

## Article

# The Impact of Short-Term Rentals on Long-Term Rentals and the Housing Market in Riyadh

Tahar Ledraa \*  and Sameeh Alarabi

Urban Planning Department, King Saud University, Riyadh 11574, Saudi Arabia; salarabi@ksu.edu.sa

\* Correspondence: tledraa@ksu.edu.sa; Tel.: +966-114696578

**Abstract:** Riyadh has recently witnessed rapid growth in the use of short-term rentals. Their impact on the city's housing market and long-term rentals has been critical. The emergence of recreational festivals such as the Riyadh and Diriyah Seasons, with their accompanying events, as well as the widespread use of daily rental platforms such as Airbnb, have created a new market for short-term rentals that has changed the city's rental landscape. This study compared data on the number of units geared toward daily rent and their average daily rates (ADRs), obtained from the Airbnb platform, with data on long-term rental units and their revenue, extracted from the Ejar platform. The data cover the five sectors of Riyadh city. Sample neighborhoods were selected from each sector. The results show that after a period of stagnation due to the precautionary measures taken during the COVID-19 pandemic, the short-term rental market saw a significant recovery once these measures were lifted. The emergence of the short-term rental market has negatively affected the long-term rental market by drying up its stock and raising rent prices, thus leading to tourism-induced displacement of low-income residents and further exacerbating the housing problem in the city. Therefore, there is an urgent need to regulate this new rental market to maintain a balance between short- and long-term markets in Riyadh.

**Keywords:** short-term rentals; long-term rentals; Riyadh; Airbnb platform; housing



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## 1. Introduction

The short-term rental market in Riyadh is growing at a significant pace, driven mainly by the high volume of visitors either for business, entertainment, or tourism purposes. The city's expansive rental market has been propelled by post-pandemic development of entertainment events, a thriving business environment, and a regulatory framework supporting vacation home rentals.

Like many cities across the globe, Riyadh has embraced the growth in tourism activity, which has induced a neighborhood change characterized by tourism-led gentrification [1]. Many low-income residents have been displaced in favor of more affluent newcomers. The substitution of long-term residents with transient dwellers in short-term vacation rentals has become a reality in many touristified neighborhoods in Riyadh, leading to loss of a stable population base [2].

Thanks to the development of online rental platforms such as Airbnb and VRBO, enabled by recent advances in information and communication technology, short-term rentals have seen sweeping expansion in Riyadh, so much so that it has reshaped the city's rental landscape. Housing accessibility and affordability have been severely impacted. Many long-term rental housing units have been converted into short-term rental accommodations, leading to housing shortages and higher annual rental prices.

Although they are a hot topic in public circles, short-term rentals in Riyadh and their comparison to conventional long-term leasing strategies have, to our knowledge, remained relatively unaddressed through research analysis to date. The Airbnb market in Riyadh

has expanded rapidly, with overall listings on the portal soaring to a total of 15,281 as of July 2024 [3].

In this study conducted in Riyadh, Saudi Arabia, Airbnb data were evaluated to determine the effect of short-term rentals on long-term rentals and the local housing market, as well as to investigate the possibility of gentrification and/or touristification in certain neighborhoods. Riyadh constitutes an ideal case study for studying the Airbnb-led short-term rental industry and how it affects neighborhood transformation, including gentrification, touristification, and housing assetization.

This study underscores how crucial it is to evaluate the differences in revenue extracted from the short- and long-term rental markets, as well as how these differences affect housing prices and the related socioeconomic changes that are taking place in specific neighborhood communities. The findings add to the academic discourse on how short-term rentals and Airbnb affect city neighborhoods and local residents, and also how policy makers and urban planners can utilize them to affect how services are distributed.

The present research seeks to examine the problem caused by this phenomenon in the Riyadh housing market and its impact on rental prices and the supply side of housing units destined for long-term rental accommodation. It also attempts to identify the locational attributes of neighborhoods that have experienced gentrification, touristification, or housing assetization. The main research questions of this study are as follows: to what extent do short-term rentals affect long-term rentals and housing issues in Riyadh? And, what are the characteristics and the geographical distribution of Riyadh neighborhoods that attract most short-term rent seekers? To what extent does the proliferation of short-term rentals impact lower-income tenants, triggering what might be termed the process of Airbnb-induced displacement?

Within the short-term rental market in Riyadh, Airbnb, an online peer-to-peer (P2P) accommodation platform, holds a prominent share, with 99% of rentals facilitated by this platform [3]. Currently, Airbnb has well over 15,000 listings in the city of Riyadh alone. While the impacts of Airbnb listings on the housing market have been the focus of several studies on a variety of cities in many parts of the world, like New York [4], Boston [5], and Barcelona [6], a thorough analysis of the Airbnb short-term leasing strategy effects on a Middle Eastern metropolis, like Riyadh and its neighborhoods, remains unaddressed.

## 2. Literature Review

The impacts of Airbnb-induced short-term rentals on housing prices and affordability have drawn the attention of many researchers. The unintended consequences of short-term rentals on housing prices, long-term rentals, housing availability, and affordability, particularly for lower social classes, have been discussed in many studies [4,7,8]. Some have suggested that short-term markets have had a significant effect on increasing housing prices and, hence, adverse effects on affordability, particularly for vulnerable people [4,5,7,9,10]. Others have focused on the negative externalities of Airbnb and its corollary, short-term rentals, on the social fabric of neighborhoods. As these neighborhoods are zoned for residential use and not for commercial entities, short-term rentals tend to have some serious undesirable influences on local residents as they generate noise, congestion, and overcrowding [11]. As such, the issue of regulating and controlling short-term rental accommodations has drawn the interest of urban planners, policy makers, real-estate developers, and investors [12–14].

The sharing economy involving short-term peer-to-peer rentals is leading to ever-increasing housing and long-term rental prices, driving many people to endure displacement as they can no longer afford to sustain these higher costs of living [15,16]. It is assumed that the growing revenue associated with the conversion of many housing units into short-term rentals is generating what may be termed as housing financialization, which in turn, causes neighborhood gentrification and/or touristification as a result of resident displacement, particularly among lower social groups [8,13,17].

Some scholars advocate the rent gap theory to explain this process of neighborhood gentrification, which is incentivized by capital investment in a property in which there exists a gap between current and potential rental income from a housing unit [18,19]. Airbnb, as a technologically supported platform, has led to a new form of rent gap. By commodifying and commercializing housing to tourists, the short-term rental accommodation has become a safe-haven asset to property owners seeking higher returns on investment [13]. As such, it lends support to the Airbnb-driven rent gap theory [20].

The term gentrification is used to describe the process of neighborhood transformation produced by short-term rentals as a process of increasing the value of housing through its financialization. However, this viewpoint has been criticized by Sequera and Nofre [21], who argue that this process cannot be considered urban gentrification since increasing real estate value through short-term rentals does not lead to the replacement of lower-income people with higher social classes, but rather with transient tourists. It would be more suitable to use the concept of touristification in analyzing the impact of short-term rentals as a way of extracting higher returns from real estate through tourist demand for this type of accommodation. They continue their case by drawing attention to how short-term rentals are contributing to the urban touristification process by converting residential neighborhood spaces into tourist spaces. This transformation is not without negative externalities for local residents. When residential space is transformed into a destination for the amusement and shopping of tourists, neighborhood areas become unlivable for locals. The affluence of tourists generates a lot of noise, street overcrowding, parking shortages, and waste generation [22–28]. This not only exacerbates tensions between locals and visitors over how to use the neighborhood space socially, which negatively impacts the livability of the community, but also keeps locals from accessing public open spaces as they once did [22,26,29].

Although short-term rentals tend to cause the types of neighborhood change and displacement that are often observed when the closely related processes of gentrification and touristification take place, it would be best suited to consider short-term rentals as a real estate instrument promoting the financialization of housing by enhancing its exchange value and reaffirming housing as an asset investment. This new form of displacement produced by short-term rentals is best captured through the use of the concept of housing financialization and assetization, even though it has some common features with neighborhood gentrification and touristification. The buy-to-let investment in this market is fostered not only by the relatively higher revenue generated but also by the flexible nature of this market, where property owners can enter or abandon a property as they wish without being constrained by tenancy laws. Housing financialization and assetization provide greater explanatory power of this urban accumulation strategy driven by Airbnb's short-term rentals [13,30–32].

Moreover, as residents convert their housing units into short-term rentals in search of increasing profits, the notion of a home risks being changed as a result of the prioritization of housing as an investment [33]. The argument goes that the process of housing financialization and assetization is changing the way the home is seen as a place to live and raise a family to a place to grow capital [34–38]. Some scholars have warned that the growing social inequality and polarization consequences of the housing haves and have-nots divide may be exacerbating, and the specter of a great financial crisis produced by the housing bubble may be looming [34,35,39–42].

The short-term market impacts housing affordability as it decreases the residential rental housing supply and hence imposes some hardships on the life of local residents, particularly those of lower social status. The higher the profits extracted from short-term rental housing, the larger the increasing precarity and housing unaffordability for tenants and local dwellers who will have to endure displacement. The short-term market yields for its investors are sustained by the dispossession of certain groups of neighborhood residents.

Not only does housing assetization-led gentrification reduce the availability and accessibility of vulnerable people to the housing market but it also raises housing prices

and the cost of living, leading necessarily to citizen displacement and redistribution along class-segregating lines and also to a restructuring of local businesses to fit new tourist demands. This results in escalating conflicts between transient visitors and established residents [43–47]. By increasing property values through short-term rentals, gentrified commercialized neighborhoods would further exacerbate housing unaffordability, particularly for lower-income households, as the buy-to-let investment reduces the supply side of housing units in the long-term market for both buyers and renters. This way, a shift in the demographic makeup of the neighborhood would take place, leading to changes in consumer behavior and demand for neighborhood facilities and services, which in turn constitute a key driver to assetization-led gentrification, as was the case for example, in New York [20], Lisbon [31], and Athens [48].

To date, the academic discourse has not yet settled on the outcome of the short-term rental impacts on city neighborhoods. Some scholars argued that this outcome would be neighborhood gentrification, while others see it in terms of touristification. Still others contend that since housing has become a financial asset, the expanding short-term rental process leads necessarily to the financialization and hence assetization of housing [49]. This argument is based on the fact that what is taking place in cities impacted by short-term rentals is not a substitution of lower-income groups with higher-income groups but a replacement of local residents by tourists [50]. As Airbnb short-term rentals for tourism and business result in land use intensification, they necessarily generate increases in housing rental and purchase prices [51]. This process leads to local residents of all social classes, whether low income or affluent residents, being pushed out, causing a new form of urban displacement [52,53] that Gotham [54] called “tourism gentrification”; in contrast, Hackworth and Smith [55] viewed it as a process of “the changing state of gentrification”. Both gentrification and touristification are intertwined processes since neighborhood resident displacement is induced by Airbnb short-term rental for tourists [20,51,56–59].

Short-term rental sites create both opportunities and challenges. They can bring more tourists and revenue but might reduce the availability and affordability of long-term housing options. The short-term rental market has radically changed the conventional tourist accommodation sector, causing a severe blow to the hotel accommodation sector due to its acquisition of a significant share of the tourist accommodation market [60–62]. Nguyen [63] found in his study that any increase in what is offered on the Airbnb platform by 10% results in a decrease of 1.2% in hotel revenue in New York, while according to a study by Zervas et al. [62] in Texas hotels, the estimated decrease in returns was about 0.35%.

In Barcelona, short-term rentals affected long-term residents due to the reduction in housing stock for long-term rentals. Some have concluded that short-term rental platforms contribute to the rise in both housing prices and rent. In New York, doubling Airbnb listings in its neighborhoods was associated with a 6–11% increase in home prices, while a 1% increase in Airbnb listings led to a 0.026% increase in home prices [64]. Similarly, one standard deviation increase in Airbnb listings in Boston, Massachusetts, was found to correlate with a 5.9% decrease in rental housing units and a 0.4% increase in rental prices [5].

In a study of several French cities, Ayoub et al. [65] found negative impacts on long-term rentals due to high demand on the Airbnb short-term rentals platform. To the same end, Wyman et al. [60] argued that short-term rentals lead to lower residential property prices, contrary to what Zou [64] argued, that they lead to higher prices, while Stulberg [66] believes that there is a limited impact on housing prices, contrary to Lee [7], who claimed that short-term rentals raise residential property prices due to a reduction in residential supply. Gonçalo [67] determined that short-term rentals increase housing prices and rentals in Lisbon by about EUR 96 per square meter in housing prices and EUR 0.16 per square meter in rent. As for Shokoohyar et al. [68], they did not find any significant impact on the prices of neighboring dwellings, unlike long-term rentals, which decreased the prices of nearby dwellings by 3.2–4.6%.

Not only can the widespread use of short-term rentals affect that of long-term ones, but it can also upset the daily lives of those living in neighborhoods as more people coming and going may disrupt the peace and community bonds. Pulling apart the social fabric of such neighborhood communities would make long-term residents feel less at home and less stable. Many families may thus choose to leave the neighborhood in search for areas with more established residents. This could mean fewer affordable housing options for locals, particularly those with limited budgets. As more affordable options disappear, areas may start to look and feel very different. The constant presence of outsiders within a resident population may also generate all sorts of inconveniences, such as feelings of insecurity, disturbances, and noises. Fear of passing unwanted intruders often leads to some conflicts between established residents and transitory visitors [69]. Strolling strangers taking over neighborhood places often engenders feelings of uneasiness and fear among locals, and encountering familiar faces usually results in a sense of safety and security.

Many scholars have argued that the reconversion of a sizeable part of the housing stock towards short-term rentals has contributed to worsen the housing problem, the social consequences of which have been severe for resident communities [70–72]. Such intensification of the touristification of city neighborhoods affects the social cohesion of resident communities and leads to residential dissatisfaction [73–76], which exacerbates the housing situation even more.

Online platforms such as Airbnb and similar services have been embraced by both the government and landlords as a new way to increase economic opportunities [77]. These platforms have had a huge impact on housing accessibility and affordability [31,52,60,78–80]. In search for additional sources of income generation, many homeowners are inclined to offer their units in this new format instead of conventional methods of renting. In this way, the increase in short-term rentals is changing the housing game. With more people needing short stays, there is less room for long-term rentals. This has made renting for a long time more expensive.

It is also a lot easier for travelers to use websites to rent places for short durations. The easy booking of short-term places online is making it hard to keep long-term rentals and house prices fair. This leads to not many affordable units being available for locals to rent for longer periods. As a consequence, there are fewer long-term rental homes because their owners see a chance to earn more with short stays. This scarcity can make it tough for anyone seeking long-term solutions for their living space needs. This has affected long-term rentals since short-term renting can bring more money to homeowners.

However, this significant increase in short-term rentals, with their higher revenue, over their long-term counterparts should not mask the associated social costs, which make net benefits more questionable [81]. If this has added to the short-term rental boom, it has also made it harder for other residents with lower incomes to rent places within their budgets. It has made long-term housing less available, less accessible, and less affordable. Online remote renting is making it tough for people to rent homes long term. This means there are fewer homes available for long-term renters. As a result, people who cannot afford higher prices may be pushed out, causing many neighborhoods to be under threat of Airbnb-induced gentrification [1,20,82–84] and, concomitantly, provoking gentrification-led displacement to take place [54,85,86].

The development of short-term rental platforms such as Airbnb is leading to the globalization of a residential neighborhood that is essentially local in nature. The emergence of a global market for short-term rentals means, among other things, that the neighborhood has become a globalhood and not the usual neighborhood [87]. These technology platforms facilitate entry into the housing market in targeted neighborhoods. The category concerned with dealing in this market is usually those with lower and middle income. Additionally, the characteristics of neighborhoods that usually appeal to short-term tenants are historic areas, commercial and recreational areas, and nightlife areas [68].

Short-term rentals affect long-term rentals through various factors, many of which can be summarized in the characteristics of the residential unit like size, number of rooms,

number of bathrooms, and price of the unit. The other set of factors is related to the characteristics of the neighborhood and the quality of its environment such as location, distance from attractions, security and safety, the presence of minorities, and night entertainment areas [88].

To reduce its negative impacts, many governments have put in place some legislation to regulate the short-term rental market. Some have completely banned this type of rent in some neighborhoods of the city through zonal restrictions [58,89]. Others have imposed some fees or taxes on short-term rentals and their revenue and used these fees and taxes to provide affordable housing or extend services to neighborhoods where short-term rentals are prevalent to alleviate the inconveniences caused by transient residents [90]. Legislation can also be enacted to require owners of dwellings who wish to rent them in this way to register them with the municipality and require licenses to do so to facilitate their monitoring and the examination of their compliance with required health and safety standards [91]. Still, other policy makers addressed this issue by balancing the needs of tourists with those of residents by setting rules and regulations that keep both short- and long-term rentals fair to ensure that local residents keep having houses they can afford.

### 3. Materials and Methods

#### 3.1. Short-Term and Long-Term Neighborhood Data

This study examines the Riyadh housing market over the timeframe of 1 January 2021 to 31 December 2023. Only direct monetary revenue was considered. All other costs that are not related to neighborhood location or property characteristics were ignored. Data on the short- and long-term rental markets were collected for this study. The annual revenue from properties rented for a short period of time were compared to those of properties rented for a longer period of time using a scenario-based approach. Using this market data, the actual short-term revenue of Airbnb properties was compared to their counterparts using a long-term leasing strategy. A binary classification was adopted to construct statistical models aimed at assessing the impacts of property, location, and hosting factors on the likelihood of conversion to a short-term renting strategy.

The sample of the neighborhoods to be included in this study was initially selected by adopting the official division of the city into five sectors (Northern, Southern, Eastern, Western, and Central). A sample of twenty-five neighborhoods was randomly selected, that is, five from each sector. The random sample selection method was carried out by placing the names of the neighborhoods from each sector in a container and then mixing them up to choose a neighborhood and then mixing them again until the fifth neighborhood of the group was picked. This way, each neighborhood had the same probability to be included in the study sample. The number of units allocated for daily or yearly rentals was then taken.

Data on short-term leasing were taken from the Airbnb online portal AirDNA as average daily rates (ADRs). They were then computed on a quarterly basis to be able to more accurately account for renting development and progression. With regard to long-term rentals, yearly data were used. It was not feasible to collect quarterly data since rent was collected on an annual basis.

Data on long-term rental prices, on the other hand, were provided by the ejar platform, an agency gathering data on the real estate market in the country, including in Riyadh. Ejar releases data on long-term rentals and mean prices per neighborhood on an annual basis. For the sake of comparison, the short-term data were thus recalculated on a yearly basis to fit the format of the long-term data. Spatial adjustments were not required since the spatial boundaries of the neighborhoods in the ejar reports are the same as the ones that Airbnb uses.

The adoption of these two information-gathering platforms (the Airbnb online portal AirDNA and Ejar) gives credit to the reliability and validity of the data collected for this study and hence the resulting conclusions. The real short-term revenue of Airbnb properties was then contrasted with the counterpart for the long-term leasing strategy utilizing the

gathered market data. This allowed us to assess how the conversion of residential units to daily rentals affected the residential supply intended for long-term rentals.

To determine which neighborhoods are more attractive for short-term accommodations, GIS techniques were used to locate Airbnb density listings. The assumption is that the higher the listing density, the greater the number of short-term rentals and vice versa. Similarly, the Ejar platform listings were used to identify where long-term lodgings are concentrated. For the sake of comparisons between the two categories, the cross-tabulation analysis technique was used.

### 3.2. The Questionnaire Survey Data

This study used a structured questionnaire survey to collect data regarding resident perception of gentrification, displacement, housing affordability, and community tensions as a result of the expansive short-term rentals. Given the qualitative exploratory nature of the research, a combination of the non-probability, purposive, and snowball sampling methods was deployed. Qualitative sampling adheres to theoretical or intentional principles, in contrast to quantitative sampling, which is based on statistical probability theory. Finding key informants with rich information is the goal, with an emphasis on traits, expertise, or experiences related to the issue being studied. In accordance with Patton's [92] guidelines for qualitative research, the data saturation principle served as the basis for determining the sample size.

The purpose of this study is to determine the major changes brought about by the growth of the short-term rental market, with an emphasis on the effects experienced by local communities in Riyadh neighborhoods. To that end, key informants were represented, including homeowners, real estate investors, short-term renters, long-term renters, and other pertinent participants. Closed-ended questions were used in an effort to gather data regarding the different ways that short-term rentals impact neighborhood residents, businesses, and activities.

The questionnaire survey was conducted among tourists and residents in Riyadh city. The questionnaire had two versions, focusing on analyzing the impact of local accommodation from the perspectives of tourists and residents. The objective was to evaluate the perceptions of tourists and residents regarding the impact of short-term rentals on neighborhood gentrification, resident displacement, and housing affordability. It also served to identify potential conflicts that may arise between local residents and transient tourists.

The questionnaire survey was undertaken in October 2024, which coincided with the kick off of the Riyadh Season festival events. It was applied using the intercept survey methodology in the main Riyadh Season areas where tourists and locals gather for the festival events. This methodology is often used in tourism-related studies [93,94].

The researchers and their collaborators approached people in the street, cafés, and shops; asked if they were residents or tourists; and requested their anonymous and confidential participation in the study being carried out.

The questionnaire was divided into six sections: sociodemographic information; rental experience; perceptions about accommodation and conflicts between tourists and residents; housing affordability; neighborhood gentrification; and policy and regulation.

The Riyadh Season event area was selected as the main tourist area in the city, which is now suffering from touristification, and, thus, where it would be easier to find respondents representing both categories, local residents and tourists.

The sample size was based on 855 responses (190 from tourists and 665 from residents), making this an exploratory study. In the statistical data analysis, descriptive statistical measures together with correlation and regression analysis techniques were employed.

### 3.3. Ethical Considerations

In line with ethical research requirements, the researchers guaranteed participant anonymity, confidentiality, and respect. Participants received thorough information on the study's goals and objectives. Every subject was asked to give informed consent, which

is essential to ethical research procedures. This procedure made sure that participants voluntarily and knowingly consented to participate, which strengthened the research's ethical foundation.

#### 4. Result Analysis and Discussion

It appears from the data at hand that the number of housing units dedicated to short-term rentals was halted during the period from 2021 to 2022, which coincided with stringent precautionary measures like travel and flight bans due to the COVID-19 pandemic. However, once these precautionary requirements were lifted, a strong increase of 266% in the number of units geared towards short-term rentals was observed by the year 2023 (Table 1). This is clear if we consider the cases for short-term rental units every quarter. At the onset of the pandemic, short-term rentals dropped significantly (−19% at the city level) during 2021–2022. However, once all the precautions related to the pandemic were lifted, a record increase of 164% was observed for these rental units in the fourth quarter of 2022. The reason for this significant increase by this quarter is due to the launch of the entertainment festival known as Riyadh Season, which usually begins in October of each year (Table 1 below).

**Table 1.** Quarterly growth in the number of short-term rental units in 2023–2021.

| Years | South | Growth Rate | East | Growth Rate | North | Growth Rate | West | Growth Rate | Central | Growth Rate | City Sample | Growth Rate |
|-------|-------|-------------|------|-------------|-------|-------------|------|-------------|---------|-------------|-------------|-------------|
| 2021  | 105   |             | 717  |             | 819   |             | 180  |             | 1241    |             | 3062        |             |
| Qtr1  | 27    |             | 158  |             | 160   |             | 40   |             | 271     |             | 656         |             |
| Qtr2  | 30    | 11%         | 189  | 20%         | 228   | 43%         | 53   | 33%         | 329     | 21%         | 829         | 26%         |
| Qtr3  | 26    | −13%        | 192  | 2%          | 224   | −2%         | 47   | −11%        | 333     | 1%          | 822         | −1%         |
| Qtr4  | 22    | −15%        | 178  | −7%         | 207   | −8%         | 40   | −15%        | 308     | −8%         | 755         | −8%         |
| 2022  | 121   | 15%         | 751  | 5%          | 1092  | 33%         | 197  | 9%          | 1048    | −16%        | 3209        | 5%          |
| Qtr1  | 21    | −5%         | 161  | −10%        | 187   | −10%        | 33   | −18%        | 290     | −6%         | 692         | −8%         |
| Qtr2  | 20    | −5%         | 146  | −9%         | 135   | −28%        | 27   | −18%        | 233     | −20%        | 561         | −19%        |
| Qtr3  | 27    | 35%         | 130  | −11%        | 141   | 4%          | 27   | 0%          | 213     | −9%         | 538         | −4%         |
| Qtr4  | 53    | 96%         | 314  | 142%        | 629   | 346         | 110  | 307         | 312     | 46%         | 1418        | 164%        |
| 2023  | 301   | 149%        | 2392 | 219         | 5858  | 436         | 1027 | 421         | 2154    | 106%        | 11,732      | 266         |
| Qtr1  | 62    | 17%         | 398  | 27%         | 868   | 38%         | 165  | 50%         | 362     | 16%         | 1855        | 31%         |
| Qtr2  | 66    | 6%          | 445  | 12%         | 1000  | 15%         | 196  | 19%         | 403     | 11%         | 2110        | 14%         |
| Qtr3  | 79    | 20%         | 642  | 44%         | 1506  | 51%         | 280  | 43%         | 566     | 40%         | 3073        | 46%         |
| Qtr4  | 94    | 19%         | 907  | 41%         | 2484  | 65%         | 386  | 38%         | 823     | 45%         | 4694        | 53%         |

However, if we consider the distribution of this growth in units for short-term rental in each sector in the city, we find that the northern sector witnessed the largest growth rate of about 33% during 2021–2022 and then jumped to 436% during 2022–2023. The western sector followed closely, with increases of 9% and 421%, respectively, over the same period. The number of short-term rental units in the eastern sector grew by 5% and 219%, respectively. As for the southern and central sectors, they were less fortunate than their predecessors, as they witnessed only a limited increase in the number of short-term rental units, by 149% in the southern sector and 106% in the central sector, during the period 2022–2023. This is essentially due to the Riyadh Season entertainment festival, which takes place in the northern sector and the Diriyah Season in the western sector, and the close



distance from the location of the main events of Riyadh Season to Boulevard City. The compounded effects of these two festivals located at a close distance from each other make them strong points of attraction for transient visitors looking for entertainment events. Short-term rental units are much more suitable and affordable than hotel rooms, particularly for those with medium and lower revenues. The location of Al-Hilal football Stadium, known as The Kingdom Arena, with a capacity of 30,600 spectators, at Boulevard Hall, which is located in the same area as the Riyadh Season festival, adds to the attractiveness of nearby neighborhoods in the northern sector for short-term renters. The Saudi Pro League, usually from August to May, also attracts thousands of football fans from many parts of the country and abroad. This adds to the demand side for short-term accommodation.

From this account, there is clear evidence that properties in the vicinity of entertainment destinations tend to generate larger premiums than those at a distance from these attractions. Property location is, therefore, the main factor influencing differences in short-term rental prices. These findings corroborate the conclusions of other research, such as the works by Gibbs et al. [95] and Nilsson [96].

As for the housing units for long-term rentals during the same period, they have taken a direction of growth that is opposite that experienced by short-term rentals, as shown in Table 4 below. The city witnessed a significant increase in long-term rentals, 61% during the COVID-19 pandemic in 2021–2022 and a sharp decline to only 6% in the following period, after the precautionary restrictions were lifted, due to intense competition from short-term rentals. This also indicates that a process of short-term rent-induced displacement has been taking place since residential units available for annual accommodation are declining in every part of the city.

This inference is corroborated by the results of the questionnaire survey undertaken to gather comprehensive data on the perceptions and experiences of residents regarding the impact of short-term rentals on neighborhood dynamics in Riyadh. The findings of the structured questionnaire analysis relate to the aim specified *ab initio*. That is, about 74% of respondents among local residents of the neighborhoods most affected by short-term rentals in the northern sector of the city reported knowing that rising rent prices are forcing people to be displaced out of their neighborhood. However, only 28% of transient visitors concurred with this statement, and over 30% claimed not to even be aware of this phenomenon (Table 2). This discrepancy in replies can be somewhat explained by the fact that locals are more familiar with their neighborhood than outsiders, who have less interaction with it. Only roughly half (48%) of city dwellers, however, declared being aware of some people who had been pushed to relocate. In fact, residents in other areas at the city level that are less affected by Airbnb short-stay seekers have impacted the above percentages. The expansive short-term rentals tend to affect resident displacement through their impact on housing shortages for long-term rentals. The reason may lie in the fact that hikes in housing prices and market forces play pivotal roles in impacting housing affordability and availability.

When considering the growth of long-term rental units in the five sectors of the city, we note that the northern sector showed the greatest decline, at 34% and –1% during the periods 2021–2022 and 2022–2023, respectively, compared to the other four sectors. This reinforces what we have seen previously: a significant increase in short-term rentals in this sector. The rest of the sectors (east, central, west, and south) recorded similar growth rates from 57 to 68% between 2021 and 2022 and from 3 to 6% during the period 2022–2023. This supports the earlier conclusion that the higher the number of short-term rentals, the lower the number of long-term rentals, which leads to a strong impact on the city's housing market as a whole. This also explains why the northern sector neighborhoods have been hit harder than any other part of the city: the phenomenon of tourist-induced gentrification and displacement. The reason may lie in the fact that these neighborhoods in the northern sector are the closest to entertainment events attracting most visitors. This problem is compounded by the presence of major government institutions and important business locations, which means that even those who come to Riyadh for work or business trips will

mostly choose to rent in the vicinity of these destinations. This does not mean that other neighborhoods are exempt from the adverse effects of this displacement phenomenon.

**Table 2.** Perceptions about awareness regarding short-term rental-induced displacement.

| Are you Aware of Resident Displacement Because of Expansive Short-Term Rentals? | Northern Neighborhoods |          | Southern Neighborhoods |          | Eastern Neighborhoods |          | Western Neighborhoods |          | Central Neighborhoods |          | Riyadh City |          |
|---|------------------------|----------|------------------------|----------|-----------------------|----------|-----------------------|----------|-----------------------|----------|-------------|----------|
|   | Residents              | Tourists | Residents              | Tourists | Residents             | Tourists | Residents             | Tourists | Residents             | Tourists | Residents   | Tourists |
| Yes   | 73.6%                  | 28.3%    | 27.6%                  | 18.3%    | 58.7%                 | 34.2%    | 56.5%                 | 25.4%    | 23.8%                 | 11.7%    | 48.0%       | 23.6%    |
| No  | 21.8%                  | 41.2%    | 47.7%                  | 61.4%    | 29.6%                 | 41.2%    | 34.3%                 | 43.7%    | 57.3%                 | 66.7%    | 38.1%       | 50.8%    |
| Don't know  | 4.6%                   | 30.5%    | 24.6%                  | 20.3%    | 11.6%                 | 24.6%    | 9.2%                  | 30.9%    | 18.9%                 | 21.6%    | 13.8%       | 25.6%    |

Looking closely at the density distribution of Airbnb listings, it was clear that more listings are concentrated in neighborhoods in the northern sector of Riyadh. It is also in this part of the city where the negative externalities have been most visible. In these neighborhoods, which are proximal to attractions, Airbnb buy-to-let practices fuel displacement of long-term residents to give rise to the phenomenon of touristification and its associated process of housing financialization and assetization.

In this regard, many local residents said that the neighborhood community has been badly affected by the influx of tourists who have replaced local residents. The questionnaire responses indicate that around 55% of respondents among city dwellers feel that the sense of community they used to have in their neighborhood has been affected by short-term rentals. In comparison to respondents in the western and inner city neighborhoods (45 and 49%, respectively), those in the northern and eastern neighborhoods (63 and 65%, respectively) reported feeling more of a sense of community loss when comparing the neighborhoods most and least impacted by short-stay lodgings (Table 3).

When asked how often they encounter short-term rentals, only a few respondents (30%) said they rarely come across tourists compared to established residents in their areas (Table 3). When looking closely at the data based on neighborhood areas, 84% of residents in areas usually selected by transient visitors (northern neighborhoods) said they have at least occasionally come across tourists in their areas, against only 61% of inner city neighborhood dwellers (Table 3). As a result, many residents in the northern areas of Riyadh consider that their neighborhoods have lost their homely atmosphere and become more like a tourist area. This claim has also been supported by the result of the semi-structured interview conducted with key informants from neighborhood communities who expressed fears that an influx of short-term renters could dilute the community's identity, leading to a loss of local culture and social ties. Undoubtedly, long-term residents tend to emphasize the importance of maintaining the community character of the neighborhood.

Table 3. Percentages of responses to questionnaire items among local residents.

| Do you Feel That Short-Term Rentals Affect the Sense of Community in your Neighborhood?                       | Northern Neighborhoods | Southern Neighborhoods | Eastern Neighborhoods | Western Neighborhoods | Central Neighborhoods | Riyadh City |
|---|------------------------|------------------------|-----------------------|-----------------------|-----------------------|-------------|
| Not affected  | 36.6%                  | 47.4%                  | 35.5%                 | 54.5%                 | 51.2%                 | 45.0%       |
| Somewhat affected   | 39.2%                  | 28.5%                  | 41.3%                 | 32.4%                 | 43.4%                 | 37.0%       |
| Significantly affected  | 24.2%                  | 24.1%                  | 23.2%                 | 13.1%                 | 5.4%                  | 18.0%       |
| How often do you encounter short-term rentals in your area?   |                        |                        |                       |                       |                       |             |
| Very often  | 28.6%                  | 11.2%                  | 15.7%                 | 7.8%                  | 10.2%                 | 14.7%       |
| Often   | 40.2%                  | 25.7%                  | 32.6%                 | 12.0%                 | 8.6%                  | 23.8%       |
| Occasionally  | 15.5%                  | 30.8%                  | 29.5%                 | 38.8%                 | 42.4%                 | 31.4%       |
| Rarely  | 15.7%                  | 32.3%                  | 22.2%                 | 41.4%                 | 38.8%                 | 30.1%       |
| Suppose you own a house in a high demand area for short-term rentals, would you rather live in it or rent it? |                        |                        |                       |                       |                       |             |
| Yes, I would rent it  | 56.7%                  | 42.1%                  | 39.5%                 | 35.6%                 | 40.8%                 | 42.9%       |
| No, I would not rent it   | 31.7%                  | 35.6%                  | 31.5%                 | 42.2%                 | 29.2%                 | 34.0%       |
| Unsure  | 11.6%                  | 22.3%                  | 29.0%                 | 22.2%                 | 30.0%                 | 23.0%       |
| In your opinion, what is the impact of short-term rentals on neighborhood gentrification?                     |                        |                        |                       |                       |                       |             |
| Significant impact  | 38.2%                  | 23.5%                  | 23.5%                 | 17.4%                 | 19.9%                 | 24.5%       |
| Moderate impact   | 32.1%                  | 25.7%                  | 28.6%                 | 22.9%                 | 21.5%                 | 26.2%       |
| No impact   | 12.4%                  | 27.8%                  | 24.3%                 | 38.0%                 | 22.4%                 | 25.0%       |
| Unsure  | 17.3%                  | 23.0%                  | 23.6%                 | 21.7%                 | 36.2%                 | 24.4%       |
| Do you feel that short-term rentals have led to increasing long-term rent prices?                             |                        |                        |                       |                       |                       |             |
| Yes   | 54.80%                 | 47.60%                 | 52.60%                | 51.40%                | 42.10%                | 49.7%       |
| No  | 35.70%                 | 35.60%                 | 36.70%                | 29.70%                | 31.80%                | 33.9%       |
| Do not know   | 9.50%                  | 16.80%                 | 10.70%                | 18.90%                | 26.10%                | 16.4%       |
| What impact do you believe short-term rentals have on your neighborhood?                                      |                        |                        |                       |                       |                       |             |
| Significant impact  | 37.80%                 | 23.50%                 | 20.70%                | 12.40%                | 6.80%                 | 22.2%       |
| Moderate impact   | 26.70%                 | 33.60%                 | 34.90%                | 44.50%                | 15.60%                | 31.1%       |
| No impact   | 31.10%                 | 41.10%                 | 33.30%                | 25.70%                | 62.60%                | 38.8%       |
| Unsure  | 4.40%                  | 1.80%                  | 6.10%                 | 12.40%                | 15%                   | 7.9%        |
| Have you noticed any increase in short-term rentals in your area?   |                        |                        |                       |                       |                       |             |
| Significant increase  | 37.8%                  | 21.3%                  | 23.7%                 | 10.3%                 | 9.8%                  | 20.6%       |
| Moderate increase   | 22.3%                  | 26.5%                  | 33.6%                 | 25.3%                 | 6.8%                  | 22.9%       |
| No increase   | 25.4%                  | 38.9%                  | 33.5%                 | 40.1%                 | 66.6%                 | 40.9%       |
| Do not know   | 14.5%                  | 13.3%                  | 9.2%                  | 24.3%                 | 16.8%                 | 15.6%       |

When examining the average daily rate (ADR) data across the city's five sectors, the results indicate a significant rise in revenues once the precautionary measures imposed by the COVID-19 pandemic were lifted. When considering these averages in each sector separately, the northern sector accounted for the highest rise in revenues from average daily rates, which increased by 192%. This increase was mainly due to the lifting of COVID-19

measures and the launch of the Riyadh Season Festival at the beginning of the fourth quarter of 2022. This rise in ADR revenues increased drastically during the following year, 2023, reaching 303% (Table 4). The western sector showed relatively smaller increases of 160% and 173%, respectively, during the same two periods. The reason for this increase was mainly due to the festivities of the Diriyah Season resuming. As for the rest of the other sectors (the eastern, central, and southern sectors), the increases daily average rates (ADRs) were relatively limited, as shown in Table 5. This is because they do not host entertainment events and festivals similar to the Riyadh or Diriyah Seasons.

**Table 4.** Annual growth in the use of long-term units in 2023–2021.

| Years | East    | % Increase | North  | % Increase | West   | % Increase | South  | % Increase | Central | % Increase | City    | % Increase |
|-------|---------|------------|--------|------------|--------|------------|--------|------------|---------|------------|---------|------------|
| 2021  | 66,032  |            | 33,030 |            | 35,754 |            | 31,177 |            | 24,239  |            | 190,232 |            |
| 2022  | 111,256 | 68%        | 44,117 | 34%        | 57,756 | 62%        | 48,972 | 57%        | 43,784  | 81%        | 305,885 | 61%        |
| 2023  | 118,427 | 6%         | 43,886 | −1%        | 59,957 | 4%         | 50,214 | 3%         | 50,708  | 16%        | 323,192 | 6%         |

**Table 5.** Quarterly Growth of Average Short-Term Leasing 2023–2021.

| Years | South     | Growth Rate | East       | Growth Rate | North        | Growth Rate | West       | Growth Rate | Central    | Growth Rate | City Sample  | Growth Rate |
|-------|-----------|-------------|------------|-------------|--------------|-------------|------------|-------------|------------|-------------|--------------|-------------|
| 2021  | 5804.70   |             | 30,046.21  |             | 128,263.02   |             | 17,420.68  |             | 142,524.35 |             | 324,058.96   |             |
| QTR1  | 1399.07   |             | 9125.75    |             | 19,357.14    |             | 3702.09    |             | 40,749.82  |             | 74,333.87    |             |
| QTR2  | 0         | −100%       | 5356.04    | −41%        | 43,277.88    | 124         | 5127.40    | 39%         | 34,374.38  | −16%        | 88,135.70    | 19%         |
| Qtr3  | 0         |             | 3667.09    | −32%        | 35,519.17    | −18%        | 3381.52    | −34%        | 26,572.53  | −23%        | 69,140.31    | −22%        |
| Qtr4  | 4405.63   |             | 11,897.33  | 224         | 30,108.83    | −15%        | 5209.67    | 54%         | 40,827.62  | 54%         | 92,449.08    | 34%         |
| 2022  | 62,767.9  | 981         | 186,993.57 | 522         | 374,692.71   | 192%        | 45,251.43  | 160%        | 249,923.57 | 75%         | 919,629.18   | 184%        |
| QTR1  | 7853.28   | 78%         | 23,962.10  | 101%        | 17,999.06    | −40%        | 4970.28    | −5%         | 36,754.08  | −10%        | 91,538.80    | −1%         |
| QTR2  | 12,621.59 | 61%         | 33,824.67  | 41%         | 22,355.53    | 24%         | 5738.54    | 15%         | 40,893.73  | 11%         | 115,434.06   | 26%         |
| Qtr3  | 14,733.23 | 17%         | 31,971.47  | −5%         | 35,598.50    | 59%         | 4145.42    | −28%        | 43,450.30  | 6%          | 129,898.92   | 13%         |
| Qtr4  | 27,559.80 | 87%         | 97,235.33  | 204%        | 298,739.62   | 739         | 30,397.19  | 633         | 128,825.46 | 196%        | 582,757.40   | 349         |
| 2023  | 41,424.69 | −34%        | 265,395.94 | 42%         | 1,508,505.89 | 303%        | 123,663.05 | 173         | 409,448.64 | 64%         | 2,348,438.21 | 155         |
| QTR1  | 14,353.72 | −48%        | 66,597.41  | −32%        | 295,792.68   | −1%         | 29,372.75  | −3%         | 65,573.32  | −49%        | 471,689.88   | −19%        |
| QTR2  | 8224.68   | −43%        | 51,444.60  | −23%        | 204,261.53   | 31          | 24,579.71  | −16%        | 52,345.76  | −20%        | 340,856.28   | −28%        |
| Qtr3  | 5585.39   | −32%        | 58,548.57  | 14%         | 283,615.25   | 39%         | 21,995.15  | −11%        | 84,443.65  | 61%         | 454,188.01   | 33%         |
| Qtr4  | 13,260.90 | 137         | 88,805.36  | 52%         | 724,836.43   | 156         | 47,715.44  | 117         | 207,085.91 | 145         | 1,081,704.04 | 138%        |

When exploring the average daily rate (ADR) returns with the number of units allocated for rent, the data show that despite the decrease in the number of units intended for daily renting to about 5% during the COVID-19 period, their ADR revenue, however, observed significant increases, up to 184% at the city level. When the COVID-19 precautionary measures were lifted during 2022–2023, this revenue decreased slightly to stabilize at 155% despite the increase in the number of units by 266%. This can be explained by the law of supply and demand, as rental prices during the ban period increased because of a shortage in residential units. When the housing supply allocated to daily rentals increases, the associated ADR revenue decreases.

As far as the long-term rental averages are concerned, the data presented in Table 6 show that their increases were very small compared to their short-term counterparts. The averages of these rents at the city level witnessed a growth of 58% during the period 2021–2022, but they indicated a significant decline in the following period, settling at only 11% (Table 6). This clearly shows that during the absence of short-term rents because of

the COVID-19 pandemic, long-term renting showed a significant increase. However, when the precautionary requirements were lifted, the use of short-term rentals skyrocketed, and in return, that of their long-term counterparts sharply decreased. This provides strong evidence that the short-term residential rental sector has a decisive impact on the long-term rental pattern and hence on the residential units available on this market.

**Table 6.** Annual growth in average long-term lease returns in 2023–2021.

| Years | East, Levant  | Growth Rate | North         | Growth Rate | West          | Growth Rate | South       | Growth Rate | Central       | Growth Rate | City Sample   | Growth Rate |
|-------|---------------|-------------|---------------|-------------|---------------|-------------|-------------|-------------|---------------|-------------|---------------|-------------|
| 2021  | 1,233,069,527 |             | 974,393,352   |             | 634,155,226   |             | 493,951,369 |             | 656,897,066   |             | 3,992,466,540 |             |
| 2022  | 2,113,615,014 | 71%         | 1,348,943,603 | 38%         | 1,005,002,391 | 58%         | 785,577,260 | 59%         | 1,060,252,002 | 61%         | 6,313,390,270 | 58%         |
| 2023  | 2,407,975,024 | 14%         | 1,430,980,646 | 6%          | 1,060,844,313 | 6%          | 854,633,483 | 9%          | 1,231,455,088 | 16%         | 6,985,888,554 | 11%         |

Comparing the revenue from the two leasing strategies shows that returns from more conventional long-term rentals are far less than those from short-term rentals. The majority of temporary visitors base their lodging decisions mostly on the location of real estate properties. In the northern sector of the city, where the majority of the entertainment events take place, housing units and apartments are often the kind of properties that are most sought after for short-term rentals. These properties tend to generate greater revenue through short-term leasing than traditional long-term renting. According to the Airbnb metrics for Riyadh, a short-term rental can produce 100% more income than a conventional rental [3].

This claim is mostly supported by the survey results, as 43% of city dwellers said they would prefer to utilize their housing units more for investments than for habitation. However, a startling 57% of people choose to use their properties as an asset for investment in places where there is a significant demand for short-term lodging, such as the northern sector's neighborhoods (Table 3). It seems that in areas with a tightening housing market, people tend to consider their housing units more as a "cash cow" to generate higher returns than a redundant asset for residential habitation. This explains to a large extent why local residents are increasingly converting their properties into short-term rentals in search of more economic gains. Nonetheless, the availability of long-term housing options is significantly impacted by this change in rental strategy, leading to higher rent prices and, hence, an affordable housing issue.

A major factor in making the problem of housing affordability worse and, thus, contributing to neighborhood gentrification has been this pervasive attitude toward the financialization–commercialization of housing through property conversion to the short-term market. Accordingly, a sizable percentage of respondents (70%) in locations where short-term lodging has a large influence think that short-term rentals fuel gentrification. At the city level, however, about 51% of locals still experience the stress of gentrification brought on by tourism, even when other places that are less impacted by visitor demand are taken into account (Table 3). This perception may stem from observed changes in neighborhood demographics, rising property values, and the influx of transient populations. The fact that the majority of respondents declared that they belong to lower and middle-income groups may explain why affordability concerns resonated more strongly than with higher-income groups.

When considering this phenomenon at the level of the five sectors in the city, we note that the eastern and central sectors showed higher increases than the general average of the city. The percentage of these increases was 71% and 61%, respectively, in the first period, 2021–2022, while the growth in revenue in the western and southern sectors was parallel to the growth for the city, 58% and 59%. The northern sector, however, showed a lower rate of returns (at only 38%) than the city average during 2021–2022. The annual increases in the use of long-term rentals decreased across all sectors during the following period, 2022–2023

(Table 6). The reason for this discrepancy between the northern sector and other sectors is that it hosts most of the entertainment events of the Riyadh Season festival. This increases the demand for short-term rentals, which negatively affects the number of units allocated for long-term rentals, leading to a sharp decline in their revenue.

When examining the data regarding the residential units allocated for renting purposes at the neighborhood level in the five sectors, whether for short-term or long-term rentals, a similar pattern was revealed, as was the case at the level of the city and its sectors shown above. That is, the use of daily rentals experienced a sharp decrease as a result of the precautionary restrictions imposed during 2021–2022. A remarkable recovery was however noted when these restrictions were lifted, starting from the last quarter of 2022 to 2023. On the other hand, the use of long-term rentals increased during the pandemic period but declined afterwards, when the pandemic's restrictive measures were lifted, following a pattern exactly opposite to that of short-term rentals. This is conclusive evidence that the phenomenon of short-term rentals, which has recently begun to spread in the city of Riyadh, has a decisive impact on the housing supply of long-term rentals and thus on the housing market in the city as a whole, raising rental prices and exacerbating the already acute housing problem.

When considering this phenomenon at the level of each sector and each neighborhood separately, the northern sector neighborhoods and the Diriyah in the western sector were the most affected by short-term rentals. The Sahafa district in the north, for instance, recorded a decline of  $-18\%$  in the number of units allocated for daily rentals during the COVID-19 pandemic in 2021–2022. However, this trend was reversed and achieved a staggering growth rate of about  $171\%$  once the precautionary measures were lifted in the period 2022–2023 (Table 6). On the other hand, the growth in the use of units geared towards long-term rentals was relatively high during the pandemic period ( $37\%$ ) but declined after all the imposed restrictions to limit the spread of the pandemic were lifted, achieving a growth rate of almost zero ( $0.79\%$ ) in the northern sector (Table 5). The same growth pattern was observed in the Diriyah neighborhood in the western sector, which recorded a growth rate of about  $267\%$  during the COVID-19 pandemic but then achieved a significant jump in growth ( $511\%$ ) once the restrictions were lifted in 2022–2023 (Table 6). The rest of the neighborhoods in the sector did not register any significant growth. This may be because the northern sector and the Diriyah neighborhood both host entertainment festivals (the Riyadh and Diriyah Seasons). This same reason explains why the other neighborhoods of the western sector did not register similar growth rates in the use of short-term rentals. As for the supply of housing units for long-term rentals, the data showed an increase during the pandemic but a sharp decline afterwards.

From this account, it is clear that real estate housing is mostly regarded as an asset that can generate greater returns on investment. This may explain to a great extent why the emergence and growth in the number of short-term rentals in Riyadh has resulted in the financialization and commercialization of housing, as well as the ongoing process of neighborhood touristification. The conversion of residential properties into short-term rentals in an attempt to increase revenues on investment by property owners has been primarily fueled by this process of housing assetization and commercialization. All this has provoked dramatic changes in the housing landscape, as suggested by Pettas et al. [97]. The doubling of average monthly cash flow in the rent gap between the traditional and the short-term rental markets has been an incentive for Riyadh property owners to extract profits from this shift to Airbnb short-term renting. The unfolding of housing assetization and commercialization in city neighborhoods is the product of these buy-to-let practices [7,17,20,97–100]. The expansion of the short-term rental market has caused significant disruptions, especially to urban housing and communities. As a result, not only has the housing landscape in the city changed, but the idea of “housing as investment” for renters outside of households has also been called into question [101]. The disruptive impacts of Airbnb-introduced tourist activities into residentially zoned areas has been very upsetting to established communities and has scrambled the housing market [13]. The extent of this disruption is most severe in

Riyadh, where the housing market is experiencing high tensions and is very stressed as a result of the harsh competition between transient tourists and local residents for residential spaces used for neighborhood activities and social bonding.

By incentivizing speculation in residential housing, Airbnb and its corollary, short-term rentals, have contributed to removing long-term rentals and, hence, rising housing costs; a lack of availability; and the displacement of local residents, who are often replaced by transitory visitors. Consequently, short-term rentals are stimulating the assetization–financialization of housing by encouraging a shift from long-term to short-term tenures. It is this shift that drives up residential rent prices because the same amount of demand faces a more limited supply of rental stock.

There is growing evidence that the expansive rise in short-term rentals increases rent and housing prices and, concomitantly, produces a phenomenon of displacement and gentrification, which exacerbate the problem of housing affordability and availability [102].

The supply of short-term rentals was revealed by the data from bookings of housing units in Riyadh made through the Airbnb platform. These data are used as an indicator to evaluate the impacts of short-term rentals on long-term rentals and actual housing prices. Rising house prices have been observed in many cities around the world in recent years, and this has, at least in some cases, been linked to an explosion in private renting to tourists, particularly through websites such as Airbnb [4,5,7,103,104].

When asked a straightforward question about whether short-term rentals have led to increasing long-term rent prices, about half (50%) of respondents at the city level acquiesced to the impact of this sweeping short-stay accommodation on rising housing costs (Table 3). This statistic underscores the real human impact of this tourist-induced displacement and gentrification and, hence, the urgency of addressing these issues. This trend aligns with the pattern of the rising short-term rental market in Riyadh. A total of 53% of respondents at the city level indicated that short-term rentals have negatively impacted housing affordability. Many respondents cited rising rent and property prices as direct consequences of increased short-term rental activity. This conclusion can also be inferred from the questionnaire results, in which 60% of respondents in the northern areas, which has a higher number of Airbnb listings, reported a noticeable increase in short-term rentals in their neighborhood over the past year. This percentage was only 44% (Table 3). This discrepancy can be explained by the effect of those living in neighborhoods that are not much in demand for short-term accommodation, as is the case in dense, lower-income inner city areas.

To substantiate these findings, statistical analyses provide a more rigorous understanding of the relationships between variables. When running the correlation analysis, a significant relationship ( $r = 0.65$ ,  $p < 0.01$ ) between the increase in short-term rentals and perceptions of gentrification was revealed. This suggests that as short-term rentals increase, so do concerns about gentrification.

It is also clear that the regulatory framework plays a significant role in affecting returns on investment on both the short- and long-term markets. When regulations were imposed due to precautionary measures during the pandemic, the revenue from properties assigned to long-term rentals outperformed their short-term leasing strategy counterparts. Once the legislative setting lifted those constraining measures associated with the COVID-19 pandemic, returns on investment in the short-term market outpaced those in the long-term market.

Tenancy regulations in Riyadh tend to favor property owners over tenants. This may fuel a sense of insecurity from rental households as they confront the low vacancy rates associated with rising rent prices, hence, producing an acute affordability crisis. Similar phenomena have been seen in many cities like New York City, San Francisco, Los Angeles, and Boston [5,7,9].

According to the Airbnb listing website, Riyadh has lenient regulations regarding short-term rentals. Currently, only a few Airbnb listings provide their license number. This suggests that the laws pertaining to short-term rentals are probably not being strictly enforced by local authorities. This is another driver for many property owners shifting

from lower-yield long-term rentals to short-term renting: higher returns on investment with a monthly cash flow typically double the amount of traditional rentals [3].

## 5. Conclusions

According to this study, Riyadh's northern sector neighborhoods are beset by tourist attractions, entertainment events, rising housing costs due to affordability concerns, and a lack of housing options for lower-income families. As a result, local neighborhood residents are somewhat dissatisfied with the rise in demand for short-term housing because of the negative consequences of rising housing costs and the concomitant displacement. Needless to say, the dominance and clustering of short-term lodging and price increases are essentially the two main causes of the housing availability and affordability crises.

This study conducted in Riyadh neighborhoods has illuminated the complex relationship between price trends, the ongoing housing problem, and short-term lodging. These results have given us a deep understanding of the ramifications of price increases in the short-term market, which have made the already difficult problems of housing scarcity and long-term lodging affordability even worse. The availability and affordability issues that local residents are facing are directly related to the noticeably higher pricing of short-term rentals.

The results highlight the need to take into account both the advantages and disadvantages of short-term rental growth. Nonetheless, locals are more likely to notice the negative effects, such as a decline in their sense of community, an increase in real estate costs, and difficulties locating reasonably priced housing. For legislators and urban planners, this entails striking a balance between the growth of tourism and initiatives to protect the neighborhood character and sense of community and to guarantee reasonably priced housing for locals. It is important to keep in mind the importance of striking a balance between local needs and tourism, which may also reflect a desire for sustainable development that gives priority to long-term residents.

All in all, a regulatory framework needs to be developed to tackle this aforementioned issue and balance the needs of short-term hosts, long-term tenants, and the city community at large. The housing problem can be further exacerbated if imbalances between short-term rentals and long-term accommodation continue to deepen. Needless to say, Riyadh is growing fast due to big projects and government initiatives. This has increased the need for homes, driving up rent prices and leading to "Airbnb-induced gentrification" in many city neighborhoods. Some smart policies need to be adopted to limit short-term rentals from taking over in certain neighborhoods. In this regard, it might be better to advocate rules towards de-growing licenses in neighborhoods with a concentration of short-term rentals to prevent any eventual disruption of the established community bonds and, subsequently, hinder the process of tourism-led displacement from occurring. This will not only avert the negative externalities associated with short-term rentals on the housing market but also ensure that some homes will always be available for long-term use.

Airbnb flourished in Riyadh in the midst of the entertainment activity boom. As such, it was well-received, and hence, it encountered little resistance from housing advocates and local authorities. The fact that in Riyadh, short-term rentals are not in outright defiance of local planning and land-use regulations has been a key driving force in the sweeping expansion of Airbnb-based rentals all over the city.

In launching entertainment festivals and diverting events, local authorities resolved to facilitate Airbnb short-term bookings, which pushed rentiers to take advantage of the platform to increase their profits and to encourage the investor-led housing boom.

In the case of Riyadh, neighborhood communities are under disproportionate pressure from short-term rentals. This pressure is particularly noticeable in the northern sector of the city, which is closer to tourist attractions. While housing affordability is a concern throughout the city, it is particularly acute in the areas where entertainment festivals are held. Short-term rentals have contributed to an exacerbation of the already strained



housing market, leading at the same time, to the unfolding touristification of affected neighborhoods through the commodification and assetization of housing in Riyadh.

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