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Influence of a traditional flea market on property prices in its surroundings – a case study in Porto Alegre, Brazil

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Abstract. Flea markets are important as economic and cultural phenomenon in several cities around the world. There is little attention to their influence on real estate prices. The “Brique da Redenção” occur every weekend since 1978 in Porto Alegre, Brazil. There could be positive effects on surrounding properties. However, the positioning of this flea market implies on reduce the accessibility on weekends to properties placed in the same street and it could reduce property prices. The aim of this paper is to evaluate the influence of this flea market in residential prices. It was developed hedonic models to explore these effects, with a sample of more than 5.3 thousand apartment sales. The analysis shows a satisfactory statistical performance of the hedonic model. The study indicates that Brique’ effect is capitalized in the market prices, with an average loss on value around to 7.8% to properties placed in front to the Brique.

Keywords: Flea market, property prices, hedonic models, Brique da Redenção.

JEL codes: C15, C31, C51, R31.

1. INTRODUCTION

Flea markets are known and valued around the world. They have influence on local daily commerce and could attract a larger audience, with a tourist flow, and it have evolved into dynamic hubs of economic activity, social interaction, and cultural heritage preservation. Beyond being spaces for commerce, flea markets serve as cultural landmarks where artisans, collectors, and entrepreneurs exhibit their talents and passions. In some cases, they became landmarks of the city. For instance, there are notable flea markets in London, Paris, Rome, and Buenos Aires.

Historically, flea markets have origins from places designed to general sales as ancient Greek’ Agora, Roman’ Piazza and Islamic’ Bazaar or Souks, which have similar characteristics (Alhazmi, 2013). The word Bazar, an alternative term to flea market, have also ancient origins. After Alhazmi (2013), the term “bazaar” finds its roots in the Persian word “baha-char”, denoting a “place of prices”. Evolving from its origin as “bazaar”, it gained widespread

popularity across the Middle East and southern Asia.

Along time, flea markets have adapted to changing societal and economic conditions, reflecting shifts in consumer preferences, technological advancements, and urban development. From traditional open-air bazaars to modern indoor marketplaces, flea markets have maintained their relevance by embracing innovation while preserving their core principles of affordability, accessibility, and diversity (Alhazmi, 2013).

In contemporary times, flea markets emerged as venues where individuals could barter and trade goods, often secondhand, surplus items, and food, outside the confines of formal retail establishments. These markets provided a platform for people from diverse socio-economic backgrounds to engage in commerce, promoting a sense of community and facilitating the exchange of goods and ideas.

In city scale, the topic of flea markets holds significant relevance for urban development strategies and policies due to their multifaceted contributions to the socio-economic fabric of cities. Flea markets serve as dynamic spaces that can foster inclusive growth, instigate entrepreneurship, preserve cultural heritage, and enhance community resilience. Flea markets often occupy underutilized urban spaces, such as vacant lots or abandoned buildings, breathing new life into neglected areas and contributing to urban revitalization efforts. By activating these spaces, flea markets can stimulate economic activity, attract foot traffic, and catalyze further investment in surrounding neighborhoods.

Flea markets provide opportunities for small-scale entrepreneurs and artisans to start and grow their businesses, thus fostering local economic development. These markets serve as incubators for entrepreneurship, allowing individuals with limited resources to reach a wider audience without the overhead costs associated with traditional retail spaces. Moreover, flea markets contribute to job creation by supporting a diverse ecosystem of vendors, artisans, service providers, and support staff. These markets offer flexible employment opportunities, particularly for marginalized communities and individuals with limited access to formal employment sectors, thus advancing in social inclusivity and economic empowerment. Furthermore, flea markets play a crucial role in sustainable consumption practices by incentivizing recycling, repurposing, and upcycling of goods. By giving new life to preowned goods and reducing waste, flea markets contribute to reducing waste and minimizing environmental impact, and support efforts to create more resilient and resource-efficient cities.

The positive effects of the Brique are well explored in the literature on cultural, tourism and leisure aspects, as

well as issues related to the informal or social economy (Abrahão, 1997b). They include a relative advantage to surrounding properties due small walking distances to access the Brique. But there are also potentially negative aspects, not yet explored. The street where it occurs is partially blocked during the daytime, and there are an intense flow of people and noise increase on daytime. So, the residents of the buildings on the same street experience some difficulties for two days a week, throughout the year.

In Porto Alegre, the best-known flea market is the “Brique da Redenção”, which has been happening for 40 years, every Sunday. The Brique takes place outdoors on the José Bonifácio avenue, being assembled on Sunday mornings and dismantled in the late afternoon (Abrahão, 1997a). The Brique offers dozens of handicrafts, food, and antique options (Figure 1). There is a great flow of people (it is estimated at 50 thousand people per weekend). Whereas currently known as the Sunday’ Brique da Redenção, the space appointed to this flea market is composed by several activities on the weekend. There are a set of activities on Saturdays, using the same street, in similar conditions of working. Thereafter, we will reference the effect of these weekend activities as the “Brique’ effect”. Given that Brique has been around for a considerable time, the local market probably has absorbed the effects and capitalized on prices, whether they are positive or negative externalities (valuing or devaluing factors). The positive effects are manifested by the accessibility on foot (distance to the Brique) in relation to the buildings situated in the surroundings. It is possible to consider that any loss of value for the properties placed in the same street will be represented by a decrease in market prices in relation to comparable properties situated in the same region. The article aims to examine the effects of Brique on the prices of apartments in the region. It uses hedonic pricing models in different configurations, exploring alternative models.

This paper is structured as follows: the subsequent section provides a literature review focusing on flea markets and hedonic studies. Section 3 outlines the case study, followed by Section 4 detailing the methodology employed. Section 5 presents the results obtained from the study, which are then discussed in Section 6. Finally, conclusions drawn from the findings are presented along with the references.

2. LITERATURE REVIEW

2.1. Flea markets

A flea market (also known as outdoor bazaar) is a space to an almost informal commerce. It is com-

mon combine antiquaries, artists, and food. The historic roots are in the Middle Ages street markets. They are attractive to residents and tourists, associating the cultural diversity, the offer of various products and a direct contact with a local street atmosphere. This economic space promotes the sales of second-hand goods, bargains, collectibles, and rare items. Other vendors offer food options, including local production with a new tendency to present sustainable and healthy products. The flea market could be organized by public or private entrepreneurs, in open or closed spaces (Ferreira et al., 2015; Olavarrieta et al., 2008; Stillerman, 2015).

There are examples in several countries and cities, and some of them are listed as World Heritage sites. In London could be cited the Borough Market, Camden Lock, Portobello Market, and Brick Lane Market. In Paris the best known is the Marche aux Puces de Saint-Ouen (Gravari-Barbas and Jacquot, 2019; <http://expres-soparis.com/o-mercado-das-pulgas-de-saint-ouen/>; <https://www.conexaoparis.com.br/2007/05/23/mercado-das-pulgas-de-saint-ouen/>). Other remarkable fairs occur in Oporto, Rome (Piazza Navona), Siena (Piazza Del Campo), Venice (Piazza San Marco), Budapest, Buenos Aires (Santelmo' Fair), and Montevideo (the Praça da Matriz' Fair) (Alhazmi, 2013; Clough Marinero, 2019; Pinho and Rocha, 2020; Várnai, 2018).

However, it was not found studies about a flea market influencing property prices. There are some examples about the influence of other kind of business activities, such as medium retail services (such as a bar or restaurant) or large retail stores (sometimes called a “bigbox”) increasing values in the neighborhood (Caceres and Geoghegan, 2017; Clark et al., 2021; Daunfeldt et al., 2021; Kuang, 2017; Pope and Pope, 2015). In a broader view, it is common to verify the influence of the city centers (commercial business district – CBD), shopping centers, or secondary centers upon property prices (Ball, 1973; Des Rosiers et al., 1996, 2008; Din et al., 2001; Kryvobokov, 2007; Sirpal, 1994; Zhang et al., 2020).

Likewise, the economic influence of an urban park and other environmental amenities were studied by several authors, and in general the proximity of these elements increases the market price (Boyle and Kiel, 2001; Breunig et al., 2019; Dehring and Dunse, 2006; Din et al., 2001; Hoover et al., 2020; Morancho, 2003; Panduro and Veie, 2013; Sander et al., 2010; Saphores and Li, 2012; Schläpfer et al., 2015; Waltert and Schläpfer, 2010; Wu and Rowe, 2022; Xiao et al., 2019; Yuan et al., 2020). In these studies, it's a common choice to verify walking and cycling distances between 0.5 and 3 km.

2.1. Hedonic price modelling

The referenced studies are based on hedonic price modelling (HPM). Hedonic models are well known and used for different kind of market studies. They consist of a model or equation, in which price is the dependent variable and the explanations proposed are the independent variables. The coefficients stand for the relative importance of each variable included in the model (their contribution to the price definition). Models are usually calculated through multiple regression. The literature reveals a great diversity of models, with different variables and formats to the hedonic equations (Agarwal et al., 2021; Ball, 1973; Beracha and Hardin, 2021; Boyle and Kiel, 2001; Din et al., 2001; Dokmeci et al., 2002; Francke and Van de Minne, 2021; Halvorsen and Pol-lakowski, 1981; Helbich et al., 2014; Kryvobokov, 2007; Morancho, 2003; Schläpfer et al., 2015; Waltert and Schläpfer, 2010).

Because the main goal in this work is to explore economic issues, HPM are used because deal with property prices. In HPM, the value of a property correlates with its utility, gauged through a quality index. Market participants evaluate some factors such as the physical characteristics of the property, its spatial context (location), and prevailing market conditions (Eq.1).

$$\text{Price} = f(\text{physical attributes, location, market conditions}) \quad (1)$$

Physical attributes encompass the defining features of the property, such as its dimensions, room count, construction quality, and age. The location dimension considers factors like accessibility and neighborhood desirability, highlighting the spatial stability of the property. Market conditions include prevailing social and cultural preferences, economic circumstances, and transaction specifics, including payment modalities, interest rates, and timing of sale.

Creating numerical models for the real estate market is advantageous. Given the diverse characteristics of properties, it's essential to consider multiple attributes concurrently, each assigned varying importance in determining prices for different property types. Hence, it's typical to construct models tailored to specific segments, such as land, residential homes, or commercial properties. The theoretical underpinning for price modeling lies in the hedonic pricing theory (Rosen, 1974; Sheppard, 1999).

A hedonic price model depicts the price as a function of property attributes (Equation 2). However, these attributes are not directly valued, and the connection

between attributes and property prices can be viewed as indirect or implicit prices (Rosen, 1974):

$$\text{Price} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \dots + \beta_k x_k + \varepsilon \quad (2)$$

Where Price is the studied or dependent variable; the x_1, \dots, x_k are the independent, explanatory variables (representing k attributes); β_0, \dots, β_k are the coefficients of the equation (the implicit prices), and ε is the error term.

It is common to accept that models are generated empirically by exploiting market data (data-driven models). Models and variables are analyzed according to conventional statistical tests and must reach a predetermined level of confidence to be accepted. The analysis process includes the collection of data relevant to the problem under study, the proposition of a model (relationship hypothesis according to the analyst's knowledge about the phenomenon or market segment under analysis), modelling and testing of the model. Satisfying statistical requirements, the final model could be used to obtain conclusions about the market (an inference process).

Indeed, the aim is to construct a numerical model that elucidates connections and predicts values. In the conventional approach, coefficients are derived through multiple regression analysis (MRA). Several conditions (assumptions) need to be verified to ensure the robustness of the regression model. These include homoscedasticity, linearity of the relationship in (Equation 2), absence of perfect multicollinearity (particularly with multiple explanatory variables), lack of serial or spatial correlation, and no significant unexplained errors (outliers). If any of these statistical issues arise, the model's effectiveness diminishes or may even become invalid.

3. CASE STUDY – THE BRIQUE DA REDENÇÃO

The case study is the Brique da Redenção, placed in Porto Alegre, a southern Brazilian city. The Brique da Redenção begins in 1978. It was first called simply as a “Brique” and sometimes as “Feira Cultural do Bom Fim”, presenting initially only antiquaries. In 1982, the artisans who marketed their merchandise inside the Farroupilha Park joined to the Brique, which later received an area for gastronomy and fine arts. Currently, the Brique is composed of 182 handicrafts expositors, 70 antiques, 40 of plastic arts and 10 of food products. They are selected by public competition. The Brique da Redenção is also frequented by street performers, mostly musicians who make presentations along the José Bonifácio Avenue (Figure 1).

There are a group of activities that take place on this space, on Saturdays and Sundays in the Jose Bonifacio

Avenue (Table 1). They are supervised and regulated by public administration. Despite of some diversity of activities, it is known in the city as the “Brique”.

The city has another 10 handicraft fairs, this being the most relevant. Due to its importance in the cultural context of the city, in 2005 a local law was passed declaring the Brique da Redenção as Cultural Heritage of the State of Rio Grande do Sul (<http://briquedaredencao.com.br/institucional>).

The effects of the Brique have been studied from several points of view. Among the local studies, some may be cited (Abrahão, 1997a; Cardoni, 2017; Malysz, 2013; Oliveira et al., 2012; Peciar and Isaia, 2005; Pertile, 2014; Silveira and Rocha, 2007; <http://www.correiodopovo.com.br/Noticias/Geral/2017/03/613498/Brique-da-Redencao-completa-39-anos-em-grande-estilo>).

In addition, one can also cite the effect of the proximity of the Farroupilha Park, which also attracts visitors. The Farroupilha Park (also known as Parque da Redenção) is neighbor to the Brique (see Figure 1). This urban park has 375,000 m² and it is a reference point to the city. In that local occurred an International Fair in the beginning of XX century (the Great Exhibition on 1901) and by now the park is consolidated as a sports and leisure space. It regularly attracts many visitants (Caccia, 2011; Lima, 2016; Melo and Dias, 2014; Pimentel et al., 2016; Rosa and Rocha, 2004; Stigger et al. 2010).

4. RESEARCH METHOD

The investigation on the Brique flea market' effect on property prices was based on hedonic modeling. In this case, the main issue is to verify the influence of the Brique on residential property prices. To investigate these effects, it was collected a sample from apartments, selecting cases in regions around to the Brique. It was used apartments because the region is majority occupied by vertical buildings. Data was collected in local broker's sites and complemented with additional information, described in sequence. The attributes investigated are common in local market.

It was collected in broker's site information about price, size, number of bedrooms and parking spaces. Price was converted to Euros, concerning the exchange rate of the information date, Month, which uses a continuous scale of time, beginning on the month of the oldest case in the sample (January 2020 = 1) and ending in the last ones (December 2022 = 36).

Using the address, building quality and year of building completion were collected in municipal register. They are official information.



Figure 1. Images of a regular weekend - Saturdays and Sundays. Source: Author.

Table 1. Regular activities in the region of the Brique da Redenção on weekends.

Activities	Kind	Local	Weekday and time
Brique da Redenção	handicraft, food, and antique options	José Bonifácio Avenue	Sundays, 9 to 18h
Brique de Sábado (Saturday Brique)	food, and antique options	José Bonifácio Avenue (among João Pessoa Avenue and Vieira de Castro street)	Saturdays, 9 to 17h
Feira de Artesanato do Brique de Sábado	handicraft	José Bonifácio Avenue (among Vieira de Castro and Santa Teresinha streets)	Saturdays, 14 to 18h
Feira Ecológica	ecological food	José Bonifácio Avenue	Saturdays, 7 to 13h

Source: Cardoni (2017); http://www2.portoalegre.rs.gov.br/smic/default.php?p_secao=206 and http://www2.portoalegre.rs.gov.br/smic/default.php?p_secao=200

In terms of location, it was used a conventional variable of neighborhood, District, defined according to author’s experience in local market. The distances to the urban parks and large commerce points were calculated as straight lines, using coordinates associated to each apartment. Distance to commerce was calculates to the

nearest element of commerce (CBD, shopping malls and supermarkets). The reference point to CBD is the centenary Public Market, placed in the historic center of the city and near the Guaíba River. Location of supermarkets and shopping malls identified in the region in study was recorded (Table 2). The region also has the important pres-

Table 2. Characterization of Variable' set.

Attribute	Description	Unity	Range	Average	Correlation with Price
Price	Total Price	Euros	83,040.00-894,839.50	436,981.06	-
Surface	Private area of property	m ²	24.31-389.56	111.81	0.796
Bedroom	Number of bedrooms	-	1-4	2.66	0.639
Parking	Number of parking spaces	-	0-3	0.97	0.166
Standard	Level of building quality	-	2-10	7.05	0.420
Year	Year of building completion	year	1946-2018	1,977.30	0.366
Month	Information' time, in a continuous scale: Month=1: Jan 2020; Month=36: Dec 2022	month	1-36	2.20	0.118
District	General quality of district as based on Author's experience	-	20 - 60	42.58	0.307
Commerce	Shortest distance to a large commerce point	km	0.024 - 1.86	0.468	-0.010
Parks	Shortest distance to an urban park	km	0.040 - 3.54	1.248	-0.123
Dist.Brique	Distance to the Brique	km	0.032 - 3.02	1.381	0.061
<i>ifB</i>	Property placed in front to the Brique	-	0 - 1	0.0175	-0.036
Same.Block	Property placed in other sides of blocks with properties with <i>ifB</i> =1	-	0 - 1	0.0075	0.011

Source: Data collection by the Authors.

ence of two urban parks, Farroupilha and Moinhos de Vento, which are symbols of leisure in the city and receive a large number of people throughout the week. Distance to the nearest park also was calculated choosing the nearest one in each case of sample (Table 2 and Figure 2-right).

Properties placed in the José Bonifácio Avenue were marked through a binary variable (*ifB* = 1 to property placed in front to the Brique, and 0 otherwise). There are 114 cases of apartments placed in the José Bonifácio Avenue in the sample (2.1% of total of cases).

As a control mechanism, it was defined Same.block, a binary variable identifying properties placed in the same blocks of *ifB* cases, but in one of the other three sides. These properties are very close to the Brique (100m or less), but do not have the negative effects investigated (noise, access reduction, and others). There are 49 cases of this situation.

It was also calculated the distance from properties to the Brique. As the Brique space is a linear element (it is a street with 700 m – see Figure 2), it was used three reference points to calculate the distances, in the start, middle and the end of this street. The distance to the Brique was calculated as the shortest distances to these points. The distance was measured as a straight line (Table 2).

After regular procedures of cleaning and including additional information, the final sample used to develop the models has 5,378 cases. The sample was shared in two parts to allow a cross-validation, a modelling sample with 70%, and a sample reserved to test the model, not used in the modelling process (with 30%). The analysis in modelling stage was based in R2 (coefficient of deter-

mination), F and t analysis, outlier detection. RMSE (root mean squared error) values were used to compare the results to training and testing sub-samples. Also was developed spatial analysis using Moran's I to verify the presence of spatial correlation. Figure 2 presents the sample (training and test cases), commerce points, parks and cases of *ifB* and Same.Block. Besides the two parks, some larger spaces with no properties could be viewed on the image. They are public buildings, such as hospitals or university, and office buildings.

Cases on sample are placed at 3 km or lower distance to the Brique (Table 2). This distance is consistent with the on-site observation of users walking or riding a bike to the Brique, that is, great part of the users probably lives on the surroundings. Evidence of this view is the small parking space available in the region, although there are reports that there are users from other districts and cities.

5. RESULTS

Several models were explored in the modelling process, with different attribute' sets and alternative model formats. In terms of dependent variable, it was tested hedonic models using Price in the linear and logarithmic formats, and Price as a unitary value (Euros/m²). Despite satisfactory performance of some of them, the log-linear model revealed better results.

The process includes examination of some attributes and outlier' removal. Final model has maximum

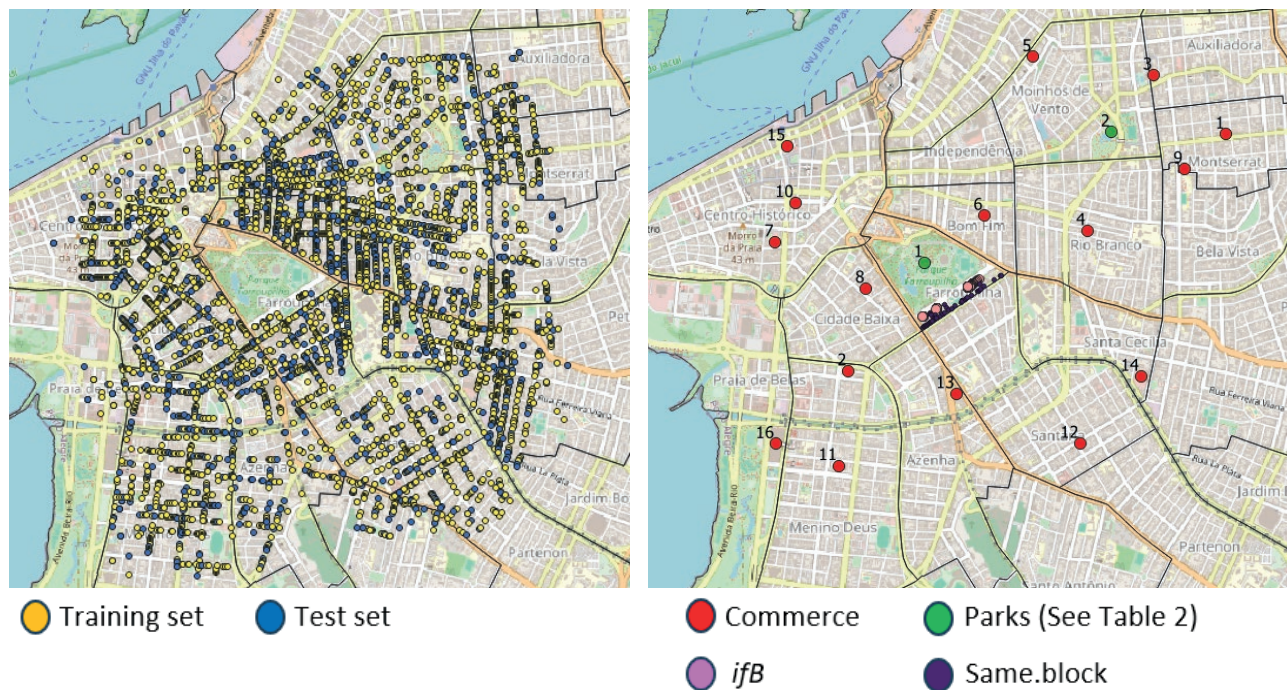


Figure 2. Region under study: sample positioning (left) and schematic placement of variables Commerce, Parks, *ifB* and Same.block (right). Source: Author.

errors in the ± 3 standard deviations. Spatial analysis was developed through Moran’s I. The calculated value is $I = 0.0625$, using a k-NN, with an inverse squared distance scheme. In this case, spatial autocorrelation could be discarded.

The set of variables presented in Table 2 was investigated. It was analyzed some numeric transformations on the distance variables, using direct, inverse, squared inverse, square root, and logarithmic formats, with linear showing the best results. Variables Same.Block and Dist.Brique were not significant and then were not included on final model, both with large error level.

The model presented on Table 3 is the model with best general statistical performance. Log-linear regression model to total price achieve $R^2=0.7705$. All the attributes included in the model are significant at $\alpha = 0.01$ level. Actually, the p-values are small to all of them. The Fisher-Snedecor variance test to the model ($F_{calc}=1,260.289$). also shows a low error level, around zero in this case.

The validity of the model (Table 3) was analyzed by conventional tests (F for the model, t for variables, outliers, normality of residues, among others). In addition, a cross-validation mechanism was employed, by putting aside a 30% sample to test the model. The model was used to estimate the values for the test sam-

Table 3. Results of the hedonic model.

Attribute	Coefficient (p-value) *
Intersection	2.034984 (<0.001)
Surface	0.005339 (<0.001)
Bedrooms	0.064560 (<0.001)
Parking Spaces	0.165513 (<0.001)
Building standard	0.052864 (<0.001)
Year	0.003832 (<0.001)
Month	0.021034 (<0.001)
District	0.005860 (<0.001)
Commerce	-0.038961 (0.005842)
Park	-0.027167 (<0.001)
<i>ifB</i>	-0.078581 (0.001446)
R^2	0.7705
Moran’s I	0.0625
RMSE to training sample (3,765 cases)	18,891
RMSE to test sample (1,613 cases)	19,088 (+1.04%)

Note: The dependent variable is the natural log of price (ln Price). *all significant at the 1% level.

ple data, calculating the RMSE error statistic (Table 3). The ratio between them shows an increase of 1.04% on the error level, as measured by RMSE. They could be considered as minor differences. The similarity of the

errors between error figures on Table 3 model and values calculated to the sample test shows that the adjusted model is consistent with available data of market segment in study.

6. DISCUSSION OF THE RESULTS

In a first view the model is coherent with local real estate market and have satisfactory statistical performance. The set of regular building attributes, such as number of Bedrooms, Parking spaces, and Building quality is important in statistical terms, as expected (Table 3). Given it's a semi-log model, coefficients could be interpreted as the contribution of each variable on the price. In this case, in-crease 1m² in Surface make grow an average of 0.053% on Price, while one more Bedroom increases 6.45% and one Parking space has even greater influence, reaching 16.5% of average Price.

Location attributes, as District and distances to Commerce and Parks also are relevant. Beside Mo-ran's I results, it could be concluded location effects are consistently considered in the model (Table 3). The significance of access to regular commerce was detected. The coefficient could be interpreted as an average penalty on price of 3.9% when distance to nearest commerce point increases 1 km. In the same way, distance to the parks shows a price fall of 2.7% by kilometer.

More attention is given in sequence to ifB. After the conventional regression tests upon ifB, this variable has satisfactory statistical performance (as the p-value is 0.00145). The adjusted model shows the existence of a tendency to reduce prices in 7.8% for a property placed directly in the José Bonifácio Avenue (Table 3). In monetary terms, the loss on value it is greater than the influence of one Bedroom (6.46%), or 14 square meters in building surface.

By another side, Same.Block was really not statistically significant. One could conclude there are no significant difference among these properties and the others. In another words, small distance to the Brique is not an inconvenience, only if the property is in front.

Indeed, the model constructed from the collected data shown a loss of value, which can be interpreted as an effect of the Brique, since equivalent properties placed in the surroundings and, more specifically, several buildings found in the other side of same blocks, do not present this loss. One could explain this flea' effect by the reduction on building accessibility, noise, or an "excessive" movement of people in property' buyers view.

7. CONCLUSION

The topic of flea markets demonstrates relevance for urban development strategies and policies by offering solutions to various challenges faced by cities, including economic stagnation, social exclusion, cultural homogenization, and environmental degradation. By recognizing the potential of flea markets as catalysts for positive change, urban planners and policymakers can harness their unique attributes to create more inclusive, vibrant, and sustainable cities for all residents. In essence, flea markets represent more than just a marketplace; it embodies a rich scenery of history, culture, and commerce. As one delves deeper into understanding the contextualization of flea markets, more uncover the intricate interplay between economic forces, social dynamics, and cultural heritage, highlighting their enduring significance in today's globalized world.

It was presented a hedonic study about the influence of a Porto Alegre flea market on real estate prices of surrounding properties. This flea market, which is known as "Brique da Redenção", has happened for more than 40 years. The placement of the Brique on the street on every weekend reduces relative to the accessibility of some buildings by two days a week, as its difficult to use vehicle and access freely the building in the period of Brique working.

The studied hedonic price models include a dichotomic variable to compare "adversely affected" (properties placed in front to the Brique). The results of statistical analysis shown the existence of adverse flea-effects. The ifB hedonic coefficient indicates an average reduction of about 7.8% on prices to in front properties.

It could be concluded these results shown influences of Brique on apartment prices. While it could appear unfair to owners of these buildings, considering the long time in which the flea market takes place in the same point, this effect it is capitalized on market prices, and it is not a surprise to new buyers, while could be to long-time owners.

The study presents, to the best of our knowledge, the first examination of the consequences of a flea market on surrounding property prices. The Brique holds historic, cultural, social, and economic significance, so the findings presented in this work should not be perceived as threats to the preservation of its activities. While the Brique is important to many people, it may also result in losses for some property owners, which could be considered unfair. The results presented here serve to underscore this issue and prompt the establishment of specific regulations to address it. For example, proposing a reduction in property taxes or sales taxes for affected owners,

proportional to their economic losses. Following national law, affected owners could pursue legal action for compensation; however, this process entails costs and typically involves a lengthy period before a decision is reached.

This study deals with the dynamics of the property market, aiming to provide insights into its intricacies. However, it is essential to acknowledge the limitations inherent in the research process. One such limitation revolves around the source of data utilized in this study. While every effort has been made to ensure the accuracy and reliability of the data, it is crucial to recognize that data collection methodologies may have inherent biases or limitations. Additionally, the scope of available data may restrict the comprehensiveness of the analysis. Despite these constraints, the study endeavors to offer valuable perspectives on the property market landscape. Future research endeavors could benefit from addressing these limitations by employing diverse data sources or refining data collection methodologies to enhance the robustness of findings. Overall, by transparently acknowledging these limitations, this study aims to contribute meaningfully to the broader discourse surrounding property market dynamics and inform stakeholders about potential considerations in interpreting the results.

Future investigation could include ethnographic observations and supplemental semi-structured surveys with vendors, users, and property owners, looking for personal view of advantages and disadvantages, and also the distance from their homes to Brique and access methods. Despite of promising results derived of these studies, there are practical issues. In Brazil, is mandatory to create a detailed research protocol, which need be approved before to develop interviews. Due to large audience enrolled, it's difficult. Another question is the cost of this kind of research. To be relevant in statistical terms, interviews need be developed considering probable differences on people's view after their economic and social status, role played, time of frequenting Brique, and so on. Furthermore, it could contribute to understand causes and reasons to the influence of Brique on surrounding prices but will not directly to estimate the amount of price differences.

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