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ORIGINAL ARTICLE

# Specificities of the artistic cultural labor market in Brazilian metropolitan regions between 2002 and 2010

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**Abstract** This paper analyzes the singularity of artistic cultural sector workers in the Brazilian metropolitan labor market, considering the job satisfaction of artists that Throsby proposes in his work preference model of artist behavior (1994). We also examine the effect of public expenditures on the income of workers in the cultural sector. Using 2002 to 2010 data from the Monthly Employment Survey (PME) and administrative records from Finance of Brazil (FINBRA), we estimate a probit model and a wage equation. In our model, we estimate wages as a function of: (1) sociodemographic characteristics of workers, (2) a variable for informal jobs, (3) the number of working hours, (4) a variable for the worker having another job, (5) per capita expenditures on culture interacted with a dummy for artistic cultural workers, (6) interactive binary variables involving place of residence and artistic cultural workers and (7) the predicted probability obtained by the probit model. This probability is estimated based on the likelihood of working in a creative activity, considering both workers from the cultural sector and other workers, controlled by: (1) sociodemographic characteristics of workers, (2) characteristics of their jobs, (3) dummies for the metropolitan regions and (4) willingness of creative workers to work additional hours interacted with the number of hours worked. Our results show that workers in the cultural sector are likely to work longer hours when compared to workers in other sectors. For our wage equation, the results suggest that women earn relatively less than men and blacks earn less than whites. Furthermore, earnings increase with age and the level of education. Formal workers obtain higher earnings when compared to informal ones. Finally, an increase in the per capita public

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expenditure on the cultural sector raises the income of workers in artistic cultural occupations.

**Keywords** Labor market · Cultural · Artistic worker · Brazil

## 1 Introduction

The artistic creative workforce[1] has received a lot of attention due to the role the cultural sector has taken in developed and developing economies. Recently, the European Commission (EC) suggested encouraging it as a means to overcome the deep economic crisis the region currently faces, making use of the comparative advantages most countries of the European Union have in this sector. In the Brazilian case, the latter has been the target of a series of policies to encourage its activities, due to its employment- and income-generating capacities, on the one hand, and to the country's tradition and cultural diversity, on the other.

With respect to academic work on the artistic cultural workers, economists aim to identify the idiosyncrasies of the work choices of this occupational group (Abbing 2002; Alper and Wassall 2006; Menger 1999; Towse 1992, 2006; Throsby 1994). Decisions as to the place of residence of artists and the formation of creative clusters are also part of the research agenda of other economists (Florida 2002; Golgher 2011; Markusen and Schrock 2006; Murray 2003). In addition to this, there are articles that aim at analyzing the relationship between state participation and patronage in the advancement of artistic activities, as well as the effects of the latter on the working conditions in this sector (Benhamou 2003; Moreira 2011; Rabelo 2009).

In Brazil, research on the labor market for the artistic cultural sector, in the field of applied economic theory, is still scant. Golgher (2011) describes, using data from the Brazilian Census, the formation of creative and entertainment clusters, considering the place of residence of skilled workers engaged in cultural activities. Moreira (2011), using data from the National Household Sample Survey (PNAD/IBGE), as well as information from the Ministry of Culture on projects funded by the Rouanet Law between 1993 and 2009, shows the relationship between financing and the income of cultural workers. The analysis also points out state-level differences. Rabelo (2009), in turn, applying a wage equation to data from the 2006 PNAD and FINBRA (Finance of Brazil—Secretariat of the National Treasury), seeks to identify the factors associated with the income of workers in the cultural sector and in other economic sectors.

This paper has various goals, given both the growing importance of the creative industry in the Brazilian economy in the past few years and, in spite of this, the scarcity of academic research on the topic. In the first place, we aim at identifying the peculiarities surrounding the participation of cultural sector workers in the labor market, considering the theoretic approach Throsby (1994) proposes. The author's

[1] Artistic cultural sector includes, in this paper, all occupations associated to arts and culture, considering only core activities.

arguments are presented in the following section. In addition to this, the paper examines the effects of public expenditures on the income of workers in the cultural sector, as analyzed by Benhamou (2003), Rabelo (2009) and Moreira (2011). Lastly, we aim to identify the main personal characteristics of the artistic cultural sector workers.

To this end, we use data from the Monthly Employment Survey (PME), for the 2002–2010 period, and from FINBRA. We estimate a *probit* model and a wage equation based on this data. The main results show that workers in this sector are likely to work longer hours when compared to workers in other sectors. With regard to income-related factors, the results suggest that per capita government spending on culture contributes to increasing the income of the artistic cultural group.

The article is divided in five sections, including this introduction. The next section presents the theoretic arguments behind our approach, as developed by Throsby (1994). We also expound the main findings reported in the literature as regards the participation of the artistic cultural workers in the labor market. In the third section, we describe the methodology—which comprises the definition of artistic cultural occupations, data sources, econometric strategy, and selection of variables. We present the results of the model in the fourth section, and the final section puts forth some concluding remarks.

## 2 The pleasure to work and the role of public financing in the artistic cultural sector: a brief review

The labor market for artists presents interesting and peculiar elements for economic analyses. Stylized facts about this market include lower returns to schooling when compared to other professionals, greater income inequality within the workforce due to the greater variability of revenues—both over time and within the group—and ongoing uncertainty about the public acceptance of their output. For these reasons, Throsby (1994) states that artists do not fit the traditional model of labor supply.

According to Throsby (1994), the artists derive less utility from income than other workers. Basically, his model works as follows: there are two labor markets in which an individual can offer her workforce, the artistic and the non-artistic. Assuming that the hourly wage in the second market is higher than in the first one, and that a minimum of consumption is needed for physical survival, artists allocate as much time as possible to the artistic labor market and, in order to meet their necessary subsistence consumption, assign part of their working hours to the non-artistic labor market.

In a chapter of his book *Economics and Culture* (2001), dealing with the economics of creativity, Throsby extends this model. The artist is seen as a utility-maximizing, rational individual, subject to internally and externally imposed restrictions.

It should be noted that the hypothesis that the cultural value of the produced goods is a function of the amount of time artists spend working on them hides some possibilities with regard to the nature of creative action. Throsby (2001a) assumes that the artist produces commercial and non-commercial artwork. Both generate

economic and cultural value. Nevertheless, commercial work creates, firstly, economic value, while non-commercial work creates, firstly, cultural value. The artists also do non-artistic works that only generate economic value.

Thus, the decision variables are the amount of time allocated to commercial artwork, to non-commercial artwork and to non-artistic work. The sum of these timespans is restricted by the maximum number of working hours.

To simplify and generalize, Throsby (2001a) specifies the decision variables in terms of the time spent on various tasks. In this approach, it is assumed that one unit of work time adds a certain amount of cultural value to the product. Thus, the value added by several sources, which is the quantity to be maximized in the objective function of the artist, generates an (increasing) function of total cultural value in terms of working time spent, given that allocating time for this activity brings satisfaction.

Regarding the empirical evidences for this model, Throsby (2001b) used data from an Australian survey conducted in 1988, which was prepared specifically for artists,[2] and found that the hourly wage of non-artistic work was higher than the hourly wage of artistic work. Alper and Wassall (2006) estimate that an artist could earn about 10 % more in another job in the United States.

In addition, these authors show that the income gains associated with higher-level training (observed for most artists) in the non-artistic market increased, leading artists to spend less time in non-artistic activities. This is because, as Throsby predicted, an increase in the remuneration of non-artistic activities leads artists to allocate more time to artistic work, since their subsistence consumption will be satisfied with smaller amounts of non-artistic work.

In the same direction, Steiner and Schneider (2013) measure the utility derived from artwork, using the *German Socioeconomic Panel Study* (SOEP). They use self-reported job satisfaction as a *proxy* for the utility of the work. The use of this *proxy* has become usual (Frey 2008; Layard 2006) and, despite a few drawbacks, the current literature suggests that it constitutes a reasonable empirical approximation of individual utility. Artists are divided into two categories: visual and performing artists,[3] on the one hand, and performing artists, on the other. In the estimates, they compare the two categories to the group of non-artists.

Steiner and Schneider (2013) thus tested the two fundamental assumptions behind the work preference model of Throsby's. The assumption that artists actually derive utility—and not disutility—from work is tested, more precisely, by analyzing the effect of an additional hour of work to the artist's utility. The results show that, unlike non-artists, the effect of additional working hours on job satisfaction is positive. The second assumption is that artists derive less utility from income than other workers. As expected, income has significantly positive effects on the job satisfaction of non-artists. As for the artists, the effect is negative. For the authors, a special treatment of artists in theoretic models of the labor market seems to be justified.

[2] Individuals working in the artistic sector when the survey was carried out or in the previous 3 to 5 years.

[3] This definition is closer to the one used in this paper, although the concept of artistic cultural workers (explained later in the text) includes occupations which are not strictly artistic, such as journalists, architects and designers etc. See the definition in Sect. 3.1.

Such evidence is also interpreted in a macroeconomic context by the identification of restricted under-employment (involuntary part-time work, intermittent employment, etc.) and above-average unemployment. Benhamou's (2003) study on cultural occupations in France and in the United Kingdom found that individuals in this sector have, as compared to the traditional labor market, a larger number of unusual employment relations—such as, among others, part-time contracts, second jobs and self-employment. In this way, the large number of short-term contracts can cause an illusory perception of unemployment.

This pattern of flexibility is explained by two factors. Firstly, the author argues that cultural activities are discontinuous, so individuals take on more than one job at a time and constantly shift between jobs, for the projects in which they are involved are usually temporary. Secondly, projects aiming at specific qualifications require employment flexibility according to what Caves (2000) defined as the "infinite diversity" of cultural goods.

Another consensual evidence is the high level of schooling of artistic cultural workers, as compared to other occupations. A possible explanation for this paradox—qualification and employment instability—is, once again, the fact that artistic work can provide significant satisfaction, which, to some extent, offsets the mentioned disadvantages (Menger 1999; Withers 1985; Abbing 2002; Alper and Wassall 2006). Similarly, other authors claim that artists have a psychic gain[4] from their work (Rengers 2002).

Besides the hypothesis that artistic work generates satisfaction, another aspect is also highlighted in the literature on the artistic labor market. Baumol and Bowen (1966) point out that it is very difficult to self-finance artistic activities, especially those based on live performances. This is because productivity gains are small, or even nonexistent, due to their labor-intensive character. Given this specificity, as well as the public and meritorious character of cultural activities, they advocate public funding to support the sector and, consequently, increase the income of its workers.

Thus, considering the aforementioned arguments, this study examines two questions. The first is whether artistic cultural workers derive more job satisfaction or not when compared to other occupations. To this end, we use information on the willingness to work extra hours, present in the PME from 2002 onwards. The second regards the importance of public expenditure on culture for the remuneration of these individuals. In this case, data from FINBRA are our main source. In the next section, we define the concept of artistic cultural workers, the data sources, the econometric strategy and the treatment of variables.

## 3 Methodology

### 3.1 Definition of the artistic cultural sector

There is no consensual definition about the meaning of the creative sector in the literature. Benhamou (2003) points out the difficulty of labor market analyses of

[4] *Psychic income*.

cultural activities, considering the definition of occupations as the first obstacle. According to the author, depending on the scope used average wages, unemployment and other indicators change considerably.

Markusen and Schrock (2006) argue that the role of artists is underrated in economic studies, due to the difficulty in measuring or establishing their indicators. The latter are often underestimated by being diluted in general data about the local industry, for there is no precise mapping of artistic occupations.

Frey and Pommerehne (1989), in turn, use eight criteria for defining artists, including the time spent on artwork, the remuneration, being a member of a group or artistic association and self-assessment. Bille (2010) defines artists as people working in the creative industry, having a creative work or having a creative education.

In this article, we define the artistic cultural sector (artistic creative workforce) to contain all the workers directly involved in the production and distribution of goods and services which embody creativity, artistic symbols and signs (Benhamou 2003; Markusen and Schrock 2006), regardless of their level of education.

Having done so, we apply this definition to the data found in the PME. The artistic cultural sector is then obtained from the information about occupational groups and economic activities. We cross group 26 of the Brazilian Classification of Occupations (CBO)—"Communicators, Artists and Religious Workers"—with Sect. 91 of the National Classification of Economic Activities (CNAE 1.0)—"Associative Activities"—in order to select only cultural workers and exclude the religious ones.

Then, applying this definition to the codes of occupations found in the PME, the artistic cultural sector is obtained from the information about occupational groups and activities. The occupational group CBO 26—"Communicators, Artists and Religious" was crossed with group 91—"Associative Activities" in order to select only cultural workers, excluding the religious.

### 3.2 Data sources

The data sources, as mentioned above, are the Monthly Employment Survey (PME) and the administrative record Finance of Brazil (FINBRA). The PME is a monthly panel survey made by IBGE (Brazilian Institute of Geography and Statistics) about the labor market in six metropolitan regions, namely Salvador, Recife, Porto Alegre, Belo Horizonte, Rio de Janeiro and São Paulo. The information is collected for each individual—the research unit—living in a household selected for a rotating panel. In this panel, the household enters the sample for 4 months, exits for 8 months and returns for another 4 months, after which it is no longer investigated. The main variables of our study come from this source, and we selected only individuals who were being interviewed for the first time. The database thus became one of the pooled data. We use the PME because it has the variable "willingness to work additional hours", employed as a proxy for the pleasure of working.

FINBRA is the report prepared by the National Treasury based on information about expenditures and revenues of each municipality. In Brazil, the so-called Fiscal Responsibility Law guarantees the existence of comprehensive databases at the local level for accountability and control purposes. The municipalities submit their

information through a specific system (SISTN—System for Consolidated Accounting Data Collection) that Caixa Econômica Federal maintains. The Secretariat of the National Treasury (STN) of the Ministry of Finance then collects and consolidates the data. As this is an annual database, in our study, we consider annual spending in six metropolitan areas that are covered by the PME. We divide the annual amounts spent on culture by twelve.

### 3.3 Econometric strategy

In this paper, we have adopted a two-stage model to analyze the effects of willingness to work more hours and of public spending on culture on the earnings of workers in the artistic cultural sector.

The willingness to work additional hours is associated with occupational choice. Thus, in a first stage, we use a *probit* model to estimate the likelihood of working in a creative activity. We consider workers from the artistic cultural sector as well as other workers. This stage is related, therefore, to our primary purpose in this paper. The second one, regarding the effect of public spending on culture on the earnings of the creative workforce, is analyzed by means of a traditional wage equation, estimated by OLS. We also introduced the predicted probability of being engaged in an artistic cultural activity, considering that there are distinctions between workers in these occupations and other workers regarding their allocation of time.

In a *probit* model, we have a binary dependent variable. It takes value "1" if the individual is engaged in an artistic cultural activity and "0" otherwise. In addition to this, a vector of independent variables is used to explain the propensity of working in this sector. The observed information is whether the individual works or not in an artistic cultural activity. In the new methodology of the Monthly Employment Survey (PME/IBGE),[5] implemented in 2002, there is a specific question to assess the willingness of workers to work additional hours in their regular workday. Thus, the function for this *probit* estimation is given by:

> Prob to work in the creative sector (= 1) = f (willingness to work additional hours * hours worked,[6] gender, age, self-declared ethnicity, years of education, has an informal job, has more than one job, trend, expenditures in culture, metropolitan region) (I)

Then, in the second stage, we estimate the log of the hourly earnings for all workers as a function of the independent variables. We thus run the following equation by ordinary least squares:

> log of hourly earnings = f (gender, age, age squared, self-declared ethnicity, years of education, has an informal job, number of working hours, has another job, predicted probability of working in the creative sector, trend, per capita expenditure on culture * dummy for artistic cultural worker, interactive binary variable between place of residence and artistic cultural worker).

[5] See IBGE (2002).

[6] The use of this interactive variable is explained in the next subsection.

A cluster, taking the dummy for the metropolitan region as reference, was used to correct for the variability between regions.

### 3.4 Selected variables

The willingness to work additional hours, as already explained, is an indirect measure of satisfaction at work. According to the literature summarized here, those who desire to work longer hours are guided by economic as well as cultural value in their choice of allocating time to work. This is a binary variable that takes value 1 for those who report this willingness and 0 otherwise. In the *probit* model, this variable is interacted with the number of hours worked, for if it is analyzed in isolation, two different situations can be bundled together. These are the case of individuals willing to do additional work because they have short working hours—i.e., they are underemployed—and of those who would like to allocate more time to work because they derive satisfaction from it—our first object of interest.

Per capita public spending on culture is in logarithmic form in the *probit* model and, in the wage equation, it is interacted with the dummy for workers in the artistic cultural sector. This is done in order to capture the sensitivity of these workers' remuneration to variations of that component of expenditure—our second object of interest. All monetary values are at constant prices of March 2012, using the IPEA deflator[7] for the PME.

Individuals who work in creative jobs are generally concentrated in metropolitan areas have more than one job (as a way to compensate for the risks intrinsic to cultural occupations) and have a higher educational level than the average for workers of other sectors (Menger 2006). The cultural sector's workforce is, in general, younger than that of the traditional labor market. According to Rabelo (2009), there is a prevalence of female, white, young and educated individuals in Brazil's creative workforce. For this reason, we have included in our explanatory vector these control variables. Women and African Americans are taken as the reference categories. Age and education are continuous variables.

We have also included, as a control variable, the occupational status (formal versus informal). It is built according to the person's position at work. Self-employed or unregistered workers are classified as informal (=1), whereas registered workers, employers and public servants are considered formal workers (=0). The workday is a continuous variable used as a control in the wage equation. Finally, as Benhamou (2003) indicates the prevalence of more than one job in the creative sector, we include a binary variable that equals 1 if the individual has more than one job.

A trend variable is present in the two estimates to capture the effects of the macroeconomic conditions on the labor market. The regional aspects of the labor market are captured in the *probit* estimation by dummy variables for each of the six metropolitan areas covered by the PME. In the wage equation, they are captured, specifically as regards the labor market for artistic cultural workers, by the interaction between the regional dummy and the dummy for creative occupation. In

[7] Institute for Applied Economic Research, Brazil.

this case, the purpose is to assess whether the remuneration of the artistic cultural sector in a given region is higher or lower than in the metropolitan region of São Paulo (which is taken as reference). In Brazil, we can observe high levels of regional inequality for the earnings in the labor market, including the artistic cultural one. To capture the effects of this inequality, we run a cluster-corrected estimation. Furthermore, per capita expenditure on culture displays a concentrated distribution between metropolitan areas. To control for this effect on the attraction of artistic cultural workers in the wage equation, we employ an interaction between the variable for per capita expenditures on culture and a dummy for artistic cultural workers.

## 4 Results

In this section, we present the composition of the sample, considering the main control variables, and the results of the estimations.

### 4.1 Composition of the sample

Since we are dealing with the labor market, our sample includes only working individuals between 25 and 60 years of age. In the 2002–2010 period, the sample comprises 412,917 individuals.

Table 1 shows that, during the 2002–2010 period, 1.30 % of individuals were working in the artistic cultural sector in the six metropolitan regions covered by the PME.

The prevalence of women is noticeable in the artistic cultural jobs (45.29 % versus 55.87 %). Furthermore, these occupations account for relatively more self-declared white individuals than other occupations.

About 12 % of the workers in the artistic cultural group are willing to work additional hours, whereas 7 % of individuals in other sectors of the labor market declared such willingness. In accordance with the literature, informality predominates in employment relations, given that over 70 % of individuals are self-employed or unregistered workers. A very low percentage of individuals have more than one job in both groups, although in the artistic cultural sector, this percentage is slightly higher (4.33 versus 2.86 %). Also, the average workday is shorter in artistic cultural occupations. There is no distinction in terms of age—39 years on average. Workers in the artistic cultural sector are, on average, better educated and better paid. Except for average age, the results for the metropolitan areas in Brazil corroborate international findings.

In terms of the regional distribution of workers in the artistic cultural sector, we observe that São Paulo (1.59 %), Salvador (1.31 %), Recife (1.30 %) and Porto Alegre (1.29 %) employ relatively more people than other metropolitan areas (Table 2).

Figure 1, in turn, refers to per capita expenditure on culture in six metropolitan regions. For all the years (2002–2010) and all the regions, the amount is less than R$ 3.00 in December. Over that period, however, expenditure doubles in the

**Table 1** Descriptive statistics of the variables in the model

| Variables | Artistic cultural occupations | Not artistic cultural occupations |
|---|---|---|
| Male | 45.29 % | 55.87 % |
| White | 63.73 % | 51.73 % |
| Willingness to work longer | 12.48 % | 7.01 % |
| Formal | 24.44 % | 57.87 % |
| Has more than one job | 4.33 % | 2.86 % |
| Average working hours (sd) | 37.06 (14.43) | 42.69 (11.42) |
| Average age (sd) | 39.92 (9.79) | 39.49 (9.45) |
| Average schooling (sd) | 11.05 (3.55) | 8.98 (4.04) |
| Average monthly income (sd) | 1,813.53 (2,876.24) | 1,459.54 (2,179.64) |
| Total composition | 1.30 % | 98.70 % |

*Source* PME 2002 to 2010

**Table 2** Proportion of artistic cultural workers by metropolitan region

| Metropolitan region | Artistic cultural workers (%) |
|---|---|
| Recife | 1.30 |
| Salvador | 1.31 |
| Belo Horizonte | 1.17 |
| Rio de Janeiro | 1.19 |
| São Paulo | 1.59 |
| Porto Alegre | 1.29 |

*Source* PME 2002–2010

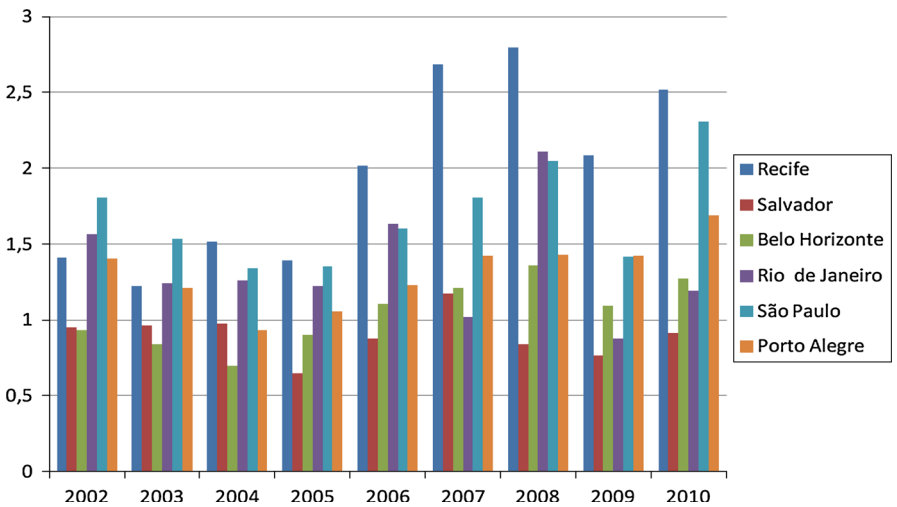


**Fig. 1** Average monthly *per capita* expenditure on culture in metropolitan regions, for the 2002–2010 period (R$, at March 2012 prices). *Source* FINBRA

**Table 3** Characteristics of the Metropolitan regions

| Metropolitan regions | Population | Urban population (%) | Share in national economic active population (%) | Share in national GDP (%) | HDI |
|---|---|---|---|---|---|
| MR of Belo Horizonte | 4,874,042 | 98.74 | 2.75 | 3.19 | 0.811 |
| MR of Porto Alegre | 3,958,985 | 97.12 | 2.13 | 2.93 | 0.833 |
| MR of Recife | 3,690,547 | 97.25 | 1.61 | 1.63 | 0.780 |
| MR of Rio de Janeiro | 11,703,788 | 99.47 | 5.84 | 7.28 | 0.816 |
| MR of Salvador | 3,458,571 | 98.74 | 1.87 | 1.96 | 0.794 |
| MR of São Paulo | 19,683,975 | 98.86 | 10.37 | 18.62 | 0.828 |

*Source* IPEADATA

metropolitan region of Recife and nearly doubles in São Paulo. Although expenditures increase in the metropolitan areas of Salvador and Rio de Janeiro in 2010, in comparison with the previous year, in the former city, the figure reaches the same value it had in 2002—while, in the latter, it is yet lower. Regarding Porto Alegre and Belo Horizonte, after falling between 2002 and 2004, per capita expenditure on culture presents a growing trend.

In order to describe the inequality of the analyzed metropolitan areas, we present, in Table 3, some of their socioeconomic data. They are all intensely urbanized, with close to 100 % of the population living in urban regions. This is to be expected, since they are all metropolises. The metropolitan area of São Paulo (in the Southeastern part of Brazil) stands out with respect to the number of inhabitants (approximately 20 million). The same is true for its share in the country's economically active population, since 10 % of the latter live in this area—which generates, moreover, almost a fifth of the country's GDP (18.62 %). Based on these indicators, the metropolitan area of Rio de Janeiro—also in the southeast—comes second, even if the figures are well below those for São Paulo. The metropolitan area of Porto Alegre (the state capital of Rio Grande do Sul), located in the southernmost part of the country, is noticeable for having the highest Human Development Index (HDI) of the six (0.833). On the other hand, the worst indicators refer to the northeastern metropolises, Salvador and Recife.

## 4.2 Estimation results

The effect on the estimated probability of working in the artistic cultural sector, using the *probit* model, is positive for women, whites and for workers in the informal sector. It also increases with additional years of education, corroborating the results of the univariate analysis. *Ceteris paribus*, all the metropolitan regions tend to generate more jobs in this sector when compared to São Paulo. In terms of the interaction between "willingness to work additional hours" and "workday," the results suggest that it positively affects the participation in the artistic cultural labor market, despite the low value of the coefficient (Table 4).

**Table 4** Results of probit regression of probability of working in the artistic cultural sector

| Probability of working in the artistic cultural sector | |
|---|---|
| Willingness to work longer × working hours | 0.004* |
| Gender (female = 1) | 0.116* |
| Age | 0.001** |
| Ethnicity (African = 1) | −0.152* |
| Years of education | 0.069* |
| Occupation status (informal = 1) | 0.678* |
| More than one job | −0.004 |
| Trend | −0.002 |
| Ln(Per capita expenditure on culture) | 0.004 |
| MR Recife | 0.104* |
| MR Salvador | 0.117* |
| MR Belo Horizonte | 0.050** |
| MR Rio de Janeiro | 0.130* |
| MR Porto Alegre | 0.038*** |
| Constant | −3.429* |
| Observations | 412.917 |
| LR chi2(11) | 5,326.84 |
| Prob > chi2 | 0.000 |

*Source* authors' calculation using data from PME and FINBRA

* Statistically significant at 1 %

** Statistically significant at 5 %

*** Statistically significant at 10 %

Table 5 reports the results of the OLS estimation (adjusted for clusters) of the wage equation for workers in all sectors. The predicted probability is high and significant, highlighting differences in occupational choices and selectivity control. Women earn relatively less than men and blacks earn less than whites, suggesting discrimination by gender and race. Earnings increase with age, according to the estimation results, and there is evidence that income is concave with respect to this variable, due to the negative coefficient for "age squared." The higher the level of education, the higher the earnings are.

Furthermore, formal workers earn more than informal ones. On the other hand, the longer the workday, the lower is the hourly remuneration. In Recife, the artistic cultural workers receive relatively less than in São Paulo. On the other hand, they are better paid in Belo Horizonte and Salvador than in São Paulo.

Finally and most importantly, the increase in per capita public spending on culture raises the income of workers in artistic cultural occupations. For an increase of 1 % in per capita expenditure on culture, the income of workers in the artistic cultural sector increases, on average, 0.19 %. This result confirms the central role that the state plays in this productive activity, as suggested by Baumol and Bowen (1966).

## 5 Final remarks

This paper is a contribution to the literature on the labor market, particularly on the subject of occupational choices and the role of public policies to improve the quality

**Table 5** Results of OLS estimation of wage equation for workers in all sectors

| Ln(hourly wage) | |
|---|---|
| Gender | −0.368* |
| Age | 0.049* |
| $Age^2$ | −0.0003* |
| Ethnicity (African = 1) | −0.228* |
| Years of education | 0.103* |
| Occupation status (informal = 1) | −0.292* |
| Working hours | −0.014* |
| More than one job | −0.041** |
| Predicted | 4,171* |
| Trend | 0.007 |
| Cultural × ln(PCE in culture) | 0.194** |
| MR of Recife × ln(PCE in culture) | −0.383* |
| MR of Salvador × ln(PCE in culture) | 0.549** |
| MR of Belo Horizonte × ln(PCE in culture) | 0.171** |
| MR of Rio de Janeiro × ln(PCE in culture) | −0.082 |
| MR of Porto Alegre × ln(PCE in culture) | −0.251 |
| Constant | 0.389** |
| Observations | 412.917 |
| Clusters (MR) | 6 |
| R2 | 0.444 |

*Source* authors' calculation using data from PME and FINBRA

* Statistically significant at 1 %

** Statistically significant at 5 %

*** Statistically significant at 10 %

of productive inclusion in Brazilian cities. Even though the artistic cultural sector is quite heterogeneous and thus requires detailed studies of each set of activities that it embraces (music, film, performing arts, crafts, among others), this study's findings corroborate much of what has been observed in other countries. There is a predominance of informality in employment relations and the average workday is lower in this sector. In addition, artistic cultural workers are more educated.

Our results indicate that these workers would be willing to work additional hours. The sign of the interactive variable "willingness to work additional hours" and "numbers of hours worked" suggests that such willingness is not due to a reduced workday, as Benhamou (2003) emphasizes. It is likely that, as reported by Throsby (2001b) and Steiner and Schneider (2013), work for these individuals represents more of a pleasure than displeasure. This is due to the fact that it generates cultural value, above and beyond the economic value, and hence, there is a greater interest in allocating more time to it.

It strikes us as surprising, in the results of the OLS, that Salvador and Belo Horizonte display, all other things being equal, a positive income effect for all workers, when compared to the metropolitan region of São Paulo. Additionally, as Benhamou (2003) suggests, the precarization of employment relations—such as having more than one employment and a longer workday—negatively affects the income of these workers. This suggests the presence of a moral hazard.

In terms of public actions, the labor market represents an important object of analysis in order to assess the quality of public policies for the artistic cultural

sector. The effect of public expenditure on culture on the income of workers in this sector is evident. According to Barbosa (2004), measuring and analyzing the cultural expenditures of the state is a way to quantify the public effort in promoting and supporting certain needs. Expenditure, when properly carried, contributes not only to promote the production of this meritorious good, but also to increase the income of the workers of this sector. Despite the latter's high average earnings, there is a significant portion of individuals engaged in handicraft activities, whose income is close to the poverty line. In this case, public expenditure on culture can thus become, additionally, an instrument to fight poverty.

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