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DOES THE HOUSE SLAVE EFFECT DEPRESS INTERNATIONAL TOURISM TRAVELLING?

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Abstract

This paper examines the relationship between "the house slave effect" and tourist outmigration in most European countries. The outline of this study is set up on the analysis of annual data on homeownership and tenant participants in plan to measure the relationship between housing wealth endowment and outbound traveling, with a panel framework that spans the period from 2007 to 2019. In the present empirical case, this paper examines whether or not there is a significant relationship in the sample of 32 countries by using a panel quantile regression method, a panel SGMM, and a panel OLS regression. Estimation outputs reveal that there is a strong negative trade-off between homeownership and outbound tourism for all quantile levels. This evidence along with the auxiliary SGMM and pooled panel estimation assessment strongly confirm that "the house slave effect" negatively affects outbound tourism. What is more, the results show that tenant rates help to boost the international tourism departures or expenditures per capita. The novelty of this work lies in the fact that it provides the pioneering study of the impact of home ownership on outbound travel in European area. The results suggest that

a panel quantile regression method (due to data constraints arising from the skewness of international tourism outbound or per capita expenditure data) should be considered when examining the relationship between "the "house slave effect" and outbound tourism in country panel analyses.

Keywords: Europe, homeownership rate, house slave effect, panel quantile regression, tenant, outbound tourism

1. INTRODUCTION

As a result of the contrast between a landlord (homeowner) and a leaseholder (tenant), we want to spotlight on some kind of controversial topic because it connects the impact of housing wealth on tourist expenditure. The housing wealth is a result of residential investment, which comprises domestic spending both on new home purchases and their spending on major improvements to existing dwellings. Economists tend to believe that the effect of housing wealth (implied by waves of changes in housing unit prices) triggers more or less the propensity to travel. Se and Guozhong (2013) find that if house prices were to rise permanently, the accumulation of asset wealth would stimulate national consumption. Therefore, from a psychological perspective, it follows that the consumption of luxury tourism products is dependent on the short-term ripple of that wealth, in addition to the stock value and actual earnings. As a leisure activity, tourism is actually a kind of consumption of an occasional duration, which is hierarchically less important than essential products (food, clothing, and home security). This spending is primarily intended to be squeezed out when economic difficulties arise. After the financial crisis in 2008 caused a colossal reset of the global economy, the waves of negative impact transmissions largely subsided; however, holiday spending, which mobilises mostly middle-class saving, from before heavily indebted, still depends on budgetary constraints, which affected the way of solving their own housing issues in the past (being a homeowner or tenant). For most homeowners, the house is the dominant asset in their portfolio (Flavin & Takashi, 2002), but house value is not created from ex nihil.

The house value increase, nowadays, follows the intensity of the COVID-19 pandemic's global strain. The annual growth of house prices in OECD countries was 9.4% in the first quarter of 2021, the fastest in the last 30 years (Romei & Giles, 2021). The lack of confidence in money, in anticipation of the inflationary spiral, due to pessimistic expectations, stocked the supply chain globally; furthermore, a lack of faith in the banking system emerged, which was reflected in an idealisation of real property. Thus, the accumulation of gold and silver, tinted with a desire for housing, over the last years expanded very quickly. In this paper, we try to argue that the excessive housing stock in the hands of private owners, who are the users of these housing units, can have a negative effect on tourism. Namely, contrary to the thesis that tourism bursts in times of housing wealth inflation, we argue that "the house slave effect", e.g. private debt, can interfere with outbound tourism. Detailing when we need to own a house that requires

maintenance, or if we are paying a home loan or repair bills are due, we foresee that "the house slave effect" affects vacation decisions. Permanent house price growth will significantly promote consumption, while a temporary rise may result in the "house slave effect", which means that residents will reduce consumption in order to purchase houses (Se & Guozhong, 2013). Under the circumstances of rapidly rising house prices, some European families choose to reduce their spending on food and clothing and, in addition to cutting back on tourism consumption, prompting them to save for house investment. If or when that effect propagates en masse on the household economic agent scale, in consideration of national accounting, the impact will translate into fewer international travel departures or expenditures. Clearly, the same occurs when income is low, the dwelling supply shrinks, mortgage conditions become harsher, or tenant positions under a rent obligation towards landlords become more unregulated.

The concentration index of house ownership can be ironically categorised as the index of "obsession with the ownership" (Filipić, 2012). Our narrative can explain why some countries with a relatively very high degree of homeownership (Romania and Croatia) and, thus, supposed abundant housing wealth, do not travel much more (than Germans or the Swiss, for example). The proportion of the population living in owned dwelling units in Germany is 52 % and in Switzerland is only 43 %, both of which are at the minimum (see Figure 1). Of course, the question of the comparative standard of living which arises here should be singled out from this equation. It is questionable why in the country with 86 % of the capital inhabitants having the obligation to pay monthly rent to landowners despite the rising rents by even 44 % in the last 5 years in Berlin (Zinken, 2021), as they are compatriots in the majority of cases, are driven to frequently visit a foreign land. For Germany, some authors point out that the processes of homemaking (family formation and home improvement) lead to saving less (Lersch & Dewilde, 2018), although the same strata travel more and more abroad due to inherited socio-demographic and cultural habits. Analysing why the south-eastern European and ex-communist countries, which have a high level of property, hinder larger tourism consumption, the reasons found are as follows: a low household formation, a later age of marriage, and the impact of a specific intergenerational living style (Azevedo, López-Colás & Módenes, 2016). We hope that the paradox of the hoarding of housing stock wealth at the expense of travelling, i.e. crowding out tourism travelling habits (of the archetypal household that dwells in modern Europe, with all cultural, national, institutional and historical sense diversity), which we try to address in this paper, will meet the interests of a curious audience.

Therefore, in this paper, our research question is as follows: Does "the house slave effect" that stems from homeownership distribution depress international tourism travelling in the EU countries? We ask in this paper whether the increase in homeownership promotes tourism consumption (wealth effects) or suppresses the same consumption ("house slave effect"), or translated in the measured metrics: how does it impact the outgoing tourism density. What is the difference in the response to homeownership for households with and without a

mortgage, and what for rent-paying tenants, on international tourism travelling? At the very beginning of this work, we have a very rough conjecture that the negative trade-off between homeowner participants and international tourism travelling may exist. This leads to the second premise that an increase in rental participants, or the proliferation of non-owner users of dwelling units across Europe, in a presented binary relation, can have a positive effect on international tourism.

The chapters cover the following part of the thesis. A literature review is given in the second section. Section 3 provides the description of the model, discusses the processed information about topic, and explains the methodology. Section 4 contains the evaluation results and a discussion. Section 5 concludes with key findings and policy suggestions.

2. LITERATURE REVIEW

This paper does not consider the data and well-developed theories and does not take into account other contributions that trigger noticeable synthesis in that specific area. The main focus is the interaction in outbound tourism and home ownership relations, but we only state a tentative hypothesis about the way things may be without a soundly formulated theory.

Mehran & Olya (2018) adopt a hybrid of narrative and systematic reviews to study outbound tourism expenditure (OTE) as a complex social phenomenon. To capture the OTE studies, authors try to collect them with the terms “tourism expenditure,” “outbound travel demand,” “outbound tourism expenditure,” “outbound spending,” and “tourist spending” using the search platform of the Web of Science core collection. Neither of the OTE studies is linked to the research subject we are dealing with. In some papers designed around surveys, homeownership, among other economic elements, such as a household's number of earners, loan amount, vehicle ownership, healthcare expenditure, and health status, have a few times appeared in the literature that deals with household consumption decision-making models (Alegre et al., 2009; Alegre & Pou, 2004).

The effects of household wealth upon consumption have received more scrutiny in academic papers for a while, but those that focus particularly on tourism consumption linked to housing are not numerous.

For many households in developed countries, the housing stock is the most important component of wealth; however, lending backed by housing collateral tends also, to the greatest extent, to generate financial debt for banks (Jordà et al. 2015, 2016). People without a house have a strong motivation to buy one. Moreover, the rising houses prices will make them feel poorer and save more for the purchase of a house, which is commonly known as “the house slave effect” (Yan, 2018). Leamer (2015) argues that the housing cycle is essentially the business cycle, which at a time of a downturn in resident investment generates recession and a downfall in consumption. Thus, the diagnosis is that housing wealth can sometimes produce “the house slave effect”, which has a globally disastrous

impact on consumption and the dynamisation of the economy (Se & Guozhong 2013). It is not paradoxical but trivial that homeowners save more and are financially wealthier than renters (Lersch & Dewilde, 2018).The empirical results uncovered by Li & Gao (2019) indicate that the mortgage effect on the house price trajectory path does exist, and also reveal that the mortgage effect is significantly higher in places with a high level of financial development across the Chine. Rising house prices have a significant negative impact on the health of middle-aged and elderly people; this has been found in research conducted by Yuan, Gong & Han (2020), who empirically tested theories focused on the links between housing wealth and social status seeking, marriage matching, and intergenerational family relationships. Family liabilities can smooth income, promote consumption, and improve residents' subjective well-being, but they may also bring corresponding economic pressure in reducing the level of welfare (Wang, Dong & Guo, 2019). Empirical testing conducted by Dong et al. (2021) using the time-varying parameter vector autoregression with stochastic volatility (TVP-SV-VAR) model and the Bayesian dynamic conditional correlational autoregressive conditional heteroscedasticity (Bayesian DCC-GARCH) model shows that an increase in financial leverage significantly increases house prices and reduces consumer expenditure. By applying time-series co-integration regressions, the assessment undertaken by Fereidouni, Al-mulali & Mohammed (2017) shows that the wealth effect from real estate has a positive and significant impact on Malaysian outbound travel demand; the same is confirmed for the EU using similar technique by Šergo (2020).

By using data from China Family Panel Studies in 2010 and 2012, Zhang and Feng (2018) find that changes in house prices have a positive and significant effect on tourism expenditure in China. Moreover, the article by Zuo & Lai (2019) studies the effect of housing wealth upon tourism consumption with a special focus on the conditional effects of age and cohorts under the assumption of the lifecycle/permanent income model.

3. MODEL, DATA AND METHODOLOGY

In attempt to assess the relationship between outbound tourism, which is a proxy dependent variable for international tourism rate that stems from each emitting country, and the population of tenants with respect to the division of homeownership and apartment rental users, we will outline our basic model as follows:

$$OTR\text{it} = \beta 0 + \beta 1 lown\text{it} + \beta 2 lownl\text{it} + \beta 3 ownnl\text{it} + \beta 4 rent\text{it} + \text{uit} \quad (1),$$

where *OTR*it as an dependent variable marks the outbound tourism rate and captured either *ldepp* or *lexptravp*.

Eq. (1), where i denotes a generic country and t denotes a generic year, is constructed to estimate the impact of population with housing wealth ownership upon tourism generating travelling on the international scale across the countries. β represents the estimation parameters that reveal the relationship between the variables, while u indicates the error term. *lown* (owner), *lownl* (owner with a

mortgage or loan), *lownnl* (owner with no outstanding mortgage or housing loan pinpointed with on status), and *lrent* (tenant) are control variables affecting international tourism departures or expenditures.

The expected values of the estimation results in calibrating "the house slave effect", based on Eq. (1), are as follows:

(i) If $\beta 1 < 0$ or is statistically significant, being an owner has a negative effect on OTRit.

(ii) If $\beta 2 < 0$ and (allowing it as a weak assumption) $\beta 2 > 0$ is statistically significant, being an owner without a financial obligation has a negative/positive effect on OTRit.

(ii) If $\beta 3 < 0$ or is statistically significant, being an owner with a financial obligation has a negative effect on OTRit.

(ii) If $\beta 4 > 0$ or is statistically significant, being a tenant has a positive effect on OTRit.

In this paper, we have, for an empirical assessment of interference, used annual data for the period 2007–2019 from 32 European countries (plus Turkey), and with it have constructed a balanced panel. The list of countries included in our sample is evident by the name of the country code from Figure 1.

The variables utilised in the empirical analysis are displayed in Table 1.

Table 1

Variable description and data sources

Variable	Data Source/ Description
	World bank
ldepp	Log of international outbound tourists/total population.
lexptravp	Log of international outbound tourists expenditures/total population.
	Eurostat
lown	Log of the share of people living in households owning their home.
lownl	Log of the share of people living in households owning their home with a mortgage or loan.
lownnl	Log of the share of people living in households owning their home with no outstanding mortgage or housing loan pinpointed with on status.
lrent	Log of the share of people living in households renting their home.
lgdppc	Log of GDP/total population (current USD).

The cross-sectional time series of each country covers the entire period for which data on house holders are available, in addition to data on departures or expenditures. The dependent variable in (1) is deduced from the World Bank (2021A); all other variables were sourced from Eurostat (2021B, 2021C, 2021D, 2021E). The control variables present that residents are given in percentages with regard to the population's living conditions (owner/tenant charged with a rental payment fee). The log transformation produces a smoother distribution because there are significant cross-country variances in the overall number of tourism departures. The per capita form of the international outbound tourism variable allows for the harmonisation of the ratio (%) and per capita variables. Since the independent variable on the right side of (1) is also logarithmic, each estimated parameter is considered to be the elasticity of the tourist's departure or expenditures per capita.

For this type of panel analysis, the outbound tourism/population have the following advantages: (1) they are instantly comparable across various populated countries, without the need for transformations that could further exaggerate measurement error, and (2) the percentage of owners/tenants is consistent with our theory that the spatial "house slave effect" adversely affects tourism departures (or in ultima linea tourism expenditures). Panel specification and the method (3) should be able to control the heterogeneity across the sampled countries and over time, and unobserved effects in the dataset; and (4) it usually produces consistent estimates in the presence of risks of omitted variables and serial correlation in the unobservables (Lei & Papatheodorou, 2010).

To make a more robust analysis and resolve the presumed two-way relationship between outbound tourism departures or expenditures and renting demand in the dataset, we run an auxiliary regression (2SLS panel model). We assume that an omitted variable will affect the *lrent* and *ldepp* (or *lexptravp)* variables in our model. Like a shift (mobility) in the labour market that makes owning a home in certain cities of a given country suboptimal but increases the demand for renting. A more prosperous economy with greater labour mobility attracts more migrant workers to its labour market. Thanks to the strong rental market (Filipić, 2012), which we believe will increase disposable income and positively influence the departure of international tourists.

In order to quickly assess the data features, we will carry out descriptive statistics; initial information gathered on the skewness of the dependent variable (departures/population) should provide a verdict, is it the panel regression analysis in its various forms (pooled, fixed, random effects and GMM), regarding whether it is robust enough, i.e. whether it needs to be supplemented with the panel data quantile regression.

The GMM is a semi-parametrically efficient estimation method. The method starts with a set of over-identified population of moment conditions and searches for an estimator that lessens a quadratic norm of the sample moment vector. Consequently, the resulting estimation is reliable and asymptotically normal under the appropriate conditions, if serious skewness is not domineering upon the l*depp* variable.

In the GMM technique, all variables are treated as endogenous in a system of equations, while the short-run dynamics may be identified at a later stage (Drakos K, Konstantinou PT, 2011). We specify a panel model with the first order as follows:

$$Y_{i,t} = \alpha_i + \Gamma(L)Y_{i,t} + \mu_i + \varepsilon_{i,t} \quad (2)$$

where i (i=1,…, N) denotes the European country and t (t=1,…, T) denotes the year. Yi,t is the vector of endogenous stationary variables, which in our analysis are international tourism (*ldepp/lexptravp*) along with the control variables, as on the right-hand side of equation (1). Γ(L) is a matrix polynomial in the lag operator L, μi is the vector of country-specific effects, and εi,t represents the vector of idiosyncratic errors.

Estimating equation (2) with pooled OLS (as a primary choice in our empirical pursuit) presents an endogeneity problem, since if the dummy variables (country-specific effects) affect the variable in one period, then they presumably affected them in the previous period (Nickell S, 1981). The first step in the direction of correcting this endogeneity problem in dynamic panels is to take the first difference of all variables and, thereby, eliminate the individual effects. Still, there remains a correlation between the lagged dependent variable, which is now in differences, and the error term. As a solution to this problem, the paper by Arellano & Bond (1991) has proposed using lags of the dependent variable from at least two previous periods (in levels) as well as lags of the variables on the right-hand side as instruments in a generalised method of moments (GMM) estimator. Yet, Blundell & Bond (1998) have shown that GMM first-difference estimators suffer from a major problem. They argue that the instruments used with the standard first-difference GMM estimator become less informative in models in which the variance of the fixed effects is particularly high relative to the variance of the transitory shocks. To avoid this bias, the same authors proposed a system-GMM (hereinafter referred to as SGMM) estimator that combines in a system the first differences with the same equation expressed in levels. Therefore, in the empirical section, we will present the results using the Blundell–Bond SGMM and the pooled panel estimators.

However, when this dataset is heterogeneous and does not have a normal distribution, the robustness of the conditional mean results may be affected by the estimators presented previously (Allard, Takman, Uddin, & Ahmed, 2018; Cheng, Ren, Wang, & Yan, 2019; Vu, Holmes, Lim, & Tran, 2014). Moreover, the conditional mean estimators only provide information about the center of the distribution, as they ignore the extreme points of the distribution. The results of conditional mean estimators are biased when the distribution of the dependent variable is disproportionately skewed (Koenker & Hallock, 2001; Wang, Zeng, & Liu, 2019). Another advantage of quantile regression estimators in the panel form over the first one is that outputted results will be more robust against outliers (Buchinsky, 1994), heteroscedasticity, and unobserved heterogeneity in the dependent variable (Zhang & Zhang, 2016; Zhu, Xia, Guo, & Peng, 2018), and it can describe the entire conditional distribution of the dependent variable (as exposed in Coad & Rao, 2008).

According to Koenker and Bassett (1978), the quantile regression model is as follows:

$$y_{it} = x_{it}^{'}\beta_{\theta} + u_{\theta it} \text{ with } Quant_{\theta}(y_{it} / x_{it}) = x_{it}^{'}\beta_{\theta} \quad (3)$$

where y is the dependent variable, x is a vector of regressors, β is the vector of parameters to be estimated, and u is a vector of residuals. $Quant_{\theta}(y_{it} / x_{it})$ identifies the θth conditional quantile of y (given x). For the purposes of our research, a quantile regression model for panel data (QREGPD) with nonadditive fixed effects (Baker, Powell & Smith, 2016), maintaining the nonseparable disturbance term commonly associated with quantile estimation, has been employed. We apply the depicted quantile regression technique to equation (3).

Panel regression estimation produces different results in different quantiles with respect to the quantiles of the dependent variable, *ldepp* or *lexptravp*. In this case, the conditional distribution of the dependent variable is assumed to respond differently to the changes in the explanatory variables at different points, which is related to the heterogeneity information of the country, as empirically shown in Koçak et al. (2019). This paper follows Koenker (2005) in order to explore the relationship between international tourism departures *or* expenditures and independent variables that we consider to touch the status of dwellers. Thus, we are designing the quantile levels (τ) of 0.10, 0.50 and 0.90 for the assessment later on.

4. EMPIRICAL RESULTS

As we can see, Table 2 shows that the mean value for depp (or exptravp) is 0.98 (or about 1045), while the skewness is 2.254 (or 2.912), implying that the distribution of the dependent variable(s) employed in this paper departs from the Gaussian distribution.

Table 2

Descriptive statistics of quantitative variables

	Mean	Median	Max.	Min.	Std. Dev.	Jarque –Bera	Skewness	Kurtosis
depp	0.98	0.99	3.16	0.078	0.553	47.972 (0.000)	2.254	7.016
exptravp	1044.633	616.878	7645.554	52.897	367710.9 36	2095.5 (0.000)	2.912	10.347
own	74.821	74.75	96.00	42.50	11.733	15.472 (0.000)	-0.509	0.073
ownl	26.896	23.45	72.20	0.50	18.785	24.281 (0.000)	0.505	-0.802
ownnl	47.923	50.40	96.90	2.90	25.646	19.456 (0.000)	0.009	-1.162
rent	25.178	25.25	57.50	2.40	11.733	12.378 (0.000)	0.509	0.073
gdppc	41463.89	38387.14	120647.8	17078.37	18425.52	651.42 (0.000)	1.922	8.442

Note: Considered variables are in levels; source: author's calculations

We considered the value of kurtosis, which is 7.016 (or alternatively: 10.347) to also be unacceptable because it violates normal univariate distribution (George & Mallery, 2010). This will probably cause non-normality in OLS adopted regression's residuals. The Jerque-Bera test indicates that both dependent variables follow a non-normal distribution. Thus, it is confirmed that the distribution of outgoing tourism (and expenditures) per capita is asymmetric, so following the ambiguous strategy in analysing our data the OLS regression will yield misleading results.

The percentages along with minimum and maximum values (in levels) of homeownership versus rental over country are depicted in Figure 1 (in Appendices). Romania (with its percentage of homeowners (96)) is leading, and Switzerland (42.5) is the last in the row. High rates of ownership in south-eastern

EU countries (Romania, Croatia, etc.) relative to other EU countries are mainly the consequence of small rental markets (Allen et al. 2004; Azevedo, Módenes & López-Colás, 2016), not so much of large ownership markets.

The scatterplot (in Figure 2) shows a semi-strong, negative, nonlinear association between logged homeownership and the logged number of international tourism departures or expenditures per capita.

The reverse impression is depicted in Figure 3, wherein log of renting versus log of international outbound tourists is reconsidered. This led us to a further step with analysis with regressions. In this section, in Table 3, we present the evaluation of the panel regression results of this paper.

Table 3

Results of the panel data regression of logged international tourism departures/total population

	Static panel model			2SLS panel model		Dynamic panel model
1	2	3	4	5	6	7
Variable	POLS	FE	RE	FE	RE	SGMM
Constant	2.239 (2.947)	0.828 (4.626)	0.250 (4.021)		-132.623 (90.657)	
ldepp(lag_1)						0.878 (0.073)***
lown	-0.154 (0.640)	-0.241 (0.925)	-0.045 (0.814)	-18.583** (6.113)	-25.411 (11.383)**	0.080 (0.683)
lown(lag_1)						-0.457 (0.774)
lownnl	-0.294** (0.094)	-0.250 (0.125)	-0.227 * (0.110)	-0.088 (0.204)	-0.286 (0.254)	0.010 (0.044)
lownnl(lag_1)						-0.020 (0.052)
lownl	-0.241*** (0.069)	-0.110 * (0.065)	-0.004 (0.056)	-0.138 (0.128)	-0.283 (0.225)	0.009 (0.097)
lownl(lag_1)						0.038 (0.118)
lrent	- 0.459* (0.189)	0.135 (0.252)	0.119 (0.223)	5.947** (2.439)	8.076** (4.106)	0.135 (0.124)
lrent(lag_1)						0.011 (0.130)
No. of obs.	352	352	352	352	352	608
F-test(p-value)	67.328(0.000)					
LM-test(p-value)	36.043(0.000)					
Hausman test(p-value)		6.875(0.145)		2.221(0.698)		
Sargan test(p-value)						0.993
Wald test(p-value)						0.000

Notes: Optimal lag length according to AIC(n) for SGMM equation was 1; ***, **, and * denote significance at the 1 %, 5 %, and 10 % levels, respectively.

Source: Author's calculations

Table 4

Results of the panel data regression of logged international tourism expenditures/total population

	Static panel model			2SLS panel model		Dynamic panel model
1	2	3	4	5	6	7
Variable	POLS	FE	RE	FE	RE	SGMM
Constant	2.119 (2.867)	0.729 (3.326)	3.834 (2.931)		-112.834 (60.657)	
lexptravp(lag_1)						0.981 (0.012)***
lown	-0.178 (0.574)	0.783 (0.946)	0.972 (0.830)	-12.587** (5.673)	-25.743 (10.183)**	0.276 (0.389)
lown(lag_1)						-0.073 (0.659)
lownnl	-0.294** (0.094)	-0.030 (0.082)	-0.170 (0.079)*	-0.036 (0.304)	-0.326 (0.224)	-0.043 (0.028)
lownnl(lag_1)						0.021 (0.027)
lownl	-0.342*** (0.057)	0.108** (0.039)	-0.172** (0.040)	-0.142 (0.138)	-0.483 (0.435)	0.143 (0.091)
lownl(lag_1)						-0.138 (0.086)
lrent	- 0.325* (0.178)	0.072 (0.165)	0.130 (0.162)	5.237** (2.232)	7.003** (4.004)	0.125 (0.071)*
lrent(lag_1)						0.113 (0.068)
No. of obs.	352	352	352	352	352	608
F-test(p-value)	58.734(0.000)					
LM-test(p-value)	33.429(0.000)					
Hausman test(p-value)		5.942(0.182)		1.951(0.884)		
Sargan test(p-value)						0.994
Wald test(p-value)						0.000

Note: ***, **, and * denote significance at the 1 %, 5 %, and 10 % levels, respectively.

Source: Author's calculations

By comparing the fixed effects and the pooled OLS fits by the F-test, the test assessment indicates a substantial cross-country variation. Fixed effect model are always a statistically sound choice when working with panel data because they produce consistent results. Yet, we used the Breusch-Pagan Lagrange Multiplier (LM) test to check for random effects, which may outperform the fixed effects. Individual-or time-specific error variance components having zero values are the null hypothesis. The fixed OLS is favoured if the null hypothesis is not rejected; otherwise, the random effect model is preferable. The LM-test results in our case study demonstrate the existence of random effects (P-value = 0.000). The fixed effects might not be the best and most effective model to use under more restrictive assumptions, namely exogeneity of the individual effects. Running a Hausman H-test to test for endogeneity is the standard method for deciding between fixed and

random effects (Hausman, 1978). The random effects estimator is more suitable, according to the Hausman H-test (p-value > 0.05).

To verify the endogeneity problem of lrent, we use the Durbin-Wu-Hausman test. The results of Durbin's (p-value) tests chi-2(1) = 0.0001 and Wu-Hausman = 0.0003, confirmed the endogeneity of this variable. The two-step least squares method (2SLS) with the instrumental variable (IV) is often used to solve the endogeneity problem. Therefore, an IV of lgdppc (as an approximation of labour mobility as the omitted hypothetical variable) is given to solve the endogeneity problem associated with lrent. Furthermore, when deciding between two competing models, here the Hausman test (p > 0.05) led us to choose 2SLS-RE.

Since neither the pooled ordinary least squares model (POLS) nor the fixed-effect model (FE) provided the adequate model, the model is estimated by the random-effect (RE), 2SLS-RE and an SGMM estimator. Columns 3, 5-6 in Table 3 and 4 present the RE, 2SLS-RE and SGMM panel data regression results, respectively. As theoretically expected in the first two models (RE and 2SLS-RE), an increase of the estimated coefficient that represents the logged share of homeownership has a negative effect on logged outbound tourism relative to population(e.g. *ldepp* and *lexptravp)*; on the other hand, by augmenting the logged share of tenants with a rental payment obligation, there is the probability of an increase in the occurrence of a positive effect on the same phenomenon in the both of those regressions. Despite the outcome of SGMM regression depict a similar trajectory path of the same variable(s) under similar circumstances, they were insignificant at the 5 % level.

As noted in a previous descriptive analysis in the section above, we have recognised a certain deviation of the assumption about the normal distribution of the error terms in these linear models, which may affect the unbiased final assessment. Thus, we adopted the panel quantile estimation, which is employed in our analysis to capture both country heterogeneity and other deficiencies that have not been considered in the regression framework so far.

In the following, we will examine the relevance of the heterogeneity parameter using quantile regression approaches. The empirical results were obtained by estimating the equation with international outbound tourism relative to population at three quantiles spectrum, more precisely, where t = 0.1, 0.5, and 0.9.

The facts that are given in columns 2–3 in Table 5 display the negative trade-off between logged ownership as a share in dweller units and logged tourism variable in general, indeed acted, and is most prominent, judging by the negative magnitude of the *lown* coefficient of elasticity, at the smallest quantile (0.1) of the countries' distribution of international outbound tourism relative to population. However, this coefficient is also very significant in the whole spectrum of the selected quintiles. This evidence validates that rising housing wealth curbs tourism consumption, as in research conducted by Jieyu et al. (2012) and Li (2018), and leads to the contrary, i.e. (as they interpret) "the house slave effect".

Table 5

Results of the quantile panel data regression

	lexptravp	*ldepp*
lown[0.1]	-1.813 *** (0.408)	-1.269*** (0.187)
lown[0.5]	-1.727*** (0.436)	-1.036*** (0.172)
lown[0.9]	-1.541*** (0.437)	-0.766*** (0.172)
lownnl[0.1]	-0.644*** (0.145)	-0.386*** (0.064)
lownnl[0.5]	-0.634*** (0.123)	-0.356*** (0.053)
lownnl[0.9]	-0.616*** (0.128)	-0.304*** (0.067)
lownl[0.1]	0.612*** (0.094)	0.175*** (0.064)
lownl[0.5]	0.568*** (0.076)	0.155*** (0.039)
lownl[0.9]	0.496*** (0.077)	0.112*** (0.049)
lrent[0.1]	0.658*** (0.141)	0.112*** (0.049)
lrent[0.5]	0.602*** (0.137)	0.373*** (0.082)
lrent[0.9]	0.514*** (0.139)	0.289*** (0.104)
Pseudo-R2	0.44	0.45
Observations	352	352

Note. ***coefficient significant at the p<0.01; standard errors in parentheses.

Source: Author's calculations

The elasticity of the *lownnl* coefficient, i.e. the owner's share, with no outstanding mortgage or housing loan, also shows a negative and significant trade-off between this type of homeownership and the tourism propensity to vacate a country and take a trip and spend. This variable, which refers to an owner with no outstanding mortgage or housing loan, demonstrates, paradoxically, that the maximum declining shock based on that type of ownership co-occurrence had been related to the countries at the highest quantile levels (or that travel and spend the most in our sample).

The elasticity of the *lownl* coefficient, i.e. those people with an outstanding mortgage or housing loan, also provides evidence of a negative trade-off between these types of owners per capita and the international tourism demand of countries emitting power, but only at the lowest tail (0.1) quantiles of the dependent variable *(ldepp).* This assessment fits well in finding that mortgage over-indebtedness and financial deleveraging have left their mark on tourism travelling and expenditures, particularly in seriously recession-affected countries such as Greece, Portugal, and Spain (Módenes, 2014), as well as in countries like Croatia, Bulgaria, and Romania, simultaneously challenging the traditional, family-based relationship between housing and population in those states (Allen et al. 2004). Yet, at the other quintiles the *lownl* coefficients are positive and significant, deviating from our theoretical expectation. The last variable considered was *lrent*, i.e. the share of tenants

who pay some kind of rent to landlords: the coefficient of elasticity of this variable is assumed to be positive and very significant, as was theoretically expected again (as in a 2SLS-RE regression, anyway). This finding is consistent with the finding that households save more frequently after acquiring homeownership with a mortgage than the rental sector, which does not forgo consumption to a large extent (Lersh & Dewilde, 2018).

5. CONCLUSION WITH DISCUSSION

This research aims at investigating the link between "the house slave effect" and international tourism departures by paying macroscopic attention to the distribution of dwellers (divided into homeowners and tenants that pay rent). Given that the contradiction between homeowners and tenants is interpreted using the concept of the "slave effect in the home". For this purpose, panel quantile regression estimation techniques have been employed, along with panel and GMM regressions. Furthermore, this paper focuses on the heterogeneous impact of dweller status upon international tourism. Using data from 32 European countries over the period 2007–2019, evidence had shown that the negative trade-off between ownership as a share in dweller units and international tourism departures indeed existed at a significant level, which statistically confirms "the house slave effect" in the whole range of projected quantiles. Yet, this negative effect of homeownership is the most prominent, judging by the magnitude of elasticity at the smallest quantile (0.1) of the countries' distribution of international tourism departures. Our research assessment smoothly refutes the conventional stylised fact that an increase in housing wealth instigates tourism consumption; essentially, our results fit well with research conducted by Jieyu et al. (2012) and Li (2018), who argue that by multiplying homeowners, "the house slave effect" in society squeezes tourism out. In particular, we find a significant positive relationship between the share of tenants with a rental contract with their landlords and international tourism departures at all points of the distribution of departures, with stronger associations at the 0.25 and 0.5 (medium) quantiles. Another contribution of our paper is that of highlighting that the existing levels of tourism demand generated by some European countries in our sample were significantly lowered due to exceptional circumstances during the last decade — mortgage over-indebtedness and, subsequently, financial deleveraging. It is concerned with a problem of countries located at the 0.1 and 0.25 quantiles, estimated to be seriously recession-affected countries like Greece, Portugal, and Spain, and with it we confirmed Módenes (2012). Furthermore, Croatia, Bulgaria, and Romania, in short, belong to a club that sacrificed tourism travelling somehow in order to possess more housing.

In conclusion, by introducing the quantile regression approach in cross sectional and time-series fashion, this paper provides a more complete and sophisticated picture of the factors influencing the international tourism flows. Therefore, our results bring a new light on the tourism demand topic. We hope the future empirical research will try to dive deep in the linkage of housing wealth and tourism. Taking care about the property may,

as we observe under special circumstances, transform its force in "the house slave effect", which depresses tourism demand.

European countries are large generators of tourism consumption in a globalised world in which travel outside of the borders of the homeland has been unhindered for now. It is important to maintain the relative stability of tourist spending, as it contributes to the satisfaction of citizens' lives and the inner feeling of being better off "due to keeping with Johnson's effect" when we travel abroad. In our opinion, in this regard, the citizens of countries that have a high share of ownership of houses and apartments deprive themselves of higher tourist spending. This study reveals that there is a close relationship among high homeownership and low international tourism travelling, and an opposite positive link between tenant rates under a rental obligation and travelling.

Some of the concrete measures that will have beneficial effects on the convergence and recovery from imbalance in outbound tourism proliferation across the countries contain a regulated market (in central, county or municipality domain) for renting apartments to tenants that have the power to resolve issues of maximum prices and the entry of state institutional investors in housing construction. Furthermore, a government subsidy in banking interest rates on housing loans for young families may also have contributed to this issue. One of the auxiliary measures addressing a problem tackles the tax policy. In our opinion, the government should introduce property tax as soon as possible, which will alleviate wealth and consumption inequality and thus increase outbound tourism in the countries well-endowed with housing wealth. The introduction of the real estate wealth taxation (along with alleviating wealth and consumption inequality) would mitigate the negative effect that the tourism industry suffers from over-ownership. Still, all the economic measures, even with the significant productivity leap in those countries (with over-ownership), would not be effective without the sociocultural change.

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REFERENCES

Alegre, J., & Pou, L. (2016). US household tourism expenditure and the Great Recession: An analysis with the Consumer Expenditure Survey. Tourism Economics, 22(3), 608-620. https://doi.org/10.5367/te.2014.0429

Alegre, J., Cladera, M., & Sard, M. (2011). Analysing the influence of tourist motivations on tourist expenditure at a sun-and-sand destination. Tourism Economics, 17(4), 813-832. https://doi.org/10.5367/te.2011.0063

Allard, A., Takman, J., Uddin, G.S., & Ahmed, A. (2018). The N-shaped environmental Kuznets curve: An empirical evaluation using a panel quantile regression approach. Environmental Science and Pollution Research - International, 25(6), 5848-5861. https://doi.org/10.1007/s11356-017-0907-0

Allen, J., Barlow, J., Leal, J., Maloutas, T., & Padovani, L. (2004). Housing and welfare in Southern Europe (Vol. 610). Oxford: Blackwell. https://doi.org/10.1002/9780470757536

Arellano, M. & Bond, S.R. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. Review of Economic Studies, 58 (2), 277-297. https://doi.org/10.2307/2297968

Azevedo, A.B., López-Colás, J. & Módenes, J.A. (2016). Home ownership in Southern European countries: Similarities and differences. Portuguese Journal of Social Science, 15(2), 275-298. https://doi.org/10.1386/pjss.15.2.275_1

Baker, M., Powell, D. & Smith, T.A. (2016). QREGPD: Stata module to perform Quantile Regression for Panel Data. Statistical Software Components S458157, Boston College Department of Economics.

Blundell, R. & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. J. Econom. 87(1), 115-143. https://doi.org/10.1016/S0304-4076(98)00009-8

Buchinsky, M. (1994). Changes in the U.S. Wage Structure 1963-1987: Application of Quantile Regression. Econometrica, 62(2), 405-458. https://doi.org/10.2307/2951618

Cheng, C., Ren, X., Wang, Z. & Yan, C. (2019). Heterogeneous impacts of renewable energy and environmental patents on CO2 emission-Evidence from the BRIICS. The Science of the Total Environment, 668, 1328-1338. https://doi.org/10.1016/j.scitotenv.2019.02.063

Coad, A. & Rao, R. (2008). Innovation and firm growth in high-tech sectors: A quantile regression approach. Research policy, 37(4), 633-648. https://doi.org/10.1016/j.respol.2008.01.003

Dong, K., Chang, C.T., Wang, S. & Liu, X. (2021). The Dynamic Correlation among Financial Leverage, House Price, and Consumer Expenditure in China. Sustainability, 13(5), 2617. https://doi.org/10.3390/su13052617

Drakos, K. & Konstantinou, P.T. (2011). Terrorism shocks and public spending: Panel VAR evidence from Europe (No. 48). Economics of Security Working Paper.

Eurostat (n.d.B), Owner, in percentage - annual data, viewed 15 August 2021, Retrieved from https://ec.europa.eu/eurostat/databrowser/view/ilc_lvho02/default/table?lang=en

Eurostat (n.d.C), Owner, with mortgage or loan, in percentage - annual data, viewed 15 August 2021, Retrieved from; https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02__custom_1389262/default/table?lang=en

Eurostat (n.d.D), Owner, with no mortgage or loan, in percentage - annual data, viewed 15 August 2021, Retrieved from https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02__custom_1389284/default/table?lang=en

Eurostat (n.d.E), Tenant, in percentage - annual data, viewed 15 August 2021, Retrieved;https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02__custom_1389296/default/table?lang=en

Fereidouni, H.G., Al-Mulali, U. & Mohammed, M.A.H. (2017). Wealth effect from real estate and outbound travel demand: the Malaysian case. Current issues in tourism, 20(1), 68-79. https://doi.org/10.1080/13683500.2014.882886

Filipić, P. (2012). Ekonomski paradoksi. Zagreb: Jesenski i Turk.

Flavin, M. &Takashi, Y. (2002). Owner-Occupied Housing and the Composition of the Household Portfolio. American Economic Review, 92(1), 345-362. https://doi.org/10.1257/000282802760015775

George, D. & Mallery, M. (2010). SPSS for Windows Step by Step: A Simple Guide and Reference, 17.0 update (10a ed.) Boston: Pearson.

Hausman, J. A. (1978). Specification Tests in Econometrics. Econometrica, 46. 1251-1271. doi: org/10.1080/13504851.2013.866197; https://doi.org/10.2307/1913827

Jieyu, X. Binzhen, W., Hongbin, Li & Siqi, Z. (2012). Housing Prices and Residents' Consumption in China[J]. Journal of Financial Research, 6, 13-27.

Jordà, Ò, Schularick, M. & Taylor, A. (2015). Betting the house. Journal of International Economics, 96(1), 2-18. https://doi.org/10.1016/j.jinteco.2014.12.011

Jordà, Ò, Schularick, M. & Taylor, A. (2016). The great mortgaging: housing finance, crises and business cycles. Economic Policy, 31(85), 107-152. https://doi.org/10.1093/epolic/eiv017

Koçak, E., Ulucak, R., Dedeoğlu, M., & Ulucak, Z. Ş. (2019). Is there a trade-off between sustainable society targets in Sub-Saharan Africa?. Sustainable Cities and Society, 51, 101705. https://doi.org/10.1016/j.scs.2019.101705

Koenker, R. & Bassett, G., (1978). Regression Quantiles. Econometrica, 46, 33-50. https://doi.org/10.2307/1913643

Koenker, R. & Hallock, K.F. (2001). Quantile regression. The Journal of Economic Perspectives, 15(4), 143-156. https://doi.org/10.1257/jep.15.4.143

Koenker, R. (2005). Quantile regression. New York: Cambridge University Press. https://doi.org/10.1017/CBO9780511754098

Leamer, E.E. (2015). Housing Really Is the Business Cycle: What Survives the Lessons of 2008- 09?. Journal of Money, Credit and Banking, 47(1), 43-50. https://doi.org/10.1111/jmcb.12189

Lei, Z., & Papatheodorou, A. (2010), Measuring the effect of low-cost carriers on regional airports' commercial revenue. Res. Transp. Econ., 26 (1), 37-43, https://doi.org/10.1016/j.retrec.2009.10.006.

Lersch, P.M. & Dewilde, C. (2018). Homeownership, saving and financial wealth: A comparative and longitudinal analysis. Housing Studies, 33(8), 1175-1206. https://doi.org/10.1080/02673037.2018.1424803

Li J. (2018). Does the "house slave effect" lead to low consumption of residents? [J]. China Economics Quarterly, 17(01), 405-430.

Li, S. & Gao, N. (2019). Housing price and enterprise financing: does mortgage effect exist?. China Finance Review International, 9(1), 137-152. https://doi.org/10.1108/CFRI-03-2018-0026

Mehran, J. & Olya, H. G. (2018). Progress on outbound tourism expenditure research: A review. Current Issues in Tourism, 22(20). 2511-2537. https://doi.org/10.1080/13683500.2018.1517734

Módenes, J.A. (2012, June). Household formation and housing tenure: A new look to European housing systems. In ENHR (European Network on Housing Research), 24th Congress, Housing: Local Welfare and Local Markets in a Globalised World, Lillehammer, Norway (pp. 24-27).

Nickell, S. (1981). Biases in dynamic models with fixed effects. Econometrica, 49(6), 1417-1426. http://www.econ.uiuc.edu/~econ536/Papers/nickell81.pdf; https://doi.org/10.2307/1911408

Romei, V. & Giles, Ch. (2021). Global house prices: Raising the roof, 2021. Financial Times Series, Retrieved from https://www.ft.com/content/491a245d-4af7-4cad-b860- 6ba51b86b45f

Se,Y. & Guozhong, Z. (2013). "House slave effect" or "wealth effect"- A theoretical analysis of the impact of rising house prices on national consumption. Management World, 3, 34-47.

Šergo, Z. (2020). The wealth effect and tourism – ARDL modeling and Granger causality in selected EU countries. Tourism and hospitality management, 26 (1), 195-212. https://doi.org/10.20867/thm.26.1.11

Vu, H., Holmes, M., Lim, S. & Tran, T. (2014). Exports and profitability: A note from quantile regression approach. Applied Economics Letters, 21(6), 442-445. https://doi.org/10.1080/13504851.2013.866197

Wang, S., Dong, J. & Guo, X. (2019, October). Family Liabilities and Residents' Subjective Well-being An Analysis Based on Microcosmic Data of Chinese Family Tracking Survey, Proceedings of the 2nd International Conference on Contemporary Education, Social Sciences and Ecological Studies (CESSES 2019), (pp. 1429-1436). Atlantis Press, https://doi.org/10.2991/cesses-19.2019.318

Wang, S., Zeng, J. & Liu, X. (2019). Examining the multiple impacts of technological progress on CO2 emissions in China: A panel quantile regression approach. Renewable and Sustainable Energy Reviews, 103(January), 140-150. https://doi.org/10.1016/j.rser.2018.12.046.

World Bank (n.d.A), International tourism, number of departures - annual data, viewed 15 August 2019, Retrieved from https://data.worldbank.org/indicator/ST.INT.DPRT

Yan, J. (2018). The Heterogenous Impact of Fluctuation of Housing Prices upon Consumption of Urban Households in China. Journal of Applied Finance and Banking, 8(6), 171-199.

Yuan, W., Gong, S. & Han, Y. (2020). How does rising housing price affect the health of middle-aged and elderly people? The complementary mediators of social status seeking and competitive saving motive. PLoS One, 15(12), https://doi.org/10.1371/journal.pone.0243982

Zhang, C. & Feng, G. (2018). More wealth, less leisure? Effect of housing wealth on tourism expenditure in China. Tourism Economics, 24(5), 526-540. https://doi.org/10.1177/1354816618754748

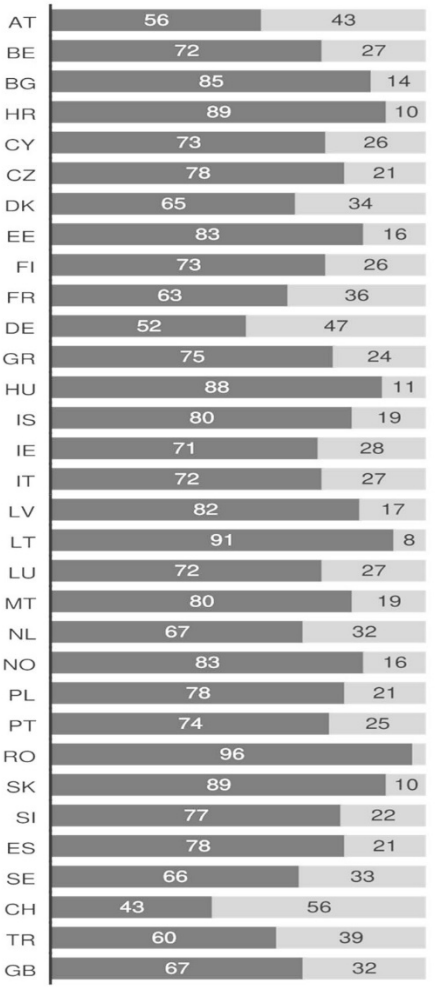
Zhang, J. & Zhang, L. (2016). Impacts on CO2 emission allowance prices in China: A quantile regression analysis of the Shanghai emission trading scheme. Sustainability, 8(11), 1195. https://doi.org/10.3390/su8111195.

Zhu, H., Xia, H., Guo, Y. & Peng, C. (2018). The heterogeneous effects of urbanization and income inequality on CO2 emissions in BRICS economies: Evidence from panel quantile regression. Environmental Science and Pollution Research, 25(17), 17176-17193. https://doi.org/10.1007/s11356-018-1900-y.

Zinken, P. (2021). Rising rents spark Berlin housing seizure referendum. France 24. Retrieved from https://www.france24.com/en/live-news/20210919-rising-rents-spark-berlin-housing-seizure-referendum

Zuo B. & Lai Z. (2019), The effect of housing wealth on tourism consumption in China: Age and generation cohort comparisons. Tourism Economics, 26(2), 211-232. DOI: https://doi.org/10.1177/1354816619861843

APPENDIX



Note: left = homeownership in %; right = tenant in %

Figure 1 The % share of homeownership versus renting

Source: Author's calculations

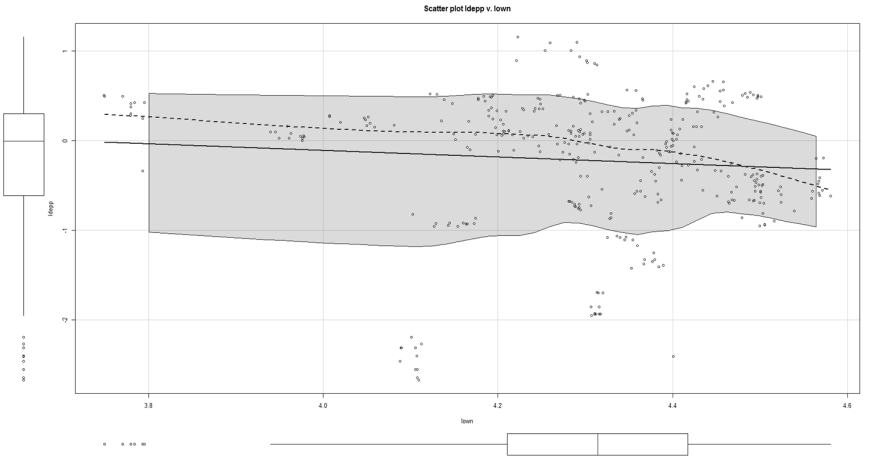


Figure 2 Scatterplot of „Logged international tourism departures/total population“ and „Logged homeownership“

Source: Author's calculations

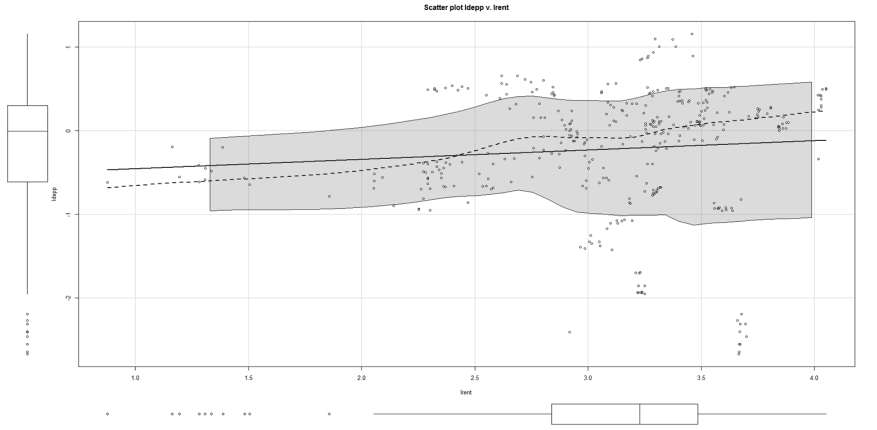


Figure 3 Scatterplot of „Logged international tourism departures/total population“ and „Logged rent-tenant“

Source: Author's calculations

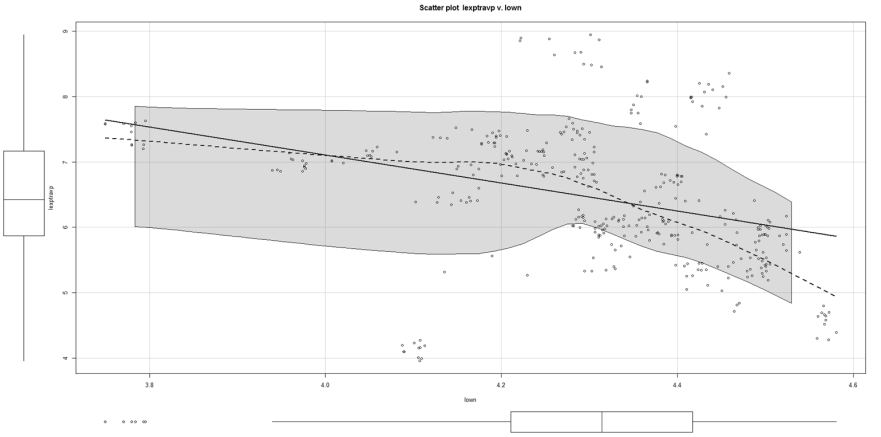


Figure 4 Scatterplot of „Logged international tourism expenditures/total population“ and „Logged homeownership“

Source: Author's calculations

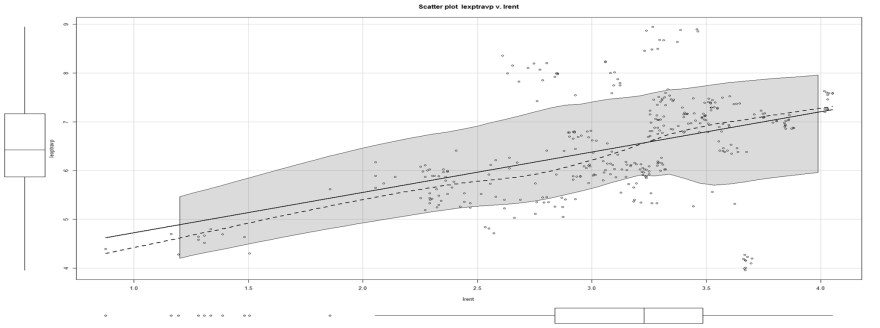


Figure 5 Scatterplot of „Logged international tourism expenditures/total population“ and „Logged rent-tenant“

Source: Author's calculations

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DA LI UČINAK ROBOVSKOG ODNOSA PREMA DOMU DEPRESIRA MEĐUNARODNA TURISTIČKA PUTOVANJA?

Sažetak

Svrha ovog rada je ispitati odnos između „efekta robovskog odnosa prema domu" i izlaznog, emitivnog turizma odabranih europskih zemalja. Dizajn ove studije temelji se na analizi godišnjih panel podataka koja obuhvaća vlasnike kuća i podstanare kako bi se izmjerio odnos između stambenog bogatstva i izlaznog turizma odabranih zemljama u razdoblju od 2007. do 2019. U tom kontekstu, ovaj rad istražuje postoji li značajna veza u uzorku od 32 zemlje korištenjem metode panel kvantilne regresije, kao i panel SGMM regresije te panel OLS regresije. Rezultati procjene otkrivaju da postoji jak negativan odnos između varijable vlasništva kuća i stanova i izlaznog turizma za sve kvantilne razine. Ovi dokazi, zajedno s pomoćnim procjenama - panel SGMM-om i panel OLS-om, snažno potvrđuju hipotezu da „efekt robovskog odnosa prema domu" negativno utječe na izlazni turizam. Štoviše, rezultati pokazuju da podstanarstvo pomaže jačanju turističkog gospodarstva. Originalnost ovog rada proizlazi iz činjenice da nudi prvu analizu koja problematizira utjecaj vlasništva stambenih jedinica na izlazni turizam u odabranim europskim zemljama. Nalazi ove studije upućuju na to da bi metodu kvantilne regresije panela (zbog ograničenja podataka koja impliciraju statističku „iskrivljenost" podataka o turističkim odlascima) u panel analizi zemalja trebalo uzeti u obzir kada se ispituje veza između „efekta robovskog odnosa prema domu" i turizma.

Ključne riječi: Europa, stopa stambenog vlasništva, efekt robovskog odnosa prema domu, kvantilna regresija panela, podstanar, izlazni turizam.

JEL klasifikacija: C32, 011, L83, Z32.