Institut de Recerca en Economia Aplicada Regional i Pública
Research Institute of Applied Economics

Document de Treball 2025/06 1/25 pág.
Working Paper 2025/06 1/25 pag.

Effects of Tourism on Community Economic Well-Being and Heterogeneity of Local Destinations: Evidence From a Developed Tourist Market

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Abstract

Unease with tourism has spread to many areas with large populations, and local governments are implementing or discussing measures to reduce tourist intensity. The metropolitan-based narrative about the negative externalities of tourism has often been projected onto all types of destinations. Our research empirically analyzes whether the effects on community well-being are as homogeneous as anti-tourism narratives assume, in a heterogeneous and mature tourism market. We find that in both larger and smaller municipalities, tourism increases inequality, although to a limited extent. However, the effects on per capita income and on housing rental prices differ greatly. Government should avoid a "one-size-fits-all" approach when considering tourism policies.

JEL Classification:

Keywords: Tourism; income; inequality; housing; special effects.

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Introduction

Tourism activity has been traditionally considered a source of opportunities for host territories, which generates benefits to many individuals and boosts economic growth in touristic destinations with respect to non-touristic destinations (e.g., Piotrowski, Arezki and Cherif, 2009; Faber and Gaubert, 2019; Lin, 2024), although recent literature suggests a reverse causality, with economic growth attracting international tourism (Camacho & Romeu, 2023), and local employment created by tourism simply replacing employment in other sectors of the economy (González & Surovtseva, 2025).

Further from potential economic benefits and positive externalities (see Cheung and Yiu, 2022), tourism has also created potential damages (Gursoy and Nunkoo, 2019). The negative externalities of tourism have long been diagnosed (e.g., Sheng, Li, & Wang, 2017), problems arising from pressure on public services have also been pointed out (e.g., Albalate & Bel, 2010), or the ' gentrification' of spaces and 'expulsion' of residents (e.g., Cocola-Gant and Lopez-Gay, 2020). As these problems have intensified in recent times, many places have seen an expansion of widespread skepticism about the benefits of tourism. The emphasis on harmful effects has generated a narrative very opposed to tourism, especially in metropolitan areas and large urban areas, which has achieved great impact and diffusion in academic analysis (Hughes, 2018; Valdivielso and Moranta, 2019). This has created discontent, especially in urban areas and islands that attract mass tourism. Issues of discrimination against tourists, which have long been a major problem (Tse and Tung, 2021;

Tung and Tse, 2022), have intensified. In fact, in many southern European destinations it has even led to the emergence of anti-tourism activities (Milano, Novelli and Russo, 2024).

Narratives that emphasize the harmful aspects of tourism often extend to all types of tourist activities and places, resulting in a generalized accusation of tourist activity, a kind of 'tourism phobia'. However, there are many good reasons to believe that the benefits and harms created by tourism have different signs and dimensions depending on the tourist activities and places. For example, to put it bluntly, pressure from tourists on the local provision of public transport services (as in Albalate and Bel, 2020) can only occur where such public services exist; which tends to be only in densely populated areas; or the replacement of local jobs in manufacturing (as in González and Surovtseva, 2025) can only occur where alternative job opportunities in manufacturing exist, which tends to be in metropolitan areas or industrial districts. Therefore, tourism is likely to have heterogeneous effects on heterogeneous destinations. This article aims, precisely, to verify whether heterogeneous places experience heterogeneous effects of tourism. To this end, we analyze the relationship between tourism and the social and economic well-being of communities.

Data and sources

We analyze this relationship in Catalonia, a mature tourist market with notable heterogeneity: there are both urban and rural destinations, and among the latter there are

seasonal destinations for both summer and winter. Catalonia is formed with 947 municipalities, and all these municipalities are our population. Next, we present the data used to evaluate the relationship between key economic indicators and tourism activity and demographic variables.

Dependent variables

We use three different economic indicators:

Per Capita Income (IxC): is a preferred indicator of community well-being, better than nominal Gross Domestic Product (GDP), GDP per capita or GDP growth. Also, income estimations of income are available for more municipalities than GDP estimates. Note that if we used GDP at the municipal level, we would have data available only for municipalities with more than 5,000 inhabitants. That is, some 225 municipalities for our period (2015-2021), from the Catalan Institute of Statistics (Idescat). This would exclude many small tourist destinations, which is precisely contrary to our objective. However, for per capita income we have data available for 908 municipalities in Catalonia from 2015 to 2021. The source of the data is the National Institute of Statistics (INE, (https://www.ine.es/jaxiT3/Tabla.htm?t=31097). Our expectation is uncertain for the full sample. On the one hand, we expect a negative association with income in the most populated municipalities, where income from tourism may be lower than income from other occupations; But we expect to find the opposite in less populated municipalities,

where income from tourism may not be less than average income from other local occupations (e.g., agriculture), and alternative employment opportunities may be much scarcer. We do not have a clear expectation for the complete sample.

The conventional specification of per capita income takes into account all inhabitants of the municipality. In addition to that, we also use an alternative specification of per capita income, which only considers inhabitants who can generate rents; that is, the labor force - through labor income - and retired residents - through pension payments (this includes all adults due to income derived from capital). Notice that minors do not generate income; and therefore, a higher proportion of minors in a municipality can bias per capita income downwards if we want to assess the association between tourism intensity and income generation. This bias may be significant if the differences in the proportion of minors between municipalities are large. Indeed, this is our case; In Catalonia, in 2019, we found a proportion of minors as low as 1% in Vallfogona de Riucorb, and as high as 23% in Vilaür (data form the Catalan Statistical Institute). Data for population according to age segments -especially for minors (below 18 years old) are available at Instituto Nacional de Estadística (source: https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736177088&menu=ultiDatos&idp=1254735976608)

GINI index (GINI): The GINI index is the most widely used indicator of income concentration, and also the most widely available at the municipal level. The source of data is Spanish Institute of Statistic (*Instituto Nacional de Estadística*, INE). Data are available for 902 municipalities, from 2015 to 2021 (https://www.ine.es/jaxiT3/Tabla.htm?t=37717) . On the relationship between tourism and inequality, Ghosh and Mitra (2021) find that while tourism increases inequality in developing economies, it does not seem to have any effect in developed economies. Differences were also found when analyzing the effects on inequality between developing and developed countries in Zhang, Wang and Yang (2023). More generally, the meta-analysis on the effects of tourism on income inequality by Zhang (2021) indicates that most of the empirical evidence in the literature finds tourism associated with higher inequality, so this is the result we expect to obtain. However, because Zhang (2021) finds a more moderate effect in developed countries than in developing countries, and our analysis is conducted for a developed area and a mature market, we expect the effect on inequality to be modest, if significant. Since population does not seem to be a moderator of the effect of tourism on inequality, we do not expect differences based on the size of the municipality.

Average housing rental price (AHRP). We use the average rental price of housing as the best indicator of housing affordability, especially over relatively short time periods. Rental prices are only available in municipalities with 500 or more inhabitants. The Catalan Institute of Urban Land (Institut Català del Sol, INCASOL) provides such data for 423 municipalities

(https://habitatge.gencat.cat/ca/dades/indicadors_estadistiques/estadistiques_de_construccio_i_mercat_immobiliari/mercat_de_lloguer/lloguers-per-ambits-geografics/). Most empirical studies on the effect of tourism on housing prices have been conducted for specific cities such as Boston (Horn & Merante, 2017) or Los Angeles (Koster, van Ommeren, & Volkhausen, 2021), and tend to find Airbnb supply associated with higher housing rents. Closer to our area of study, García-López et al. (2020) analyze the effect of Airbnb supply in the city of Barcelona, and find a significant effect in the historic core of the city, but a marginal or null effect in most neighborhoods. Similarly, Franco and Santos (2021) study the effect of Airbnb supply across Portugal, and find that the effect of Airbnb on housing prices in large cities –e.g., Lisbon– is restricted to the historic core of cities; Interestingly, they also found that the effect of Airbnb on housing prices is stronger in smaller municipalities with high tourist density. And in a recent study for Croatia, Mikulić et al. (2021) analyze the impact of tourism on housing affordability with a large sample of Croatian municipalities and find that tourism tends to increase problems of housing affordability for residents, and the effect is particularly stronger for areas with high tourism seasonality. In line with these previous findings, we expect the effect of tourism on housing rental prices to be stronger in small municipalities, where the seasonality of tourism tends to be more intense.

Explanatory variables

Tourism intensity (TI)**:** It is our key variable. We intent to measure its effect on our dependent economic variables. Tourist intensity is constructed using the total number of places per

thousand inhabitants in tourist accommodation at the municipal level. We used historical data from 2015 to 2021. The data is obtained from the public database of tourist establishment by municipality, provided by the Catalan Institute of Statistics, Idescat. (Source: https://empresa.extranet.gencat.cat/omet/AppJava/llistatTurisme.jsp?pst=3&lg=)

Population (Pop): We use historical data of the total population by municipality, from INE. Population is a proxy of demand different of tourism strict purpose (e.g., business trips, professional services, family visits, etc.).

Table 1 presents a summary of evolution of the different variables during the period of analysis. Figure 1 presents a map of Catalan municipalities for each key variable in 2015 and 2021.

Table 1: Mean value of the variables during the period of analysis

Variable	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Dependent variables							
Income per capita	11788	12121	12512	13091	13565	13762	14358
Income per capita (adults)	14245	14662	15119	15792	16334	16549	17235
Gini index	31.2	31.0	30.1	29.4	29.0	29.1	28.9
Rental prices	448	467	489	507	519	539	541
Independent variables							
Tourism intensity	165	180	194	184	196	235	241
Population	8165	8176	8238	8310	8408	8409	8412

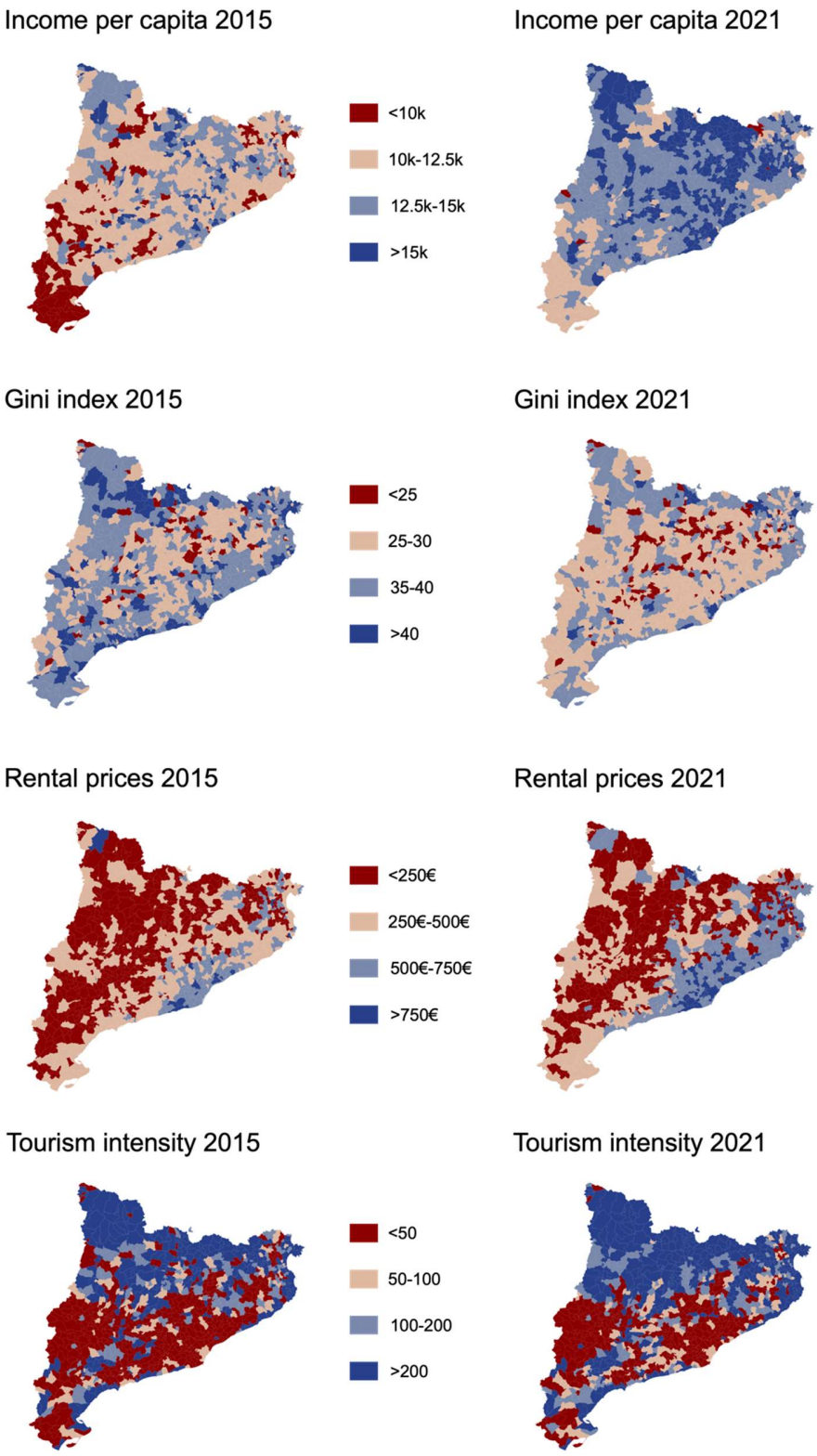

Figure 1: Catalan municipalities for each key variable in 2015 and 2021.

Methodologies and results

As mentioned in the Introduction, the objective of our analysis is to validate whether tourism intensity has a significant impact on income per capita, income inequality and housing rental prices. We structure our analysis in three parts.

Yearly cross-sectional analysis

First, we check whether there is a correlation between the economic variables and tourism intensity. We use multivariate models, adjusting economic variables by tourism intensity and demographic variables in 2021. As mentioned above, we consider an alternative measure of income per capita by adjusting it to population above 18, to account only for adults. We also test whether the effects operate, and how, if we distinguish municipalities according their population. For this purpose, we split the sample in two subsets: a) municipalities below 10,000 inhabitants, and b) municipalities with 10,000 or more inhabitants. The model is of the form:

$$Target_{2021} = TourismIntensity_{2021} + Population_{2021} \quad (1)$$

Table 2 shows the results of this first model for income per capita, in both the specifications chosen -income per capita, and income per capita adults-, for 2021. As for per capita income, the higher the tourist intensity, the higher the per capita income. The relationship is

statistically significant, but very low in absolute terms. On average, there were 241 tourism places for 1000 inhabitants. Thus, the average effect in terms of per capita income is around 107 euros per year, 0.8% of the average per capita income. Notice that when using adult income per capita the global effect fades; however, the opposite relationship is again found (positive in small municipalities and negative in large municipalities), with the same strong statistical significance and relatively similar dimension.

Table 2. Tourism intensity and income per capita. OLS estimation.

Variables	Income per capita			Income per capita (adult population)		
	All # hab. (1)	<10,000 (2)	>10,000 (3)	All # hab. (4)	<10,000 (5)	>10,000 (6)
Tourism intensity	0.442***	0.772***	-1.524***	0.057	0.499***	-2.104***
	(0.158)	(0.168)	(0.452)	(0.202)	(0.215)	(0.579)
Population	Yes	Yes	Yes	Yes	Yes	Yes
N	869	750	118	869	750	118
R Squared	0.010	0.025	0.103	0.001	0.031	0.110

However, a different picture emerges when we divide the sample according to municipal population. This correlation occurs in reverse when restricted to large municipalities. The corresponding columns (2, 3, 5 and 6) present the result when we divide the sample according to municipal population. Large cities have on average 178 tourist places. In this case, the average observed relationship corresponds to -272 Euros per capita (1.9% of the total average income per capita in large municipalities). Notice that the effects hold when considering adult income per capita.

Table 3 displays the results for the estimation with Gini index as dependent variable. In terms of inequality, the observed relationship for all municipalities is positive. The greater the intensity of tourism, the greater the inequality. Still, as before, the effect is very modest. On average, 0.53 out of 28.9 points of the GINI index are associated with tourism (1.8% of the total inequality). The effect of tourism intensity on inequality is also significant in the case of small and large municipalities, but its impact is greater than for the latter, as shown by the results in Table 3.

Table 3. Tourism intensity and income inequality. OLS estimation.

Variables	Gini index		
	All # habitants	<10,000	>10,000
Tourism intensity	0.002***	0.002***	0.003***
	(0.0002)	(0.0003)	(0.0005)
Population	Yes	Yes	Yes
N	868	749	118
R Squared	0.097	0.085	0.238

Table 4 displays the results for the relationship with the housing rental market. Rental prices exhibit an overall positive relationship but non-significant. However, we find that results are significant when split by municipality size, but with a very small effect. Even if we assumed causality (which can't be derived from this analysis) less than 3% of the rental price is influenced by tourism. As we found in the case of income, the effect on rental prices is the opposite in large cities, that is, negative.

Table 4. Tourism intensity and housing rental prices. OLS estimation.

Variables	Rental prices		
	All # habitants	<10,000	>10,000
Tourism intensity	0.018	0.040**	-0.057**
	(0.015)	(0.016)	(0.032)
Population	Yes	Yes	Yes
N	514	401	111
R Squared	0.032	0.048	0.078

Since COVID 19 had a major impact on the economy, we have checked the stability of the results with estimates for the year 2019. Results are robust to COVID19 outbreak. They are available in tables A1 to A3 in the appendix.

Additionally, we have performed an additional analysis to validate that the regression coefficients differ between the two groups of municipalities studied according to their size. Using the Chow Test, we can demonstrate that, for all the models presented above, there is a statistically significant difference between the estimators obtained for each case and the explanatory variable. This implies that, in fact, the separate models capture the relationships between tourism intensity and our dependent variables better than the model that includes all municipalities. Tables A4 to A7 in the appendix show the results of the Chow test for each estimate.

Spatial effects

Next, we test whether our results are robust to spatial effects. We use a spatially augmented mixed model (SDM) to account for local spillovers of regressive variables taking into account

the spatial correlation of data points and because it may perform better in case of omitted variables (LeSage, 2014). To this end we use a publicly available geographical shape file provided by the Catalan Government at a municipality level of disaggregation (https://territori.gencat.cat/ca/06_territori_i_urbanisme/observatori_territori/mapa_urbanistic_de_catalunya/serveis_web_i_dades_obertes/descarrega-de-dades/format-shapefile-shp).

$$Target_{2021} = \rho W Target_{2021} + TourismIntensity_{2021} + Population_{2021} + WTourismIntensity_{2021} + WPopulation_{2021} \quad (2)$$

Where ρ is the spatial autocorrelation parameter for the target and W is the spatial weight matrix of the area under study that accounts for the spatially lagged effects of the predictors.

The results of this model follow a similar behavior to that of the OLS models (see Table 5, 6 and 7). Regarding per capita income, results in table 5 show that the greater the tourist intensity, the greater the per capita income. Statistical significance is high, but the effect is very low in absolute terms. The average effect of tourist intensity on this variable is around 126 euros (0.9% of average income per capita in 2021) and reinforces the different direction of its effect between large and small municipalities.

Table 5: Tourism intensity and income per capita. Spatial effects.

Variables	Income per capita			Income per capita (adult population)		
	All # hab.	<10,000	>10,000	All # hab.	<10,000	>10,000
Tourism intensity	0.523***	0.599***	-1.256***	0.471	0.558***	-1.760***
	(0.102)	(0.102)	(0.379)	(0.129)	(0.215)	(0.484)
Population	Yes	Yes	Yes	Yes	Yes	Yes
Spatial effects	Yes	Yes	Yes	Yes	Yes	Yes
Rho	0.006	0.023	0.085	0.066	0.071	0.086
LR	0.146	2.600	10.644	16.845	21.532	10.688

Regarding inequality (table 6), our results are practically identical to those obtained with the OLS estimation (table 3, above). The observed relationship is positive, although the effect is very slight with an average of 0.48 out of 28.9 points of the GINI index associated with tourism. Once again, the results are significant, but they are very small in absolute terms. Finally, table 7 shows the effects on rental prices. We obtain a positive effect, with an influence of less than 4% on tourism rentals with an increasing effect in small municipalities and decreasing in larger ones.

Table 6: Tourism intensity and income inequality. Spatial effects.

Variables	Gini index		
	All # habitants	<10,000	>10,000
Tourism intensity	0.002***	0.002***	0.003***
	(0.0002)	(0.0002)	(0.0005)
Population	Yes	Yes	Yes
Spatial effects	Yes	Yes	Yes
Rho	-0.048	-0.044	-0.030
LR	15.787	12.837	3.332

Table 7: Tourism intensity and housing rental prices. Spatial effects.

Variables	Rental prices		
	All # habitants	<10,000	>10,000
Tourism intensity	0.073***	0.066***	-0.031
	(0.006)	(0.007)	(0.025)
Population	Yes	Yes	Yes
Spatial effects	Yes	Yes	Yes
Rho	0.449	0.339	0.318
LR	331.93	170.69	65.564

Discussion and conclusion

In this study we have analyzed the relationship between tourism intensity and community well-being, focusing on per capita income, income inequality and housing accessibility. The analysis has been carried out for a mature market with heterogeneous destinations, both in terms of the type of tourism, the size of the destinations and the seasonality of tourism. Since we hypothesized that the effects may differ depending on the size of the destinations, beyond analyzing all municipalities together, we analyzed the smallest and largest municipalities separately.

Our preferred results, those that consider especial effects, show that tourism intensity is associated with increasing inequality, consistent with the conclusions in Zhang's (2021) meta-analysis. Furthermore, the size of the tourist destination does not imply significant differences in this regard.

In contrast, we find significant differences between small and large destinations when we analyze the association with per capita income and housing affordability. Our preferred results, those in which we take spatial effects into account, suggest that per capita income is positively associated tourism intensity, and the relationship is highly significant although of limited dimension. Interestingly, the association between per capita income and tourist intensity is opposite between small and large municipalities. In the smaller municipalities, per capita income increases with tourist intensity, but in larger municipalities, per capita income decreases with tourist intensity. In both cases, the relationship is statistically strong. Our interpretation of these results is that job alternatives in smaller municipalities may be scarcer and not necessarily better paid than tourism-related jobs, while larger municipalities may enjoy more alternative job opportunities with higher wages than tourism-related jobs.

The relationship between housing rental prices and tourist intensity is positive and significant, as we might expect given that tourism increases housing demand in different ways (tourist apartments, temporary rentals, etc.). However, there is a difference between smaller municipalities, where the effect is relatively intense and significant, and larger municipalities, where no significant association is found between tourism and affordable housing. Our results are consistent with those of Franco and Santos (2021) for Portugal, who found that tourism had a positive effect on prices in small tourist destinations, but in larger tourist destinations (such as Lisbon and Porto) the effect was only significant in the core historic districts. We believe that the seasonality of tourism can be a much bigger problem in small municipalities than in large ones, as in Mikulić et al. (2021); also, that small

municipalities have tourism supply throughout the destination, affecting the overall rental price.

Our research has limitations. The main one is that we cannot use a quasi-experimental approach and therefore cannot claim causality. However, our results clearly show that the effects of tourism on community well-being are likely to be heterogeneous and that different destinations will experience different effects. In this sense, the projection of metropolitan anti-tourism narratives onto non-metropolitan destinations is inappropriate and potentially harmful. And a clear policy implication emerges: policymakers concerned about the negative externalities of tourism should avoid "one-size-fits-all" approaches.

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APPENDIX

Table A1. Tourism intensity and income per capita in 2019. OLS estimation.

Variables	Income per capita			Income per capita (adult population)		
	All # hab.	<10,000	>10,000	All # hab	<10,000	>10,000
Tourism intensity	0.432***	0.736***	-1.471***	0.055	0.560***	-2.428
	(0.10)	(0.177)	(0.486)	(0.217)	(0.230)	(0.613)
Population	Yes	Yes	Yes	Yes	Yes	Yes
N	868	751	116	868	751	116
R Squared	0.010	0.025	0.093	0.001	0.035	0.127

Table A2. Tourism intensity and income inequality in 2019. OLS estimation.

Variables	Gini index		
	All # habitants	<10,000	>10,000
Tourism intensity	0.002***	0.002***	0.003***
	(0.0003)	(0.0003)	(0.0007)
Population	Yes	Yes	Yes
N	868	751	116
R Squared	0.068	0.005	0.194

Table A3. Tourism intensity and housing rental prices in 2019. OLS estimation.

Variables	Rental prices		
	All # habitants	<10,000	>10,000
Tourism intensity	0.025	0.052***	-0.072**
	(0.016)	(0.016)	(0.032)
Population	Yes	Yes	Yes
N	521	411	109
R Squared	0.043	0.067	0.009

Table A4. Chow test results on Income per Capita estimates. OLS estimation 2021.

			Income per Capita		
Data segment	N	k	RSS	F	p-value
All # habitants	869	3	3,672,457,487		
<10,000	750	3	3,103,704,463	8.691	1.10e-05***
>10,000	118	3	460,930,160		

Table A5. Chow test results on Income per Capita estimates for adult population. OLS estimation 2021.

			Income per Capita adult population		
Data segment	N	k	RSS	F	p-value
All # habitants	869	3	6,040,467,938		
<10,000	750	3	5,058,221,769	12.056	9.78e-08***
>10,000	118	3	738,995,512		

Table A6. Chow test results on Inequality estimates. OLS estimation 2021.

			Gini Index		
Data segment	N	K	RSS	F	p-value
All # habitants	868	3	8,432.5		
<10,000	749	3	7,627.4	4.763	2.67e-0.3***
>10,000	118	3	667.5		

Table A7. Chow test results on Rental prices estimates. OLS estimation 2021.

			Rental prices		
Data segment	N	k	RSS	F	p-value
All # habitants	514	3	11,287,908		
<10,000	401	3	8,292,384	16.521	2.96e-10***
>10,000	111	3	1,988,482		

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