



Tourism housing price nexus

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Abstract

Tourism's positive and negative externalities are of an extreme social and economic importance for the tourism dominant countries. In particular, studying tourism's impact on housing prices has experienced increased interest over the past decade as it has a relevant influence on real estate economics and housing market development, which spills over the entire economy. Considering the limited existing literature, the objective of this paper is to provide an overview of the previous studies, which summarizes prevailing findings about the impact of tourism on housing prices with respect to three different streams: tourism activity, tourism accommodation capacity and tourism amenities. This paper offers a comprehensive theoretical background and clear-cut insight in tourism's impact on housing prices, with a great attention to possible issues that may emerge due to tourism heterogeneity across countries. For the same reason, it is beneficiary not only to real estate agents but likewise to decision makers in tourism industry.

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Introduction

Studying tourism's impact on housing prices is a topic of great social and economic importance, especially for countries where the tourism industry is dominant. Since tourism is a very broad term, it is necessary to observe the impact on housing prices from different aspects and levels. Moreover, housing is one of the most important

segments for both the economy and individuals. Effects on housing prices lead to equally strong feedback effects of housing prices on the economy (Posedel, Vizek, 2011). In general, externalities have a positive and negative effects on the economy. With the growth of tourism, many positive effects are observed, but at the same time, there is concern that the positive effects come at a cost (Mikulić et al., 2021; Stojčić et al., 2022; Nieuwland, van Melik, 2020). Positive externalities in tourism are reflected in economic growth, employment opportunities, and standard of living. On the other hand, tourism produces negative externalities such as an increase in the general price level of goods and services in tourist regions, crowding and congestion of roads, public transport and cities, and an increase in crime rate, and pollution (Meleddu, 2014; Milman, Pizam, 1988).

According to Ross (1992), that analysed effects of tourism in the Australian city of Cairns, tourism negatively impacts crime rate, housing costs and rents. On the other side, tourism has a positive impact on hotels, restaurants, open spaces, shopping, business opportunities, and entertainment facilities. Unfortunately, there are some limitations to survey-based studies. The results are based only on the residents' perception of price changes and no indicators were used. There are also studies that use general equilibrium models to examine the impact of tourism on economic variables, including prices (Adams, Permenter, 1995; Gooroochurn, Sinclair, 2005). These models use simulations instead of modelling real economic indicators. Both described approaches do not include cross-country analysis, which makes comparisons and conclusions regarding the price level impossible. Moreover, both approaches do not control various factors that may contribute to the rise in prices of goods and services in the host countries.

There is an empirical study that includes EU and South Mediterranean countries (Tkalec, Vizek, 2016) in which a dynamic panel model is used and the impact of tourism activity on the prices of goods and services is examined. The study shows that after controlling for other factors that usually affect the general price level, tourism increases the overall price level in host countries. Authors conclude that tourism not only affects the overall price level but can also influence relative prices in favour of the nontradable sector, which in long term can lead to a real appreciation of the host country's exchange rate.

Due to the lack of data on prices at the regional and local level, the literature on the relationship between tourism and housing prices is scarce. Given the limited literature on the impact of tourism on the housing market, it is necessary to present what has been researched so far. In this way, a review of previous research will be obtained, which will contribute to future studies, since the mentioned topic is of extraordinary importance for the economy. It is already evident from previous research that tourism is a very broad concept and that tourism affects housing prices in many ways. This heterogeneity does not make it easy to calculate the real and general impact of tourism on a local economy (Biagi, Faggian, 2004). For this reason, the impact of tourism on housing prices will be considered from different aspects.

For the purpose of this study, the existing literature is divided into three streams. External demand from tourists leads to competition with locals for land and housing, which can lead to rising housing prices and rents. For this reason, the first stream to be considered includes the impact of tourism activity on housing prices. Moreover, it is important to analyse the type of accommodation supply. On the one hand, there are hotels, hostels and camps, and on the other, short-term rentals. It is important to research which type of accommodation dominates, as the relationship between tourism and housing prices varies according to the type of accommodation and the changes in its structure. Short-term rental has become increasingly important in recent

years due to the emergence of peer-to-peer platforms. Accordingly, the second stream refers to the study of the impact of the structure of tourism accommodation capacity on housing prices. The third stream is related to the impact of tourism amenities on housing prices. Amenities such as natural attractions, beaches, parks, golf courses, and boardwalks are part of any destination's offerings. It does not include the entire tourism activity, but this stream is important because it provides the identification of specific amenity factors through which tourism can influence housing prices. Therefore, the remainder of this paper is as follows, the existing literature is divided into three streams and described in sections 2, 3 and 4. Finally, concluding remarks are given in section 5.

Tourism activity and housing prices

The first stream of literature includes papers related to research on the impact of tourism activity on housing prices. Tourism activity is increasing, and the social and economic changes, as well as the improvement of communication and the facilitation of transportation play an important role. Increasing tourism activity makes tourism one of the main driving forces of the economy. For that reason, it is important to research previous studies on this topic. The following studies examined this relationship but differ in their choice of variables and in their approach and methods.

Cannari and Faiella (2008) studied the impact of tourism activity on housing prices for Italian municipalities. Authors used a regression model with tourism-related variables that included information on the proportion of businesses operating in the tourism industry and municipality size. Authors emphasize that, like many other countries, they have a problem with the lack of data on housing prices and therefore combine public and private data sources. The results indicated that higher prices are correlated with the tourist orientation of the regions and presence of the largest Italian cities. There are more studies on this topic that refer to Italy. Biagi and Faggian (2004) conducted research for Sardinia at the municipality level. Authors developed two tourism indicators and used a hedonic regression model to explore the relationship between tourism activity and house prices. The empirical results confirmed authors' hypothesise that tourism activity has a positive impact on the housing market. Biagi et al. (2015) emphasize that tourism is becoming one of the most important sources of economic growth and study the impact of tourism activity on housing prices using panel data from 1996 to 2007. Based on the analysis of 103 Italian cities, a positive and significant correlation was found between tourism index and housing prices in urban areas of Italy.

Kavarnaou and Nanda (2018) examine the impact of tourism penetration on housing prices in Crete. Authors use data from 2006 to 2016 and constructed an indicator of tourism penetration using principal component analysis. Employing a hedonic model which controlled for regional spillover effects confirmed a positive relationship between tourism penetration and housing prices and the presence of spillover effects in Crete. Furthermore, Alola et al. (2020) examine the relationship between tourism arrivals and housing prices in Cyprus. Authors use ARDL model and quarterly data from 2005 to 2016. A positive relationship was found, and the reason for positive relationship between house prices and tourist arrivals in Cyprus may be related to the high tendency of tourists to buy residential properties. These studies had the same aim, but as mentioned above, different econometric methods and indicators were used. The use of different measures of housing prices and tourism activity makes comparison across countries difficult.

In addition to the studies mentioned above, there are a small number of studies that include cross-country analysis. Paramati and Roca (2019) conducted a cross-

country analysis to examine the impact of tourism on housing prices. Authors used panel data for 20 OECD countries from 1995 to 2014 and Augmented Mean Group estimator. The results show a positive and significant relationship between tourism and housing prices. The results of all the above-mentioned studies point to a positive correlation between tourism activity and housing prices.

However, there are also studies that come to different conclusions. Biagi et al. (2016) decided to use the latent class model in order to enable individual heterogeneity of a particular Italian provincial capital in terms of tourism exposure. According to the results, the cities are divided into three classes. A negative correlation between tourism activity and housing prices was established for 8-17% of cities, and a positive correlation for other 21-48%. For approximately 50% of cities, tourism activity has no impact on housing prices. Wu (2019) estimated the relationship between tourism and housing prices considering cross-sectional dependence and heterogeneity. The results show that there is no direct relationship between tourism and housing prices in 21 out of 31 major regions in China.

The impact of tourism on housing prices can also be considered from the perspective of indirect effects. The study from New Zealand points to the indirect influence of air transport growth (Tsui et al., 2019). The growth of air transport as a result of tourism activity leads to an increase in housing prices. Authors estimated inter-relationships among airline seat capacity, total guest arrivals, and housing prices for six regions. The results of the three-stage least squares model show a positive relationship between air travel demand and housing prices, but not for tourism activity. The exception is larger cities. Gu et al. (2017) also used three-stage least squares to examine inter-relationships between tourism, inequality, and housing in Macao. Authors conclude that casino tourism contributes to income inequality, and both factors are responsible for soaring housing bubbles.

The impact of casino activity is the subject of many authors who study the impact of certain types of tourism activity on housing prices. Buck et al. (1991) study the impact of casino activity on housing prices and conclude that the presence of casinos leads to an increase in prices. Moreover, the positive effect decreases with increasing distance from the center. In addition, authors stated that an increase in crime is associated with casino activity. Therefore, authors conclude that, on the one hand, casino activity has a positive effect on housing prices and, on the other hand, crime has a negative effect. Authors recommend policy makers who believe that casino activity will be helpful in the neglected region to consider. Phipps (2004) divides the impact of casino activity on effects related to crime and those related to housing prices. Author concludes that casino activity has a weak effect on crime and housing prices. Author explains that the reason for this could be that the owners no longer use these properties for residential purposes but have converted them for other purposes. Author recommends that in order to compare and measure the above impacts in future studies, it would be useful to survey residents about their experiences with crime and housing prices. Wenz (2007) use a hedonic model to examine the relationship between casino and housing market from 1990 to 2000 in the United States. Precisely, author estimates impact of casino activity on housing price. The results show a positive relationship and additional impact to neighbourhood regions. In contrast, according to NAR (2013) casino activity has a negative effect on housing prices in Springfield. This paper compiles the main issues related to this relationship. It is considered that this type of relationship should be examined with multiple regression.

The structure of tourism accommodation capacity and housing prices

In addition to tourism activity, it is important to analyse the type of accommodation supply and its dominance, since the relationship between tourism and housing prices varies according to changes in the accommodation structure. Accordingly, the second stream includes studies on the impact of the structure of tourist accommodation capacity on housing prices. The development of peer-to-peer platforms strengthens the influence of short-term rentals as a type of tourism accommodation (Adamiak, 2020). This type of accommodation has increased the supply and facilitated the search for accommodation. However, the development of this type of accommodation has also had disruptive effects. Specific characteristics of peer-to-peer accommodation can impact residents' daily lives (Dolnicar, 2019). One of the affected sectors is housing (Stabrowski, 2017). Airbnb as one of the largest platforms is leading to major changes in the housing sector. Due to high short-term rents, owners are increasingly opting for tourists instead of tenants (Adamiak, 2018; Ayoub et al., 2020). The huge increase in online platforms for peer-to-peer accommodation in large cities leads to touristification (Gurran et al., 2020). The emergence of online platforms significantly impacts the housing sector, housing prices, and the resulting housing affordability issues.

As with the previous stream, there is a problem of scarce literature about the relationship between the structure of tourism accommodation capacity and housing prices. The reason for this is the lack of data on housing prices at the regional and local levels and the relatively recent growth of peer-to-peer platforms and short-term rentals. The following studies examine the relationship between the emergence of online platforms for peer-to-peer accommodation and the housing market, more specifically housing prices. In general, studies differ based on different aspects, as some authors examine the impact in several cities or regions, while others focus on a specific city. Possible differences also arise from a different approach and methodology, which may ultimately lead to different results.

Sheppard and Udell (2016) describe two possible effects on housing prices that may occur with the presence of the Airbnb platform. If short-term rentals through Airbnb lead to a concentration of accommodations that turn quiet neighbourhoods into noisy ones, this could reduce property values. On the other side, if these effects are weaker than the effects of the transition from long-term to short-term rentals, then the concentration of Airbnb properties may increase house prices. Authors apply two approaches to estimate the impacts of Airbnb on housing prices. In their hedonic model, a doubling of Airbnb listings leads to a 6% to 11% increase in housing prices. The difference-in-difference approach leads to an even larger estimated impact (about 31%). The same approach was taken in a study of the impact of short-term rentals in Lisbon and Porto (Cunha, Lobão, 2022). Authors explained that liberalization and higher concentration of short-term rentals lead to higher housing prices. Eliasson and Ragnarsson (2018) also observe a positive relationship between actual bookings on Airbnb and housing prices in Iceland, but with different results. The effect of the growth of the Airbnb market on housing prices is estimated at 2% per year or 15% between 2014 and 2017. Moreover, Vizek et al. (2022) estimate the spatial spillover effects of this impact in Croatia. Authors used data from 2012 to 2019 and Durbin spatial autoregression panel model. The results show that a higher concentration of short-term rentals in tourism supply affects housing prices in neighbouring municipalities.

There are also authors who estimate the impact on prices as well as on rents. Barron et al. (2020) state that 1% increase in Airbnb listings leads to a 0.026% increase in housing prices and 0.018% increase in rents in the United States. Authors explained that short-term rentals increase housing prices through the capitalization of rents and the increased ability to use excess capacity, and increase rents through housing stock reallocation. Furthermore, Benitez-Aurioles and Tussyadiah (2020) estimated system GMM regression models that showed that the presence of Airbnb had a rising effect on housing prices and rents, even disaggregating by categories, but the effect was stronger on house prices than rents.

The following study focuses on investigating the effects of the emergence of online platforms in the peer-to-peer accommodation sector in a certain city. The study refers to Barcelona, as one of the most visited tourist cities. Garcia-López et al. (2020) conducted a study for Barcelona using the IV strategy, with results based on four different strategies with cross-validation. Authors state that this type of research related to Barcelona makes an important contribution to clarification and further research on the topic of the growth of online platforms for peer-to-peer accommodation. The rationale for such an assertion lies in the fact that Barcelona has experienced rapid and significant growth in tourism, and in addition to the high number of tourists, there is also a high concentration of Airbnb. Authors use a fixed-effects regression model and estimate the impact of Airbnb listings on housing prices and rents. The results confirm previous studies that Airbnb activity increases housing prices and rents. Authors point to concerns about housing affordability, particularly in cities with developed tourism, such as Barcelona, where short-term rentals are becoming more important compared to long-term rentals for residents. The following study on this topic also uses the IV strategy. Koster et al. (2021), motivated by the rapid growth of online platforms for peer-to-peer accommodation, decided to study the impact of short-term rentals on the housing market close to the borders of cities in Los Angeles County. Authors used panel data on Airbnb listings and housing prices from 2014 to 2018, and the results differ depending on Airbnb's presence in a certain city. The impact of Airbnb on housing prices is stronger in tourist locations than in locations where Airbnb has a weaker presence. Authors examine the impact of Airbnb regulation and use two approaches. To examine the impact on housing prices, authors use a spatial regression discontinuity design, while for rents they use the difference-in-differences approach. Additionally, to control the impact on housing prices, they also apply the difference-in-difference approach and obtain similar results. The effects can be observed from the perspective of property owners or renters and from the perspective of the local population. For renters, the introduction of restrictions represents a loss, while households, on the other hand, see a gain because the housing supply increases.

Chen et al. (2022) explained peer-to-peer platforms from aspects of housing supply and demand. On the one hand, the use of peer-to-peer platforms has advantages for renters in terms of low costs and higher earnings compared to the traditional rental market. On the other side, the users of peer-to-peer platforms are mostly tourists, using short-term rentals. Therefore, these platforms are not a feasible option for locals. As in the previous study, the impact of Airbnb regulation on the housing market is examined here. Authors used the difference-in-difference methodology and indicate that peer-to-peer accommodation and online platforms have had a significant effect on housing supply, which is reflected in housing prices and rents and thus in the issue of housing affordability concerns.

Lee (2016) report about the impact of short-term rentals in Los Angeles and explained the growth of the major online platform Airbnb. This study has focus on

Airbnb impact on affordable housing in Los Angeles. Author analyses the impact of short-term rentals on rents in Los Angeles. The increase in Airbnb offers leads to a decrease in the housing supply, which naturally leads to an increase in rents in densely populated areas. He points out that it is difficult to react quickly in a real estate market, as in most other markets, where imports or additional production increase supply. Author concludes that the high concentration of Airbnb increases rents, which in turn is causing affordability issues, and believes this will continue due to a lack of regulation. Like many authors before, Lee (2016) notes the negative consequences of housing, but also provides recommendations and strategies. Author explained the triple strategy by preventing hotelization and maintaining units for residential housing, Airbnb listing restrictions to existing residential supply, not for new, and 14% occupancy tax on Airbnb units occupied beyond the 75-day limit. Moreover, Segu (2018) emphasizes the importance of harmonizing local regulations, taking into account the role of regulation and its effects. Author examines the impact of Airbnb density on rents in Barcelona between 2009 and 2016. Author uses instrument like Bartik and concludes that 4% increase in rent is due to Airbnb. Bao and Shah (2020) used panel data from 2014 to 2017 for ten large cities in the United States. Long-term analysis shows a positive impact of Airbnb densities on rents. However, authors wanted to be careful in their conclusion and indicate the relevance of using disaggregated data since the results of Airbnb penetration in the short term indicate heterogeneity depending on the location or demographic aspect. Furthermore, authors state that there is a limitation in the form of possible omitted variable biases, and they believe that this represents one of the main challenges of this study, but also of home sharing in general.

In studies mentioned above, it was found that there is a positive impact on rents, which needs to be investigated in places where rents represent a significant share of the housing market. The situation in Berlin, as one of the cities with the highest proportion of rents, was examined in the following studies. Schäffer and Braun (2016) conclude that rent growth is higher where Airbnb has a significant share of non-dedicated housing. Moreover, Schäffer and Hirsch (2017) estimate spatial effects on rents to contribute to touristification in Berlin and conclude that effects of urban tourism hotspots have an impact on housing rents in neighbourhood. Online platforms for peer-to-peer accommodation have the power to blur the lines between housing supply and tourist accommodation supply significantly increasing rents (Gurran, Phibbs, 2017).

Tourism amenities and housing prices

Amenities include natural attractions, beaches, parks, golf courses, and boardwalks. Amenities are part of any destination's offerings. Moreover, tourism amenities are considered to generate positive externalities on housing prices (Biagi et al., 2015). Amenities related to the environment can be a significant advantage, such as recognition and uniqueness of products or services (Taylor, Smith, 2000). Location as well as proximity to the center or tourism amenities can significantly contribute and increase housing prices (Boarnet, Chalermpong, 2001). As noted above, it does not encompass all tourism activity, but a study of the impact of tourism amenities on housing prices is important because it provides the identification of specific amenity factors through which tourism can affect housing prices. In the following studies, the hedonic model is used to examine the effects of amenities on housing prices.

Properties that are located near a golf course have a higher premium price than properties that do not have a golf course nearby (Asabere, Huffman, 1996). However, authors also point out the negative consequences that can occur in the housing

market. Crowds and noise that can result from golf courses, as well as property damage, can lead to a decrease in value. Do and Grudnitski (1995) provide an empirical analysis for San Diego. The results show that golf course location has a positive impact on housing prices. Furthermore, Cho et al. (2009) also examined the influence of golf courses, as well as other amenities such as parks, green spaces and water attractions. They analyse data for Knox County Tennessee about impacts of open space on housing prices. The results show a positive effect of these amenities on housing prices. However, it is important to emphasize that the impact of golf courses on housing prices may vary depending on the characteristics of the golf courses. Shultz and Schmitz (2009) examine the relationship between golf courses and housing prices in Omaha. The data include 20 golf courses. The results indicate different influences due to the different characteristics of the golf courses and the importance of classifying golf courses by type is noted. In addition, authors emphasize measuring the impacts of individual golf courses considering the heterogeneity of impacts on housing prices.

Bolitzer and Netusil (2000); Anderson and West (2006) examine the impact of open spaces on housing prices in the United States. On the one hand, Bolitzer and Neutsil (2000) find that open space has a significant impact on housing prices. On the other hand, Anderson and West (2006) explain that this influence depends on the location and characteristics of the neighbourhood. Additionally, it is assumed that the housing price increase can also be influenced by a beautiful landscape. Luttik (2000) examines the stated assumption in the Netherlands. The results show that gardens near lakes, a nice view, and open spaces increase housing prices. Author finds that the garden near the lake causes the largest increase in housing prices. There are also studies that examine the impact of greenbelts on housing prices. One such study relates to Indianapolis. Lindsey et al. (2004) examined the measurement and relationship between greenbelts and housing prices using a geographic information system and responses from 2000 greenway users. The results suggest a positive effect of greenways on housing prices. Crompton (2005) emphasizes that large recognizable parks are considered to have a positive impact on housing prices. Therefore, author examines the mentioned relationship and concludes that there is a positive relationship between parks and prices, which confirms the hypothesis. Conroy and Milosch (2011) examined the incremental value of being near the coast (coastal premium) for a family home in San Diego. Authors find that increase in distance from the coast reduces housing prices. The literature on the aforementioned topic is limited, more often the impact of location amenities on the price of tourism accommodation in hotels or cottages is investigated.

Concluding remarks

With the growth of tourism activity, observations about its impact on the economy are also increasing. On the one hand, the positive externalities of tourism are emphasized, such as economic growth, employment opportunities, and standard of living. On the other hand, the negative externalities of increased tourism activity are observed, such as price increases, congestion of roads, public transport and cities, increases in crime rate and pollution. One of the main effects of tourism is related to prices. Due to the lack of data on prices at the regional and local level, the literature on the relationship between tourism and housing prices is limited. Housing is an issue of great importance to every economy and every individual. On the other hand, tourism in general is becoming of great importance, and the effects generated by tourism are of particular significance for countries with highly developed tourism. Changes in all sectors of the economy can have a significant impact on all participants in the

housing market. One of the most important changes is related to tourism and short-term rentals. The emergence of online platforms for peer-to-peer accommodation is bringing significant changes to both property owners and long-term renters because short-term rentals gain prominence. Given the far-reaching implications of changes related to housing, further research is needed in this area. Considering the scarce literature on the impact of tourism on the housing market, the aim of this paper was to provide an overview of previous research, as mentioned topic is of extraordinary importance for the economy. This paper presented what has already been researched which would contribute to future studies.

It is of great importance to research tourism trends, tendencies and news in the field of housing. Tourism affects housing prices in different ways because of heterogeneity which makes it difficult to analyse its effects. For this reason, the literature review in this paper was divided into three streams. The first stream included the impact of tourism activity on housing prices as increasing tourism activity leads to significant changes in the housing market. Many authors concluded that there is a positive relationship between tourism activity and housing prices, but only a few studies included cross-country analysis. On the other hand, there are a small number of studies that indicate a negative relationship or the absence of a relationship in certain regions. Given the wide range of possible effects generated by tourism activity and housing, which is sensitive to many changes in the economy, indirect impacts on housing prices are also possible. One of the effects of tourism activity is reflected in the increase in air transport. Tourism activity leads to the growth of air transport, which then affects the increase in prices. As mentioned earlier, tourist activity generates different effects, and one of the possible impacts is the increase in crime, which negatively affects every aspect of the economy, including the housing market.

Furthermore, due to the increasing development of peer-to-peer platforms and short-term rentals, it was important to analyse changes in the structure of accommodation and its impact on housing prices. With the growth and development of online platforms such as Airbnb, short-term rentals have become even more important due to their simplicity and affordability for hosts and guests. Hosts can use the space and earn extra money, while tourists can get to accommodations easily and affordably. The reason for the limited literature about this relationship was the lack of data on housing prices at the regional and local levels and the relatively recent growth of peer-to-peer platforms and short-term rentals. The impact of short-term rentals through online platforms can be observed in two ways. On the one hand, property values could be reduced due to changes in neighbourhoods that become noisy. However, if these effects are insignificant, the concentration of short-term rentals could increase house prices. Previous studies indicate that a higher concentration of short-term rentals increases housing prices. Moreover, it affects housing prices in neighbouring municipalities. The recommendations of many authors take the form of ordinances that may impose restrictions on short-term rentals in order to regulate the concentration of short-term rentals.

The third stream is related to the impact of tourism amenities on housing prices. Amenities are very important for the residents because the choice of the residential area and the residential environment depend on it. Amenities are also important for tourism and the attractiveness of a particular place. It does not include the entire tourism activity, but this stream is important due to the identification of specific amenity factors through which tourism can affect housing prices. Recent literature explains that open space, golf courses, landscapes, and a short distance to the coast increase housing prices.

Consequently, considering the described streams of tourism impact on housing prices and a large number of different aspects of tourism, this topic should be given the importance it deserves, and further studies are needed in this area.

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