

**UNDERSTANDING
THE REAL DRIVERS
OF HOUSING
AFFORDABILITY**

**AN ASSESSMENT OF THE ROLE OF
SHORT-TERM VACATION RENTALS**

A REPORT FOR VACATION RENTAL MANAGEMENT ASSOCIATION

JUNE 2023



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EXECUTIVE SUMMARY

BACKGROUND

Short-term vacation rentals (STVRs) have served as a practical accommodation choice for travelers, but their impact on housing prices and rents has sparked debate in the United States in recent times. According to AirDNA data, the average number of properties listed for short-term vacation stays during 2015 was just over 200,000, a figure that had increased more than three-fold to 842,000 by 2019. Growth slowed down as the pandemic and associated travel restrictions curtailed tourism, but rapidly recovered in late 2021, following large scale domestic vaccination, driving renewed demand for vacation rentals across most US markets—especially those in holiday destination locations.

STVRs enable a number of economic benefits: they provide homeowners with additional income and provide tourists more options for accommodation, including offering a range of accommodation types at various price points. STVRs also help increase demand for goods and services associated with travel and leisure—supporting jobs and contributing to GDP in tourism destinations and in the wider economy.

On the other hand, concerns over the alleged effects that **STVRs can have on housing prices and rents** have precipitated local and national dialogues. One concern is that homeowners may convert long-term rental properties into short-term vacation rentals, thereby reducing the supply of available rental units for long-term residents and driving up rental prices. Additionally, some argue that the increase in demand for STVRs may drive up housing prices, making it harder for local residents to afford to buy a home.

Research on the impact of STVRs on housing prices and rents has been mixed. Some studies have found a positive correlation between the prevalence of STVRs and increases in housing prices and rents, while others have found little to no impact. Factors such as the local housing market, the density of STVRs, and the regulatory environment all play a role in determining the impact of short-term vacation rentals on housing prices and rents.

OBJECTIVES OF THIS STUDY

In this context, **Oxford Economics was commissioned by the Vacation Rental Management Association (VRMA) to carry out a study of housing affordability and short-term vacation rentals.** Specifically, our analysis sought to identify the key drivers of housing prices and rents and understand the role played by STVRs on affordability. This study contributes to the literature on US housing market dynamics, as well as adding to the still limited literature studying the effect of STVRs on housing markets. In 2019, Oxford Economics conducted a study on the drivers of housing and rental affordability between 2014 and 2018 and the role that STVRs play when explaining changes in price.¹ In that study, the role of STVRs was negligible when looking at overall changes in price. The advent of the COVID-19 pandemic and recent shifts in the US economic environment warranted a re-evaluation of the housing and rental affordability model and the role of STVRs.

OUR APPROACH

Our study used an econometric model to analyze the factors influencing US house prices and rental rates at the county level. We examined a large number of economic variables to gain a comprehensive understanding of these trends. The sample period for this study begins in 2014, the first year for which data on STVRs are available, and concludes in 2021 to align with the latest available year for county-level economic and demographic data from the American Community Survey (ACS)² conducted by the US Census Bureau.

The study period encompasses two distinct phases. The first phase covers the years between 2014 and 2019, during which the majority of the increase in housing prices and rents could be attributed to *conventional* macroeconomic and housing market trends such as income levels, unemployment, demographics, housing stock, and the cost of borrowing.

The second phase covers the pandemic years of 2020 and 2021, during which pandemic-related *behavioral* changes played a significant role in driving the increase in home prices. For example, people started looking for homes with dedicated offices spaces for remote work and outdoor areas for recreation. There was a shift towards larger properties and suburban or rural locations to accommodate these pandemic-related changes in preferences.

In light of the distinct phases of the study period, we explored whether the relationship between economic drivers and housing prices and rents differed between these phases.

THE IMPACT OF STVRs ON HOUSING PRICES AND RENTS

Between 2014 and 2021, US median housing prices increased by 32.7% and median rental prices increased by 9.9% in inflation-adjusted terms. Our modeling indicates that STVR density contributed only 0.4% to housing price growth and 0.5% to rental price growth during this period, as shown in Fig. 1 and Fig. 2 respectively.

\$800
lower housing prices

in 2021 without any increase in STVR density since 2014.

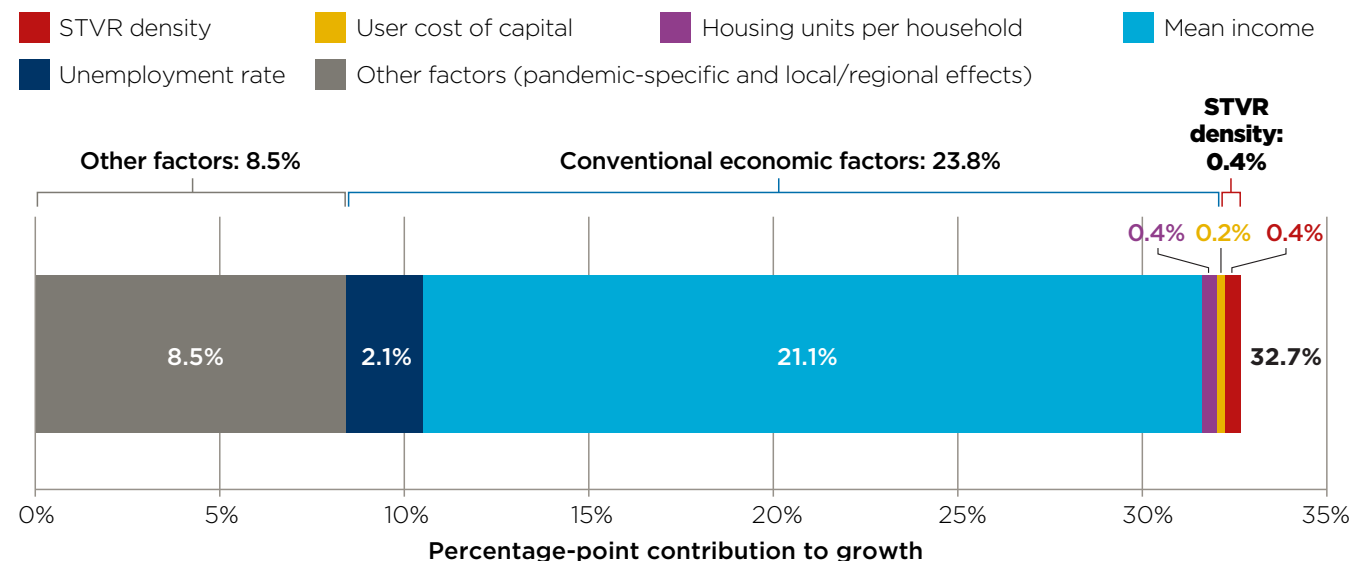
Only a hundredth (i.e., 0.4% out of the 32.7%) of the increase in real housing prices attributed to STVRs according to our modeling.

In other words, **growth in STVR density contributed one-twentieth of the 9.9% growth in rental prices and one-hundredth of the 32.7% increase in housing prices between 2014 and 2021.**

In contrast, conventional economic factors such as income levels and unemployment contributed to 23.8% of the housing price growth and 7.4% of the rental price growth during the period, with pandemic-related changes and region-specific regulations explaining the remaining growth.

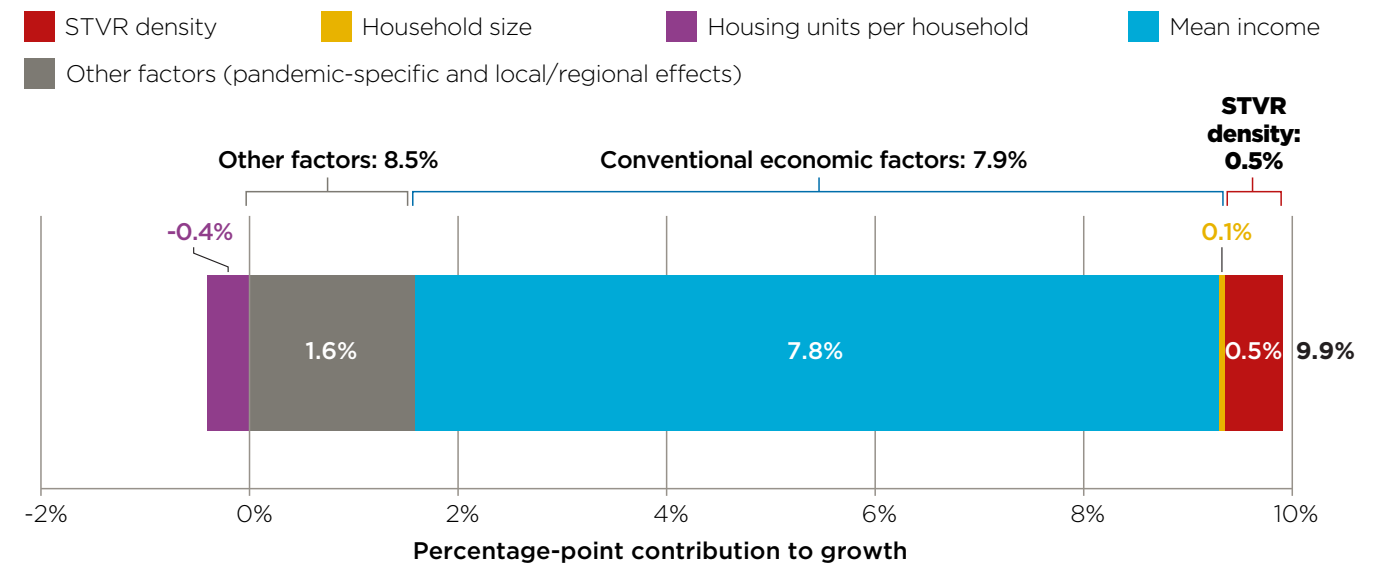
We find that the increase in housing stock had a minimal effect on housing prices and rents, in line with recent studies that identify supply-side challenges as a key factor constraining the market.^{3,4} According to Freddie Mac's analysis, there is a striking shortage of available new and existing homes for sale; the study estimates a deficit of 3.8 million housing units in Q4 2020.⁵

Fig. 1: Drivers of growth in US housing prices between 2014 and 2021 (inflation-adjusted growth)



Source: Oxford Economics

Fig. 2: Drivers of growth in rents in the US between 2014 and 2021 (inflation-adjusted growth)



Source: Oxford Economics

Put differently, our modeling shows that **without any increase in STVR density since 2014, the average home price of around \$232,000 in 2021 would have been only \$800 lower in real terms, and the average monthly rent of around \$1,000 would have been lower by only \$5 in real terms.** Considering that most households do not pay the full price of a house upfront, but rather apply for long-term mortgages, we estimate the average annual mortgage payment in 2021 would have been \$40 cheaper if STVRs had remained at their 2014 levels.

Growth in conventional economic factors since 2014 is estimated to have contributed around \$47,000 to housing prices and \$72 to monthly rents in real terms in 2021, i.e., 73% and 75% of the growth in housing prices and rental prices respectively in real terms between 2014 and 2021.

\$5 lower median
monthly rents

in 2021 without any increase in STVR density since 2014.

Only one-twentieth (i.e., 0.5% out of the 9.9%) of the increase in real rents is attributed to STVRs according to our modeling.

³ Joint Center for Housing Studies of Harvard University, "The State of the Nation's Housing 2022", 2022 (last accessed April 2023).

⁴ The Financial Times, "Housing shortage risks breaking the American Dream", 13 October 2022 (last accessed April 2023).

⁵ Freddie Mac Research Note, "Housing supply: a growing deficit", 7 May 2021 (last accessed April 2023).

IMPACT OF COVID-19 AND ITS AFTERMATH

In the period spanning 2020-2021, market conditions pertaining to the housing market underwent distinct and potentially isolated changes. These included a rise in household savings stemming from relief payments and decreased spending due to lockdowns, a shift toward domestic tourism, and a decrease in interest rates.

These shifts had a wide-ranging impact on the housing market across the US. The effects were further amplified by local or regional market dynamics, with specific areas experiencing intensified effects. For example, Ramani and Bloom (2022)⁶ show there has been a “donut effect” whereby households and businesses have moved out of city centers over this period towards the suburbs resulting in a significant divergence in price growth between these two areas. In the 12 largest metro areas in the US, the study found that the central business districts and the top 10% of zip codes by population density saw more than a 10% drop in rents when rents in other areas increased between March 2020 and November 2020. Although there is less of an aggregate decrease in home sale prices as compared with rents, there is

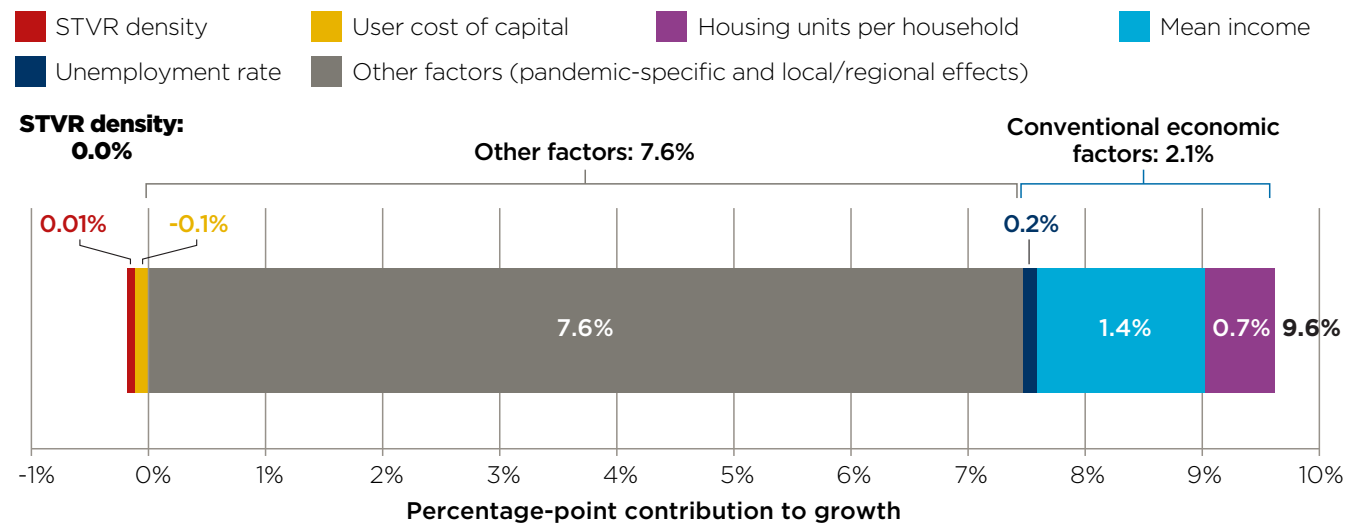
a similar demand reallocation effect where CBDs and dense areas experience relative price growth slowdowns compared with less dense areas.

The emergence of the “donut effect” was attributed to four key factors: the economic impact of the virus; restricted access to urban amenities during lockdowns; apprehension towards densely populated areas due to virus transmission concerns; and the ability to work remotely. The latter, which is likely to have a lasting impact beyond the pandemic, enables individuals to reside in more spacious homes outside city centers while maintaining their productivity at work.⁷

Consequently, a thorough evaluation of the impact of STVRs focussed on this period was deemed necessary.

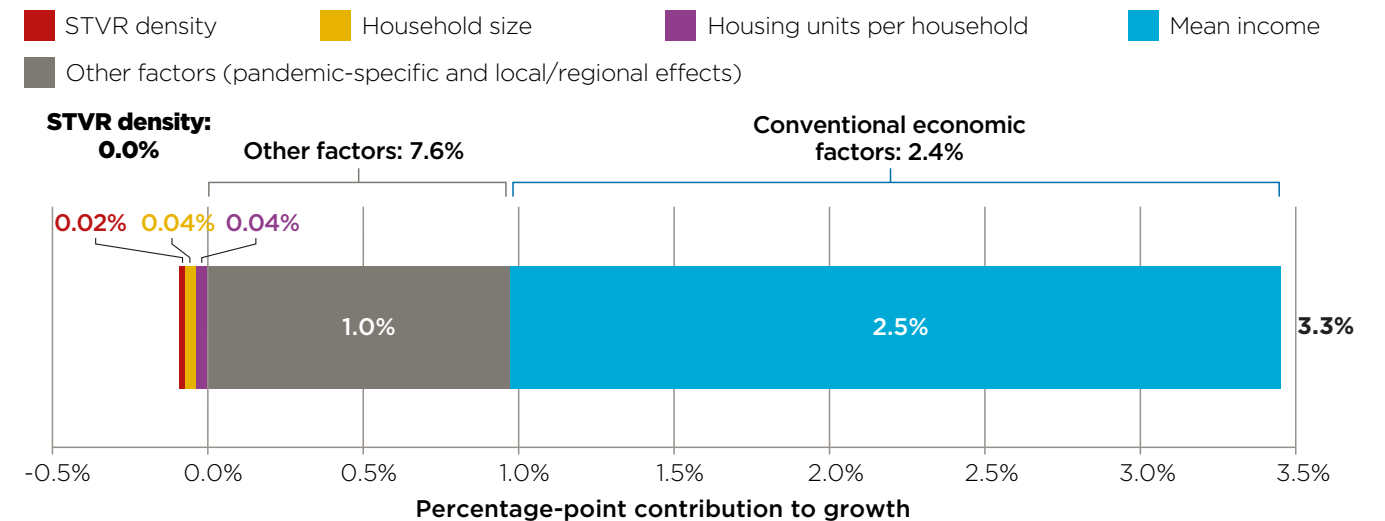
During this period (2020-2021), the contribution of STVRs to the growth in housing and rental prices was largely negligible, according to our modeling. Further, we estimate that trends in conventional economic factors such as average income levels, cost of capital, and unemployment rates contributed around 2.1% of the 9.6%

Fig. 3: Drivers of growth in US home prices between 2020 and 2021 (inflation-adjusted growth)



Source: Oxford Economics

Fig. 4: Drivers of growth in rents in the US between 2020 and 2021 (inflation-adjusted growth)



Source: Oxford Economics

increase in housing prices, as shown in Fig. 3. The growth in housing prices was mainly due to factors such as the shift in housing preferences and local or regional factors like regulatory restrictions, which according to our modeling, explain 7.6% of the 9.6% increase in house prices in the 2020-2021 period.

In the long-term rental market, as shown in Fig. 4, the increase in household income levels was a significant contributor to the growth in rents. According to our estimates, traditional economic indicators such as income levels, borrowing costs, and unemployment rates accounted for approximately 2.4% of the 3.3% rise in rents during the 2020-2021 period. Our analysis suggests that other factors, such as changing housing preferences and regional regulations, played a smaller but significant role in driving the overall increase in rents, accounting for around 0.9% of the total rental growth in 2020-2021.

Growth in conventional economic factors during this period contributed approximately \$4,600 to growth in house prices and \$24 to monthly rent increases in 2020 and 2021, accounting for only less than a quarter of the growth in housing prices and about three-fourths of the growth

in rental prices during the 2020-2021 period, according to our model. The rest, i.e., **nearly three-fourths of housing price growth and a quarter of rental price increase in 2020-2021, is attributed by our model to pandemic-specific factors or other local or regional factors.**

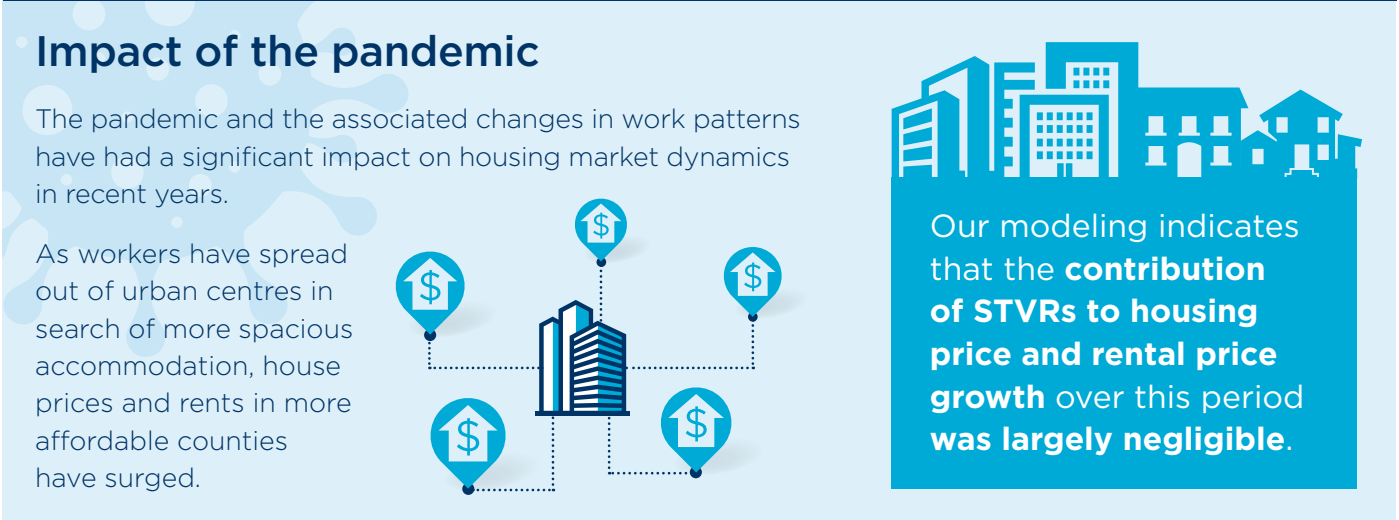
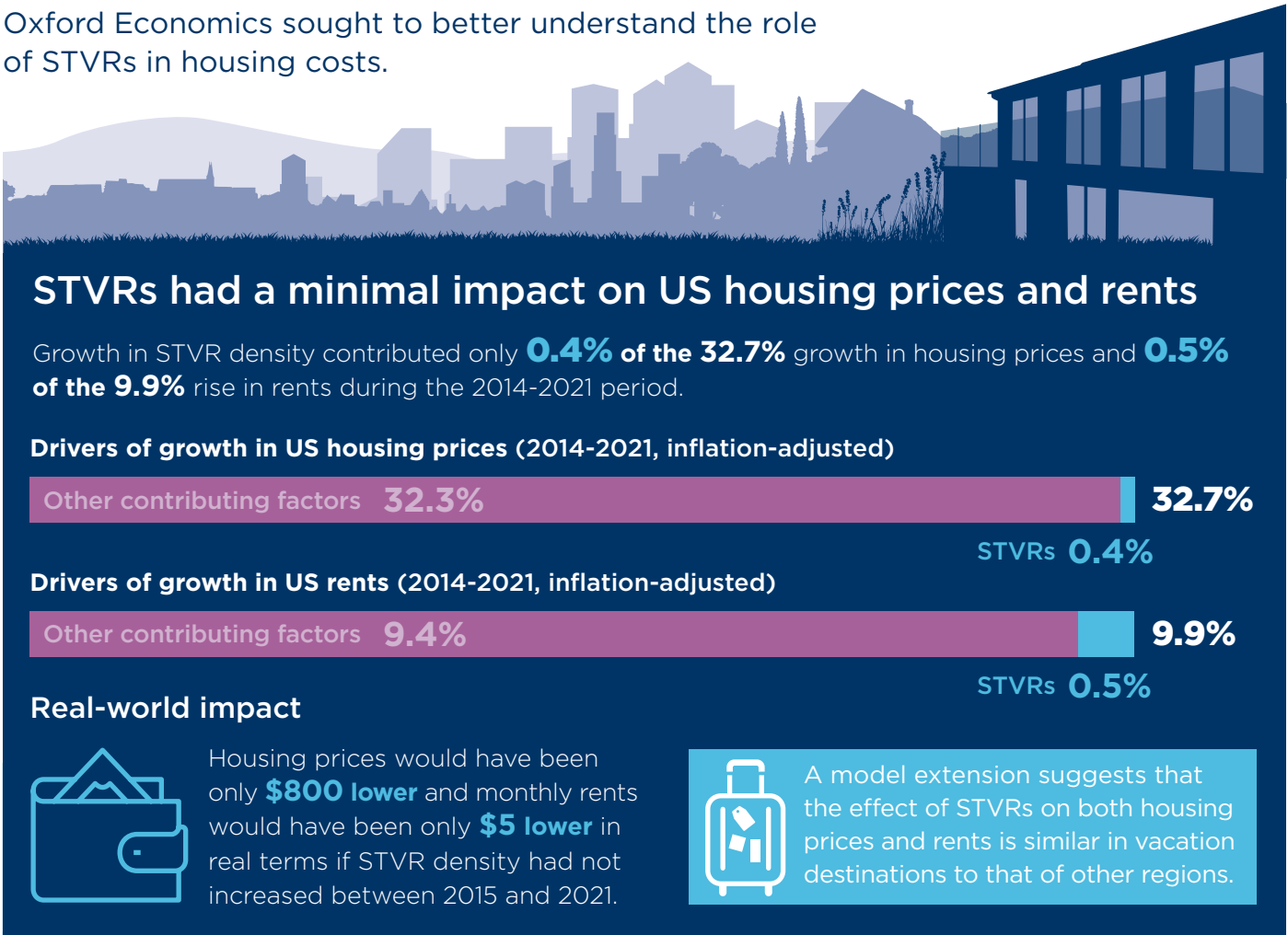
In the context of the housing market, the economic relationships that have been observed in the past, particularly during the 2020-2021 period, may not necessarily continue in the future. It is difficult to predict how much these relationships will revert to pre-pandemic levels, if at all. This suggests that **any predictions or forecasts regarding drivers of the housing market should be viewed with caution, given the potential for significant shifts in market dynamics and trends in the wake of the pandemic.**

In conclusion, **irrespective of pre-pandemic economic trends or the changes observed during the pandemic, the impact of STVRs on both home prices and rental prices remained minimal.** Instead, conventional factors influencing the housing market, along with pandemic-related shifts in housing preferences and local policy decisions, remained the primary drivers in these markets.

SHORT-TERM VACATION RENTALS AND THE HOUSING MARKET

Understanding the real drivers of price and affordability

STVRs generate economic opportunity for communities, businesses, and homeowners. However, the value realized does come with costs. Using an econometric model, Oxford Economics sought to better understand the role of STVRs in housing costs.



1. INTRODUCTION

The short-term vacation rental (STVR) market in the US experienced a period of growth in the years leading up to the pandemic. According to AirDNA data, the average number of properties listed for short-term stays during 2015 was just over 200,000, a figure that had increased more than three-fold to 842,000 by 2019. Growth slowed down as the pandemic and associated travel restrictions curtailed tourism in 2020 and early 2021, but rapidly recovered in late 2021 as restrictions were eased.

Tourists have welcomed the increase in accommodation options available for their travels. Subsequently, increases in tourism demand supported by a wider variety of holiday listings have contributed new opportunities to generate value to the local economies in tourist destinations. Further, tax revenues raised on short-term rental income can be used to fund local services and help develop local infrastructure.

However, the perception of STVRs on the local economy is not unanimously positive. In particular, there has been growing concern among several industry commentators of the role and impact STVRs have on the affordability and availability of housing for residents.

AIM OF OUR RESEARCH

Against this background, Oxford Economics was commissioned by the Vacation Rental Management Association (VRMA) to carry out a study of housing affordability and STVRs. This study contributes to the literature on US housing market dynamics, as well as adding to the still limited literature studying the effect of STVRs on housing markets. The study builds on a previous Oxford Economics report published in November 2019.⁸

Specifically, our analysis sought to:

- assess the key drivers of housing prices and rents;
- understand the role played by STVRs on affordability;
- determine whether relationships vary across housing market types; and
- understand the extent to which the relationships have evolved since the pandemic.

STRUCTURE OF THIS REPORT

This rest of this report is structured as follows:

- Chapter 2 describes key trends in housing prices, rents, housing affordability measures, and STVRs;
- Chapter 3 presents a review of the existing literature on housing and STVRs;
- Chapter 4 sets out our approach to modeling housing prices and rents, based on a panel dataset covering the period 2014–2021, with the objective of identifying which variables are statistically significant drivers of prices and rents;
- Chapter 5 discusses the results from the modeling, and the estimated contribution that each driver made to the housing market variable.
- Chapter 6 concludes with a brief discussion on the implications of the results for policymakers and highlights the limitations of our analysis.

The appendix to this report describes the econometric methodology, modeling results, and the data sources.



2. SHORT-TERM VACATION RENTALS AND THE US HOUSING MARKET

US housing prices and rental prices have increased at a rapid rate since the onset of the pandemic. US housing prices, as measured by the Zillow All Homes Value, stated in inflation-adjusted terms, increased from \$279,000 in Q1 2020 to \$345,000 in Q4 2022, an increase of 24% over a three year period. In contrast, in the three years before the pandemic, between Q1 2017 and Q4 2019, housing prices increased by only 9.3%—as shown in Fig. 5.

Rental prices, however, have increased at a steady pace since 2014, increasing at an average rate of 1.5% per year between 2014 and 2021, as shown in Fig. 6.

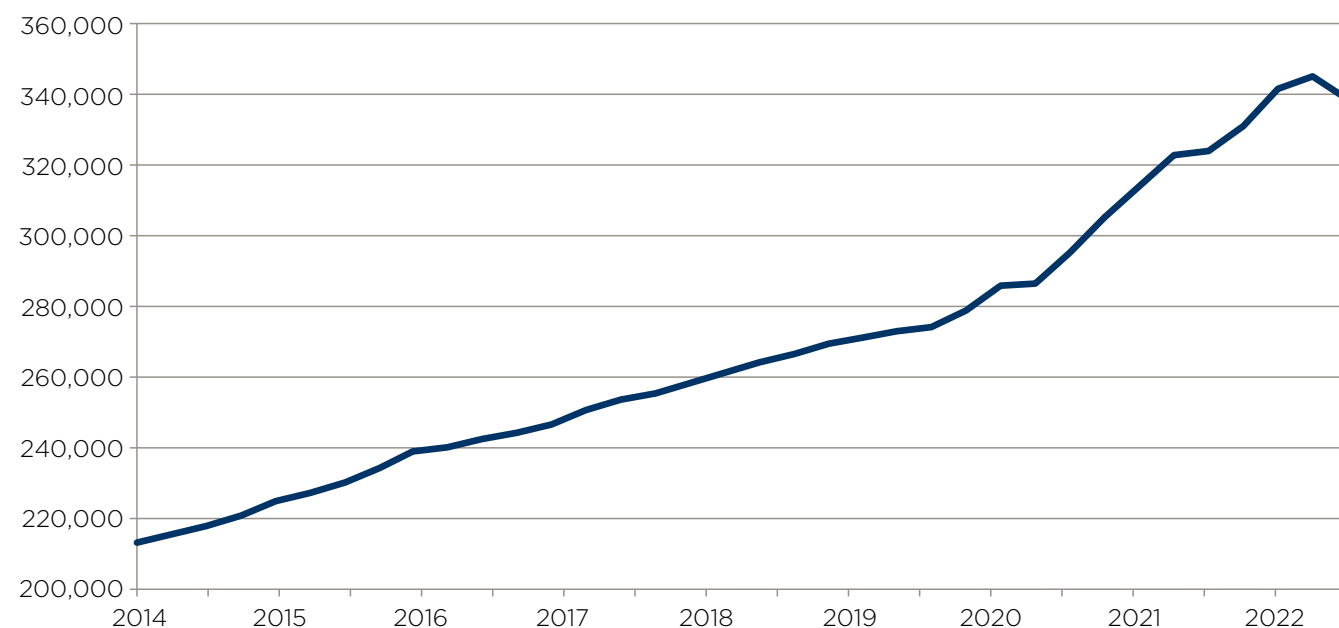
Since 2019, the increase in housing prices have been the largest contributor to the decrease in home ownership affordability. While wages were higher, they did not increase enough to compensate for the increase in the costs of home ownership. The Federal Reserve Bank of Atlanta's home ownership affordability index shows how an increase in rates and prices have reduced affordability despite a relatively small offsetting impact from an increase in income levels.⁹

Recent analyses of the drivers of housing prices have pointed to supply-side issues constraining the market.^{10,11} According to analysis by Freddie Mac, tight housing supply has restricted an otherwise healthy housing market. The inventory of new and existing homes for sale is at a historically low level. In particular, given population growth and household formation, the analysis estimates a shortfall of 3.8 million housing units in Q4 2020. The lack of new housing supply is attributed to high labor costs, land use regulations, zoning restrictions preventing supply from picking up in areas with the most demand, and, more recently, increasing raw material costs.¹²

Recent analyses of the drivers of home prices have pointed to supply-side issues constraining the market.

Fig. 5: Zillow All Homes (SFR, Condo/Co-op) value, 2014-2022 (inflation-adjusted, 2022 prices)

Zillow All Homes Value (SFR, Condo/Co-op), 2022 prices



Source: Zillow, Oxford Economics

⁹ The Federal Reserve Bank of Atlanta, "Home ownership affordability monitor" (last accessed May 2023).

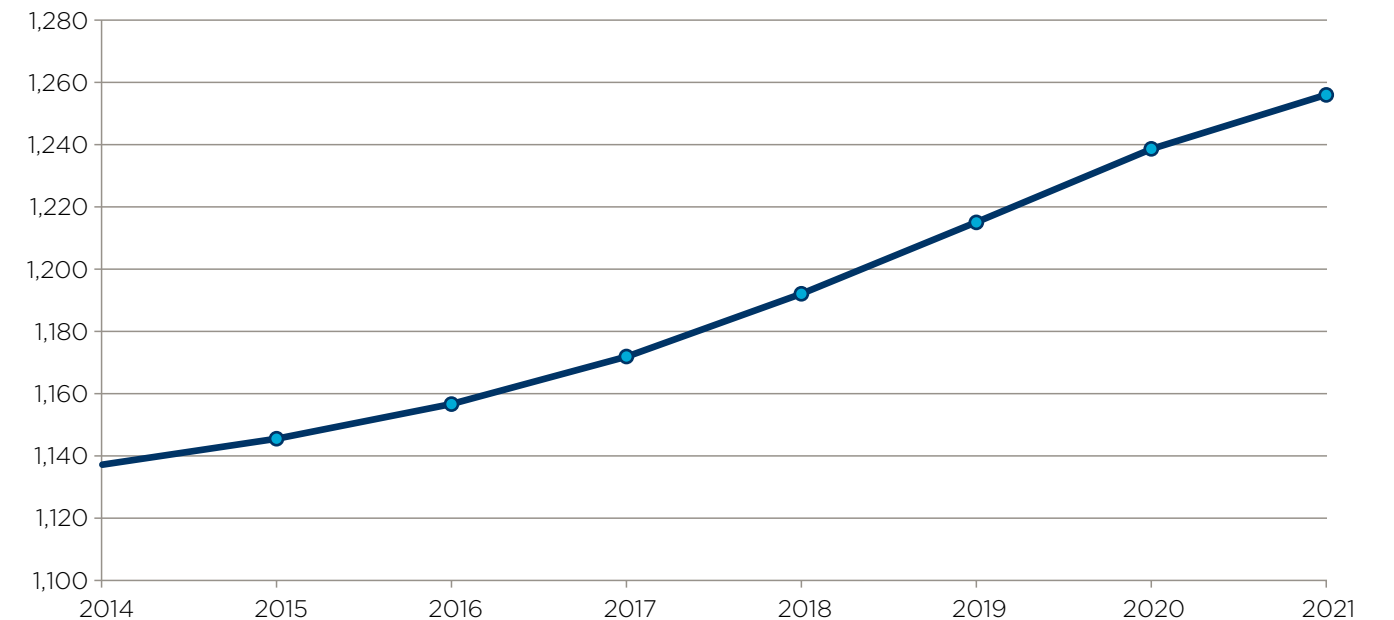
¹⁰ Joint Center for Housing Studies of Harvard University, "The State of the Nation's Housing 2022", 2022 (last accessed April 2023).

¹¹ The Financial Times, "Housing shortage risks breaking the American Dream", 13 October 2022 (last accessed April 2023).

¹² Freddie Mac Research Note, "Housing supply: a growing deficit", 7 May 2021 (last accessed April 2023).

Fig. 6: Median rents in the US, 2014-2021 (inflation-adjusted, 2022 prices)

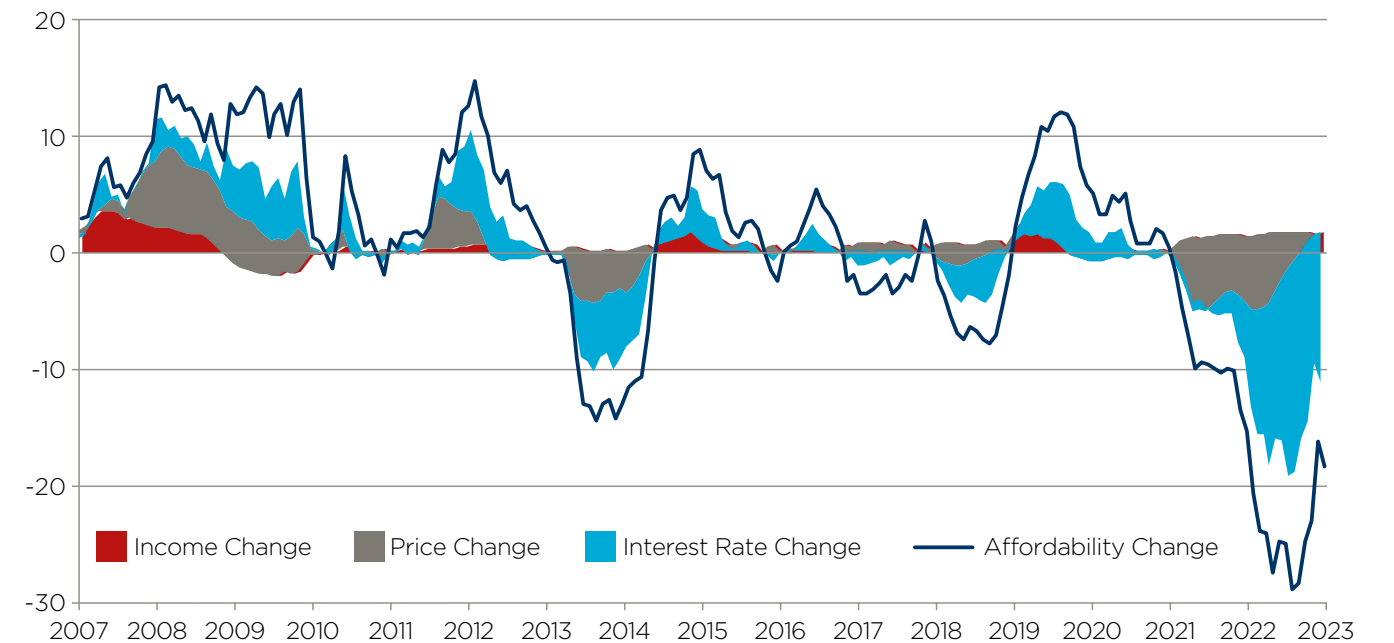
Median rents, USD (2022 prices)



Source: ACS, Oxford Economics

Fig. 7: Drivers of housing affordability in the US

Component impact on affordability index



Note: Tracks actual and not percent change. Does not sum to change in index as other components (such as tax, insurance, or PMI) are not included.

Source: Federal Reserve Bank of Atlanta, Oxford Economics



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THE ROLE OF SHORT-TERM VACATION RENTALS

Several commentators have focused on the role of Short-Term Vacation Rentals (STVRs), claiming they reduce the supply of affordable housing by removing properties from the home owner-occupier and rental markets, which would thereby make it less affordable for prospective home buyers, or displace long-term tenants, and raising the cost of living through driving up home prices and rent.¹³

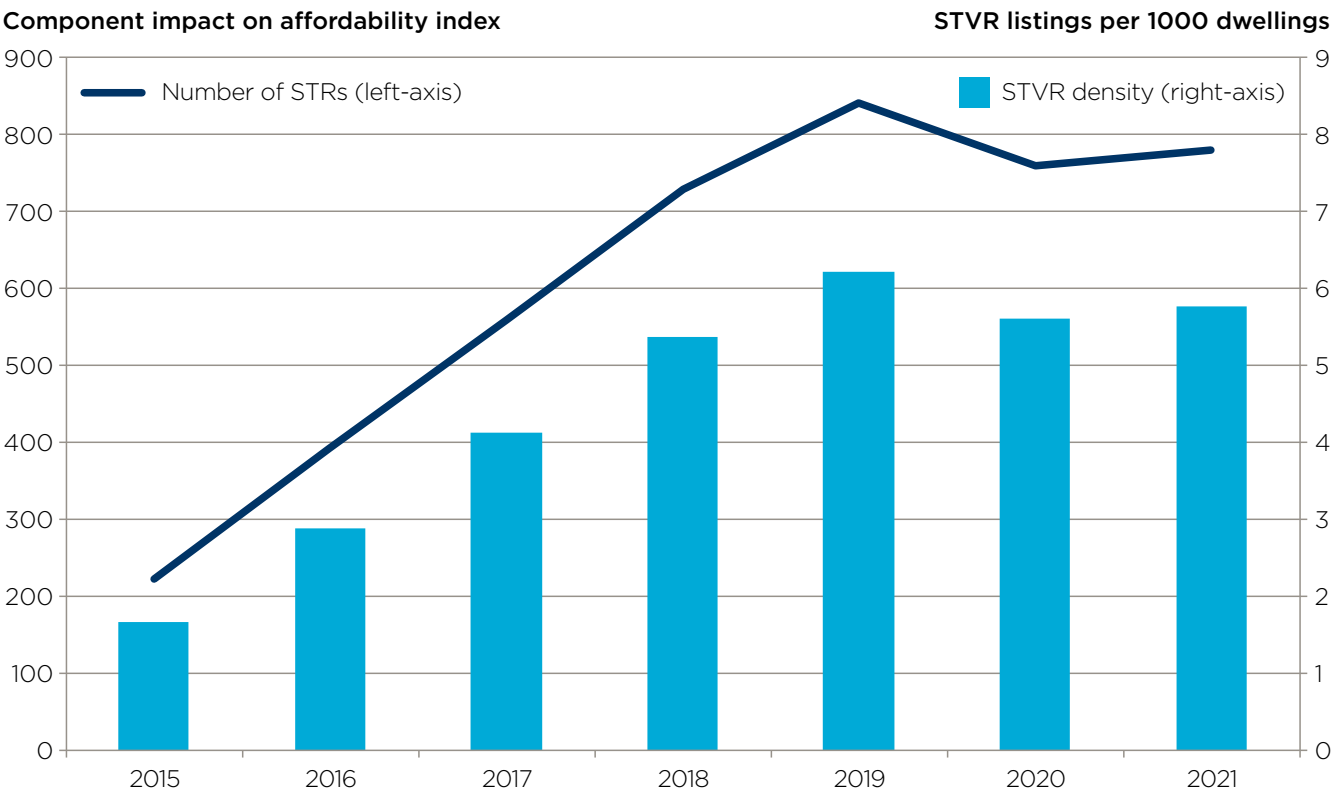
The STVR market in the US has grown rapidly since 2014. The growth in the volume of properties available for

short-term stays has strongly outstripped the rise in available dwellings to live in, leading to an increase in STVR density—i.e., the number of STVRs as a share of total housing stock.

As shown in Fig. 8, in the years leading up to the pandemic, from 2015 to 2019, the STVR density trended strongly upwards, with the number of STVRs increasing at an average rate of 30% per year. This pattern has reversed in 2020, as social distancing restrictions caused a dramatic fall in tourism activity. STVR density had not recovered to pre-pandemic levels in 2021.¹⁴

Detailed zip code-level data sourced from AirDNA also show that there is significant geographic variation in STVR density, with most listings occurring in states with large cities and along the coasts. Moreover, there exists significant geographic heterogeneity in the growth of STVR density over time. The number of listings per housing unit grew exponentially in some counties while in others there was no growth at all.

Fig. 8: Active STVR listings in the US, 2015-2022



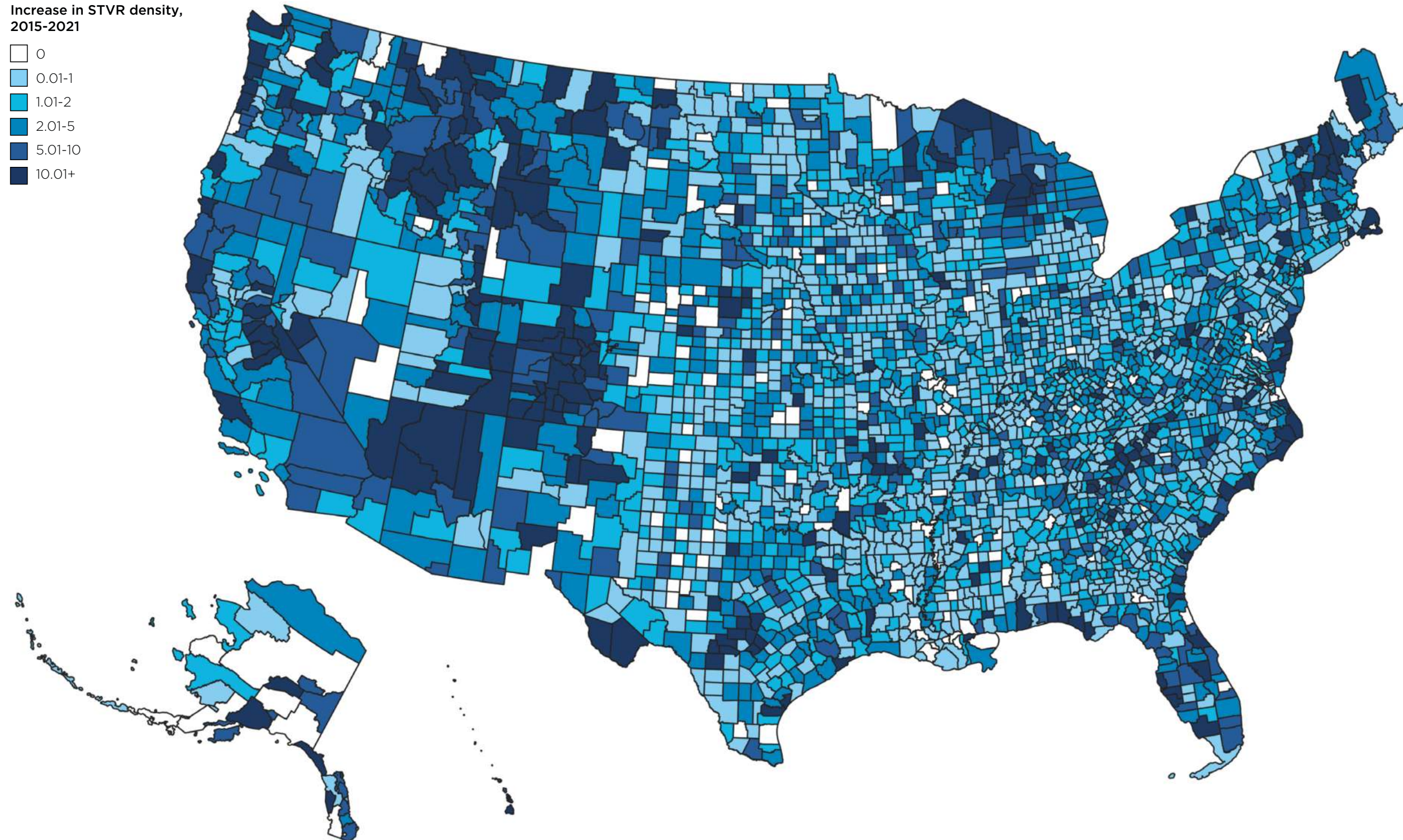
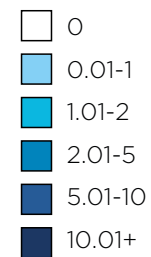
Source: AirDNA, Oxford Economics

¹³ Forbes, "The Airbnb Effect on Housing and Rent", February 2020 (last accessed May 2023).

¹⁴ The sample period for this study concludes in 2021 to align with the most recent year for county-level economic and demographic data obtained from the American Community Survey (ACS).

Fig. 9: Absolute change in STVR density for US counties, 2015-2021

Increase in STVR density,
2015-2021



Between 2014 and 2021, around 300 out of the 3,000 counties saw an increase in STVR density of more than 10 STVRs per housing unit, with counties such as Osceola (FL), Summit (CO), Grand (UT), Routt (CO), Mono (CA), San Miguel (CO), and Summit (UT) seeing the largest absolute increases of around 100 STVRs per housing unit each. At the state level, Hawaii, Utah, Colorado, Vermont, Florida, and Orlando saw the largest increases in STVR density.

The main focus of our analysis has been to understand how STVRs have impacted housing prices and rents *across all counties* in the US. In light of the varying rates of STVR growth, we also investigated whether STVRs had disparate effects on housing prices and rental prices in popular holiday destinations, specifically in counties situated along coastal regions or in mountainous areas, which have seen increased STVR listings and heightened discussion regarding the impact of STVRs on the housing market.

Source: Oxford Economics

3. ANALYSIS OF EXISTING STUDIES

This chapter presents a review of some of the existing academic literature addressing these questions.

EXISTING LITERATURE ON HOUSING MARKET DYNAMICS

The dynamics of the housing market have been subject to extensive academic research. As the literature on this topic is well-established, this section does not refer to specific studies but instead adopts a meta-analysis approach by examining the primary factors that drive housing market dynamics. Theoretical models and the empirical literature on the housing market suggest that, over the long run, housing prices depend positively on disposable income and demographic needs, and negatively on the housing stock and user cost.¹⁵

This last factor—user cost—requires further explanation, as it comprises many elements. These components include not just the mortgage interest payments that an owner has to make, but also annual property taxes, depreciation costs, and any expected capital gain. Taken all together, and adjusted for expected inflation, these costs are referred to as the real user cost of capital. Multiplying this by the housing price gives us the annual user cost of owning and can be understood as the rent equivalent for homeowners—i.e., the costs of owning, maintaining, and operating a home.

In particular, we exploit the fact that rents are found to have an impact on housing prices and, following the example of other studies, in our housing price equation we replace real rent with its main determinants—real income, housing stock, and household numbers.

In addition, our review of the UK price boom (Oxford Economics, 2016¹⁶) found rising employment was among the main drivers of the boom; we therefore also include labor market conditions as an additional driver.

EXISTING LITERATURE ON SHORT-TERM VACATION RENTALS

We are aware of only a few academic papers that directly study the effect of short-term rentals on housing costs. There are two main reasons for the dearth of literature. First, the STVR phenomenon is relatively recent and therefore a limited amount of data exist. Second, the research question is methodologically challenging, since many cities have become increasingly popular among both locals and tourists in recent years, leading to higher housing prices and a higher number of STVR listings. In other words, “popularity” affects both prices

and listings positively, as locals and tourists prefer living and staying in neighbourhoods with high-quality amenities. This “popularity” variable, however, is unobservable, and its omission in the model implies that the impact of STVR on prices is biased upwards, as part of the popularity impact gets erroneously captured by STVRs.

The study whose methodology most closely aligns with our approach is that of Barron et al., (2017)¹⁷, which assesses the impact of STVRs on residential house prices and

rents. The authors, however, fail to control for a number of explanatory variables included in our models. Using a dataset of Airbnb listings from the entire United States and an instrumental variables estimation strategy, they find that a 10% increase in the number of Airbnb listings leads to a 0.39% increase in rents and a 0.65% increase in home values.

Most other studies, however, differ from ours (and Barron’s) in two key respects. First, they focus on specific housing markets, rather than looking

at US-wide relationships, or they consider welfare and distributional effects rather than the impact on the housing market in isolation. Secondly, they use granular zip code-level data to determine whether the proximity to STVR-intensive areas affects sale prices. The data required for our study are available at these granular levels. Without these data, we would not be able to statistically control for the various influences on house prices and isolate the impact of STVRs.

Among these studies, Horn and Merante (2017)¹⁸ use Airbnb listings data from Boston in 2015 and 2016 to study the effect of Airbnb on rental rates. Similarly, Sheppard and Udell (2018)¹⁹ present an evaluation of the impacts of Airbnb on residential property values in New York City.

Another strand of literature provides descriptive analysis of STVRs in specific markets. For example, Lee (2016) focuses on the Los Angeles housing market and makes recommendations on how municipal policymakers can best regulate Airbnb. Other articles simply apply coefficients from other authors’ analyses to their specific markets to derive estimates of local STVR impacts (see for example Wachsmuth et al., 2018)²⁰.

Using a different choice-model based approach, Calder-Wang (2021) studies the welfare and distributional impact of Airbnb on the rental market in New York. The study finds that New York renters suffer an overall welfare loss of \$2.4 billion due to STVRs, and the burden falls mainly on high-income, educated, and white renters who prefer housing and location amenities that are most desirable to tourists.²¹

Garcia-Lopez et al. (2020) examine the impact of Airbnb on housing rents and prices in Barcelona using various econometric methods. Their findings indicate that, on average, Airbnb activity has led to a 1.9% increase in rents, a 4.6% increase in transaction prices, and a 3.7% increase in posted prices. Neighbourhoods with high Airbnb activity are found to have experienced even larger impacts, with rent increases of 7%, and transaction and posted price increases of 17% and 14% respectively.²²

Koster et al. (2020) study the effects of Airbnb bans implemented by several, but not all, local governments in the Los Angeles area. Exploiting changes in prices at the administrative border, they find that banning Airbnb decreases prices by about 5%.²³ Similarly,

Almagro and Domínguez-Lino (2020) set up a dynamic spatial equilibrium model of residential choice and estimate it with data from Amsterdam, and find that a lodging tax is more advantageous in its redistributive goals when compared to caps on STVRs.²⁴ Unlike the structural approach of these two studies, our focus produces reduced form estimates that help isolate the impact of STVRs on housing prices using less granular but more easily and widely available data for the US.

While these studies help us understand how the impact of STVRs can be assessed, their main limitations, in terms of their applicability to our study, are summarized in Fig. 10.

¹⁵ IMF, “Fundamental drivers of house prices in advanced economies”, July 2018 (last accessed May 2023).

¹⁶ Oxford Economics, “Forecasting UK house prices and home ownership”, November 2016.

¹⁷ Kyle Barron, Edward Kung, and Davide Proserpio. “The effect of home-sharing on house prices and rents: Evidence from Airbnb.” *Marketing Science* 40, no. 1 (2021): 23–47.

¹⁸ Keren Horn and Mark Merante. “Is home sharing driving up rents? Evidence from Airbnb in Boston.” *Journal of housing economics* 38 (2017): 14–24.

¹⁹ Stephen Sheppard and Andrew Udell. “Do Airbnb properties affect house prices.” *Williams College Department of Economics Working Papers* 3, no. 1 (2016): 43.

²⁰ David Wachsmuth, David Chaney, Danielle Kerrigan, Andrea Shillolo, and Robin Basalaev-Binder. “The high cost of short-term rentals in New York City.” A report from the Urban Politics and Governance research group, School of Urban Planning, McGill University 2 (2018): 2018.

²¹ Sophie Calder-Wang. “The distributional impact of the sharing economy on the housing market.” Available at SSRN 3908062 (2021).

²² Miquel-Àngel García-López, Jordi Jofre-Monseny, Rodrigo Martínez-Mazza, and Mariona Segú. “Do short-term rental platforms affect housing markets? Evidence from Airbnb in Barcelona.” *Journal of Urban Economics* 119 (2020): 103278.

²³ Hans RA Koster, Jos Van Ommeren, and Nicolas Volkhausen. “Short-term rentals and the housing market: Quasi-experimental evidence from Airbnb in Los Angeles.” *Journal of Urban Economics* 124 (2021): 103356.

²⁴ Milena Almagro and Tomás Domínguez-lino. “Location sorting and endogenous amenities: Evidence from Amsterdam.” In 2020 APPAM Fall Research Conference. APPAM, 2020.

Fig. 10: Summary of existing STVR literature

Author	City of interest	Main findings	Main limitation
Barron et al. (2017)	US-wide	A 10% increase in Airbnb listings leads to a 0.39% increase in rents and a 0.65% increase in home values.	The authors construct an instrument based on Google Trends searches for Airbnb. Unfortunately, these are not accurately available at the zip code level, so to obtain an instrument that varies at the zip code level they interact these searches with a measure based on the number of hospitality establishments in the zip code area. The validity of this instruments can therefore be disputed.
Horn and Merante (2017)	Boston	0.4% increase in asking rents associated with a one-standard-deviation increase in Airbnb listings	The authors rely on weekly rent data from September 2015 through January 2016 and Airbnb data from September 2014 to January 2016. Thus their time dimension is fairly limited. We believe this hinders their ability to establish meaningful relationships between the various variables.
Sheppard and Udell (2018)	New York	6.46% increase in NYC property values associated with a doubling in the number of total Airbnb accommodations	The authors do not convincingly account for the fact that neighborhoods tend to become more attractive to residents and tourists at the same time.
Garcia-Lopez, et al. (2020)	Barcelona	1.9% increase in rents, a 4.6% increase in transaction prices, and a 3.7% increase in posted prices linked with Airbnb activity with neighbourhoods with high Airbnb activity estimated to have experienced even larger impacts.	The authors use micro-level datasets that track granular changes in rents, listed and transaction prices at the Basic Statistical Area (BSA) level. This unit of analysis is built and used by Barcelona City Hall for statistical purposes, and is not available for the US.
Koster, et al. (2020)	Los Angeles	Banning Airbnb decreases prices by 5%	The study uses a spatial Regression Discontinuity (RD) design, which compares changes in prices across municipality borders following Airbnb bans. However, properties located across a border might be part of the same housing market, and therefore, spatial RD estimates do not capture changes in rents and prices that are caused by supply reductions.
Almagro and Domínguez-Lino (2020)	Amsterdam	Lodging taxes generate better redistribution outcomes for disadvantaged groups than caps on the nights STVRs can be made available.	The authors construct a structural model using postcode level data, which is not available for the geographic scope of our study.
Calder-Wang (2021)	New York	Overall welfare loss estimated at \$2.4 billion with distributional effects indicating that the burden falls most heavily on high-income, educated and white renters.	The study uses Airbnb as a proxy and build a structural model aimed at capturing welfare and distributional effects. The aim and therefore the methodology used is very different from the aims of our study.

Source: See footnotes on page 21



Andrei Medvedev/Shutterstock.com

4. MODELING APPROACH AND DATA

We build upon the studies referenced in the previous chapter, as well as previous Oxford Economics analysis undertaken in 2019, to produce a US-wide estimate of the impact of STVRs on the housing market. To the best of our knowledge, Oxford Economics' work presents one of the first econometric estimates that use comprehensive data from across the US and covers the pandemic years (2020-2021), as well as covering more STVR platforms than only Airbnb.

This means that we are able to include both owner-occupied home sharing and whole-property STVRs.

To assess how the growth of the STVR market has affected the US housing prices and rents, we have employed a three-step approach as illustrated in Fig. 11.

More detailed information on our methodological approach can be found in the Appendix to this report. In summary,

- First, we undertook a set of background research tasks that informed our approach and laid the foundation for subsequent work. This included a detailed review of available literature and the collection and cleaning of various datasets that were required for our econometric modeling work.
- Next, we used this dataset to estimate an econometric model which aimed to explain variation in house and rental prices—both between different locations and over time—based on a set of economic drivers. As part of this we used data on STVR density, as described, to test the hypothesis that

by restricting available supply, the growth of the STVR market has pushed up housing and rental prices.

- Finally, we applied the results from the econometric model which describe the marginal impact of each driver to the observed changes in each variable. In so doing, we quantify the share of house/rental price growth between 2014 and 2021 that can be attributed to increases in STVR density and other economic factors.

DATA

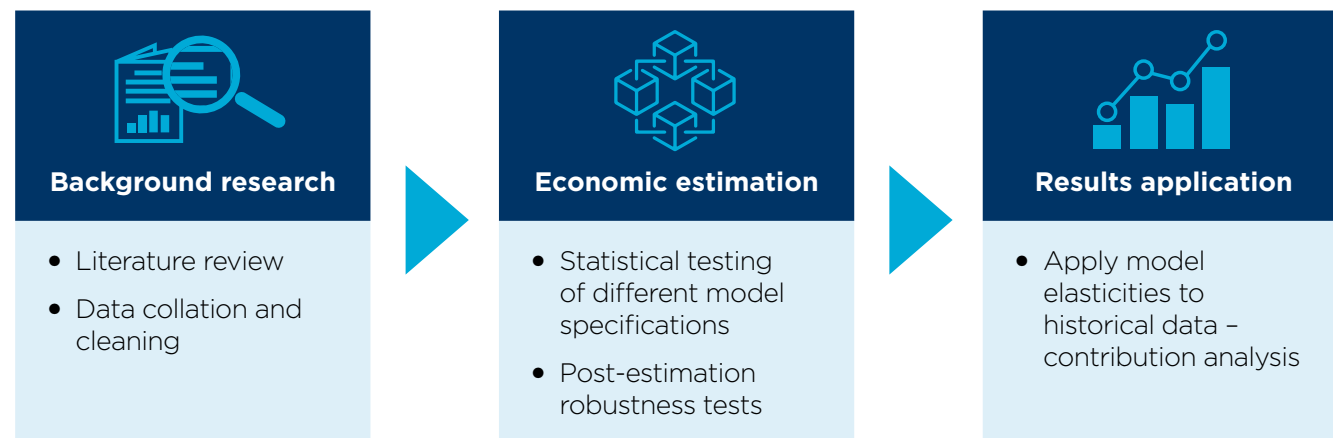
We constructed a comprehensive dataset of all US counties over the period 2014-2021. The sample period for this study begins in 2014, the first year for which data on STVRs are available and concludes in 2021 to align with the latest available year for county-level economic and demographic data from the American Community Survey (ACS)²⁵.

The dataset included a number of economic variables at the national and county level. These include:

- household income and unemployment rates to capture local economic trends;
- housing stock, the number of households, building permits to capture trends in the housing market;
- tourism GDP as a proxy for the overall levels of tourism;
- the user cost of capital reflecting financial aspects related to home ownership; and
- the density of STVRs in the county—the key variable of interest.

Historic data for each variable were sourced from a combination of proprietary and publicly available datasets. A list of the data used in the modeling and the corresponding sources is provided in the Appendix.

Fig. 11: Three-step research approach



²⁵ The "American Community Survey (ACS)" is an ongoing survey conducted by the U.S. Census Bureau to provide detailed and comprehensive social, economic, and demographic information about the American population. It collects data on a wide range of topics, including population characteristics, housing, education, employment, income, and commuting patterns, at very granular regional levels.

5. RESULTS AND DISCUSSION

As noted in Chapter 2, the STVR market in the US has grown rapidly in recent years, and the growth in STVRs has outpaced the rise in available dwellings, as indicated by an increase in STVR density. However, in 2020 and 2021, housing prices and rents increased significantly at a time when housing supply growth was relatively slow but factors affecting demand, i.e., income levels, unemployment rates, and borrowing costs remained favourable.

The 2020-2021 period also saw a significant shift in housing preferences as workers moved away from crowded commercial centers to more rural regions in search for more space and room.

We discuss the two distinct periods in separate sections: the trends for housing prices and rents between 2014-2019 are presented first, followed by those for the 2020-2021 period, before bringing the results for both periods together to conclude.

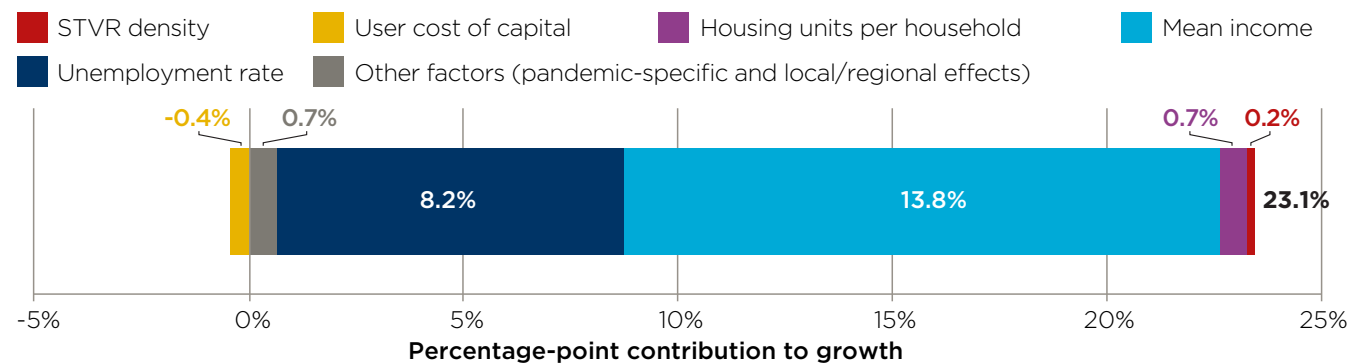
STVR IMPACT ON HOUSING PRICES AND RENTS LEADING UP TO THE PANDEMIC (2014-2019)

In the five years leading up to the pandemic the growth of STVR density had a negligible impact on US housing prices. The econometric analysis shows that at the national level, a 10% increase in STVR density increases housing prices by 0.18%. **Between 2014 and 2019, average housing prices increased by 23.1% in real (inflation-adjusted) terms and our modeling implies that only 0.16% of this increase was attributable to the rapid growth of the STVR market during this period.**

The national impact of STVRs on rental affordability was similarly modest. Repeating our modeling approach but switching our focus to rental prices painted a similar picture as that of housing prices. Our modeling found that a 10% increase in STVR density raised rental prices by 0.6%.

Overall, we find that the growth of STVR density between 2014 and 2019 resulted in US rental prices being 0.9% higher than they would otherwise have been. Our model not only isolates the role of STVR density but can also be used to identify and size the contribution of other drivers (positive and negative).

Fig. 12: Drivers of growth in US housing prices between 2014 and 2019 (inflation-adjusted growth)



Source: Oxford Economics

The full breakdown is illustrated in Fig. 12 and Fig. 13. This demonstrates that much more quantitatively significant causes of observed US housing price and rental inflation between 2014 and 2019 were the increase in the average level of household disposable income and the steady decline in unemployment rates, which boosted real housing prices by a combined 22.3%. Similarly, rental price growth was largely attributable to the increase in income levels, which contributed 5.4% of the 6.7% increase in rents in the 2014-2019 period.

Our results can be expressed more simply in terms of the impact on housing prices and rents as of 2019. We find that without any increase in STVR density since 2014, the

average housing price of around \$211,000 in 2019 would have been less than \$300 lower in real terms, and the average monthly rent of around \$1,000 would have been lower by \$8 in real terms. That is, between 2014 and 2019, **STVRs contributed a hundredth and a seventh to overall growth in housing prices and rents respectively.**

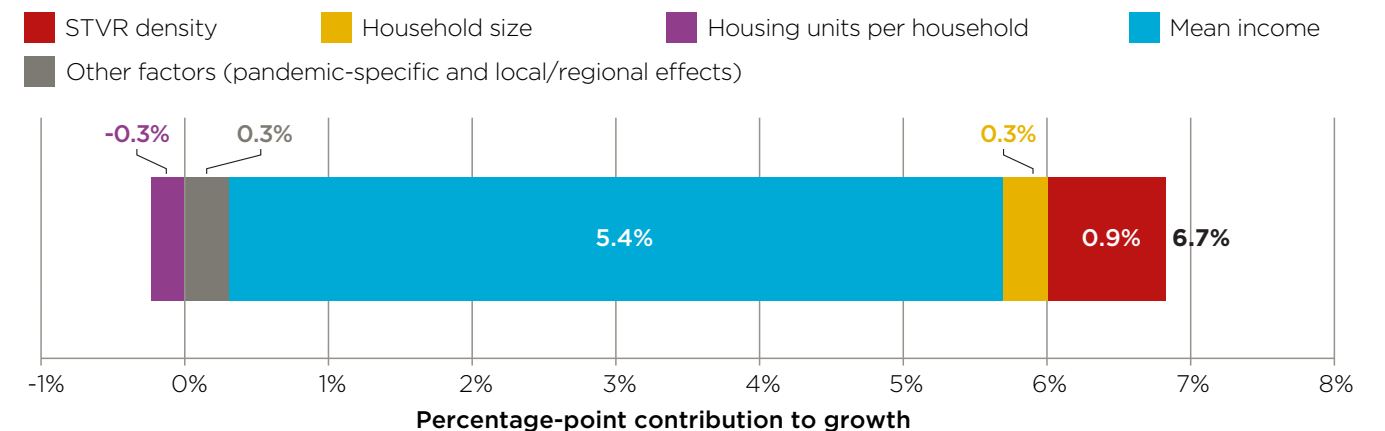
In contrast, growth in conventional economic factors since 2014 is estimated to have contributed around \$42,000 to housing prices and \$52 to monthly rents in real terms in 2021, i.e., **conventional economic factors contributed almost all of the growth in housing prices and more than four-fifths of rental price growth respectively in real terms between 2014 and 2019.**

\$8 lower monthly rents

in 2019 without any increase in STVR density since 2014.

About a seventh (i.e., 0.9% out of the 6.7%) of the increase in real rents attributed to STVRs according to our model.

Fig. 13: Drivers of growth in rents in the US between 2014 and 2019 (inflation-adjusted growth)



Source: Oxford Economics

IMPACT OF THE PANDEMIC ON HOUSING PRICES AND RENTS (2020-2021)

The pandemic and the associated changes in work patterns have had a significant impact on housing market dynamics in recent years. As workers have spread out of urban centres in search of more spacious accommodation, housing prices and rents in more affordable counties have surged.²⁶ For example, Ramani and Bloom (2022)²⁷ show there has been a “donut effect” whereby households and businesses have moved out of city centers over this period towards the suburbs resulting in a significant divergence in price growth between these two areas.

In the 12 largest metro areas in the US, the study found that the central business districts (CBDs) and the top 10% of zip codes by population density saw more than a 10% drop in rents when rents in other areas

increased between March 2020 and November 2020. Although there is less of an aggregate decrease in home sale prices as compared with rents, there is a similar demand reallocation effect where CBDs and dense areas experience relative price growth slowdowns compared with less dense areas.

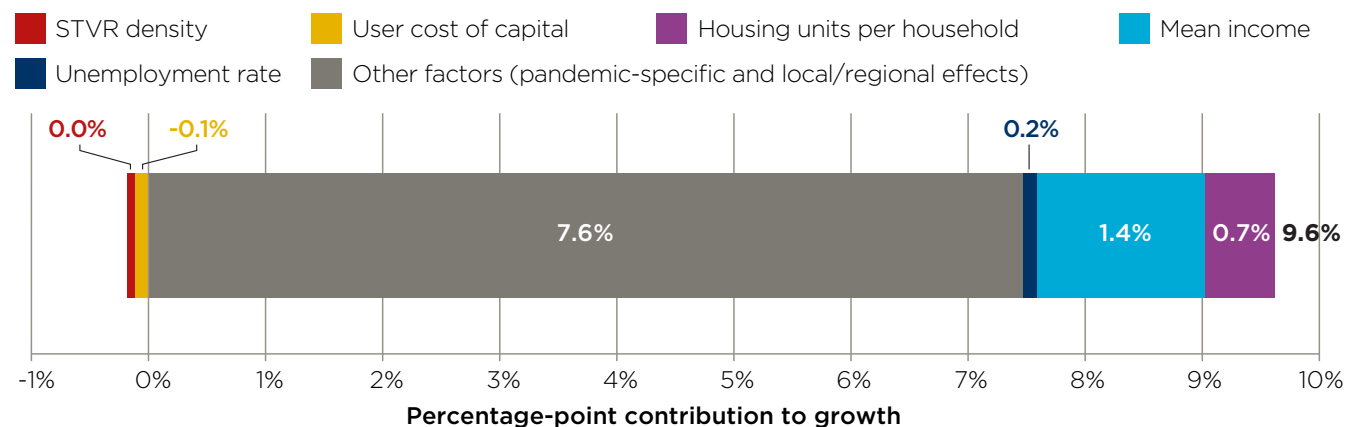
The emergence of the “donut effect” was attributed to four key factors: the economic impact of the virus; restricted access to urban amenities during lockdowns; apprehension towards densely populated areas due to virus transmission concerns; and the ability to work remotely. The latter, which is likely to have a lasting impact beyond the pandemic, enables individuals to reside in more spacious homes outside city centers while maintaining their job productivity.²⁸

Consequently, a thorough evaluation of the impact of short-term vacation rentals focussed on this period was deemed necessary. This period coincided with a period where the growth in STVR density reversed to some extent; STVR density fell to 5.5 listings per 1,000 dwellings in 2020 from 6.1 listings per 1,000 dwellings in 2019.

Between 2019 and 2021, housing prices increased by 9.6% in real terms whereas rental prices increased by 3.3%.

Our modeling indicates that the contribution of STVRs to housing price and rental price growth over this period was largely negligible.

Fig. 14: Drivers of growth in US home prices between 2020 and 2021 (inflation-adjusted growth)



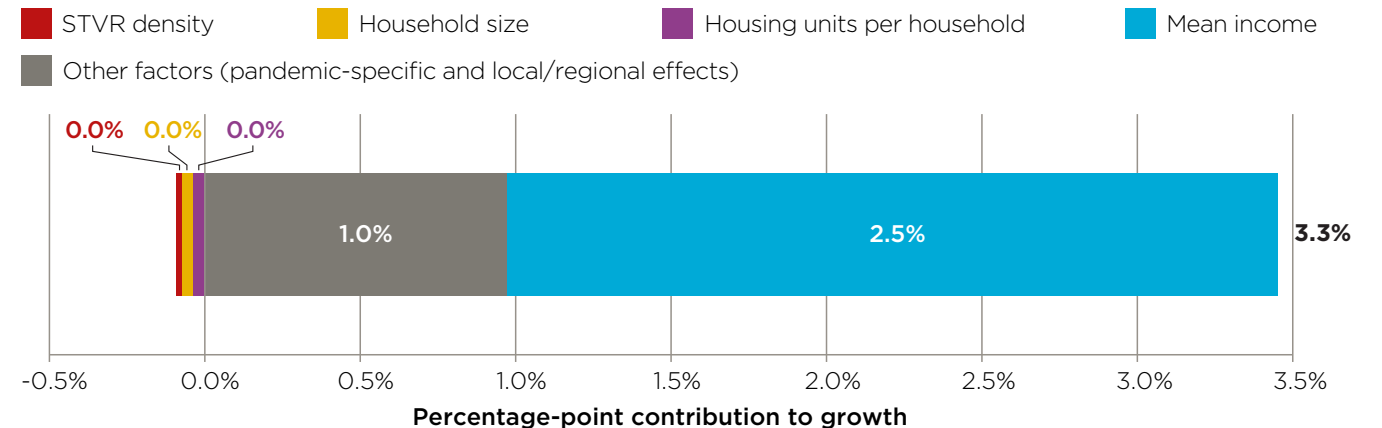
Source: Oxford Economics

²⁶ Bloomberg “How the ‘rise of the rest’ became the ‘rise of the rents’”, 8 September 2022 (last accessed May 2023).

²⁷ Arjun Ramani and Bloom, Nicholas. “The Donut Effect of COVID-19 on Cities,” National Bureau of Economic Research, Working Paper 28876 (2022).

²⁸ Ramani and Bloom, “The donut effect: How COVID-19 shapes real estate”, January 2021 (last accessed June 2023).

Fig. 15: Drivers of growth in US housing prices between 2014 and 2021 (inflation-adjusted growth)



Source: Oxford Economics

Further, our modeling also indicates that only a small fraction of the increase in housing prices—less than 2.1% of the 9.6% growth in prices—is explained by more traditional economic and housing market specific factors such as average income levels, unemployment rates, housing supply and inventory, or the cost of borrowing.

A majority of the growth in housing prices between 2019 and 2021 are due to other factors not included in the model, such regional and local factors such as changes in zoning laws, building codes, and other regulations and changes in housing preferences. For example, the pandemic has shifted preferences towards larger housing and housing in suburban and rural areas through the necessity of remote work and the desire for living outside crowded urban centres.

This trend is evident in the higher prices of spacious suburban homes, as well as the increased preference for single-family housing over multifamily construction.²⁹

In the rental market however, the increase in household income levels contributed 2.5% to the 3.3% growth in rents between 2019 and 2021.

STVRs’ contribution to housing price and rental price growth was negligible, according to our model results. Nearly 78% of housing price growth and 26% of rental price increase in 2020-2021 was attributed by our model to pandemic-specific factors or other local or regional factors.

Translating the above results into impacts on housing prices and rents, we find that changes in conventional economic factors since 2019 contributed around \$5,000 to housing prices and \$24 to monthly rents in real terms in 2021, i.e., less than a quarter of the growth in housing prices and almost three-fourths of the growth rental prices in real terms between 2019 and 2021.

²⁹ Federal Reserve Bank of Dallas, “Why House Prices Surged as the COVID-19 Pandemic Took Hold”, December 2021 (last accessed May 2023).

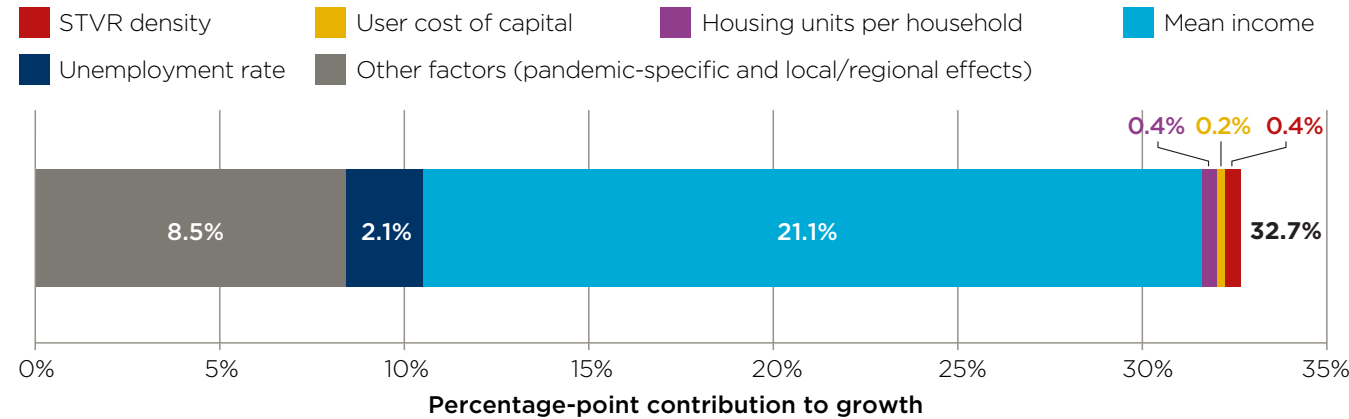
BRINGING IT TOGETHER: STVRs AND THE HOUSING MARKET BETWEEN 2014 AND 2021

The modeling horizon for this study comprises two periods with distinct dynamics in the housing market, i.e., the five years leading up to the pandemic (2014-2019) and the two years since the pandemic (2020-2021). These periods saw different trends in housing market and economic variables

linked to the pandemic and associated behavioral changes. It is too early to say whether the extent to which these changes are likely to persist in the future. In this section, we present the results based on a model covering the entire 2014-2021 period and the associated economic trends.

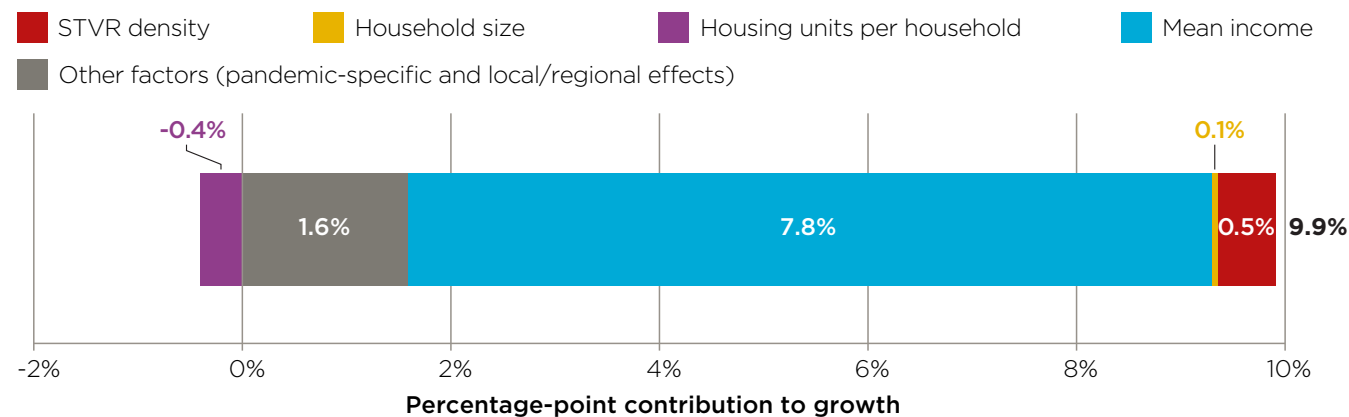
During this period, housing prices increased by 32.7% whereas rental prices increased by 9.9% in real terms. Of this growth, our modeling indicates that the increase in STVR density contributed 0.4% to housing price growth and 0.5% to rental price growth.

Fig. 16: Drivers of growth in home prices in the US between 2014 and 2021 (inflation-adjusted growth)



Source: Oxford Economics

Fig. 17: Drivers of growth in rents in the US between 2014 and 2021 (inflation-adjusted growth)



Source: Oxford Economics

Over the period of 2014 to 2021, the growth in housing prices by 32.7% was largely influenced by a 23.8% contribution from the increase in income levels and the decrease in unemployment. The remaining growth was attributed to a complex interplay of factors, including pandemic-related behavioral changes and region-specific regulations.

Similarly, the rise in rental costs by 9.9% during the same period was largely due to a 7.8% increase attributable to income levels, with the remaining largely being influenced by pandemic-related factors and region-specific regulations.

Our modeling shows that **without any increase in STVR density since 2014, the average home price of around \$232,000 in 2021 would have been only \$800 lower in real terms, and the average monthly rent of around \$1,000 would have been lower by only \$5 in real terms.**

Considering that most households do not pay the full price of a house upfront, but rather apply for long-term mortgages, we estimate the average annual mortgage payment in 2021 would have been \$40 cheaper if STVRs had remained at their 2014 levels.

In contrast, growth in conventional economic factors since 2014 is estimated to have contributed around \$47,000 to housing prices and \$72 to monthly rents in real terms in 2021, i.e., around three-fourths of the growth in housing prices and rental prices respectively in real terms between 2014 and 2021.

THE IMPACT OF STVRs IN VACATION DESTINATIONS

Is the impact of STVRs on prices and rents different in traditional vacation markets such as counties in the mountains or in coastal areas? In both the housing prices and the rental model, we find that, in the long run, the effect of STVRs on the dependent variable is similar in these highly seasonal areas. STVRs contributed around 0.2% out of the total housing price growth of 43.4% in mountain counties and 27.7% in coastal areas, as shown in Fig. 18.

As far as the rental market is concerned, in vacation markets, homes are less likely to be rented on a long-term basis. That means that STVRs have an even smaller effect on rents in

these markets. As shown in Fig. 19, STVRs have contributed 0.5% or less to rental price growth in mountains and coastal areas.

In the homeowners' market, by their very definition, vacation-destination housing markets have higher vacancy rates that reflect more volatile seasonal housing demand. The impact of STVRs on house prices is found to be similar in these areas, as home owners have been renting out their properties long before the advent of internet platforms offering STVRs (through agencies and brokers) and therefore the value from such rental revenue has long been priced in the value of homes in these localities.

Fig. 18: Impact of STVRs on housing prices in mountains and coastal areas

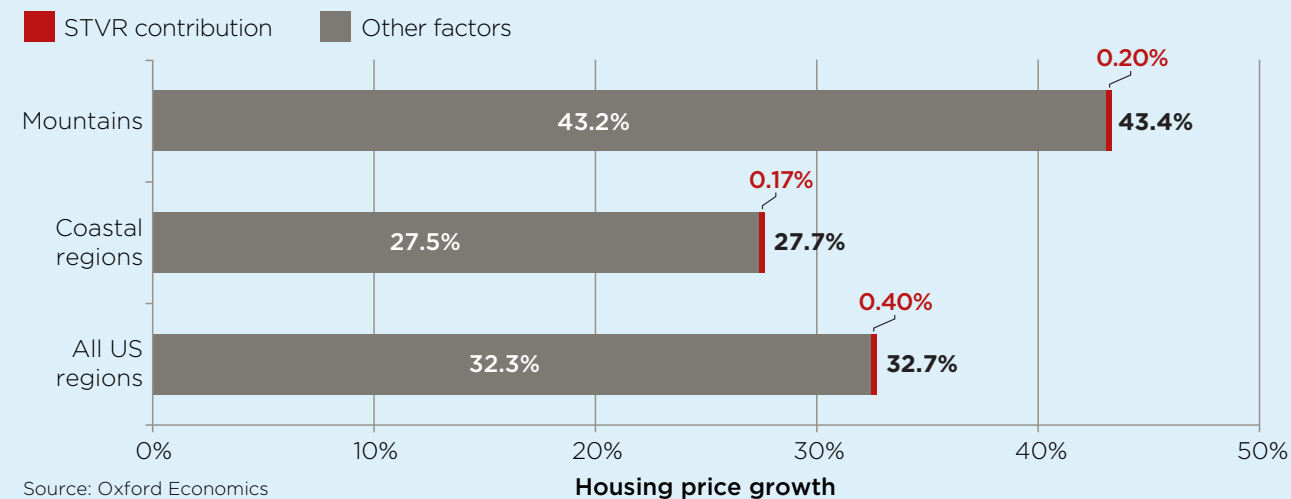
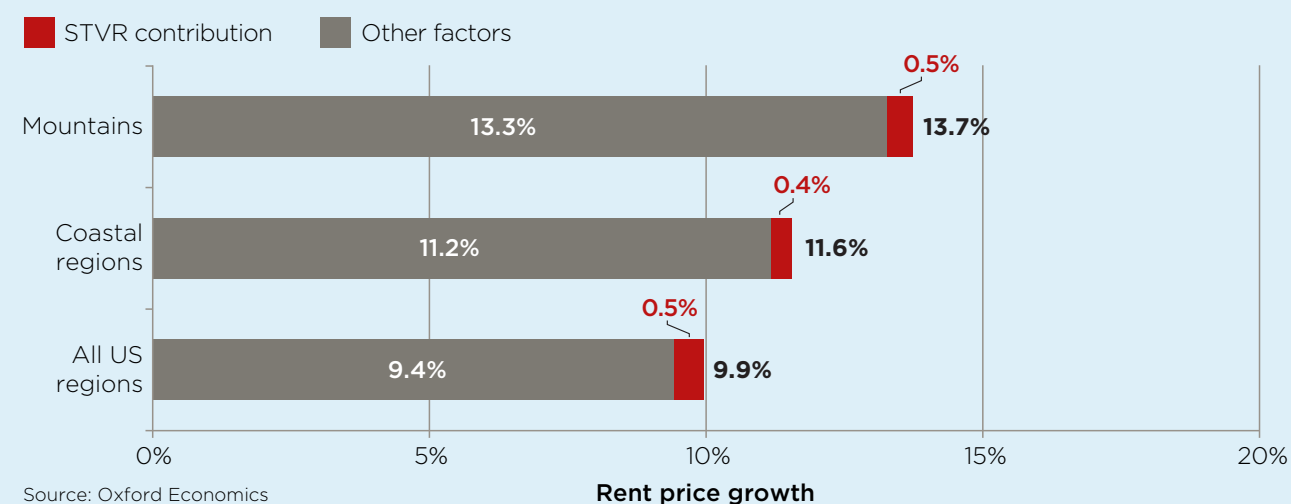


Fig. 19: Impact of STVRs on rents in mountains and coastal areas



6. CONCLUSION

In evaluating the impact of short-term vacation rentals (STVRs) on the growth of housing prices, rents, and affordability between 2014 and 2021, we find that:

- STVRs had a minimal impact on US housing prices and rents. Growth in STVR density contributed to 0.4% of the 32.7% growth in house prices and 0.5% of the 9.9% rise in rents during the 2014-2021 period.
- In other words, housing prices would have been only \$800 lower and monthly rents would have been only \$5 lower in real terms if STVR density had not increased between 2015 and 2021.
- Changes in economic factors—such as unemployment and income levels—since 2014 are estimated to have contributed around \$47,000 to housing prices and \$72 to monthly rents in real terms in 2021, i.e., almost three-fourths (3/4) of the growth in housing prices and rental prices in real terms between 2014 and 2021.
- Analysis focussed on the pandemic and post-pandemic era reveals a notable transformation in market dynamics. Changes in housing preferences—such as an increase in demand for homes with dedicated offices spaces for remote work and outdoor areas for recreation—had a substantial impact on prices and rents since March 2020.
- A model extension suggests that the effect of STVRs on both housing prices and rents is similar in vacation destinations to that of other regions.

The findings have important implications for policymakers who have been focusing on STVRs as both the primary cause of high home prices and its solution. Over-regulating STVRs could harm local economies, reducing visitor spending, and limiting tourism income. Additionally, areas with high rates of second-home ownership that heavily rely on tourism may not experience an immediate increase in long-term rental availability. Finding a balance between STVR regulation and economic vibrancy while addressing housing concerns is crucial.



APPENDIX: METHODOLOGY AND DATA

ECONOMETRIC METHODOLOGY

Housing prices (or rents) in the current period might be affected by past trends in housing prices (or rents), as well as housing supply and general economic conditions. In such cases, dynamic panel methods, such as the Arellano Bond estimator (also known as Difference GMM) and Blundell Bond estimator (System GMM), would allow us to account for the presence of such “dynamic effects.” Difference GMM estimation starts by transforming all regressors, usually by differencing, and uses the generalized method of moments (GMM). This work employs Difference GMM.

Dynamic panel models have become increasingly popular in many areas of economic research, and their use has provided new insights. Using dynamic panel models allows us to find overall (long-run) coefficients for the explanatory variables as well as the contemporaneous (or short-run) ones.

The advantages of dynamic models include:

- controlling for the impact of past values of housing prices (or rents) on current values;
- estimation of overall (long-run) and contemporaneous (short-run) effects; and

- use of past values of explanatory variables as instrumental variables to mitigate the bias due to two-way causality between economic conditions and the housing market, omitted variable bias and measurement error.

The need for a dynamic model: Wooldridge test for serial correlation

The Wooldridge test allows us to test whether the errors are serially correlated; if these are found to be autocorrelated, we may infer that there is a need for a dynamic model.⁴⁰ The disadvantage of a dynamic panel model, however, is that it can add considerable complexity to the modeling process. A simpler static model might therefore be a preferable approach if the Wooldridge test does not suggest a dynamic panel is necessary.

Use of instruments

Instruments are used to control for potential endogeneity in a regression. We have found median incomes (rent model), permits per household, housing supply per household and STVR density (house prices model) to be endogenous variables, and therefore the instrumental variable method was used to estimate their impact.

MODEL RESULTS

As explained, our model specification is known as Difference GMM; such approach, by virtue of being a dynamic model, has both a short- and long-run impact. To obtain the long-run impact, we used the Delta method and discounted the short-run impact by one minus the coefficient on the lagged dependent variable.

CONTRIBUTION ANALYSIS

The modeling results shown in Fig. 20 and Fig. 21 tell us about the sensitivity of rents and prices to changes in their macroeconomic determinants. But these results can also be used to find out which of the determinants were responsible for past changes in the dependent variables. For instance, Fig. 20 shows that the number of housing units per household has a significant negative effect on rents. But while rents may be sensitive to changes in the supply of housing stock, if there was no (or little) change in the housing stock over the study period, then this variable will not have influenced housing prices during that period.

The “contribution” of a given variable in explaining changes in housing prices or rents is therefore a combination of both the estimated sensitivities and the change in that variable over the period under analysis.

Fig. 20: Model results: rents

Variables	Full study sample (2014-2021)	Pre-pandemic period (2014-2019)
Lagged log real median rents	0.8272*** (0.0117)	0.8034*** (0.0134)
STVR density	0.0008*** (0.0002)	0.0011*** (0.0003)
Log mean income	0.1371*** (0.0149)	0.1276*** (0.0156)
Log housing units per household	-0.0681*** (0.0069)	-0.0728*** (0.0076)
Log household size (rental)	0.0455*** (0.0069)	0.0454*** (0.0074)
Constant	-0.3890*** (0.1306)	-0.1165 (0.1424)
Observations	28,026	21,798
Number of counties	3,114	3,114

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Note that the contributions for the 2020-2021 period are calculated using the coefficients from the 2014-2019 period to illustrate the extent to which economic relationships changed due to the pandemic and associated factors.

Source: Oxford Economics

Fig. 21: Model results: housing prices

Variables	Full study sample (2014-2021)	Pre-pandemic period (2014-2019)
Lagged log real median home prices	0.9842*** (0.0073)	0.9400*** (0.0063)
STVR density	0.0000 (0.0001)	0.0001 (0.0001)
Log mean income	0.0679*** (0.0072)	0.0744*** (0.0067)
User cost of capital	-0.2115*** (0.0150)	-0.4573*** (0.0144)
Log housing unites per household	-0.0795*** (0.0093)	-0.1071*** (0.0143)
Unemployment rate	-0.0011*** (0.0002)	0.0047*** (0.0003)
Observations	20,475	17,769
Number of counties	2,708	2,650

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Note that the contributions for the 2020-2021 period are calculated using the coefficients from the 2014-2019 period to illustrate the extent to which economic relationships changed due to the pandemic and associated factors.

Source: Oxford Economics

MODELS WITH INTERACTIONS

Is the impact of STVRs on prices and rents different in traditional vacation markets? The model coefficients described so far measure the average impact of STVRs on the dependent variables (prices and rents). Our baseline model looks as follows (in the example of prices):

$$Housing\ prices_{it} = \alpha\ STVR_{it} + \beta\ X_{it} + \gamma\ Housing\ prices_{it-1}$$

However, in order to isolate vacation markets, we added an interaction term to our models, defining them based on whether the counties were coastal or mountainous regions.³⁰ The model is now specified as follows:

$$Housing\ prices_{it} = \alpha\ STVR_{it} + \alpha_2 + (Vacation * STVR_{it}) + \beta\ X_{it} + \gamma\ Housing\ prices_{it-1}$$

Without the interaction term, α would be interpreted as the total effect of STVRs on prices. But the interaction means that the effect of STVRs on prices is different for vacation markets and less touristic areas. The effect of STVRs on prices in non-touristic counties is equal to α_1 . However, in vacation markets the effect is equal to $\alpha_1 + \alpha_2$.

In both the housing prices and the rental model, the interaction term for vacation markets is not statistically significant, suggesting that the effect of STVRs on the dependent variable is the same as other regions in these potentially tourism-heavy areas.

DATA

The table below shows the data used in our model and the corresponding sources.

Variable	Source
Active listings	AirDNA
ZHVI all homes price index	Zillow
Rents by property size	US Census Bureau and the Department of Housing and Urban Development
Mean and median income	Oxford Economics databank
Number of housing units	Census Bureau
Number of households	Oxford Economics databank
Unemployment rate	Bureau of Labor Statistics
Tourism GDP	Oxford Economics databank
Building permits	US Census Bureau
Household size	American Community Survey
User cost of capital (see note below)	
Property tax rates	American Community Survey (5-year estimates)
Depreciation rates	US Bureau of Economic Analysis
Inflation expectations	Federal Reserve Bank of Cleveland
Effective interest rate	US Federal Housing Finance Agency
Effective mortgage rate	Federal Reserve Economic Data
Mortgage interest deduction rate	Internal Revenue Service, American Community Survey, Tax Foundation

Source: Oxford Economics

38 ³⁰ The dummy variable takes a value 1 if the county is coastal or in a mountain region, and 0 otherwise.

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Oxford Economics was founded in 1981 as a commercial venture with Oxford University’s business college to provide economic forecasting and modeling to UK companies and financial institutions expanding abroad. Since then, we have become one of the world’s foremost independent global advisory firms, providing reports, forecasts and analytical tools on more than 200 countries, 100 industries, and 8,000 cities and regions. Our best-in-class global economic and industry models and analytical tools give us an unparalleled ability to forecast external market trends and assess their economic, social, and business impact.

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Founded in 1985, the Vacation Rental Management Association (VRMA) advances and advocates for the short-term vacation rental property management and hospitality industries. Headquartered in the United States, membership includes professional property managers, owners, and suppliers in countries throughout the world—in addition to housekeeping and maintenance professionals through its partnership with the Vacation Rental Housekeeping Professionals (VRHP). VRMA provides news and research, education and networking opportunities, certification and accreditation, promotes the value of the vacation rental experience, and drives industry growth.

VRMA engages in advocacy efforts to promote favorable legislative and regulatory environments for the short-term vacation rental industry, and supports fair and reasonable regulation. VRMA works with lawmakers and government agencies to educate them about the benefits of vacation rentals, emphasizing the contributions made by its members to local economies. VRMA also conducts and underwrites research to generate insights that help its members make informed business decisions and advocate for their community. To learn more, visit www.vrma.org and www.vrmaadvocate.org.

June 2023

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