encolhimento das atividades criativas foram superiores ao encolhimento das atividades convencionais. O quociente locacional elucida que não houve mudanças estruturais abruptas em termos de concentração espacial das atividades criativas, o shift-share enfatiza o agravamento do encolhimento da economia criativa, coincidindo com os períodos das crises econômicas/institucionais e de distanciamento social derivado da covid-19.

Palavras-chave: *Economia criativa. Shift-share. Cidades criativas.*

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INTRODUCTION

This study arises from the need to understand and monitor the progress of creative activities that interface with tourism within two established periods: from 2011 to 2015, when the Department of Creative Economy is established with the Brazilian Ministry of Culture (*Ministério da Cultura* – MINC), formulating public policies, guidelines, actions, and objectives for the creative economy; and from 2016 to 2020, a period that begins with a serious institutional crisis, followed by redirecting effective public policies for culture and creative activities, economic crisis, termination of the MINC in 2019 and, in 2020, the health crisis due to the new coronavirus (COVID-19) pandemic.

We begin this investigation by identifying the potential territories for analysis with the highest level of homogeneity and susceptible to disaggregation in Brazil. Subsequently, we observe the Brazilian capitals that are part of the Creative Cities Network of the United Nations Educational, Scientific and Cultural Organization (UNESCO), such as Belém (state of Pará/PA), Belo Horizonte (state of Minas Gerais/MG), Brasília (Federal District/DF), Curitiba (state of Paraná/PR), Fortaleza (state of Ceará/CE), Florianópolis (state of Santa Catarina/SC), João Pessoa (state of Paraíba/PB), and Salvador (state of Bahia/BA), and the cities of Paraty (state of Rio de Janeiro/RJ) and Santos (state of São Paulo/SP), which are not capitals, but are also endorsed by Unesco as creative. By identifying that most of the localities that form creative clusters are established in territories with higher levels of urbanization and population density (GOLGHER, 2008; MACHADO; SIMÕES; DINIZ, 2013; MELO; PAIVA, 2016), we decided to cover all Brazilian capitals and creative cities as the reference macro-region, totaling 29 cities.

Once the region of analysis was delimited, some investigations were carried out aiming at identifying the transformations that occurred in the creative activities in their determined territories from 2011 to 2015 and from 2016 to 2020. These periods, although recent, present different economic, institutional, political, and sanitary circumstances, which induces us to investigate, compare, and shed light on alternatives that are key to the creative economy.

Therefore, we seek to distinguish between internal and external factors that explain the progress of creative activities from their productive structure, based on the shift-share method, which compares growth (the effectively observed growth) and homothetic growth (the one that the observed unit would obtain if it evolved according to all the units of analysis), highlighting whether the local dynamism occurs by a structural factor (for reasons exogenous to the locality) or by a differential factor (for reasons endogenous to the locality). To collaborate with the recognition of the variations in creative economy, the location quotient (LQ) assists in distinguishing the level of specialization (concentration) of the creative clusters analyzed.

To corroborate the general purpose of this investigation, this article is divided into five parts. In addition to this introduction, the following sections comprise a literature review that directs the guidelines for performing this study; the methodological description, which details the criteria adopted for the statistical applications; the presentation of results; and, finally, the final considerations.

THE CREATIVE ECONOMY IN URBAN CENTERS

One of the characteristics cited by the literature specialized in creative economy is that the so-called clusters, or creative concentrations, tend to be concentrated in urban centers. Activities involving audiovisual, performing arts, design, gastronomy, fashion, and music converge in the urban space of large agglomerations, enjoying the benefit of proximity to the main regional, socio-cultural economic interactions, and locally-established urban amenities.

The incidence of adequate conditions for carrying out creative and cultural activities motivates the local economy, improves its image and presentation, and can collaborate with tourist activities and new ventures. In addition to these effects, structures that include the performance of creative activities contribute to development processes, including respect for diversity and the inclusion of local populations (PERLOFF, 1979; CWI, 1980; BILLE; SCHULZE, 2006).

When there are concentrations of varieties related to the cultural and creative field, the potential for knowledge spillover among actors becomes eminent, generating an environment conducive to new organizations and innovations that transcend creative activities, reaching manufacturing and service activities. These movements were named by Lazzeretti, Boix and Capone (2013) as "cross-fertilization." Thus, a region with diversified economy would be able to develop new activities, expanding its alternatives for accelerating growth and, consequently, the economic development.

The concentration of activities related to art and culture can be an active protagonist in regional and urban developments, as long as it is organized and ordered by public policies that aim to complement the various areas of the creative economy. In the short term, there is an increase in the general demand for goods and services with local characteristics, which stimulates development in the long term — in addition to stimulating industrial development with skills for innovation (BILLE; SCHULZE, 2006).

Recognizing cultural and creative activities promotes, among other aspects, the valorization of local traditions, praising the identity of the community and the respect for diversity, and collaborating with the vitality of local intangible values. This whole transition process goes through the recognition of public managers, entrepreneurs, and community institutions that culture, entertainment, and urban amenities are important factors for people to choose their destination as a permanent home or for tourism purposes. Large world centers, such as London, New York, and Chicago, explore the attributes derived from creative economy, and this aspect is one of their main sources of wealth generation, employment, and income distribution (CWI, 1980; BILLE; SCHULZE, 2006).

Tracking and monitoring creative activities in urban centers make the actors start considering economic, urban, and social policies focused on the revitalization of areas in central regions and also in the peripheries of the city. This type of policy was formulated in Europe as of 1980, when the main strategy was planning based on the structure of cultural and creative production as an alternative for economic development (MARKUSEN; GADWA, 2010).

From the new demands, creative tourism emerges in urban centers with concentration and specialization in creative activities. This economic modality aims to generate experience for tourists from the interaction and learning of what is proper to the region to the consumption of local production (RICHARDS, 2011).

Territories with creative specialization tend to leverage the tourism derived from the creative activities contained there, as they are based on the local intangible, that is, on knowledge, expressions, and skills in the production of cultural goods and services that generate interests for individuals exogenous to the local culture. The new interactions derived from tourism generate economic surpluses for the local community and new experiences and accumulation of knowledge for tourists (ASHTON, 2013).

Regarding studies on Brazil, Golgher (2008) began his investigation by observing the spatial distribution of highly qualified workers and their occupation in creative activities in Brazil. In his findings, the author described an evident heterogeneity among the states, highlighting that the lowest concentration occurs in the North and Northeast of Brazil.

Later, Golgher (2011),[1] when constructing an entertainment index as a proxy of a locality that strongly attracts qualified, creative, and productive people, reported that the metropolitan regions of Rio de Janeiro, Salvador, Baixada Santista, Natal, and Fortaleza obtained the main results. Still in this analysis, the author highlighted the existence of a spillover effect between neighboring municipalities, due to the dynamics of commuting movements of residents around the central regions.

Machado *et al*. (2013)[2] associated the development of creative clusters in Brazilian municipalities with urban amenities. In their findings, the authors considered the relationship between large concentrations of creative resources, as well as creative industries, creative places, and individuals working in creative occupations, the "economies of agglomeration." In other words, large urban centers, in which there are higher levels of urbanization and infrastructure, universities and cultural centers, benefit from these amenities and also from the interactions existing in the region, incorporating value and innovations to cultural products, in addition to receiving the validation of local traditions.

When verifying the spatial distribution of the leisure industry in the Brazilian municipalities, correlating them with the development level, Ribeiro *et al*. (2014) found the highest levels of specialization and concentration in São Paulo and Rio de Janeiro.

By investigating the characteristics of the municipalities of the Brazilian metropolitan regions from the perspective of artistic and cultural activities, Ribeiro and Lopes

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1   Golgher (2008; 2011) used the proportion of workers in the creative sector, adapting data from the 2000 Demographic Census, according to the Brazilian Classification of Occupations (*Classificação Brasileira de Ocupações* – CBO), to distinguish creative occupations. This approach is similar to that employed by Florida (2005).

2   The authors consider direct and indirect cultural/creative occupations, as recommended by the Brazilian Classification of Occupations for Household Surveys (*Classificação de Ocupações para Pesquisas Domiciliares* – COD 2010).

(2015)[3] identified specific structural patterns, competitive characteristics, specialization and dynamism. When considering all 5,454 Brazilian municipalities, their results highlight only 2% of the municipalities with relevance in artistic and cultural activities, in addition to noting that such municipalities are located in large urban centers.

Melo and Paiva (2016)[4] advanced in the investigation on creative clusters in medium-sized Brazilian municipalities, seeking to isolate the scale effect of large centers, contributing to the understanding of the development of creative activities in peripheral cities. In their results, they found that the cities that stood out as creative clusters are concentrated in the South and Southeast regions and on the coast of the Brazilian Northeast, but with different patterns of location.

At the national level, public policies aimed at the creative economy were institutionalized and driven from the creation of the Department of Creative Economy (adjunct to the MINC) in 2011. Their objectives include the expansion of the transversalities of public policies, incorporated into the government and society to reduce regional socioeconomic inequalities and promote the diffusion of creative activities throughout the national territory, especially in regions of late development (MINC, 2011).

Considering the studies carried out to map and evaluate the concentration/dispersion of cultural and creative activities in Brazil, our research intends to use, as a reference, the activities related to the creative economy and to investigate, among other aspects, the growth and local specialization of creative activities in the 27 Brazilian capitals and the creative cities of Santos/SP and Paraty/RJ, recognized by Unesco. The chosen period aims to identify the panorama of the creative economy based on the Plan of the Department of Creative Economy established in 2011 and also to analyze the results for each surveyed city, allowing the comparison with the period of economic and institutional crisis and the COVID-19 pandemic, demonstrating what are the alternatives for resuming the growth of creative economy from the potentialities observed in the previous period.

Creative economy: delimitation of the research field

Despite the diversity of available studies on creative economy, there is no consensus on the delimitation of the activities that surround it. However, in the specialized literature, different activities compose the field based on intellectual capital, creativity, and innovation potential.

As highlighted by the United Nations Conference on Trade and Development (UNCTAD, 2008), there is a recommendation to elasticize and adapt the concept of creative economy, as well as the involved activities, for development in different perspectives.

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3   In this study, the authors consider cultural/creative services, including the field of audiovisual, teaching of art and culture, book editing, management of cultural spaces, libraries, museums, restoration activities, and associative organizations linked to culture.

4   In this investigation, the authors consider employees linked to the cultural sector or creative activities, according to the classification of Machado, Simões and Diniz (2013).

Based on the studies and monitoring of the Creative Industry Development Agency of Minas Gerais – P7 Creative Observatory (Agência de Desenvolvimento da Indústria Criativa de Minas Gerais – Observatório P7 Criativo, 2018) and the Tourism Observatory of Belo Horizonte (Observatório do Turismo de Belo Horizonte, 2019), this research aimed at following the creative activities that interface with tourism, considering three major groups:

1.   Functional creations

Architecture and design: cutting of gems and manufacturing goldsmithery and jewelry artifacts; manufacture of costume jewelry and similar artifacts; development of custom computer programs; architectural services.

Fashion: manufacture of garments (mass production and tailor-made); costume jewelry and related artifacts; rental of clothing and accessories; manufacture of leather artifacts and other related activities.

Advertising: consulting activities in advertising; market research; agency services for spaces; advertising and publicity.

2.   Culture

Performing arts: performing arts, shows and complementary activities; management of spaces for performing arts, shows and other artistic activities; activities of associative organizations linked to culture and art; teaching of art and culture.

Visual arts: photography and similar activities; artistic creation.

Heritage: activities of libraries and archives; activities of museums and exploration, artistic restoration and conservation of historical places and buildings and similar attractions; activities of botanical gardens, zoos, national parks, ecological reserves, and environmental protection areas.

Gastronomy: restaurants and other food and beverage establishments; street food services; catering, buffet and other ready-made food services; manufacture of canned fruits; manufacture of canned vegetables; manufacture of fruit juices and vegetables; milk processing; manufacture of dairy products; manufacture of ice cream and other edible ices; manufacture of bakery products; manufacture of biscuits; manufacture of cocoa and chocolate products; manufacture of pasta; manufacture of spices, sauces, seasonings, and condiments.

3.   Media

Audiovisual: cinematographic, video and television shows production activities; film, video and television show post-production activities; cinematographic, video and television show distribution; cinematographic exhibition activities; broadcast television activities; programmers and activities related to pay television; rental of videotapes, DVDs and the like; film clubs.

Editing and editorial: editing of books; editing of newspapers; editing of magazines; editing of registers, lists, and other graphic products; editing integrated to the printing of books; editing integrated to the printing of newspapers; editing integrated to the printing of magazines; editing integrated to the printing of registers, lists, and other graphic products; news agencies.

Music: manufacture of musical instruments; sound recording and music editing activities; radio activities.

Based on the activities listed and classified, according to each cluster, the METODOLOGY section contains the codes of the National Classification of Economic Activities (*Classificação Nacional de Atividades Econômicas – CNAE*) for recognition and replication of the experiments carried out in this investigation.

METHODOLOGY

To monitor the growth of the creative economy of a region based on its productive structure, the shift-share method, also known as structural-differential, was chosen. This technique allows distinguishing whether the growth of a given locality is due to its productive structure (by the dynamism of the observed clusters) or due to the participation in the general growth of activities related to the field of creative economy throughout the reference macro-region (HADDAD, 1989).

With the application of the shift-share, it is possible to indicate whether the growth of a certain region is due to these two factors:

1. productive structure, mainly composed of more dynamic sectors than the others observed;

2. increasing participation in the regional distribution of productive capacity (occupations).

Thus, the growth of a region is constituted by a structural variation and a differential variation (HADDAD, 1989). The mathematical formalization of the shift-share method is defined as follows:

$$E_{ij}^1 - E_{ij}^0 = \Delta E_{ij} = \Delta E_{ij}(r_{in} - r_n) + E_{ij}(r_{ij} - r_{in}) \tag{1}$$

Where:
E_{ij} =total number of occupations of cluster *i* in region *j*;
r_{ij} =percentage change in employments of the observed cluster *i* in region *j*;
r_{in} =percentage change in employments of the sector throughout the refence macro-region;
1=final year of investigation;
0=initial year of investigation;

Among the presented terms, there are the following correspondences for the possible effects to be identified:

Macro-regional or total effect

$$EM_{ij} = E_{ij}r_n \tag{2}$$

Structural effect

$$EE_{ij} = E_{ij}(r_{in} - r_n) \tag{3}$$

Regional effect

$$ER_{ij} = E_{ij}(r_{ij} - r_{in})$$

(4)

Esteban-Marquilas (1972) presents the formulation of the shift-share method, incorporating the extraction of information on the allocation effect and the competitive effect and enabling the analysis considering two periods, initial and final. Hence, it is possible to verify the effects that occurred in the periods chosen by the researcher from the components: regional variation (R), structural variation (S), differential variation (D), competitive effect (C), and allocation effect (A). Its formalization is described as follows:

$$\underbrace{\sum_i E_{ij}^1 - \sum_i E_{ij}^0}_{VT} =$$

$$\underbrace{\sum_i E_{ij}^0 (r_{it} - 1)}_{R} + \underbrace{\sum_i E_{ij}^0 (r_{it} - r_{tt})}_{E} + \underbrace{\sum_i E_{ij}^{'0} (r_{ij} - r_{it})}_{C} +$$

(5)

$$\underbrace{\sum_i [(E_{ij}^0 - E_{ij}^{'0})(r_{ij} + r_{ii})]}_{A}$$

As shown in Equation (1), TC is the total representation of employments in the creative economy clusters between the final and initial periods in region j. Therefore, the total net change (TNC) is represented by:

$$TNC = TC - R = E + C + A$$

(6)

In the formalization of Equation (2), R represents the change in employment if region j obtained a growth rate of activities related to the field of creative economy in all regions, where:

$r_{tt} = (\sum_i \sum_j E_{ij}^1)/\sum_i \sum_j E_{ij}^0$ represents the employment of creative activities in all regions;

$r_{it} = \sum_j E_{ij}^1 / \sum_j E_{ij}^0$ represents the growth rate of employment in creative activities in cluster i throughout the reference macro-region;

$r_{ij} = E_{ij}^1/E_{ij}^0$ is the rate of employment growth in cluster i of region j;

$E_{ij}' = \sum_i E_{ij} (\sum_{ij} E_{ij} / \sum_i \sum_j E_{ij})$ is the homothetic employment in the cluster, if region j had the same employment structure of the reference macro-region.

Based on the information found in the allocation effect, the proposal of Esteban-Marquillas (1972) highlights possible categorizations, as described in Table 1.

For complementing the analysis of the results found with the shift-share method, we sought for the indicator that would allow comparing the percentage participation of a locality in an exclusive cluster to the percentage participation in the same region in the total of the reference macro-region. To this end, LQ is indicated by Isard (1972) and Haddad (1989). Its representation is according to the following equation:

$$LQ = \frac{E_{ij}/E_{tj}}{E_{it}/E_{tt}}$$

(3)

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Table 1. Allocation effect – Esteban-Marquillas (1972).

Categorizations	Allocation effect	Components	
		Specialization $(E_{ij}^1 - E_{ij}^0)$	Competitive Advantage $(r_{ij} - r_{it})$
Specialized competitive advantage	positive	+	+
Nonspecialized competitive advantage	negative	-	+
Nonspecialized competitive disadvantage	positive	-	-
Specialized competitive disadvantage	negative	+	-

Source: adapted by the author from Haddad (1989).

As described in Equation 3, in this investigation, the LQ seeks to quantify the concentration and importance of activities related to the field of creative economy in relation to the total employment of the reference region. Therefore, E_{ij} represents the number of people employed in activities related to the field of creative economy in city j; E_{it} represents the number of people employed in all activities in city j; E_{it} represents the total number of people employed in the field of creative economy in all reference cities; and E_{tt} is the total number of people employed in all activities in the reference cities.

In this analysis, the LQ compares the percentage participation of the occupation clusters of the creative activities considered in this investigation with the percentage participation of the other occupations of the entire macro-region of reference. In cases in which the result is higher than 1, the location will be considered as specialized in activities related to the field of creative economy; in cases with values lower than 1, the proposed cluster is considered nonspecialized.

Study sites, period and database

To obtain a higher level of heterogeneity, the reference territory of this study comprises the 27 Brazilian capitals and also the Unesco creative cities of Santos (SP) and Paraty (RJ). To this end, data from the Annual Social Information Report (*Relação Anual de Informações Sociais* – RAIS, MINISTÉRIO DO TRABALHO E PREVIDÊNCIA, 2023) for the years 2011, 2015, 2016, and 2020, were used.

The chosen periods are strategic to intertemporally identify and compare the effects of public policies from the creation of the Department of Creative Economy (adjunct to the MINC), with its management plan from 2011 to 2014, with the period of economic, political, and institutional crises as of 2015, with the termination of the MINC, and the redirection of specific public policies to activities related to the field of creative and cultural economy at the national level that occurs as of 2017. In the year 2020, the period of social distancing due to the COVID-19 pandemic aggravated the situation.

However, all the applied statistics allow to identify and compare the periods, the occurrences on the activities related to the field of creative economy, as well as to compare their results, identifying locations of specialization and which are the

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activities with the greatest dynamic structure for the recovery of the creative economy in the post-pandemic period.

The activities related to the field of creative economy, selected by this study, have as reference the publication of the P7 Creative Observatory, carried out by Agência de Desenvolvimento da Indústria Criativa de Minas Gerais (2018), and also the Mapping and Analysis of the Creative Economy, published by Observatório do Turismo de Belo Horizonte (2019). To enable the observation of the results, the creative activities are grouped as presented in Chart 1.

Chart 1. Creative activities considered and their respective clusters.

| Functional creations		Media		Culture		Culture	
Group	CNAE	Group	CNAE	Group	CNAE	Group	CNAE
Architecture and design	32116	Audiovisual	59111	Gastronomy	56112	Visual arts	74200
	32124		59120		56121		90027
	62015		59138		56201	Music	32205
	71111		59146		10317		59201
	71197		60217		10325		60101
	74102		60225		10333	Heritage	91015
Fashion	74901		77225		10511		91023
	15319		94936		10520		91031
	15327	Editing and editorial	58115		10538		
	15335		58123		10911		
	15394		58131		10929		
	13405		58191		10937		
	14118		58212		10945		
	14126		58221		10953		
	14142		58239	Performing arts	90019		
	14223		58298		90035		
Advertising	73114		63917		94936		
	73190				85929		

Source: Prepared by the author.
CNAE: National Classification of Economic Activities.

Thus, the application of the methods considers ten major economic groups and 61 different activities. The statistics identified in this study allow us to identify and compare, in different periods, which clusters of the selected activities have the greatest capacities to promote creative economy before the period of social distancing due to the COVID-19 pandemic (from 2011 to 2015) and with the impact of COVID-19 (2016 and 2020, the initial year of the pandemic). All information was extracted from the RAIS microdata (MINISTÉRIO DO TRABALHO E PREVIDÊNCIA, 2023).

RESULTS

The investigation on the dynamics of creative activities that interface with tourism, in Brazilian capitals and creative cities of Unesco, begins from the observation of the annual growth rate starting in the year 2011 until 2020, as shown in Graph 1.
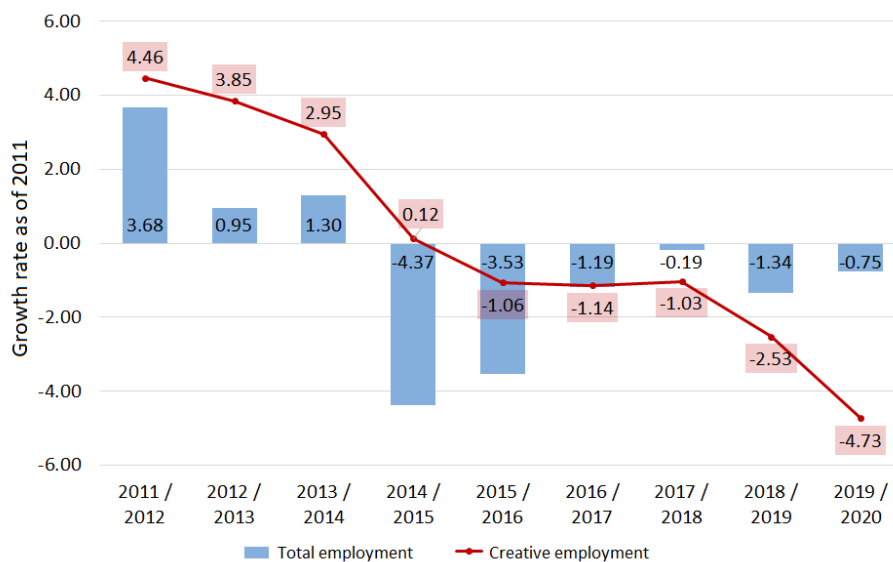
Source: prepared by the author based on RAIS data.
Graph 1. Growth rate of formal employment — 2011 to 2020 (creative capitals and cities).

Based on the results highlighted in Graph 1, we observed that the annual growth rate of creative activities that interface with tourism is higher than the growth rate of formal employment until the year 2015. From 2016 onward, we observed negative growth rates in all the surveyed years, being aggravated as of 2018 and, mainly, when observing the last period (2019/2020), which was impacted by the health crisis resulting from COVID-19. By observing the years 2017 to 2020, we verified the occurrence of higher negative growth in the activities of the analyzed cluster when compared with other economic activities.

Based on these statistics, we observed the first indications of the different guidelines of public policies, at the federal level, adopted during the governments of Presidents Dilma Rousseff (2011–2014, 2015–2016), Michel Temer (2016–2018), and Jair Bolsonaro (2019–2020).

Taking these results into account, we sought to observe the intra-regional dynamics of creative activities related to tourism in the reference macro-region throughout the investigated period. In total, we found that over 80% of the individuals working in activities deemed creative in this analysis are concentrated in ten of the 29 surveyed cities, and São Paulo (SP) accounts for over 30% of the occupations in all analyzed periods, followed by Rio de Janeiro (RJ), with approximately 11%, as

well as the results found by Ribeiro and Lopes (2015), including Belo Horizonte (MG) and Fortaleza (CE) with percentages above 6%.

Despite the evident shrinkage of occupations of the creative cluster of this analysis, as of 2015, we observed that, in the main cities investigated, there were no significant changes in the percentage intra-regional dynamics, providing evidence of the maintenance of productive representativeness in each capital and creative city analyzed. This information is highlighted in Table 2.

Table 2. Percentage distribution of formal employment in activities of the creative cluster in creative capitals and cities — 2011 to 2020.

City	2011 (%)	2012 (%)	2015 (%)	2016 (%)	2019 (%)	2020 (%)
São Paulo	33.02	32.71	31.49	31.32	30.87	30.98
Rio de Janeiro	11.22	11.25	11.14	11.33	11.04	11.16
Belo Horizonte	6.76	6.70	6.59	6.62	6.54	6.46
Fortaleza	6.38	6.34	6.32	6.20	5.80	5.79
Brasília	5.36	5.28	5.38	5.38	5.68	5.76
Goiânia	5.20	5.23	5.24	5.20	5.12	5.11
Curitiba	4.75	4.67	4.66	4.65	5.07	5.02
Porto Alegre	3.92	3.90	3.69	3.62	3.57	3.50
Salvador	3.72	3.75	3.76	3.76	3.74	3.64
Recife	2.78	2.95	3.04	3.00	2.85	2.78
Total (%)	83.11	82.78	81.31	81.08	80.28	80.20

Source: prepared by the author based on RAIS data.

The applications of this research begin with the LQ.[5] In this investigation, we considered all the activities in the field of creative economy that interface with tourism, as a single group, comparing it with the other occupations existing in the local economy. Thus, results above 1 mean that the unit of analysis (observed city) is relatively more important, in the macro-regional context (all the observed cities), considering all creative activities, than, in general terms, the other productive sectors of the local economy.

In view of the results presented in Table 3, we verified that the city of Paraty (RJ) is the city that obtained the highest results of LQ in all analyzed periods, followed by Goiânia (state of Goiás/GO), Fortaleza (CE), Florianópolis (SC), São Paulo (SP), and Santos (SP). This result means that the cluster observed in these cities assumes its leading role in the local economy, with a surplus in its production capacity, indicating that the activities of the creative cluster considered in this analysis, in the region, are deemed as basic, i.e., focused on export

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5   To avoid false positives, LQ results are followed by relative participation (RP). That is, values above 1 for the LQ should be followed by values consistent with the results obtained by the RP.

Table 3. Location quotient and relative participation for creative activities that interface with tourism in 2011, 2015, 2016, and 2020.

City	First analysis period				Second analysis period			
	LQ — 2011	RP (%) — 2011	LQ — 2015	RP (%) — 2015	LQ — 2016	RP (%) — 2016	LQ — 2020	RP (%) — 2020
Paraty	2.89	1.96	2.70	2.02	2.86	2.19	2.92	2.11
Goiânia	1.70	1.16	1.68	1.25	1.65	1.27	1.62	1.17
Fortaleza	1.57	1.07	1.47	1.10	1.48	1.14	1.37	0.99
Florianópolis	1.36	0.92	1.34	1.00	1.29	0.99	1.31	0.94
São Paulo	1.24	0.84	1.18	0.88	1.17	0.90	1.14	0.82
Santos	1.20	0.81	1.18	0.88	1.16	0.89	1.20	0.87
Curitiba	1.00	0.68	0.98	0.73	0.97	0.75	1.04	0.75
Porto Alegre	1.00	0.68	0.94	0.70	0.93	0.71	0.96	0.69
Belo Horizonte	0.93	0.63	1.04	0.78	1.04	0.80	0.96	0.69
Vitória	0.93	0.63	0.95	0.71	0.96	0.74	0.96	0.69
Teresina	0.92	0.62	0.89	0.67	0.89	0.68	0.97	0.70
Natal	0.91	0.62	1.09	0.81	1.05	0.80	0.99	0.72
Brasília	0.88	0.59	0.82	0.61	0.80	0.61	0.83	0.60
Salvador	0.85	0.58	0.90	0.67	0.91	0.70	0.89	0.64
Rio de Janeiro	0.85	0.58	0.85	0.63	0.88	0.68	0.96	0.69
Campo Grande	0.85	0.58	0.97	0.72	0.96	0.74	0.98	0.71
Aracaju	0.83	0.57	0.89	0.66	0.89	0.68	0.97	0.70
Cuiabá	0.83	0.56	0.88	0.66	0.89	0.68	0.92	0.67
Maceió	0.81	0.55	0.97	0.72	0.99	0.76	1.08	0.78
Recife	0.75	0.51	0.82	0.62	0.82	0.63	0.78	0.56
Boa Vista	0.67	0.46	0.77	0.57	0.82	0.63	0.80	0.58
João Pessoa	0.66	0.45	0.81	0.61	0.86	0.66	0.95	0.69
Rio Branco	0.66	0.45	0.62	0.46	0.66	0.51	0.63	0.46
Palmas	0.62	0.42	0.65	0.48	0.64	0.49	0.72	0.52
Macapá	0.54	0.37	0.61	0.46	0.55	0.43	0.51	0.37
Porto Velho	0.52	0.35	0.61	0.45	0.61	0.47	0.61	0.44
São Luís	0.47	0.32	0.58	0.44	0.58	0.45	0.57	0.41
Belém	0.46	0.31	0.52	0.39	0.51	0.39	0.49	0.35
Manaus	0.38	0.26	0.44	0.33	0.45	0.34	0.43	0.31

Source: prepared by the author based on RAIS data.

(or reception of tourists, considering the productive characteristics of the activities of the creative field in each location of analysis).[6]

The cities of Belo Horizonte (MG) and Natal (state of Tio Grande do Norte/RN) only stood out as basic activities — out of the creative cluster related to tourism — in

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6   As highlighted by Haddad (1989), cities that present results with values lower than 1, for creative activities, indicate that these activities are nonbasic, that is, the production is aimed at the market of the very surveyed city.

the years 2015 and 2016, possibly benefited by the implementation of public policies at the national level. According to the data, in 2020, during the health crisis arising from the COVID-19 pandemic, the cities of Paraty (RJ), Goiânia (GO), Fortaleza (CE), Florianópolis (SC), São Paulo (SP), Santos (SP), and Curitiba (PR) remained with results above 1 for the LQ as well as at the beginning of the observed period. Moreover, the city of Maceió (state of Alagoas/AL) was included, which stands out as a basic production in activities of the creative cluster.

It should be noted that, as highlighted by Golgher (2008; 2011) and Machado *et al.* (2013), activities related to creative economy in Brazil tend to be concentrated mainly in cities located in the South and Southeast, although, according to our results, the city of Fortaleza (CE) presented results with LQ>1 (Table 3), in addition to occupying the fourth position among the main cities considered in this analysis (Table 2).

It is noteworthy that, although the activities of the creative cluster, after the year 2015, accumulate negative growth until the year 2020, there are no indications of territorial changes in specialization/concentration. In other words, with the exception of the city of Maceió (AL), which started presenting LQ>1, and Porto Alegre (state of Rio Grande do Sul/RS), with LQ<1, the other territories maintained the same productive structure, in terms of representativeness, in the reference macro-region, in activities of the creative cluster. In Table 4, we present the results of the application of the shift-share method.

Table 4. Results of the shift-share analysis for creative activities that interface with tourism — 2011 and 2015.*

Structural and differential growth	Structural growth higher than differential decrease	Differential decrease higher than structural growth	Structural and differential decrease
Aracaju	Brasília	Belo Horizonte	São Paulo
Belém	Florianópolis	Curitiba	
Boa Vista	Goiânia	Fortaleza	
Campo Grande	Rio Branco	Porto Alegre	
Cuiabá	Salvador	Rio de Janeiro	
João Pessoa	Teresina	Santos	
Macapá		Vitória	
Maceió			
Manaus			
Natal			
Palmas			
Paraty			
Porto Velho			
Recife			
São Luís			

Source: prepared by the author.
*For further details of the results, see the Appendix.

The structural component (motivated by external factors – federative public policies, macroeconomic mechanisms, world economic growth, etc.) of the shift-share analysis demonstrates the number of related jobs that one of the considered locations gains or losses, in relation to the composition of the considered clusters. The differential component (related to internal factors – local public policies, infrastructure, human capital, internal characteristics, etc.) is a function of the specialization of the reference region in some activities, considering the local comparative advantages.

When observing the homothetic growth of the entire reference region, we verified that the advance should be 11.82% – as shown in Table 6, Appendix. In this sense, 15 out of the 29 cities showed growth (%) for structural and differential reasons. When observing the structural growth higher than the differential growth, that is, the growth as a function of the general growth of the reference macro-region, there is the occurrence in six observed cities. Regarding the decrease of differential attributes higher than structural growth, it occurs in seven cities.

The structural and differential decreases that were reported in the city of São Paulo in the period from 2011 to 2015 were surprising. Possibly, the results obtained for São Paulo were motivated by the low percentage impact that occurred in the period of analysis in relation to the advances verified in the other observed cities and capitals.[7]

When observing the formulation of the shift-share method with the application proposed by Esteban-Marquillas (1972) for the period of 2011 and 2015, in Chart 2 we verify that, among all the activities related to functional creations, culture and media, the activity related to gastronomy (culture) is the one that presents more cities with competitive advantage and specialization, especially in the North and Northeast regions. When observing the North region, the city of Belém (PA) stands out, with competitive advantage and specialization in five out of the ten groups of activities of the creative cluster considered in this analysis, especially in activities related to culture.

Conversely, activities related to heritage and architecture (functional creations) presented competitive advantage and specialization in the surveyed cities in the South and Southeast regions. Although it is not a creative city recognized by UNESCO, the city of Porto Alegre (RS), in the South region, includes all groups of creative activities with competitive advantage and specialization, with the exception of the fashion cluster (functional creations), with competitive advantage, but nonspecialized.

In the Midwest region, the city of Campo Grande (state of Mato Grosso do Sul/MS) stands out, with competitive advantage and specialization for activities related to advertising (functional creations), performing arts (culture), gastronomy (culture), and audiovisual (media). We verified that, in the city of Cuiabá (state of Mato Grosso/MT), there is competitive advantage, although nonspecialized, in seven creative clusters, especially in activities related to culture.

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7   The results with greater details are found in Table 6, Appendix.

Chart 2. Formulation of Esteban-Marquillas (1972) — 2011 and 2015.

FU	City	Functional creations			Culture				Media		
		Architecture and design	Fashion	Advertising	Performing arts	Visual arts	Heritage	Gastronomy	Audiovisual	Editing and editorial	Music
North											
PA	Belém	1		3	3	1	1	1	1		3
RR	Boa Vista	2			3	2		1	1		3
AP	Macapá	2			3			1	3		3
AM	Manaus	1	2	3	2	2	3	1	1	1	2
TO	Palmas	2		1	3	3		1		3	3
RO	Porto Velho	3	2	2	2	3	3	3	1	2	1
AC	Rio Branco			2	2	3	3	3	3	1	1
Northeast											
MA	São Luís	2		1	2	2	3	1	1	3	3
PI	Teresina	2	3	2	2	3	3	2	2		2
CE	Fortaleza	2	3	2	2	2	2	2		2	2
RN	Natal	3	2	1	2	1		1			3
PB	João Pessoa	2	2	1	2	1	2	1		2	3
PE	Recife	2		3	3	2	3	1		3	3
AL	Maceió	2		2	2	1	2	1	2	2	1
SE	Aracaju	1		1	3	1	1	1	2	3	1
BA	Salvador	3		2				3	2	3	3
Midwest											
MS	Campo Grande	3	2	1	1	3		1	1	3	3
MT	Cuiabá	2		2	2	2		2		2	2
DF	Brasília	3	2	3	3	3	3	3		2	
GO	Goiânia	2	1		2	2		2		2	2
Southeast											
MG	Belo Horizonte	3		3		1	3	3			
RJ	Rio de Janeiro	1		3	3	2	1	3	1	1	
RJ	Paraty				3			1	3		3
SP	São Paulo	1	2	3	2	3	1	3	3	1	1
SP	Santos	1	1	1	1	1	1		3		3
ES	Vitória	1		3	3	1	2	3			1
South											
PR	Curitiba	1		2		1	1	3	3	2	
SC	Florianópolis	3		3	1	3	1	3	3	3	3
RS	Porto Alegre	1	2	1	1	1	1	1	1	1	1

Source: Prepared by the author.
Typology: 1 (green) — competitive advantage, specialized; 2 (blue) — competitive advantage, nonspecialized; 3 (red) — competitive disadvantage, specialized; blank space — competitive disadvantage, nonspecialized.

From the results found so far, we advance to the comparison between periods when analyzing the results of the shift-share analysis for the years 2016 to 2020. The results highlighted in Table 5 represent a moment of several turbulences in Brazil,

Table 5. Results of the shift-share analysis for creative activities that interface with tourism — 2016 to 2020.

Structural and differential growth	Structural growth higher than differential decrease	Differential decrease higher than structural growth	Structural and differential decrease
Aracaju	Manaus	Belém	Fortaleza
Boa Vista	Rio Branco	Belo Horizonte	
Brasília	Teresina	Goiânia	
Campo Grande	Vitória	Macapá	
Cuiabá		Natal	
Curitiba		Porto Alegre	
Florianópolis		Porto Velho	
João Pessoa		Recife	
Maceió		Rio de Janeiro	
Palmas		Salvador	
Paraty		São Paulo	
Santos			
São Luís			

Source: prepared by the author.

from the institutional sphere and the economic crisis, which accumulated changes in the field of employment, in addition to changes in political directions that occurred during the period from 2016 to 2020 (as highlighted in Graph 1).[8]

As a result of the issues in the 2016–2020 period, we observed that the overall number of activities of the creative field in the surveyed cities was more impacted than those observed in other activities (Graph 1). Within the crisis environment, aggravated as of the years 2017 and 2018, the homothetic growth driven by the shift-share calculation for the activities of this analysis was -9.14%. Considering the scenario verified in the period, only the cities of Paraty (RJ), Palmas (state of Tocantins/TO), and João Pessoa (PB) presented positive growth rates.

In Table 5, we can observe that the shrinkage of activities observed in the period was lower than expected in cities that were classified as structural and differential growth. In the other cities where structural growth was verified, higher than the differential decrease, there was also a shrinkage of activities of the creative field with rates lower than the homothetic shrinkage resulting from the observed period.

8   It should be noted that in the year 2020, there was a period of social distancing due to the COVID-19 pandemic, whose effects are evident at a global level.

In this sense, structural reasons were responsible for impacts not as important as in the other locations.[9]

Still concerning Table 5, when observing the cities that were classified as differential decrease higher than the structural growth, we identified that the percentage of shrinkage observed in the activities of the creative field was higher than the homothetic shrinkage in the analyzed period. Among all the surveyed locations, between 2016 and 2020, we observed that the city of Fortaleza (CE) started presenting a structural and differential decrease, i.e., there is a shrinkage of the observed activities greater than the homothetic shrinkage observed in the period, for structural and differential reasons.

When analyzing the results found in the formulation of the shift-share method by Esteban-Marquillas (1972), still in the period from 2016 to 2020, compared with the previous period from 2011 to 2015, we found that gastronomy is still the main set of activities with competitive advantage and specialization, verified in 13 out of the 29 surveyed locations. These results remain prominent, especially in the Northeast region.

Regarding functional creations, we noticed that, still in the Northeast region, except in the city of Salvador (BA), all the cities observed in the region present results with competitive advantages, although nonspecialized, for activities related to architecture and design. Moreover, as for results with competitive advantages, specialized and nonspecialized, we found that most of the surveyed cities, with the exception of those in the South region, present results in these categories (1 and 2).

Analyzing the situation of the 2016–2020 period, the following cities stand out: Porto Alegre (RS), South region; São Paulo (SP), Southeast region; Campo Grande (MS), Midwest region; Teresina (state of Piauí/PI), São Luiz (state of Maranhã/MA), and Maceió (AL), Northeast region, with competitive advantages, specialized and nonspecialized, in the different clusters of activities of the creative field considered in this analysis.

However, the results shown in Chart 3 highlight the main indications of the recovery of activities of the creative field in its different clusters. The cities that present most of the clusters as competitive disadvantage, although specialized (3 – red), such as Florianópolis (SC), in the South region; Belo Horizonte (MG) and Rio de Janeiro (RJ), in the Southeast region; and Porto Velho (state of Rondônia/RO) and Rio Branco (state of Acre/AC), in the North region, present potential for economic recovery, in activities of the creative field, in the clusters of functional creations, culture, and media.

It is known that the competitive decrease and specialization of creative activities observed in this analysis was partly due to the period of social distancing in the COVID-19 pandemic. Therefore, in this study, we shed light on the clusters with local development potential, whose results obtained some kind of competitive

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9   More detailed results are shown Table 7, Appendix.

Chart 3. Formulation of Esteban-Marquillas (1972) — 2016 to 2020.

FU City		Functional creations			Culture				Media		
		Architecture and design	Fashion	Advertising	Performing arts	Visual arts	Heritage	Gastronomy	Audiovisual	Editing and editorial	Music
North											
PA	Belém	3		3	2	1		3	3	2	1
RR	Boa Vista	2	2	2	2	3		1	3		3
AP	Macapá	3	3	2	2	3					
AM	Manaus	1		2		2		3	1	2	1
TO	Palmas	1	2	1	3	2		1	1	2	2
RO	Porto Velho	2			2	3	3	3	2	3	1
AC	Rio Branco		2	3	2		3	3	1	3	2
Northeast											
MA	São Luís	2	2	1	1	3	2	1	3	2	2
PI	Teresina	2	1		2		2	1	2	2	2
CE	Fortaleza	2	3	2	2						
RN	Natal	2		3	2	3	2	3	2		2
PB	João Pessoa	2	2	3	2	1		1	2	2	3
PE	Recife	2		1		2	2	3			3
AL	Maceió	2	2	2		1	2	1		2	2
SE	Aracaju	2	2	1	2	3	1	1	3		3
BA	Salvador			1	3		1	3	2		2
Midwest											
MS	Campo Grande	2	2	1	1	1		1	1		3
MT	Cuiabá		1	2	2	2		2		2	
DF	Brasília			2	2	3	2	1	2	2	
GO	Goiânia	3	1	2	2	2	3	2	3	2	3
Southeast											
MG	Belo Horizonte	3		3	1	3	3	3			
RJ	Rio de Janeiro	3			3	2	1	3	3	3	2
RJ	Paraty				2			1		2	3
SP	São Paulo	1	2	2	1	2	3	1		3	1
SP	Santos		2	2	2	2	3	3	3		
ES	Vitória	1		3	1	3	2	3		2	1
South											
PR	Curitiba	3	2		2	3	3	1		2	2
SC	Florianópolis	3		3	3	1	3	3	3	3	1
RS	Porto Alegre	1	2	1	3	2	1	1		1	

Source: Prepared by the author.

Typology: 1 (green) — competitive advantage, specialized; 2 (blue) — competitive advantage, nonspecialized; 3 (red) — competitive disadvantage, specialized; blank space — competitive disadvantage, nonspecialized.

advantage or specialization in some creative clusters, both in the contemporary period from 2016 to 2020 and in the recent historical context from 2011 to 2015, in which the growth rates of activities of the creative field were found to be positive and increasing.

FINAL CONSIDERATIONS

The development of this research allowed us to understand the relationship of the activities of the creative field that interface with tourism, in Brazilian capitals and creative cities recognized by UNESCO, generating subsidies for monitoring and reflection, indicating alternatives to resume the growth of these activities in each location based on their potentialities.

The starting point of this research was the construction developed by Golgher (2008; 2011), Machado *et al*. (2013), Ribeiro *et al*. (2014), Ribeiro and Lopes (2015), Melo and Paiva (2016), who, considering the Brazilian reality, provide directions for new assertive investigations on creative activities, clusters, and their territories.

The delimitation of what is meant by activities of the creative field (organized by the CNAE codes), as well as their clusters, is based on studies carried out by the P7 Creative Observatory (endorsed by the João Pinheiro Foundation — AGÊNCIA DE DESENVOLVIMENTO DA INDÚSTRIA CRIATIVA DE MINAS Gerais, 2018), which provides information and guidelines for understanding the creative economy of the state of Minas Gerais, as well as its economic situation, and also the studies carried out and monitored by Observatório do Turismo de Belo Horizonte (2019).

Upon beginning the research, we verified the expansion of creative activities, with rates higher than those found in conventional activities until the economic crisis of 2015. As of 2016, we observed that the rates of shrinkage of creative activities related to tourism were higher than those found in other economic activities. These movements worsened as of 2018, when abrupt changes occurred in the guidelines of public policies involving the economies of culture and creativity. This study shows the worsening of the situation related to creative activities in the period of social distancing due to the COVID-19 pandemic.

The results of the applications of the LQ emphasize the concentration of activities of the creative field in cities of the South and Southeast regions, although the city of Fortaleza (CE) presents results for the LQ>1, being the main city in the Northeast with higher levels of concentration of the group of activities of interest.

Although the results, over the observed period, indicate that activities related to creative economy showed negative growth rates, especially after 2019, the results of the LQ indicate that there was no restructuring at the spatial level. In other words, the existing productive structures in each location of analysis, although diminished in the last years of analysis, remain with the same hierarchies of concentration, being Paraty (RJ), Goiânia (GO), Fortaleza (CE), Florianópolis (SC), São Paulo

(SP), and Santos (SP) those in which the observed activities remain representative in all observed periods.

From these indications, we observed, in the shift-share analysis for the first analyzed period (2011 to 2015), that the homothetic growth would be 11.82%. In all, the cities of Rio de Janeiro (RJ), Fortaleza (CE), Curitiba (PR), Santos (SP), Belo Horizonte (MG), Vitória (state of Espírito Santo/ES), and Porto Alegre (RS) presented results with structural decrease higher than structural growth, and São Paulo (SP) with differential and structural decrease. The formulations of Esteban-Marquillas (1972) highlight that activities related to gastronomy assume competitive advantage and specialization in most of the surveyed cities, especially in the North and Northeast regions.

When analyzing the results of the shift-share, for the period from 2016 to 2020, there are findings attesting to the shrinkage of the creative activities observed in this investigation. The homothetic growth presented a rate of change of -9.14%. Only the cities of Paraty (RJ), Palmas (TO), and João Pessoa (PE) presented positive rates of total growth, which were motivated by structural and differential reasons.

The result of the formulation of Esteban-Marquillas (1972) points out that gastronomy, although presenting results of competitive disadvantages, but specialized, in most localities, stands out as one of the main clusters of the creative economy considered in this analysis. Furthermore, we verified that performing arts, architecture and design, editing and editorial are the clusters that present competitive advantages, although nonspecialized, in some of the observed territories.

Among the results of this study, it is expected, from the understanding of the potentialities of the activities of the creative field in each investigated locality, that this information can generate subsidies for reorganizing creative economy, restructuring public policies and specific directions for the best use of the productive capacities of the local creative economy.

Although RAIS data (MINISTÉRIO DO TRABALHO E PREVIDÊNCIA, 2023) are the most recent and comprehensive for observing creative activities in all Brazilian cities, only activities with formal employment registration are included, which may be a limiting factor for this study. In this sense, we hypothesized that the number of activities observed is higher than those represented by RAIS data (MINISTÉRIO DO TRABALHO E PREVIDÊNCIA, 2023), even if they are occupations of precarious ventures and employments. Therefore, it is important that public policies aimed at resuming the growth of the creative economy take into account the evidence presented in the present study, without disregarding the aspects of informality.

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APPENDIX

Table 6. Overall results of the shift-share analysis between 2011 and 2015.

Territory	Total (%)	Regional (%)	Structural (+/-)	Differential (+/-)	Description
w Velho	17.68	11.82	5.11	0.75	SDG
Rio Branco	12.27	11.82	4.03	-3.58	SGHDD
Manaus	29.38	11.82	4.83	12.73	SDG
Boa Vista	30.87	11.82	4.88	14.17	SDG
Belém	22.38	11.82	4.26	6.30	SDG
Macapá	27.68	11.82	4.00	11.02	SDG
Palmas	37.06	11.82	3.73	21.51	SDG
São Luís	34.60	11.82	3.61	19.17	SDG
Teresina	21.45	11.82	-0.89	10.52	DDHSG
Fortaleza	10.61	11.82	-7.10	5.89	SGHDD
Natal	24.53	11.82	3.27	9.43	SDG
João Pessoa	40.88	11.82	3.47	25.58	SDG
Recife	22.16	11.82	3.18	7.16	SDG
Maceió	41.83	11.82	4.94	25.07	SDG
Aracaju	18.90	11.82	3.63	3.45	SDG
Salvador	13.07	11.82	3.72	-2.47	SGHDD
Belo Horizonte	9.07	11.82	1.37	-4.12	DDHSG
Vitória	7.41	11.82	4.03	-8.45	DDHSG
Paraty	30.89	11.82	7.57	7.44	SDG
Rio de Janeiro	11.00	11.82	2.25	-3.07	DDHSG
Santos	9.34	11.82	5.39	-7.88	DDHSG
São Paulo	6.64	11.82	-2.90	-2.28	SDD
Curitiba	9.60	11.82	3.22	-5.45	DDHSG
Florianópolis	14.41	11.82	4.56	-1.97	SGHDD
Porto Alegre	5.17	11.82	2.78	-9.43	DDHSG
Campo Grande	29.73	11.82	2.73	15.18	SDG
Cuiabá	25.45	11.82	3.76	9.87	SDG
Goiânia	12.77	11.82	-6.28	7.23	DDHSG
Brasília	12.40	11.82	5.06	-4.48	SGHDD

Source: prepared by the author.
Differential growth higher than structural decrease (DGHSD); structural and differential growth (SDG); structural growth higher than differential decrease (SGHDD); differential decrease higher than structural growth (DDHSG); structural and differential decrease (SDD); structural decrease higher than differential growth (SDHDG).

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Table 7. Overall results of the shift-share analysis between 2016 and 2020.

Territory	Total (%)	Regional (%)	Structural (+/-)	Differential (+/-)	Description
Porto Velho	-11.04	-9.14	2.45	-4.35	DDHSG
Rio Branco	-8.58	-9.14	1.62	-1.06	SGHDD
Manaus	-7.50	-9.14	2.64	-1.05	SGHDD
Boa Vista	-1.50	-9.14	2.23	5.41	SDG
Belém	-12.30	-9.14	2.33	-5.49	DDHSG
Macapá	-15.32	-9.14	2.13	-8.53	DDHSG
Palmas	1.90	-9.14	3.06	7.98	SDG
São Luís	-3.87	-9.14	1.84	3.44	SDG
Teresina	-2.64	-9.14	-0.04	6.55	DGHSD
Fortaleza	-15.12	-9.14	-3.80	-2.18	SDD
Natal	-16.59	-9.14	1.30	-8.74	DDHSG
João Pessoa	1.26	-9.14	1.95	8.46	SDG
Recife	-16.00	-9.14	1.97	-8.82	DDHSG
Maceió	-1.28	-9.14	2.16	5.70	SDG
Aracaju	-1.41	-9.14	2.55	5.18	SDG
Salvador	-11.97	-9.14	1.85	-4.68	DDHSG
Belo Horizonte	-11.38	-9.14	1.14	-3.37	DDHSG
Vitória	-7.58	-9.14	1.94	-0.38	SGHDD
Paraty	6.75	-9.14	3.16	12.73	SDG
Rio de Janeiro	-10.54	-9.14	0.99	-2.39	DDHSG
Santos	-6.44	-9.14	2.45	0.25	SDG
São Paulo	-10.11	-9.14	-1.67	0.71	SDHDG
Curitiba	-1.85	-9.14	1.49	5.80	SDG
Florianópolis	-1.32	-9.14	2.53	5.30	SDG
Porto Alegre	-12.16	-9.14	1.44	-4.46	DDHSG
Campo Grande	-1.49	-9.14	1.76	5.90	SDG
Cuiabá	-0.25	-9.14	2.56	6.34	SDG
Goiânia	-10.69	-9.14	-3.76	2.21	SDHDG
Brasília	-2.76	-9.14	2.50	-3.88	SDG

Source: prepared by the author.
Differential growth higher than structural decrease (DGHSD); structural and differential growth (SDG); structural growth higher than differential decrease (SGHDD); differential decrease higher than structural growth (DDHSG); structural and differential decrease (SDD); structural decrease higher than differential growth (SDHDG).

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