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Booking.com

# The Economic Impact of Online Travel Agencies in APAC

Final Report

2019-2021





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# OTA IMPACTS

## SUMMARY IMPACTS IN APAC

### OTAs generate benefits for the hospitality industry, consumers and society as a whole

Online travel agencies (OTAs) in the Asia-Pacific region play an important function in the accommodation market and for destinations. OTAs increase choice and transparency within the market, making it easier for consumers to compare the costs and quality of the accommodation facilities and services offered by providers. They also make it easier for customers to search and book online. This is particularly important for booking travel in unfamiliar destinations. As a result, OTAs generate more bookings from international travelers than the market average.

OTAs particularly benefit small independent properties by providing them with global visibility. Across APAC, the share of bookings accruing to independent properties through OTAs is significantly higher than the market average. This helps preserve APAC's unique ecosystem of independent properties.

By offering consumers more choice, OTAs also exert a downward effect on rates, making travel more affordable and increasing value for money. This benefits particularly low income households across the region, who might otherwise not be able to afford any travel at all. Offering more choice also spreads out tourism away from the centers of economic and touristic activity towards rural destinations. As a result, rural areas benefit from an increase in economic opportunities and job creation.

On an aggregate level, OTAs have generated large volumes of additional tourism nights and supported GDP growth and job creation across a wide range of destinations. If OTAs did not exist, there would be fewer overnight stays in APAC and the contribution of tourism to GDP and employment would also be lower.

This study quantifies the incremental impact of OTAs on the tourism industry and broader economy of APAC. The number of travellers organising travel through OTAs increased steadily from 2012 to 2019 to 705 million nights which represented more than 1 in 10 nights booked in APAC.

A proportion of these nights and associated economic benefits would not have happened without the trusted information, transparency and choice provided by OTAs. All travel bookings fell sharply during the pandemic, including some shift in OTA use resulting in a lower impact on the tourism market and broader economy in 2020 and 2021. OTAs still play an important role in matching evolving consumer demand with available supply.

### Nights in All Accommodation Types in APAC, 2012-2021

Billions of Room Nights



### OTAS MAKE TRAVEL MORE AFFORDABLE

If OTAs did not exist rates in APAC's accommodation market would be higher. Between 2014 and 2019, OTAs generated an average reduction in rates of \$6.20 per room night (6.0% reduction) across APAC.

#### Reduction in Average Daily Hotel Rates Attributable to OTAs, 2019-2021



### OTAS INCREASE BOOKINGS & EXPAND THE MARKET

OTAs provide businesses with an online platform to advertise their accommodation offer and expand their consumer base. OTAs also improve trust in providers, and reward quality.

#### Additional Nights (Millions) in All Accommodation Attributable to OTAs, 2019-2021



### OTAS CREATE ADDITIONAL GDP GROWTH

OTAs generate economic growth across APAC. OTAs added an incremental \$15.5 billion to the economy in 2019. OTAs contributed \$4.3 billion to APAC's GDP in 2020 and \$4.0 billion in 2021.

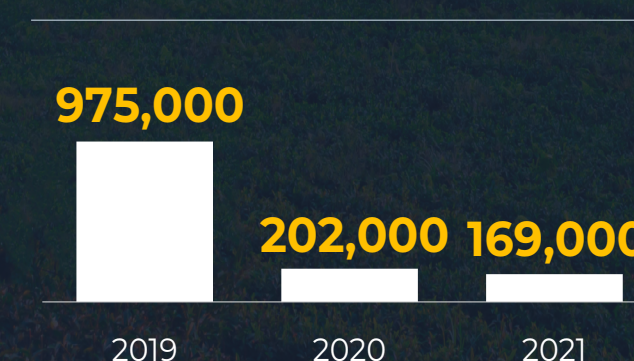
#### GDP Impacts (USD Billions) Attributable to OTAs in APAC, 2019-2021



### OTAS GENERATE JOBS AND ECONOMIC OPPORTUNITIES

OTAs generate significant job impacts across various sectors of the APAC economy. In 2019, the economic impacts attributable to OTAs included 975,000 jobs. In 2020 and 2021, OTAs were responsible for 202,000 and 169,000 jobs, respectively.

#### Job Impacts Attributable to OTAs in APAC, 2019-2021





# RESEARCH OBJECTIVES & METHODOLOGY

The main aim of this study is to quantify the additional – i.e., incremental – impact of OTAs in APAC for 2019, 2020 and 2021.

Specifically, this analysis aims to assess:

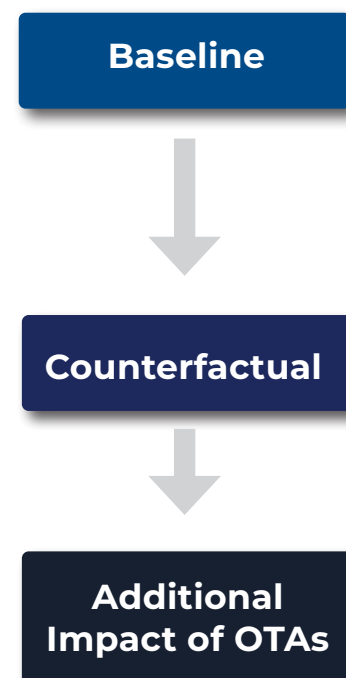
1. The overall impact on business by examining what impact OTAs have had on total overnight stays in APAC;
2. What impact OTAs have had on the hotel rates paid by consumers across APAC; and
3. The additional economic activity that is supported by the presence of OTAs in APAC.

Analysis has quantified how these impacts have varied across the market segments and the extent to which OTAs have supported changing consumer preferences during the pandemic. The following effects have been considered:

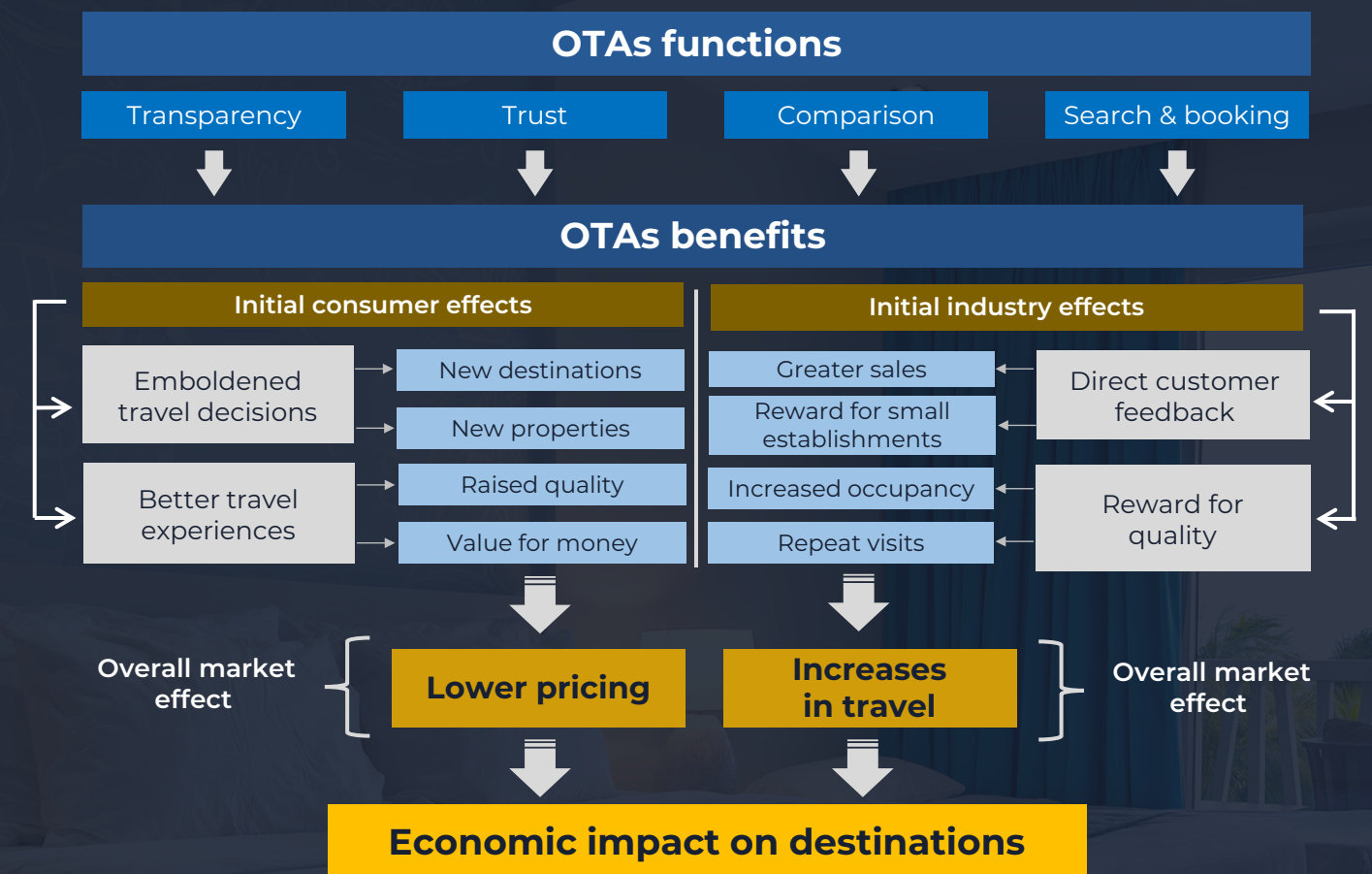
- Accommodation type - including the different impact of OTAs on chain and non-chain hotels as well as on alternative (non-hotel) accommodation.
- International and domestic visitors - different visitors have differing needs regarding information and booking and engagement with OTAs which have been estimated.
- Geographic dispersion - OTA impacts and booking patterns have been considered relative to those from the wider tourism industry, including the extent to which OTAs spread tourism to more rural areas compared to the market average.

## OVERARCHING METHODOLOGY

- 1 The first step was to establish the actual number of overnight stays, average level of hotel daily rate and total economic impact of tourism in APAC.
- 2 OTAs' share of current travel within the baseline was calculated. An econometric model was developed to calculate the extent to which the presence of OTAs determines the metric in question.
- 3 Econometric model results were used to establish what would have happened to each of the above metrics if OTAs did not exist.
- 4 The difference between the baseline and counterfactual scenario is the net additional impact of OTAs.



## FLOWCHART OF OTA BENEFITS



## OTAS SUPPORT A RANGE OF BENEFITS TO CONSUMERS AND BUSINESS





# ECONOMETRIC RESULTS

## OTA FOOTPRINT & INCREMENTAL IMPACT ON NIGHTS

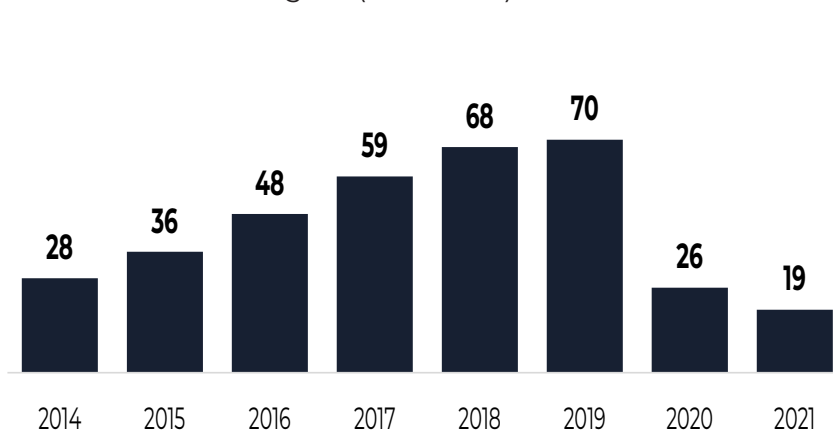
Of the 705 million nights booked through OTAs in 2019, 10% would not have taken place without the benefits OTAs provide. 70.2 million additional nights were generated through the increase in choice, transparency, and trust provided by OTAs.

Panel econometric estimation considered how the OTA footprint has changed relative to all other identified drivers of demand in order to identify the incremental impact in demand for all major markets.

Estimation accounts for changes in domestic and international demand drivers, including changes in indicators of income and affordability in all source markets. This calculation relies upon previously identified relationships and drivers in Tourism Economics' global tourism forecast models. The inclusion of OTA metrics in these models has improved equation accuracy by better explaining observed growth. By including all other demand drivers, there is high confidence that the incremental impact of OTAs is being fully identified.

### Extra nights generated by OTAs in APAC

Millions of room nights (2014-2021)



## IMPACTS ON INTERNATIONAL AND DOMESTIC

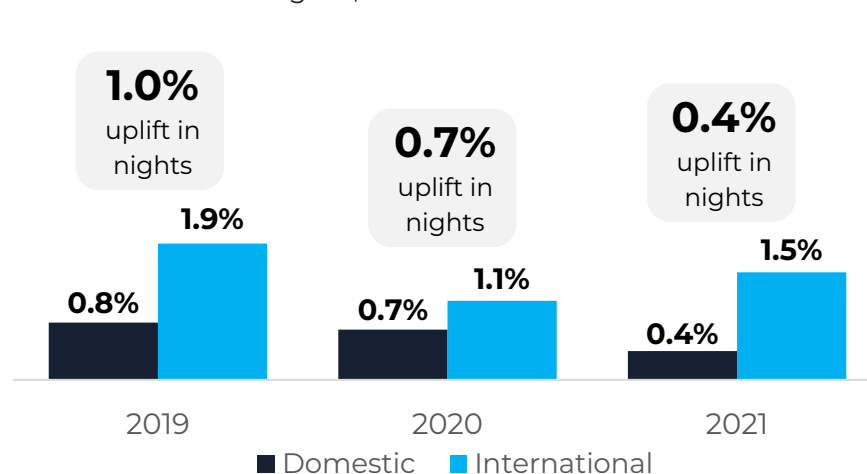
OTAs have a proportionately larger incremental impact on international than on domestic travel demand. Estimation included OTA bookings as a share of all wider activity as an explanatory variable for equations of domestic and outbound travel demand. There is a higher estimated elasticity of international demand with respect to OTA intensity than for domestic demand.

That means a significant share of international travel would not happen without the help of OTAs. This confirms the theory that OTAs drive incremental demand by providing trusted information and increased transparency by supporting travel to less well-known foreign destinations.

Incremental outbound and domestic travel demand has been calculated for all major source markets and demand has been mapped to destinations according to relative OTA use and origin-destination bookings.

### Uplift in Domestic and International Nights in APAC

Increase in room nights, relative to counterfactual



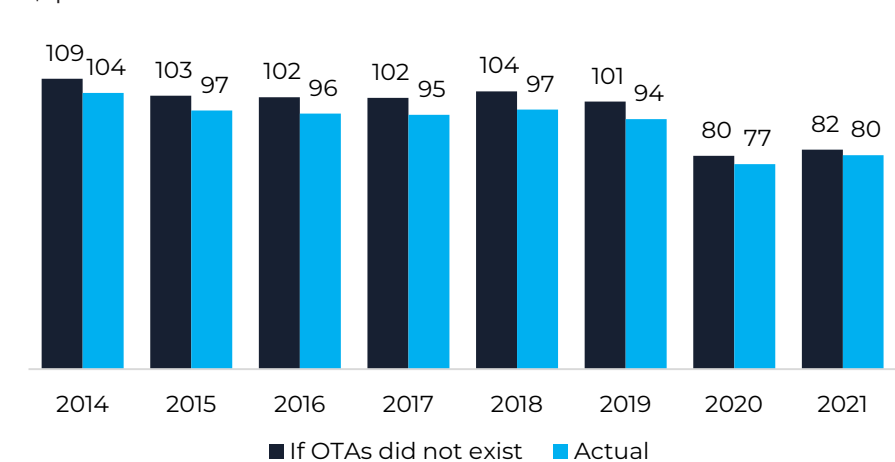
## OTAS REDUCE ACCOMMODATION COSTS

Lower travel costs are an important benefit for consumers. OTAs increase consumer choice and intensify competition between accommodation providers. As a result, there is a clear inverse correlation between OTA share of accommodation nights sold and the average daily rate (ADR) paid. Markets with a higher OTA intensity have a lower ADR, while an increased intensity over time is correlated with lower ADR than would otherwise be the case.

Panel econometric estimation has identified the relationship between OTA intensity and ADR across all major markets, also taking into account hotel occupancy, prices and costs. Markets with a higher OTA intensity experience lower ADR, all other things being equal.

### Hotel Average Daily Room Rates (ADR)

\$ per room



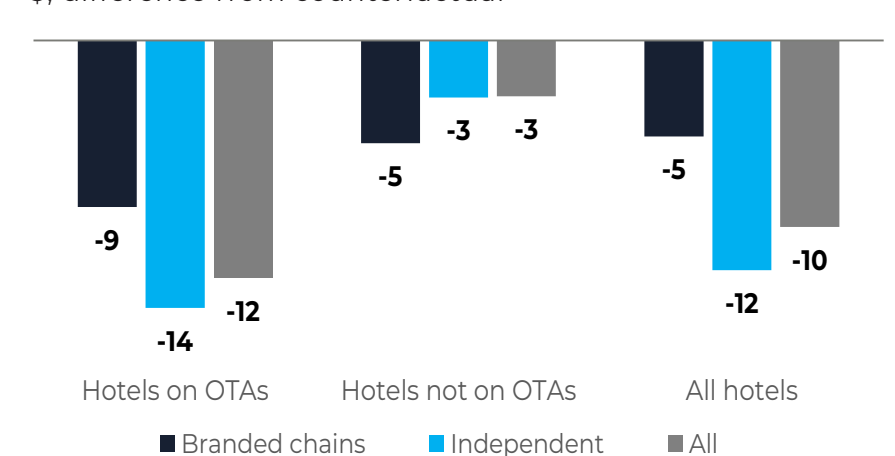
## ADR IMPACTS VARY BY PROPERTY

There is a stronger observed relationship between OTA intensity and ADR for independent hotels than for chain properties. This is partly due to a greater proportion of independent hotels selling rooms on OTAs to take advantage of the increased exposure and sales opportunities. These relationships have been separately identified for all destinations.

Estimation disaggregated ADR impacts for sales through OTAs and all other channels. There is a notable, albeit lesser, impact on ADR for non-OTA room sales due to the increased competitiveness.

### OTA Impact on Hotel ADR by Segment

\$, difference from counterfactual

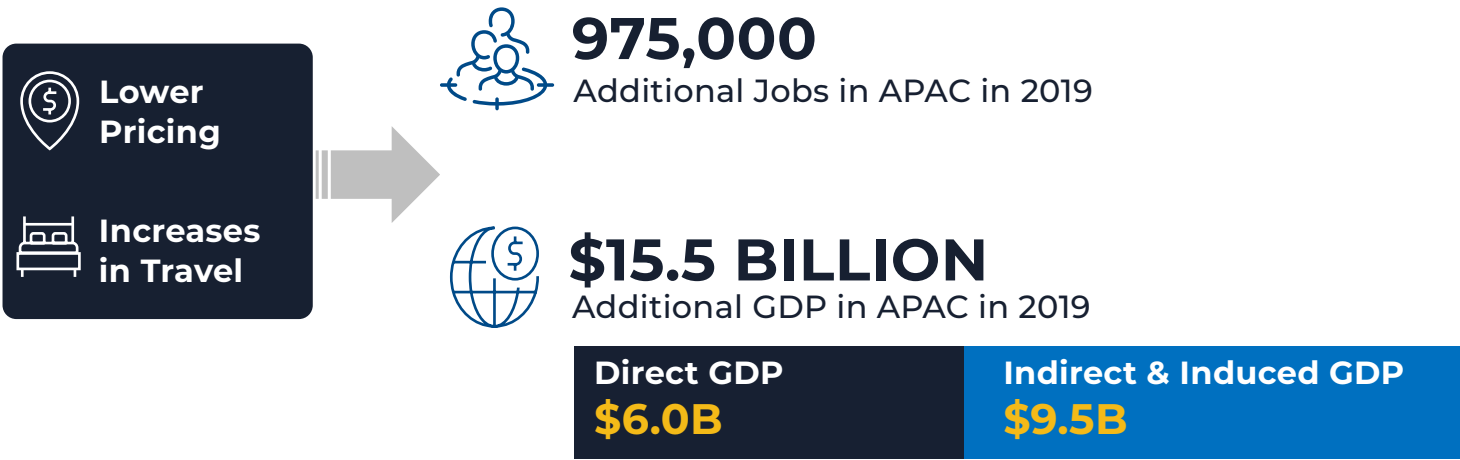




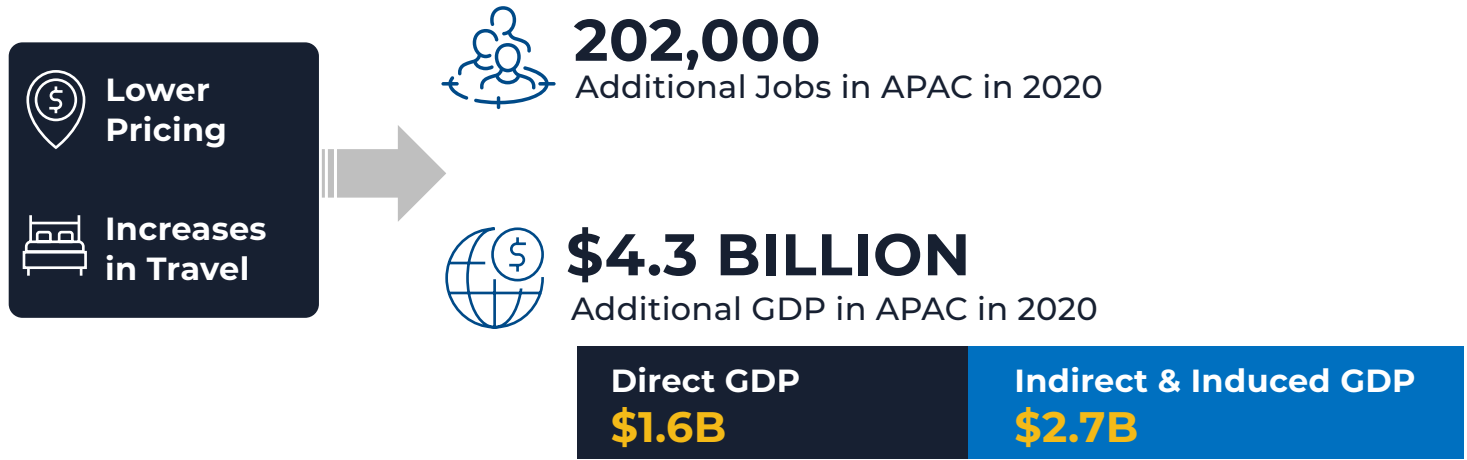
# ADDITIONAL ECONOMIC IMPACTS

The net effect of additional nights and lower ADR is an increase in overall destination spending, taking into account all other trip spending. Net direct gain in GDP and employment is calculated from an analysis of structural statistics including Gross Value Added to output ratios and productivity rates for relevant sectors of the economy. Total impacts include calculation of indirect effects through the supply chain and induced effects of spending of wages – estimated from input-output tables.

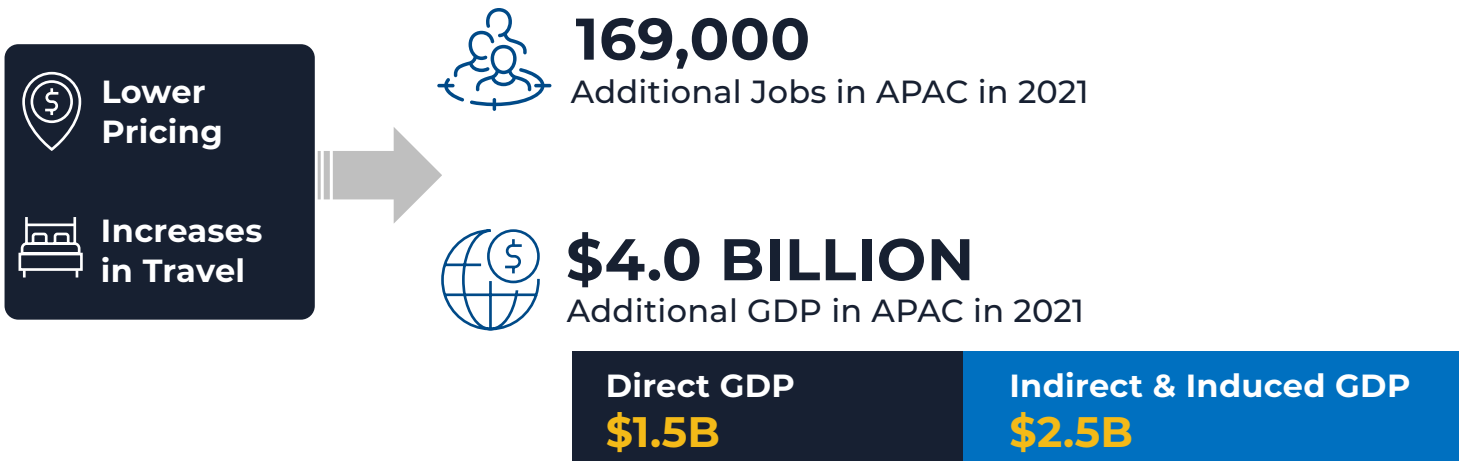
## INCREMENTAL ECONOMIC IMPACT (2019)



## INCREMENTAL ECONOMIC IMPACT (2020)



## INCREMENTAL ECONOMIC IMPACT (2021)





# OTA DETAILS

## APAC



# APAC OTA DETAILS

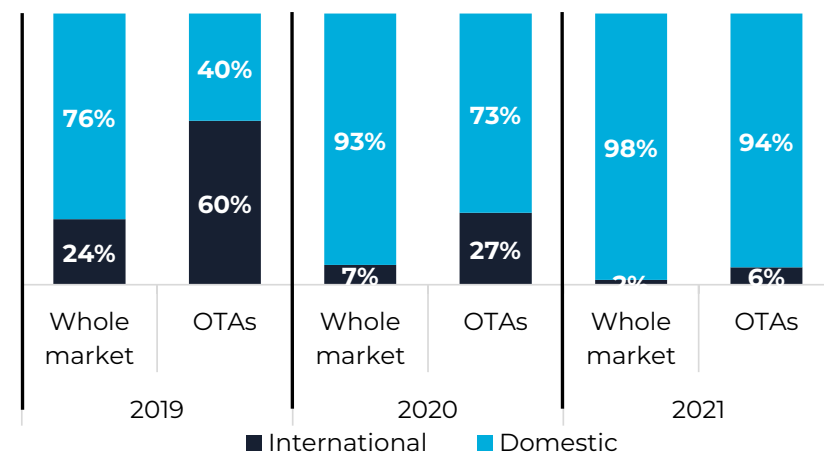
## MARKET CHARACTERISTICS

### International bookings made up a greater proportion of OTA bookings compared to the whole market in 2019

The international proportion of OTA bookings was notably larger than the broader market in 2019 and 2020, but more similar in 2021. The international share of total bookings declined for both OTAs and the whole market in APAC in 2020 and 2021, reflecting the severe restrictions on inbound travel in the region during the pandemic.

### Market Characteristics of OTAs Compared to Whole Market in APAC

Share of Nights (International & Domestic)



Source: Tourism Economics & Booking.com

### OTAs support independent accommodations

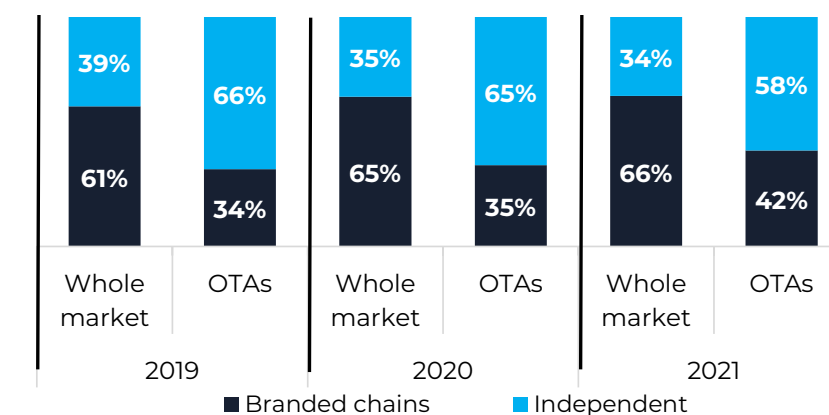
OTA bookings accrue predominantly to independent hotels. In 2021, 58% of sales booked via OTAs were for independent hotels, as opposed to 34% across the market as a whole.

### Rural bookings are on the rise

The rural booking index increased significantly above trend in 2020. OTAs have demonstrated they can quickly accommodate changes in consumer preferences.

### Market Characteristics of OTAs Compared to Whole Market in APAC

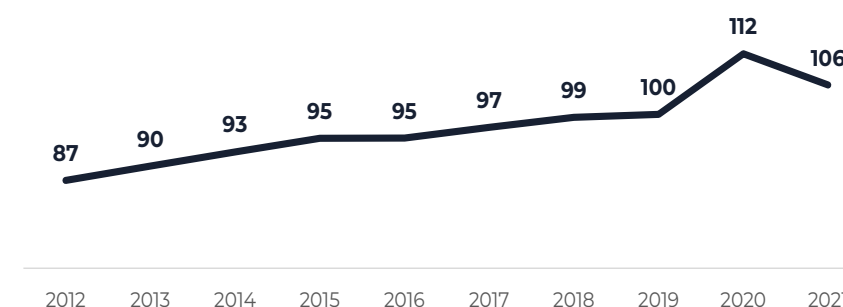
Share of Total Sales (Branded Chains & Independent)



Source: Tourism Economics & Booking.com

### OTA Rural Booking Index in APAC

Index: 2019 = 100



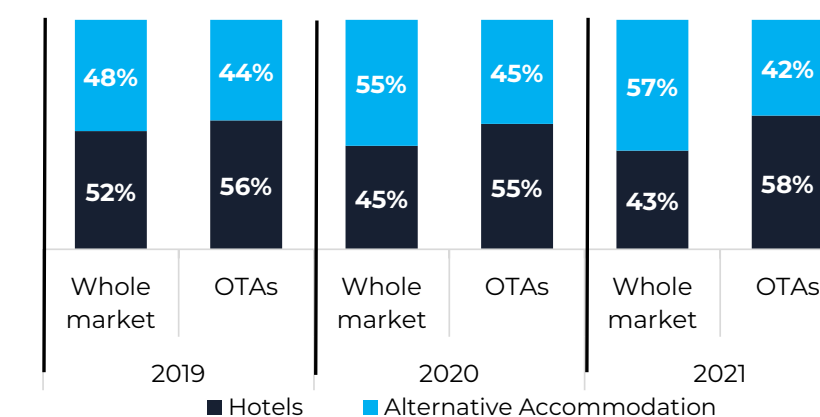
\* Based on selected markets in APAC  
Source: Tourism Economics & ComScore

### OTAs are supporting hotels in the APAC region

In 2021, 58% of bookings through OTAs were for hotels compared to 43% across the market as a whole.

### Market Characteristics of OTAs Compared to Whole Market in APAC

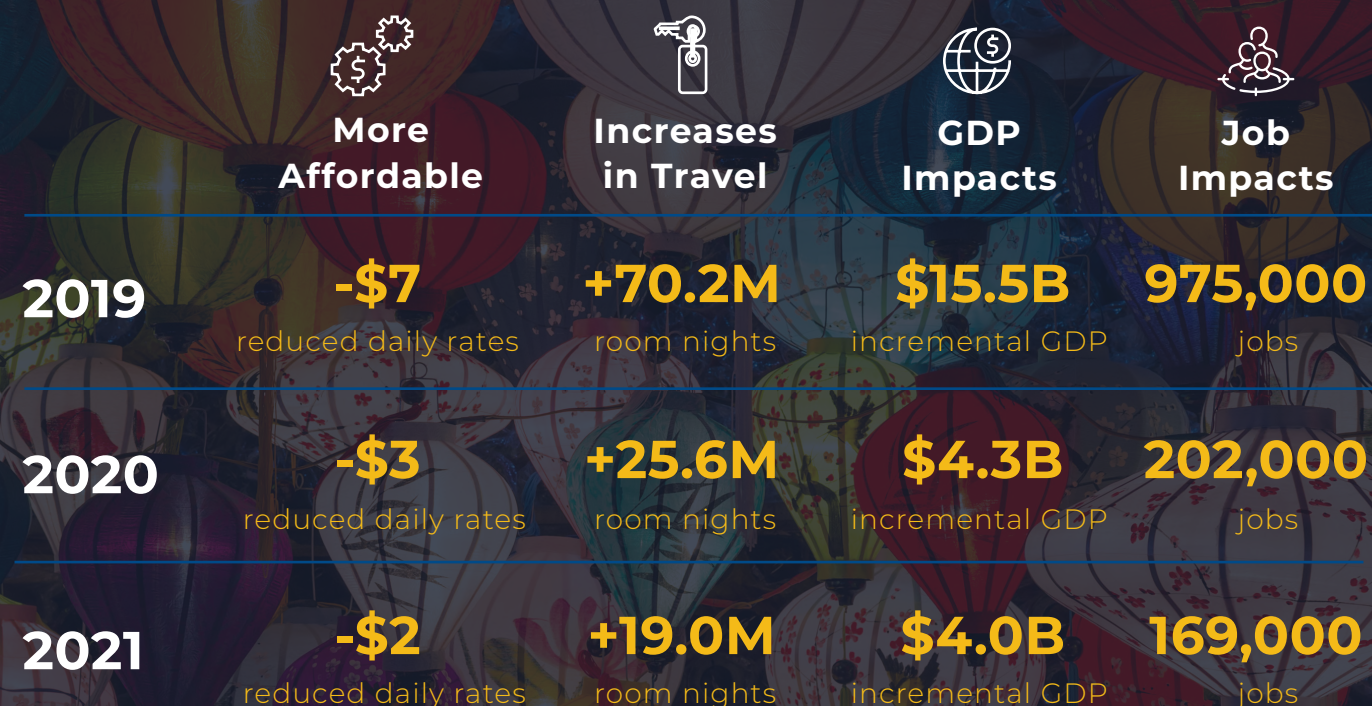
Share of Total Sales (Hotels & Alternative Accommodations)



Source: Tourism Economics, ComScore, STR

## Summary Impacts of OTAs in APAC, 2019-2021

Amounts as Indicated





COMPOSITION OF TRAVEL

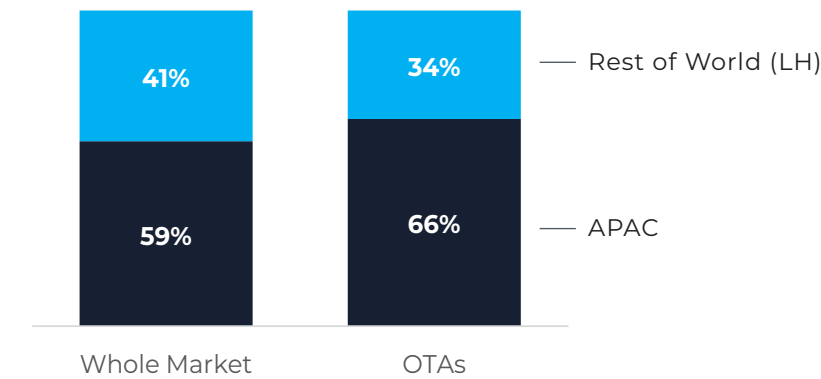
OTAs offer access to a different mix of international travelers

Two-thirds of international overnight stays in APAC booked through OTAs were arranged by individuals from countries elsewhere in APAC. For all international overnight stays in APAC, arrivals from elsewhere in the region accounted for a slightly lower share.

Over one-third of overnight stays in APAC booked via OTAs represented arrivals from outside of the region (long-haul markets). Of these OTA-linked long-haul arrivals, almost half originated from Western Europe, though this was slightly lower than the share of stays represented by this region for the whole market. Almost 20% of OTA-linked stays originated from Central and Eastern Europe – double the share of the market overall. OTAs were also used relatively more by visitors from the Middle East and ‘other’ regions, though relatively less by those from North America.

Composition of International Travel

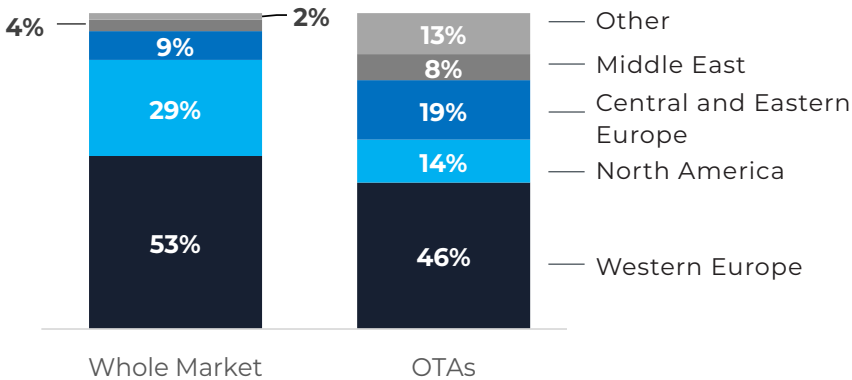
Origin of international travel to APAC, share of overnights, 2019



Source: Tourism Economics & Booking.com

Composition of Long-Haul International Travel

Origin of long-haul travel to APAC, share of overnights, 2019



Source: Tourism Economics & Booking.com

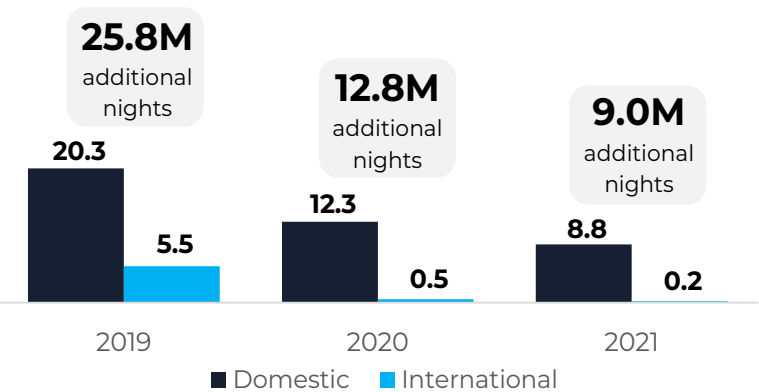
MARKET EXPANSION EFFECT ON ALTERNATIVE ACCOMMODATIONS

OTAs support alternative lodgings

In each year from 2019 to 2021 OTAs increased the number of overnight stays in alternative accommodations in APAC. In 2021, bookings via OTAs generated 9.0 million additional nights.

Additional Nights in Alternative Accommodations

Millions of nights



Source: Tourism Economics & ComScore

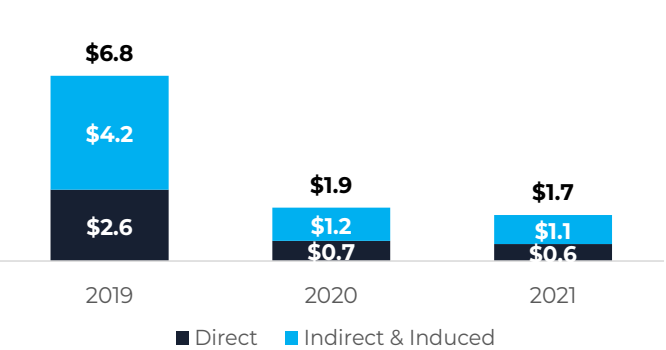
ECONOMIC IMPACTS ON ALTERNATIVE ACCOMMODATIONS

OTAs generate incremental economic impacts in the form of GDP and jobs for alternative lodgings through the additional spending associated with non-hotel staying guests

In 2021, the incremental additional GDP impact generated by alternative accommodations booked via OTAs was \$ 1.7 billion, supporting employment of 70,000 jobs across APAC.

Incremental GDP Impact for Alternative Accommodations

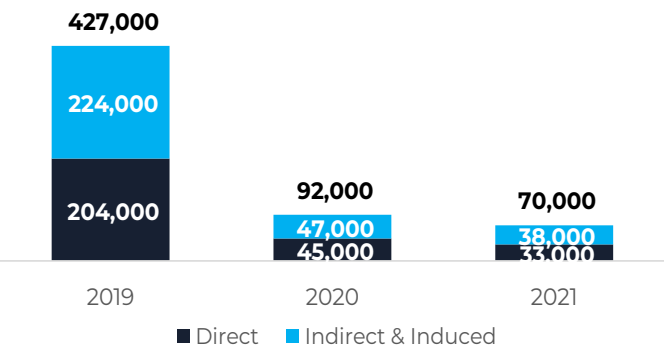
Billions of dollars



Source: Tourism Economics & ComScore

Incremental Employment Impact for Alternative Accommodations

Jobs



Source: Tourism Economics & ComScore





# OTA DETAILS

## APAC COUNTRY

### RESULTS



# AUSTRALIA

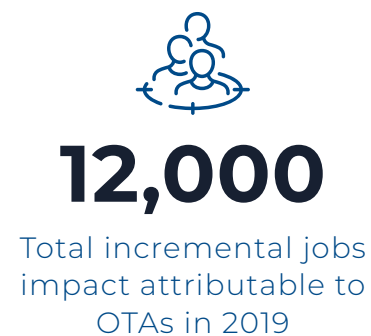
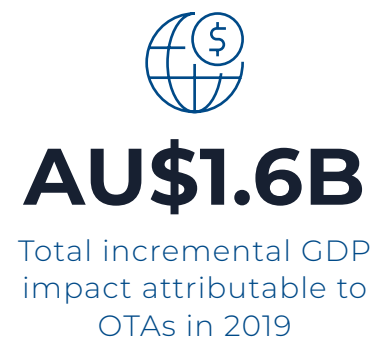
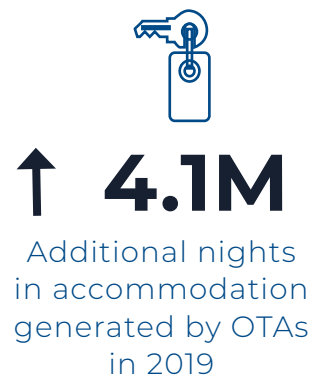
## KEY INSIGHTS

OTAs generate additional travel demand for accommodation in Australia boosting GDP and job creation. Consumers in Australia also benefit from OTAs through more affordable rates offered to travelers.

The number of travellers organising travel to Australia through OTAs increased steadily from 2012 to 2019, before the effects of the pandemic led to a sharp decline in all travel bookings.

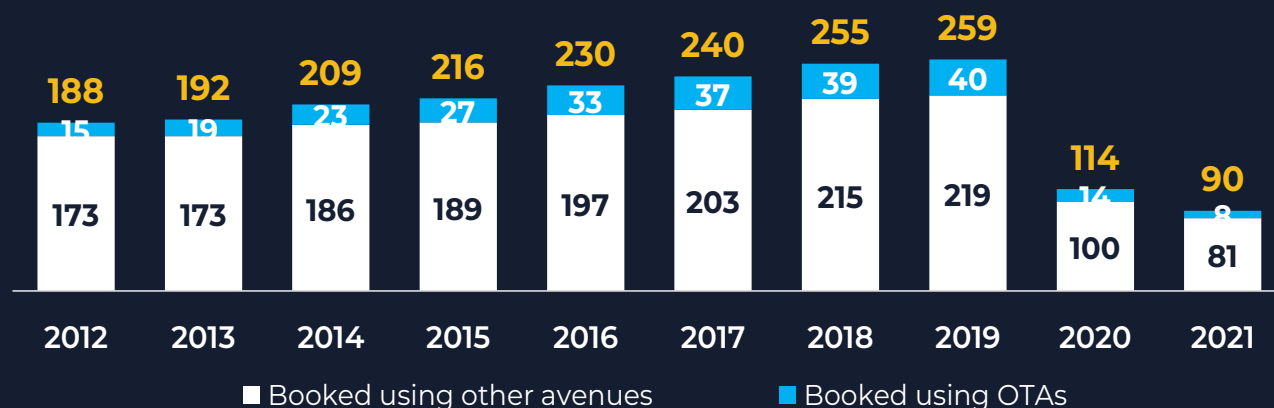
As shown in the accompanying chart, approximately 40 million room nights were booked through OTAs in 2019, representing 15% of the 259 million total room nights booked. In 2020, just 14 million room nights were booked through OTAs, representing 12% of the total 114 million room nights booked. There was a further decline in 2021, with 8 million nights booked through OTAs out of a total market of 90 million.

### Key Impacts of OTAs in Australia in 2019



### Nights in All Accommodation Types in Australia, 2012-2021

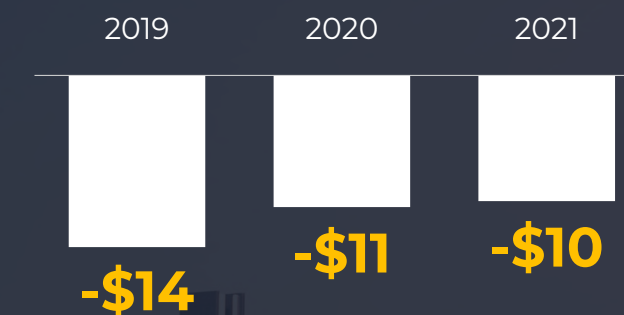
Millions of Room Nights



### OTAS MAKE TRAVEL MORE AFFORDABLE

If OTAs did not exist rates in the Australian accommodation market would be higher. Between 2014 and 2019, OTAs generated an average reduction in rates of AU\$13.60 per room night (7% reduction) across Australia.

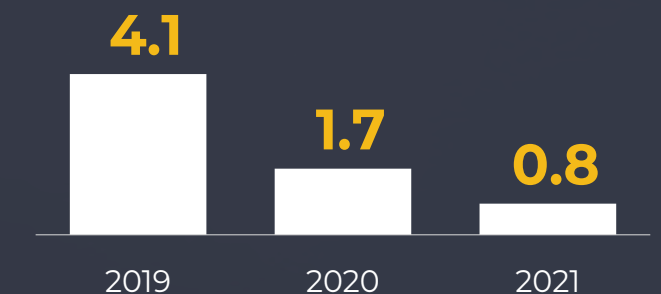
#### Reduction in Average Daily Hotel Rates Attributable to OTAs, 2019-2021



### OTAS INCREASE BOOKINGS & EXPAND THE MARKET

OTAs provide businesses with an online platform to advertise their accommodation offer and expand their consumer base. OTAs also improve trust in providers, and reward quality.

#### Additional Nights (Millions) in All Accommodation Attributable to OTAs, 2019-2021



### OTAS CREATE ADDITIONAL GDP GROWTH

OTAs generate additional economic growth across Australia. OTAs added an incremental AU\$1.6 billion to the economy in 2019. OTAs contributed AU\$0.6 billion to Australian GDP in 2020 and AU\$0.5 billion to Australian GDP in 2021.

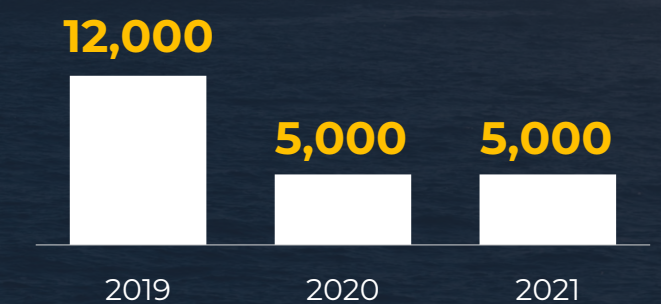
#### GDP Impacts (AU\$ Billions) Attributable to OTAs in Australia, 2019-2021



### OTAS GENERATE JOBS AND ECONOMIC OPPORTUNITIES

OTAs generate significant job impacts across various sectors of the Australian economy. In 2019, the economic impacts attributable to OTAs included 12,000 jobs. In each of 2020 and 2021, OTAs were responsible for just under 5,000 jobs.

#### Job Impacts Attributable to OTAs in Australia, 2019-2021





# AUSTRALIA

## OTA DETAILS

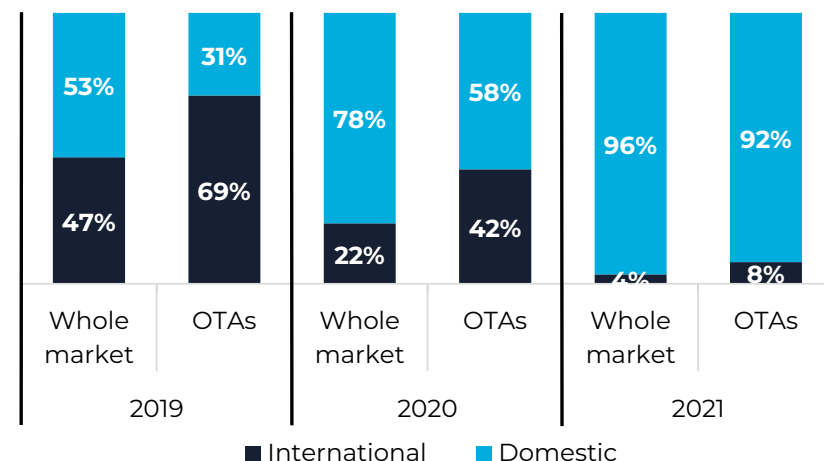
### MARKET CHARACTERISTICS

International bookings make up a greater proportion of OTA bookings compared to the whole market.

The international proportion of OTA bookings was higher than that for the market as a whole in 2019 and 2020. However, the international share of bookings were more similar for OTAs and the whole market in 2021, as the international presence in Australia fell dramatically due to restrictions on inbound arrivals.

#### Market Characteristics of OTAs Compared to Whole Market in Australia

Share of Nights (International & Domestic)



Source: Tourism Economics & Booking.com

#### OTAs support particular segments of the market

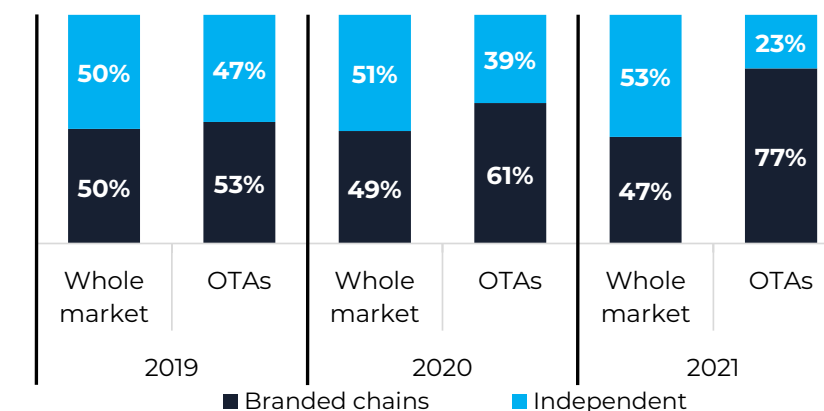
Guests tended to be more orientated towards branded hotels when booking travel through OTAs over the pandemic but in 2019 hotel composition shares were broadly similar to the market overall.

#### OTAs are important for alternative accommodation providers

Guests are more strongly orientated towards alternative accommodations when booking through OTAs. In 2021 70% of bookings via OTAs were for alternative accommodations compared with 28% for the market as a whole.

#### Market Characteristics of OTAs Compared to Whole Market in Australia

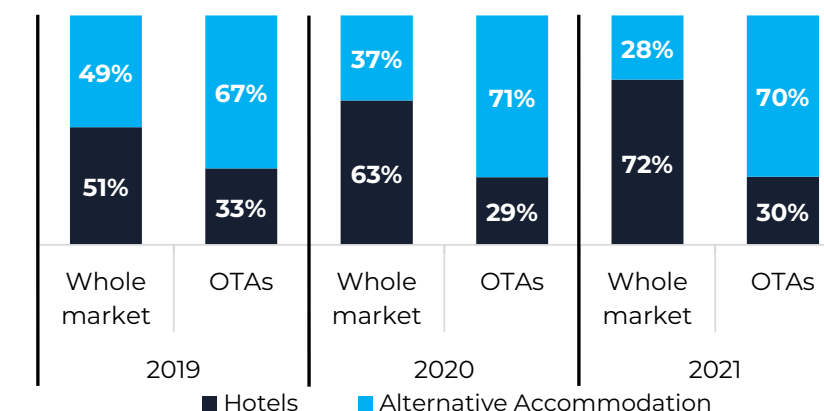
Share of Total Sales (Branded Chains & Independent)



Source: Tourism Economics & Booking.com

#### Market Characteristics of OTAs Compared to Whole Market in Australia

Share of Total Sales (Hotels & Alternative Accommodations)



Source: Tourism Economics & ComScore

### Summary Impacts of OTAs in Australia, 2019-2021

Amounts as Indicated

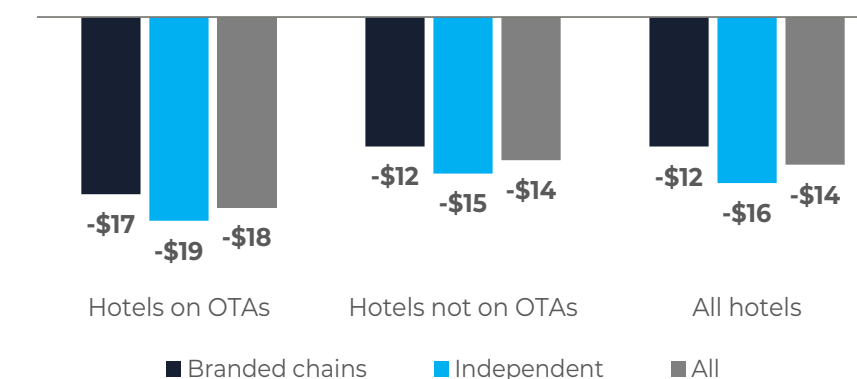
	More Affordable	Increases in Travel	GDP Impacts	Job Impacts
2019	<b>-\$14</b> reduced daily rates	<b>+4.1M</b> room nights	<b>AU\$1.6B</b> incremental GDP	<b>12,000</b> jobs
2020	<b>-\$11</b> reduced daily rates	<b>+1.7M</b> room nights	<b>AU\$0.6B</b> incremental GDP	<b>5,000</b> jobs
2021	<b>-\$10</b> reduced daily rates	<b>+0.8M</b> room nights	<b>AU\$0.5B</b> incremental GDP	<b>5,000</b> jobs

#### OTA platforms impact rates across the whole market

Price reduction effects are stronger for hotels that advertise on OTAs compared to those that do not. Those listed on OTAs saw an average reduction of AU\$18; those not listed saw an average reduction of AU\$14.

#### Total impact of OTA Activity on Average Daily Rates in Australia in 2019

Reduction on Daily Rates (AUD)



Source: Tourism Economics, ComScore, STR



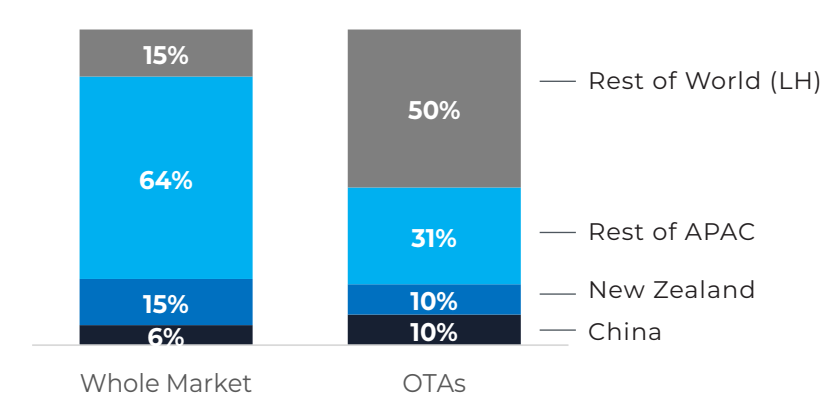
COMPOSITION OF TRAVEL

OTAs provide relatively more support for long-haul markets compared to the broader market composition

Half of international overnight stays in Australia booked through OTAs were arranged by individuals from elsewhere in APAC, including 10% each from China and New Zealand. Half of OTA international overnight stays originated from long-haul markets – more than triple the share in the market overall (15%). This means that OTAs provide greater support for long-haul visitors than the accommodation sector as a whole.

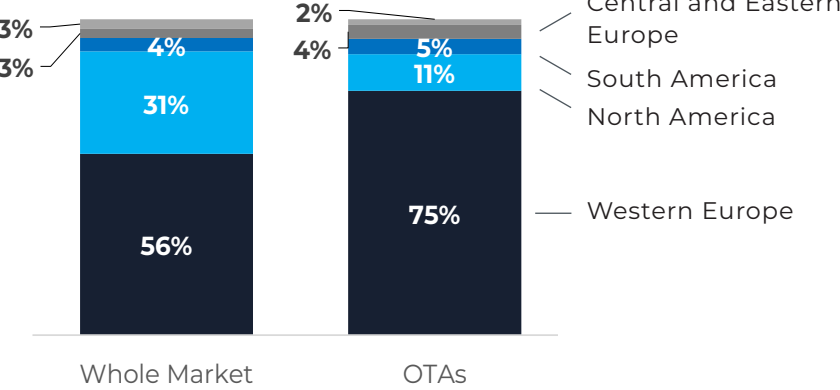
OTAs support for long-haul arrivals is primarily directed towards arrivals from Western Europe, with this region accounting for 75% of OTA bookings compared to 56% of all international overnight arrivals. By contrast, OTAs provided relatively less support for visitors from North America – these visitors accounted for 11% of OTA bookings, as opposed to 31% of all international arrivals. For other long-haul regions, the support provided by OTAs was relatively small and typically similar to their broader market presence.

Composition of International Travel  
Origin of international travel to Australia, share of overnights, 2019



Source: Tourism Economics & Booking.com

Composition of Long-Haul International Travel  
Origin of long-haul travel to Australia, share of overnights, 2019



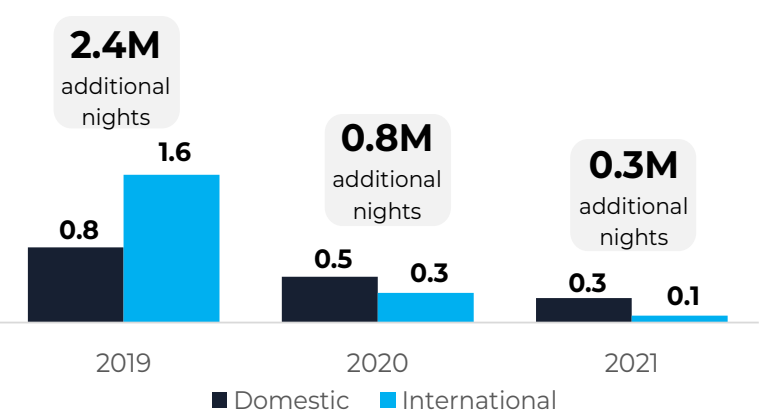
Source: Tourism Economics & Booking.com

MARKET EXPANSION EFFECT ON ALTERNATIVE ACCOMMODATIONS

OTAs support alternative lodgings

In each year from 2019 to 2021, OTAs increased the number of overnight stays in alternative accommodations in Australia. In 2021, bookings via OTAs generated an additional 0.3 million nights in Australia.

Additional Nights in Alternative Accommodation  
Millions of nights



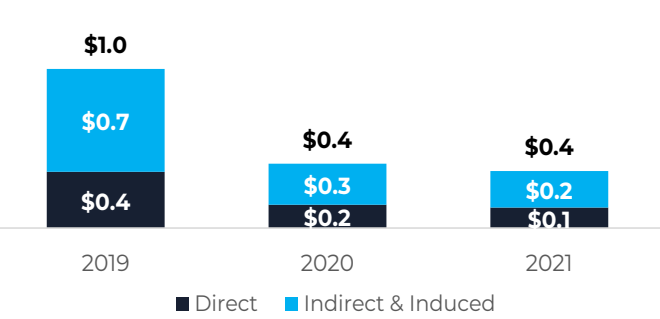
Source: Tourism Economics & ComScore

ECONOMIC IMPACTS ON ALTERNATIVE ACCOMMODATIONS

OTAs generate incremental economic impacts in the form of GDP and jobs for alternative lodgings

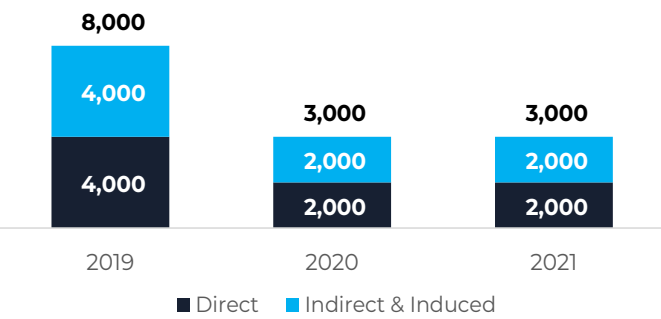
Economic impacts are generated through the additional spending associated with non-hotel staying guests. In 2021, OTAs generated AU\$0.4 billion in total incremental GDP and 3,000 total jobs, although both were significantly higher in 2019.

Incremental GDP Impact for Alternative Accommodations  
Billions of AU\$



Source: Tourism Economics & ComScore

Incremental Employment Impact for Alternative Accommodations  
Jobs



Source: Tourism Economics & ComScore





# INDIA

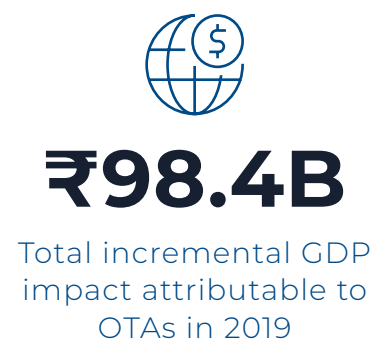
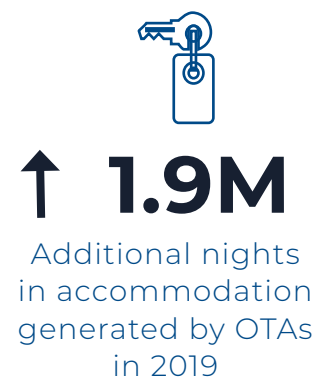
## KEY INSIGHTS

OTAs generate additional travel demand for accommodation in India boosting GDP and job creation. In particular independent accommodations benefit from OTAs by accruing a larger share of bookings than the market average. Consumers in India also benefit from OTAs through more affordable rates offered to travelers.

The number of travellers organising travel to India through OTAs increased steadily from 2012 to 2019, before the effects of the pandemic led to a sharp decline in all travel bookings.

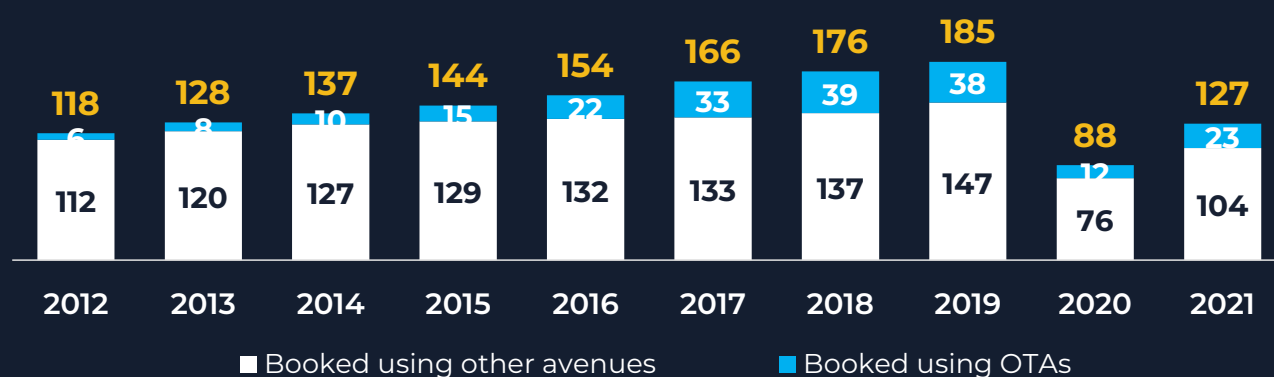
As shown in the accompanying chart, approximately 38 million room nights were booked through OTAs in 2019, representing 21% of the 185 million room nights booked. In 2020, just 12 million room nights were booked through OTAs, equivalent to 14% of the total 88 million room nights. There was some rebound in OTA bookings in 2021, with 23 million nights booked through OTAs out of a total market of 127 million (18%).

### Key Impacts of OTAs in India in 2019



### Nights in All Accommodation Types in India 2012-2021

Millions of Room Nights



### OTAS MAKE TRAVEL MORE AFFORDABLE

If OTAs did not exist rates in the Indian accommodation market would be higher. Between 2014 and 2019, OTAs generated an average reduction in rates of ₹418 per room night (7.1% reduction) across India.

#### Reduction in Average Daily Hotel Rates Attributable to OTAs, 2019-2021



### OTAS INCREASE BOOKINGS & EXPAND THE MARKET

OTAs provide businesses with an online platform to advertise their accommodation offer and expand their consumer base. OTAs also improve trust in providers, and reward quality.

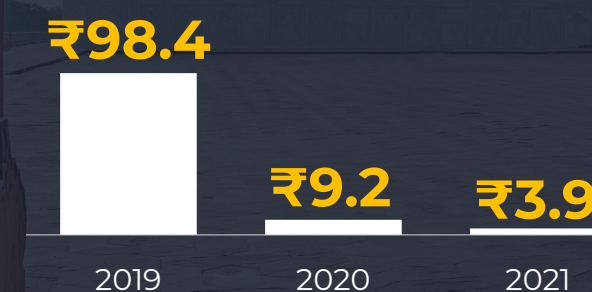
#### Additional Nights (Millions) in All Accommodation Attributable to OTAs, 2019-2021



### OTAS CREATE ADDITIONAL GDP GROWTH

OTAs generate additional economic growth across India. OTAs added an incremental ₹98.4 billion to the economy in 2019. OTAs contributed ₹9.2 billion to India's GDP in 2020 and ₹3.9 billion in 2021.

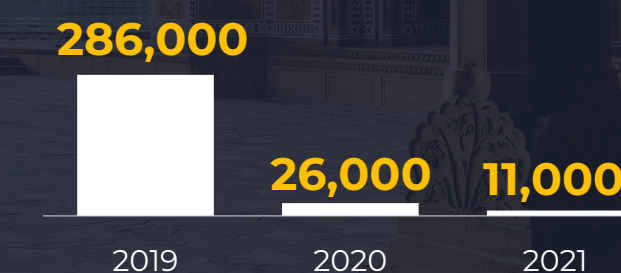
#### GDP Impacts (₹ Billions) Attributable to OTAs in India, 2019-2021



### OTAS GENERATE JOBS AND ECONOMIC OPPORTUNITIES

OTAs generate significant job impacts across various sectors of the Indian economy. In 2019, the economic impacts attributable to OTAs included 286,000 jobs. In 2020 and 2021, OTAs were responsible for 25,000 and 11,000 jobs, respectively.

#### Job Impacts Attributable to OTAs in India, 2019-2021





# INDIA

## OTA DETAILS

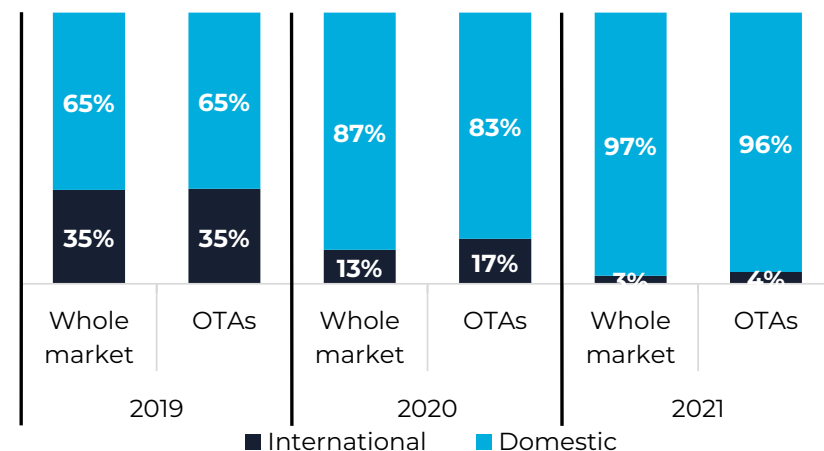
### MARKET CHARACTERISTICS

In 2020 and 2021, international bookings made up a slightly higher proportion of OTA bookings compared to the whole market, and a similar share in 2019

The international proportion of OTA bookings (35%) was the same as the market as a whole in 2019. However, despite a decline in international visitation associated with the pandemic, the international share of bookings was slightly higher than that for the broader market in 2020 and 2021.

#### Market Characteristics of OTAs Compared to Whole Market in India

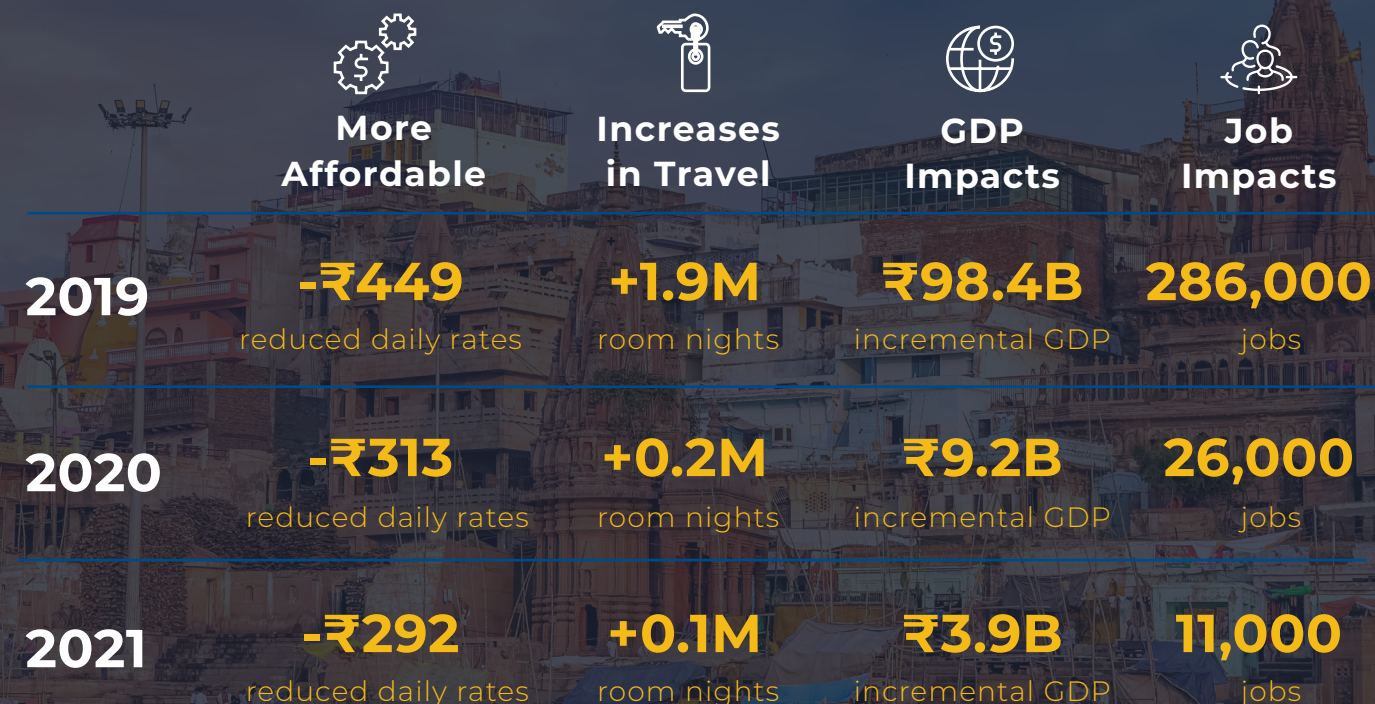
Share of Nights (International & Domestic)



Source: Tourism Economics & Booking.com

### Summary Impacts of OTAs in India, 2019-2021

Amounts as Indicated

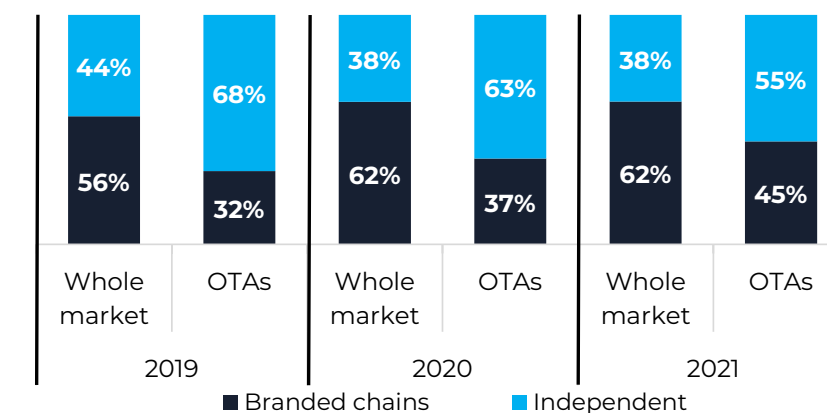


### OTAs support particular segments of the market

OTA bookings in India have tended to be much more oriented towards independent hotels compared to the market as a whole. In 2021, 55% of sales made via OTAs were independent, compared to a 38% share across the wider market.

### Market Characteristics of OTAs Compared to Whole Market in India

Share of Total Sales (Branded Chains & Independent)



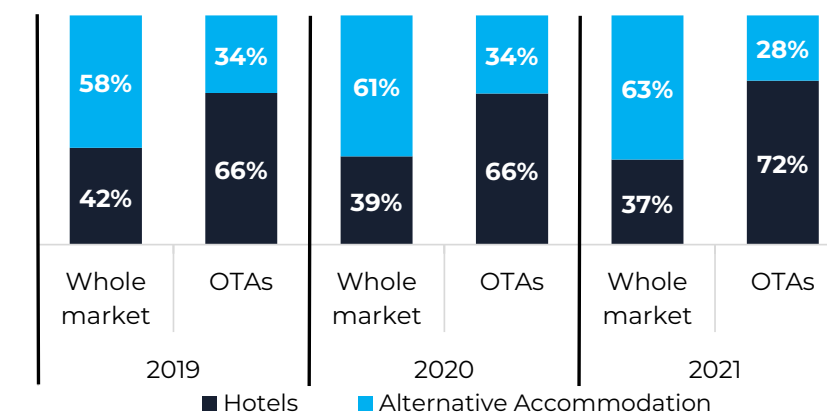
Source: Tourism Economics & Booking.com

### OTAs are particularly supporting hotels

Around two-thirds of bookings made via OTAs were for hotels in recent years. This is notably higher than the share of the broader market accounted for by hotels.

### Market Characteristics of OTAs Compared to Whole Market in India

Share of Total Sales (Hotels & Alternative Accommodations)



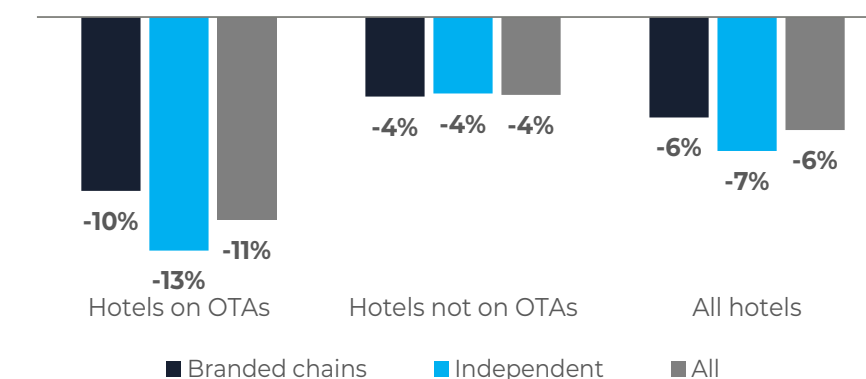
Source: Tourism Economics & ComScore

### OTA platforms impact rates across the whole market

Price reduction effects are stronger for hotels that advertise on OTAs compared to those that do not. Those listed on OTAs saw an average reduction of 11%; those not listed saw an average reduction of 4%.

### Total impact of OTA Activity on Average Daily Rates in India in 2021

Percentage Reduction in Daily Rates



Source: Tourism Economics, ComScore, STR

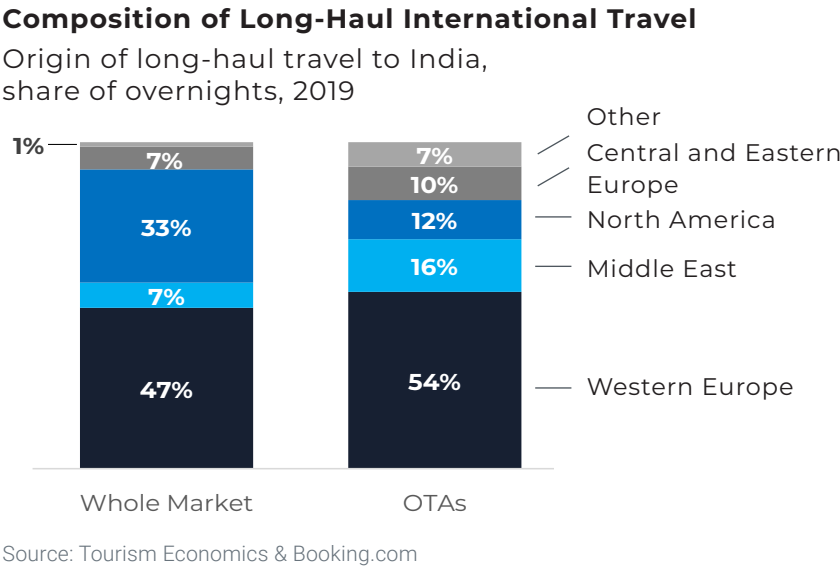
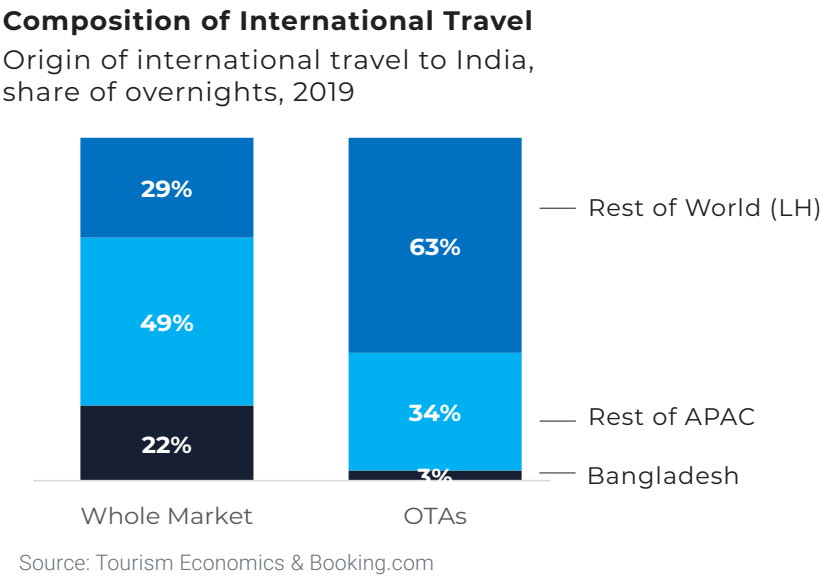


COMPOSITION OF TRAVEL

OTAs provide relatively more support for long-haul markets compared to the broader market composition

Under 40% of international travel booked on OTAs in India is from countries elsewhere in APAC. By comparison, for the market as a whole, arrivals from APAC accounted for around 70% of international overnight stays – much higher than the share accounted for by OTA bookings. More than 60% of OTA-linked international stays originated from long-haul markets – more than double the share in the market overall (29%).

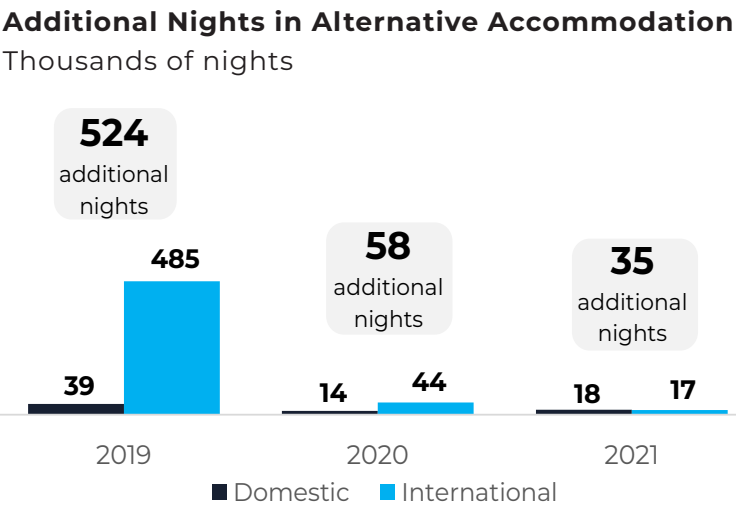
OTA support for long-haul arrivals is primarily directed towards arrivals from Western Europe, with the region accounting for 54% of OTA bookings compared to 47% of all international overnight visits. By contrast, OTAs provide relatively less support for visitors from North America – these visitors accounted for 12% of OTA bookings, as opposed to 33% of all international arrivals. Among other long-haul regions, the support provided by OTAs was also larger than their whole market presence, including for the Middle East and Central and Eastern Europe.



MARKET EXPANSION EFFECT ON ALTERNATIVE ACCOMMODATIONS

OTAs support alternative lodgings

In each year from 2019 to 2021, OTAs increased the number of overnight stays in alternative accommodations in India. In 2021, bookings via OTAs generated an additional 35,000 nights in alternative accommodation in India.

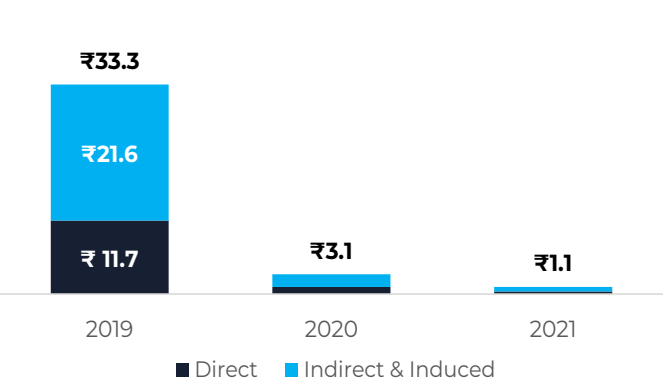


ECONOMIC IMPACTS ON ALTERNATIVE ACCOMMODATIONS

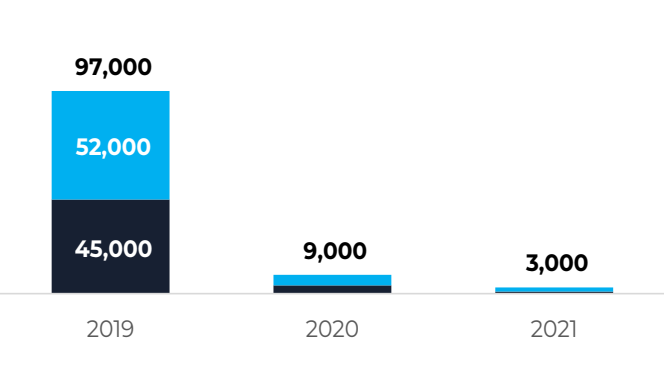
OTAs generate incremental economic impacts in the form of GDP and jobs for alternative lodgings

Economic impacts are generated through the additional spending associated with non-hotel staying guests. In 2021, OTAs generated ₹1.1 billion in total incremental GDP and 3,000 total jobs, although both were significantly higher in 2019, when OTAs contributed incremental impacts of ₹33.3 billion in GDP and 97,000 jobs.

**Incremental GDP Impact for Alternative Accommodations**  
Billions of ₹



**Incremental Employment Impact for Alternative Accommodations**  
Jobs





# JAPAN

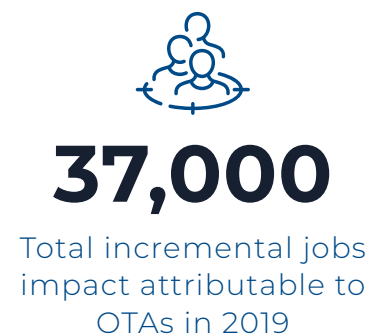
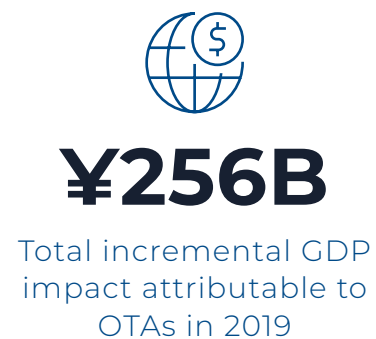
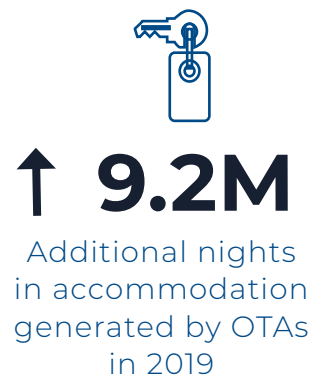
## KEY INSIGHTS

OTAs generate additional travel demand for accommodation in Japan boosting GDP and job creation. In particular independent accommodations benefit from OTAs by accruing a larger share of bookings than the market average. Consumers in Japan also benefit from OTAs through more affordable rates offered to travelers.

The number of travellers organising travel to Japan through OTAs increased steadily from 2012 to 2019, before the effects of the pandemic led to a sharp decline in all travel bookings.

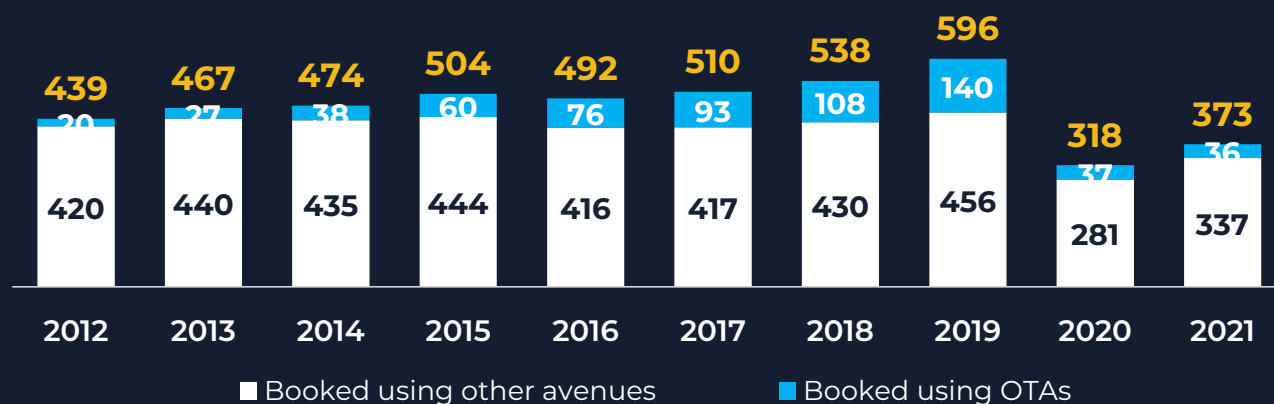
As shown in the accompanying chart, approximately 140 million room nights were booked through OTAs in 2019, representing 24% of the 596 million total room nights booked. In 2020, just 37 million room nights were booked through OTAs, equivalent to 12% of the total 318 million room nights booked. There was a slight decline in room nights booked through OTAs in 2021, though total room nights increased, meaning the OTA share of the total market fell slightly to 10%.

### Key Impacts of OTAs in Japan in 2019



### Nights in All Accommodation Types in Japan 2012-2021

Millions of Room Nights



### OTAS MAKE TRAVEL MORE AFFORDABLE

If OTAs did not exist rates in the Japanese accommodation market would be higher. Between 2014 and 2019, OTAs generated an average reduction in rates of ¥1,050 per room night (6.9% reduction) across Japan.

#### Reduction in Average Daily Hotel Rates Attributable to OTAs, 2019-2021



### OTAS INCREASE BOOKINGS & EXPAND THE MARKET

OTAs provide businesses with an online platform to advertise their accommodation offer and expand their consumer base. OTAs also improve trust in providers, and reward quality.

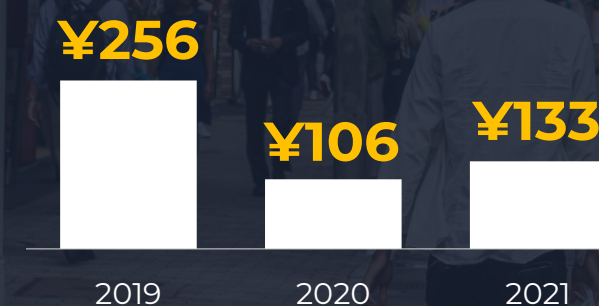
#### Additional Nights (Millions) in All Accommodation Attributable to OTAs, 2019-2021



### OTAS CREATE ADDITIONAL GDP GROWTH

OTAs generate additional economic growth across Japan. OTAs added an incremental ¥256 billion to the economy in 2019. OTAs contributed ¥106 billion to Japan's GDP in 2020 and ¥133 billion in 2021.

#### GDP Impacts (¥ Billions) Attributable to OTAs in Japan, 2019-2021



### OTAS GENERATE JOBS AND ECONOMIC OPPORTUNITIES

OTAs generate significant job impacts across various sectors of the Japanese economy. In 2019, the economic impacts attributable to OTAs included 37,000 jobs. In 2020 and 2021, OTAs were responsible for 16,000 and 21,000 jobs, respectively.

#### Job Impacts Attributable to OTAs in Japan, 2019-2021





# JAPAN

## OTA DETAILS

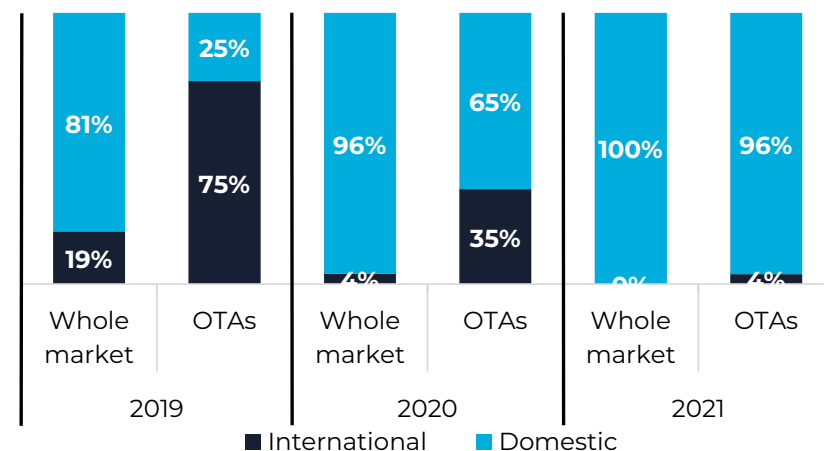
### MARKET CHARACTERISTICS

International bookings make up a greater proportion of OTA bookings compared to the whole market.

The international proportion of OTA bookings was significantly higher than the market as a whole in 2019 and 2020. However, the international share of bookings was more similar for OTAs and the whole market in 2021, as the international presence in Japan fell dramatically (to very low volumes) due to restrictions on inbound arrivals.

#### Market Characteristics of OTAs Compared to Whole Market in Japan

Share of Nights (International & Domestic)



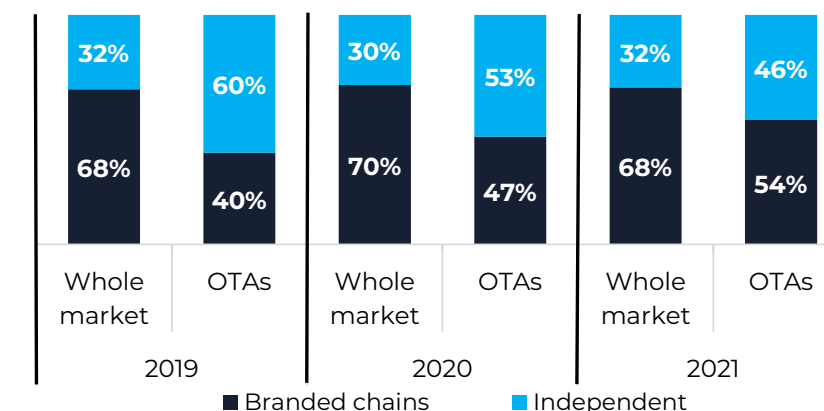
Source: Tourism Economics & Booking.com

### OTAs support particular segments of the market

OTA bookings in Japan have tended to be more oriented towards independent hotels compared to the market as a whole. In 2021, 46% of bookings made via OTAs were with independent providers, compared to 32% across the wider market.

### Market Characteristics of OTAs Compared to Whole Market in Japan

Share of Total Sales (Branded Chains & Independent)



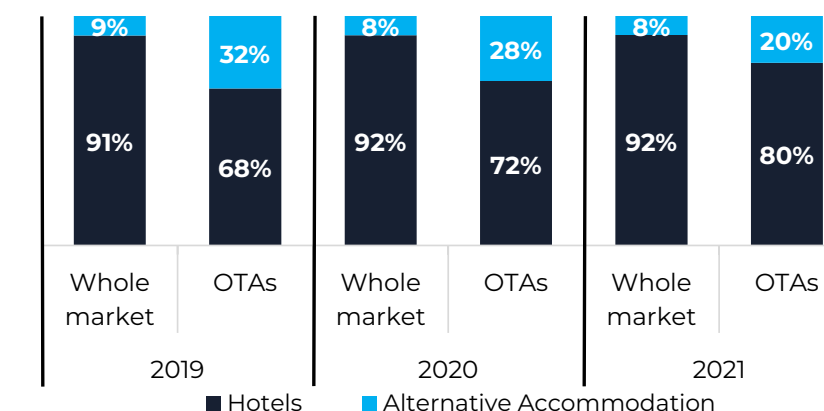
Source: Tourism Economics & Booking.com

### OTAs are important for alternative accommodation

Guests are more orientated towards alternative accommodations when booking through OTAs. In 2021, 20% of bookings via OTAs were for alternative accommodations compared with only 8% for the market as a whole.

### Market Characteristics of OTAs Compared to Whole Market in Japan

Share of Total Sales (Hotels & Alternative Accommodations)



Source: Tourism Economics & ComScore

### Summary Impacts of OTAs in Japan, 2019-2021

Amounts as Indicated

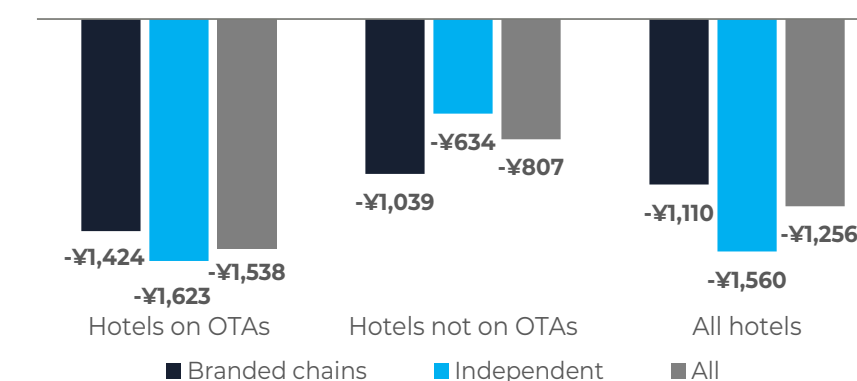
	More Affordable	Increases in Travel	GDP Impacts	Job Impacts
2019	-¥1,256 reduced daily rates	+9.2M room nights	¥256B incremental GDP	37,000 jobs
2020	-¥730 reduced daily rates	+4.7M room nights	¥106B incremental GDP	16,000 jobs
2021	-¥554 reduced daily rates	+4.9M room nights	¥133B incremental GDP	21,000 jobs

### OTA platforms impact rates across the whole market

The downward impact on ADR is larger for hotels that advertise on OTAs compared to those that do not. In 2019, hotels listed on OTAs saw an average reduction of ¥1,538; those not listed saw an average reduction of ¥807.

### Total impact of OTA Activity on Average Daily Rates in Japan in 2019

Reduction on Daily Rates (¥)



Source: Tourism Economics, ComScore, STR



COMPOSITION OF TRAVEL

OTAs support a wide variety of travel to Japan – from both other APAC countries and further afield.

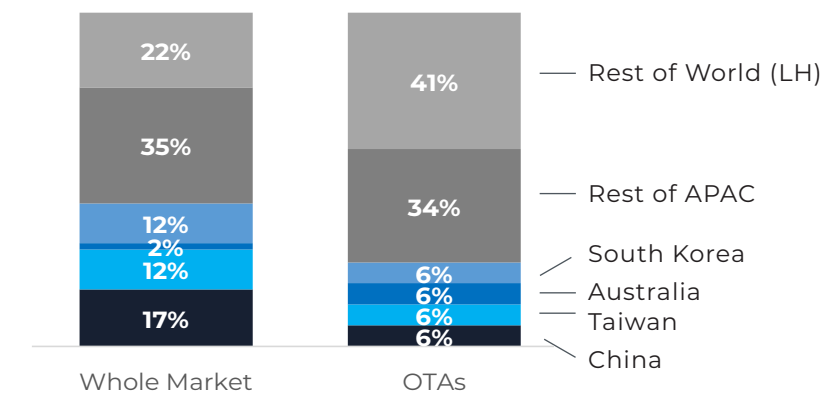
Almost 60% of international travel booked on OTAs in Japan is from countries elsewhere in APAC. This includes 6% each from China, Australia, South Korea and Taiwan, and 34% from elsewhere in APAC. By comparison, for the market as a whole, arrivals from APAC accounted for 78% of international overnight stays – much higher than the share accounted for by OTA bookings.

Over 40% of OTA-linked international stays originated from long-haul markets – around double the share in the market overall (22%). This means that OTAs provide greater support for long-haul visitors than the accommodation sector as a whole.

OTA support for long-haul arrivals is primarily directed towards arrivals from Western Europe, with the region accounting for 61% of OTA bookings compared to 47% of all international overnight visits. By contrast, OTAs provide relatively less support for visitors from North America – these visitors accounted for 21% of OTA bookings, as opposed to 44% of all international arrivals.

Composition of International Travel

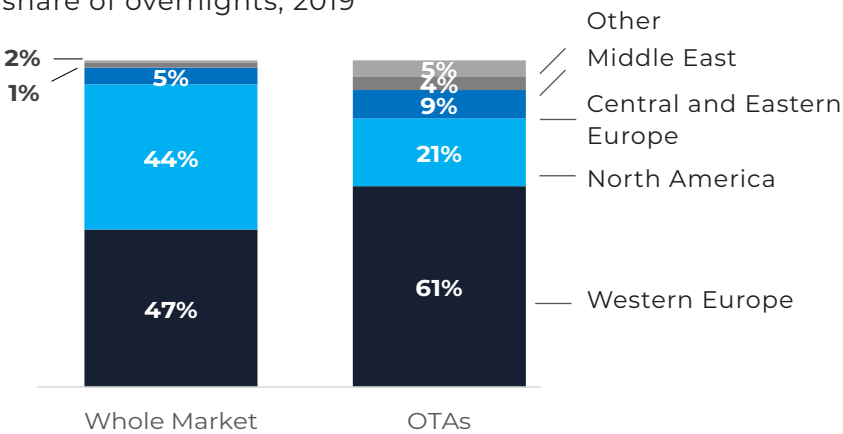
Origin of international travel to Japan, share of overnights, 2019



Source: Tourism Economics & Booking.com

Composition of Long-Haul International Travel

Origin of long-haul travel to Japan, share of overnights, 2019



Source: Tourism Economics & Booking.com

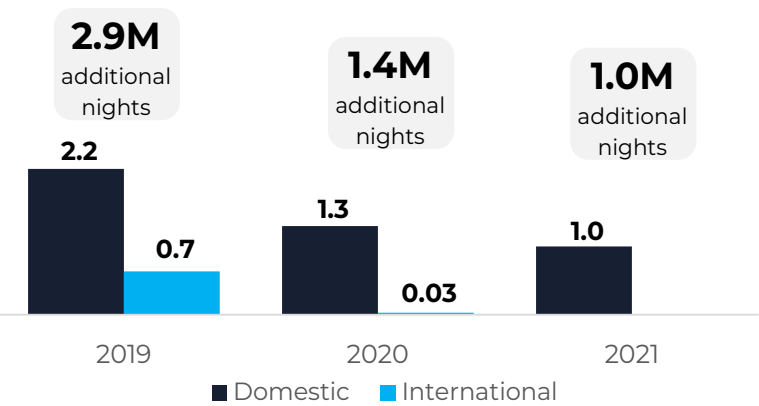
MARKET EXPANSION EFFECT ON ALTERNATIVE ACCOMMODATIONS

OTAs support alternative lodgings

In each year from 2019 to 2021, OTAs increased the number of overnight stays in alternative accommodations in Japan. In 2021, bookings via OTAs generated an additional 1.0 million nights in Japan.

Additional Nights in Alternative Accommodation

Millions of nights



Source: Tourism Economics & ComScore

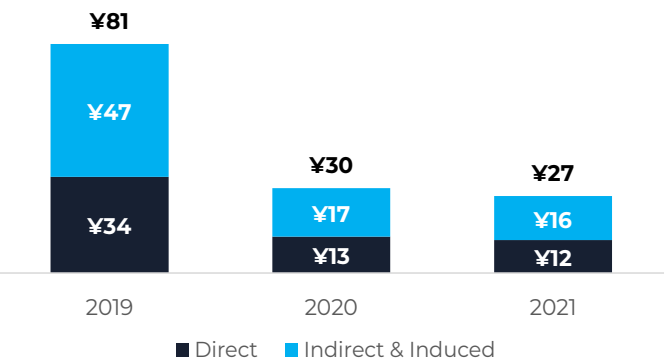
ECONOMIC IMPACTS ON ALTERNATIVE ACCOMMODATIONS

OTAs generate incremental economic impacts in the form of GDP and jobs for alternative lodgings

Economic impacts are generated through the additional spending associated with non-hotel staying guests. In 2021, OTAs generated ¥27 billion in total incremental GDP and 4,000 total jobs, although both were significantly higher in 2019.

Incremental GDP Impact for Alternative Accommodations

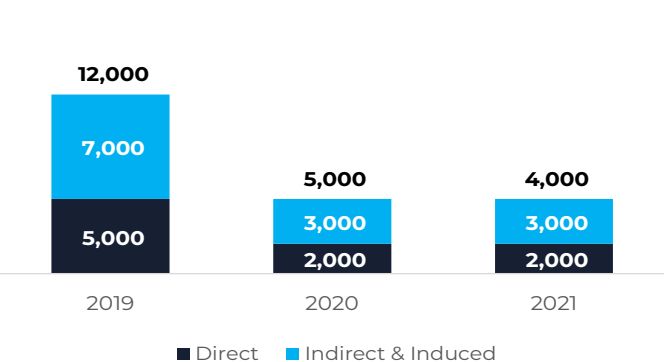
Billions of ¥



Source: Tourism Economics & ComScore

Incremental Employment Impact for Alternative Accommodations

Jobs



Source: Tourism Economics & ComScore





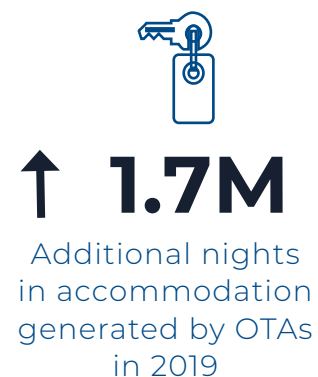
# SOUTH KOREA KEY INSIGHTS

OTAs generate additional travel demand for accommodation in South Korea boosting GDP and job creation. In particular independent accommodations benefit from OTAs by accruing a larger share of bookings than the market average. Consumers in South Korea also benefit from OTAs through more affordable rates offered to travellers.

The number of travellers organising travel to South Korea through OTAs increased steadily from 2012 to 2019, before the effects of the pandemic led to a sharp decline in all travel bookings.

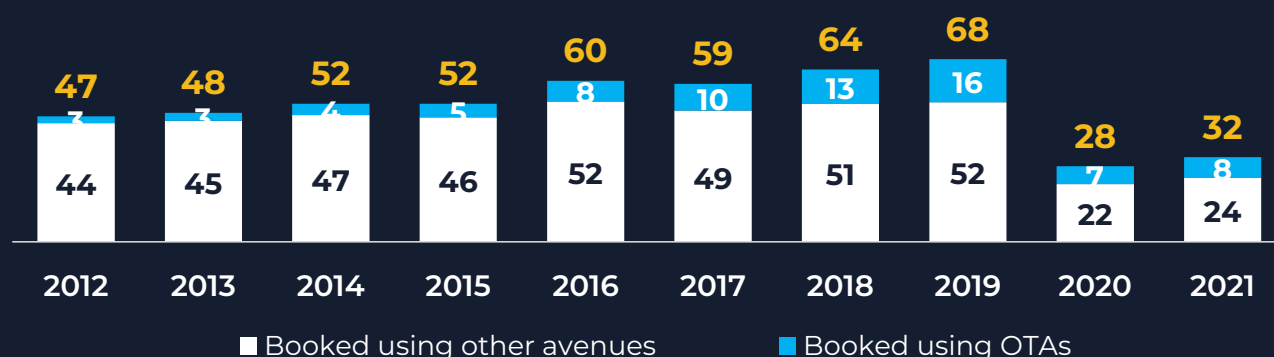
As shown in the accompanying chart, approximately 16 million room nights were booked through OTAs in 2019, representing 24% of the 68 million room nights booked. In 2020, just 7 million room nights were booked through OTAs, though as a share of the total 28 million room nights booked this was similar to 2019. There was a slight improvement in bookings in 2021, with 8 million nights booked through OTAs out of a total market of 32 million, again at a share of around one-quarter.

## Key Impacts of OTAs in South Korea in 2019



## Nights in All Accommodation Types in South Korea 2012-2021

Millions of Room Nights



## OTAS MAKE TRAVEL MORE AFFORDABLE

If OTAs did not exist rates the Korean accommodation market would be higher. Between 2014 and 2019, OTAs generated an average reduction in rates of ₩12,450 per room night (7.0% reduction) across South Korea.

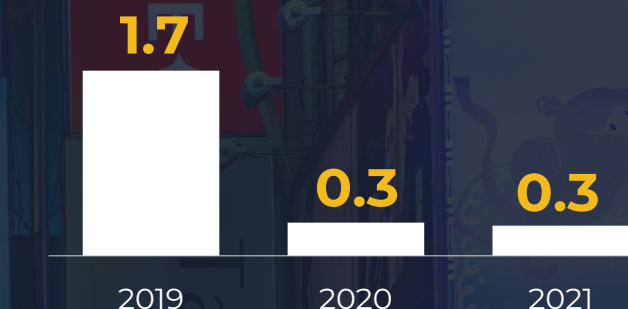
### Reduction in Average Daily Hotel Rates Attributable to OTAs, 2019-2021



## OTAS INCREASE BOOKINGS & EXPAND THE MARKET

OTAs provide businesses with an online platform to advertise their accommodation offer and expand their consumer base. OTAs also improve trust in providers, and reward quality.

### Additional Nights (Millions) in All Accommodation Attributable to OTAs, 2019-2021



## OTAS CREATE ADDITIONAL GDP GROWTH

OTAs generate additional economic growth across South Korea. OTAs added an incremental ₩1,184 billion to the economy in 2019. OTAs contributed ₩182 billion to South Korea's GDP in 2020 and ₩112 billion to Korean GDP in 2021.

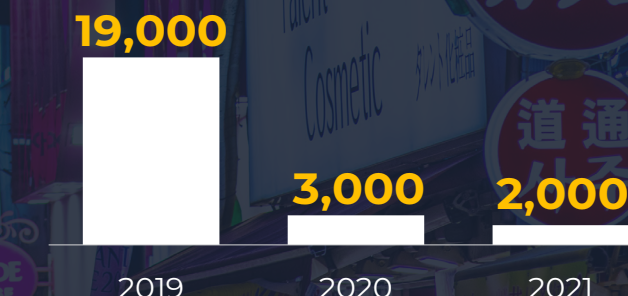
### GDP Impacts (₩ Billions) Attributable to OTAs in South Korea, 2019-2021



## OTAS GENERATE JOBS AND ECONOMIC OPPORTUNITIES

OTAs generate significant job impacts across various sectors of the Korean economy. In 2019, the economic impacts attributable to OTAs included 19,000 jobs. In 2020 and 2021, OTAs were responsible for 3,000 and 2,000 jobs, respectively.

### Job Impacts Attributable to OTAs in South Korea, 2019-2021





# SOUTH KOREA OTA DETAILS

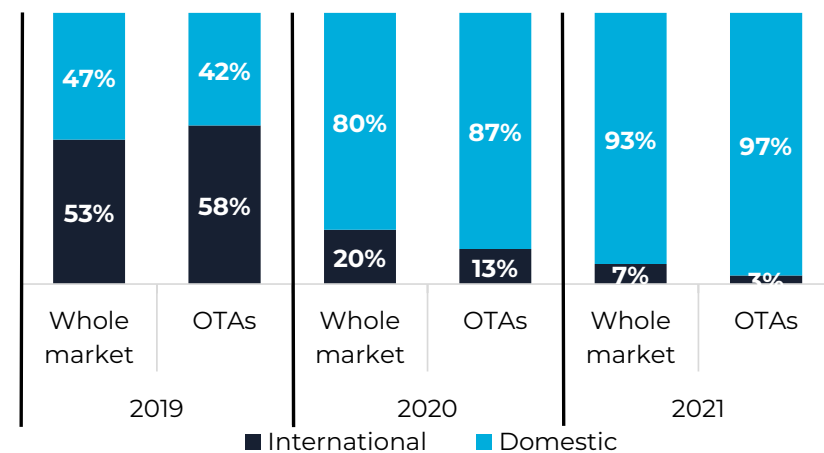
## MARKET CHARACTERISTICS

International bookings made up a greater proportion of OTA bookings compared to the whole market in 2019. However, this was reversed in 2020 and 2021 as international visits declined sharply due to restrictions imposed.

In 2019, the international share of OTA bookings was slightly higher than that for the market as a whole. However, the international share of OTA nights was smaller than the broader market in 2020-21, alongside a significant pandemic-related fall in international visitors in the whole market and for OTA stays specifically.

### Market Characteristics of OTAs Compared to Whole Market in South Korea

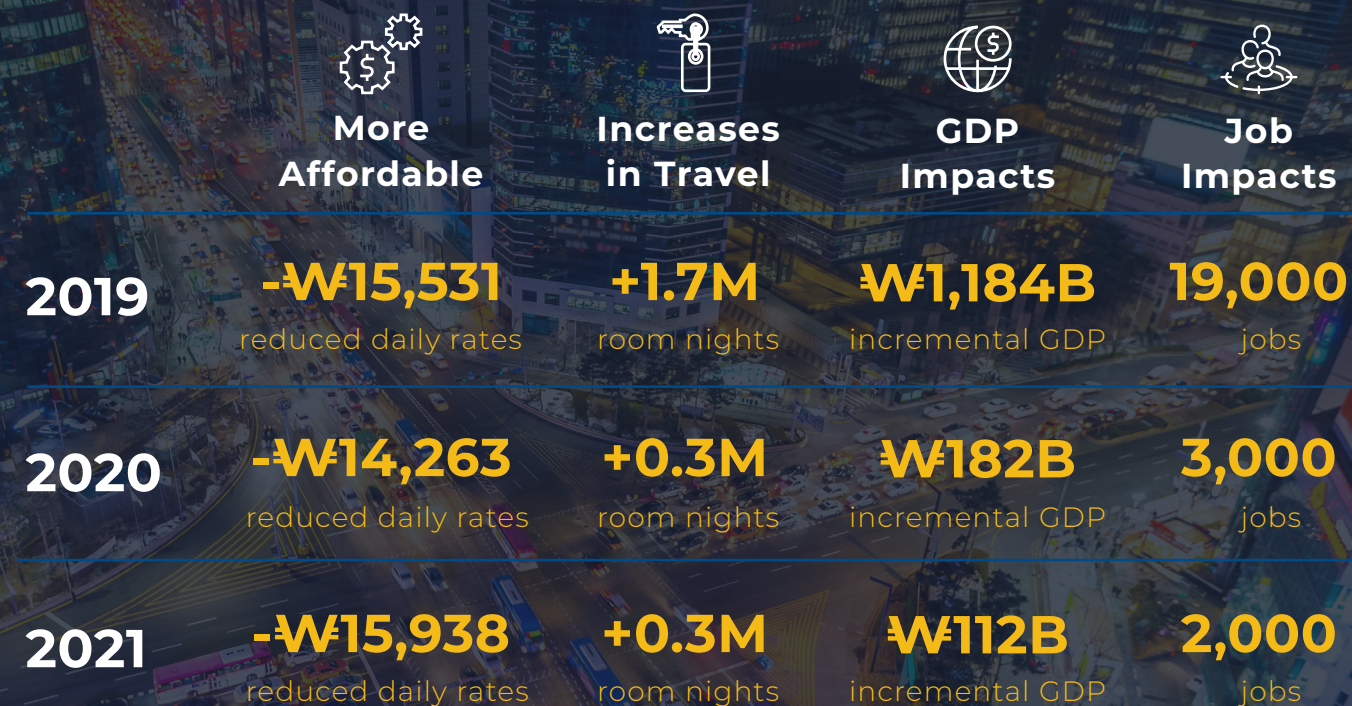
Share of Nights (International & Domestic)



Source: Tourism Economics & Booking.com

## Summary Impacts of OTAs in South Korea, 2019-2021

Amounts as Indicated



### OTAs support particular segments of the market

OTA bookings in South Korea tended to be more oriented towards independent hotels compared to the market as a whole. In 2021, 73% of bookings made via OTAs were independent compared to 44% across the wider market; this relative difference (and the shares of bookings) were similar to this in 2020 and 2021.

### OTAs are important for alternative accommodation

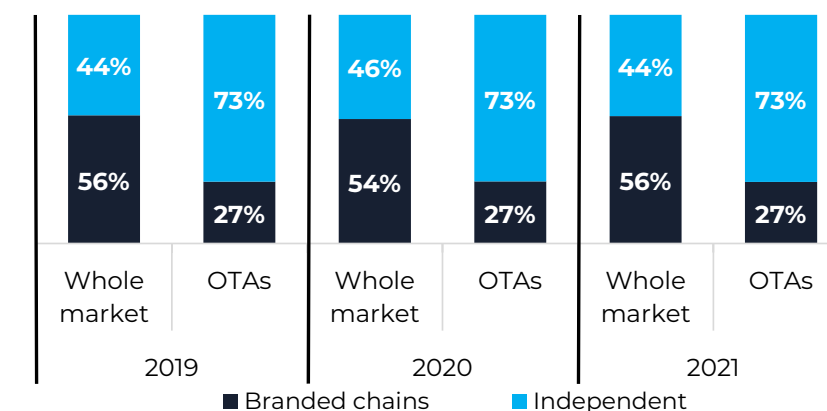
Guests have been slightly more strongly orientated towards alternative accommodations when booking travel through OTAs. In 2021, 19% of bookings via OTAs were alternative accommodations compared with 16% for the market as a whole.

### Rural bookings are on the rise

The rural booking index increased significantly above trend in 2020. OTAs have demonstrated they can quickly accommodate changes in consumer preferences.

### Market Characteristics of OTAs Compared to Whole Market in South Korea

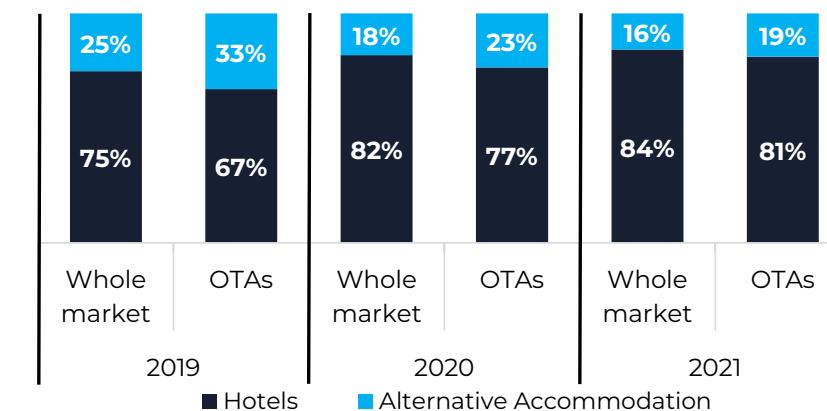
Share of Total Sales (Branded Chains & Independent)



Source: Tourism Economics & Booking.com

### Market Characteristics of OTAs Compared to Whole Market in South Korea

Share of Total Sales (Hotels & Alternative Accommodations)



Source: Tourism Economics & ComScore

### OTA Rural Booking Index in South Korea 2012-2021



Source: Tourism Economics, ComScore, STR



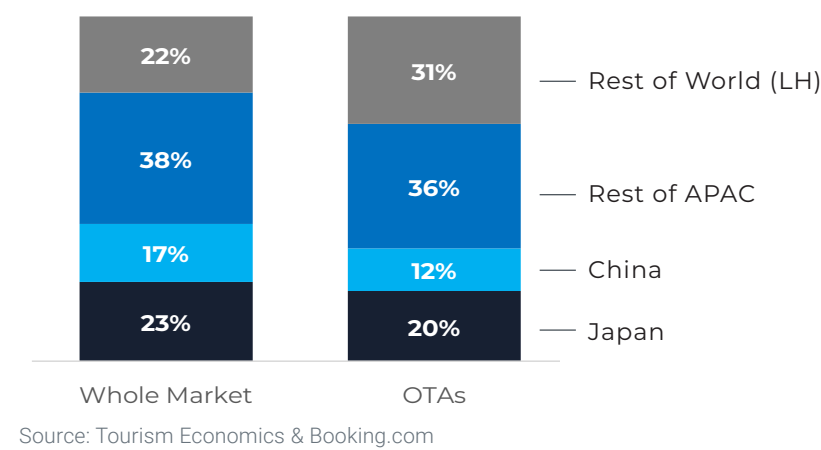
COMPOSITION OF TRAVEL

OTAs support a wide variety of travel to South Korea – from both other APAC countries and further afield

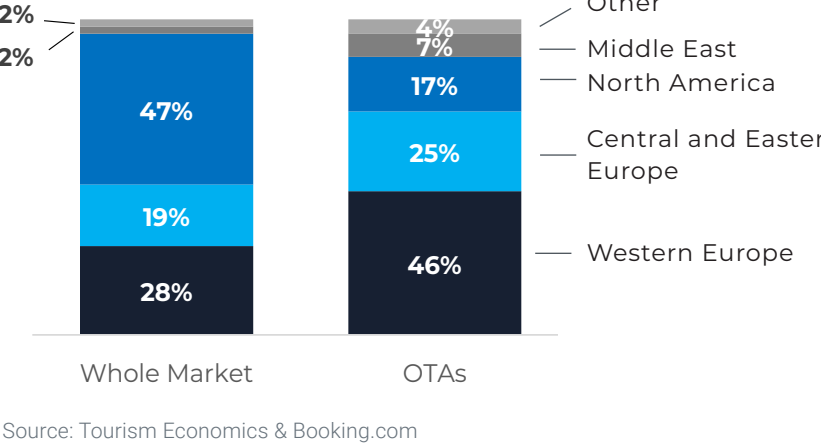
Almost 70% of international travel booked on OTAs in South Korea is from countries elsewhere in APAC. This includes 20% from Japan, 12% from China and 36% from other countries in APAC. By comparison, for the market as a whole, arrivals from APAC accounted for 78% of international overnight stays – slightly higher than the share accounted for by OTA bookings. Over 30% of OTA-linked international stays originated from long-haul markets – higher than the share of long-haul arrivals for the market overall (22%).

OTA support for long-haul arrivals is primarily directed towards arrivals from Western Europe, with the region accounting for 46% of OTA bookings compared to 28% of all international overnight visits. By contrast, OTAs provide relatively less support for visitors from North America – these visitors accounted for 17% of OTA bookings, as opposed to 47% of all international arrivals. The support provided by OTAs was also larger than the broader market presence for visitors from Central and Eastern Europe and the Middle East.

Composition of International Travel  
Origin of international travel to South Korea, share of overnights, 2019



Composition of Long-Haul International Travel  
Origin of long-haul travel to South Korea, share of overnights, 2019

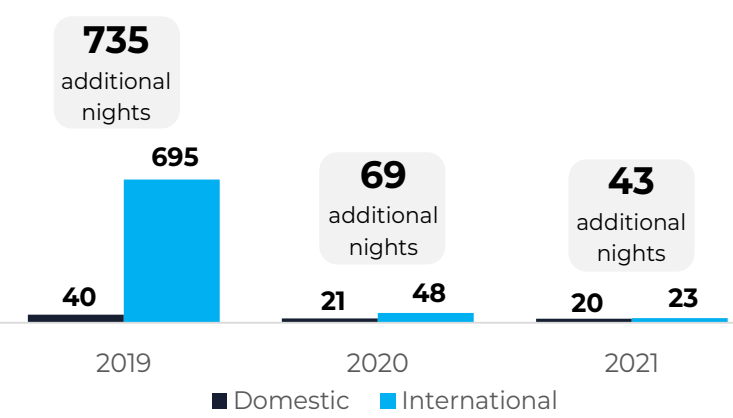


MARKET EXPANSION EFFECT ON ALTERNATIVE ACCOMMODATIONS

OTAs support alternative lodgings

In each year from 2019 to 2021, OTAs increased the number of overnight stays in alternative accommodations in South Korea, though this impact was small in 2020-21. In 2021, bookings via OTAs generated an additional 43,000 nights in South Korea.

Additional Nights in Alternative Accommodation  
Thousands of nights

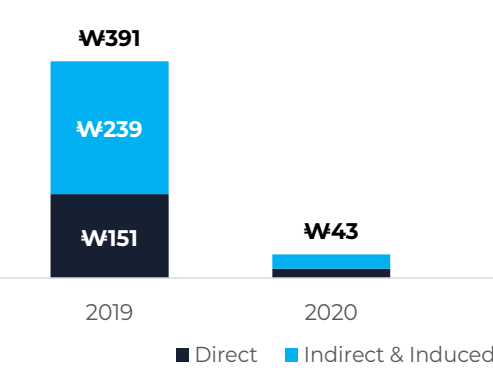


ECONOMIC IMPACTS ON ALTERNATIVE ACCOMMODATIONS

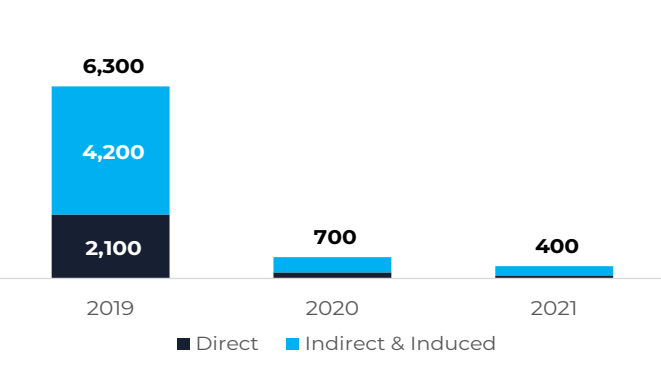
OTAs generate incremental economic impacts in the form of GDP and jobs for alternative lodgings, though these impacts were small in South Korea in 2020 and 2021

Economic impacts are generated through the additional spending associated with non-hotel staying guests. In 2021, OTAs generated ₩21 billion in total incremental GDP and just under 400 total jobs, although both were significantly higher in 2019.

Incremental GDP Impact for Alternative Accommodations  
Billions of ₩



Incremental Employment Impact for Alternative Accommodations  
Jobs





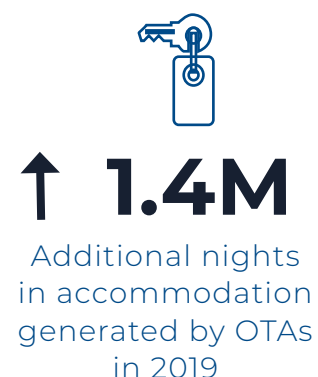
# NEW ZEALAND KEY INSIGHTS

OTAs generate additional travel demand for accommodation in New Zealand boosting GDP and job creation. In particular independent accommodations benefit from OTAs by accruing a larger share of bookings than the market average. Consumers in New Zealand also benefit from OTAs through more affordable rates offered to travellers.

The number of travellers organising travel to New Zealand through OTAs increased steadily from 2012 to 2019, before the effects of the pandemic led to a sharp decline in all travel bookings.

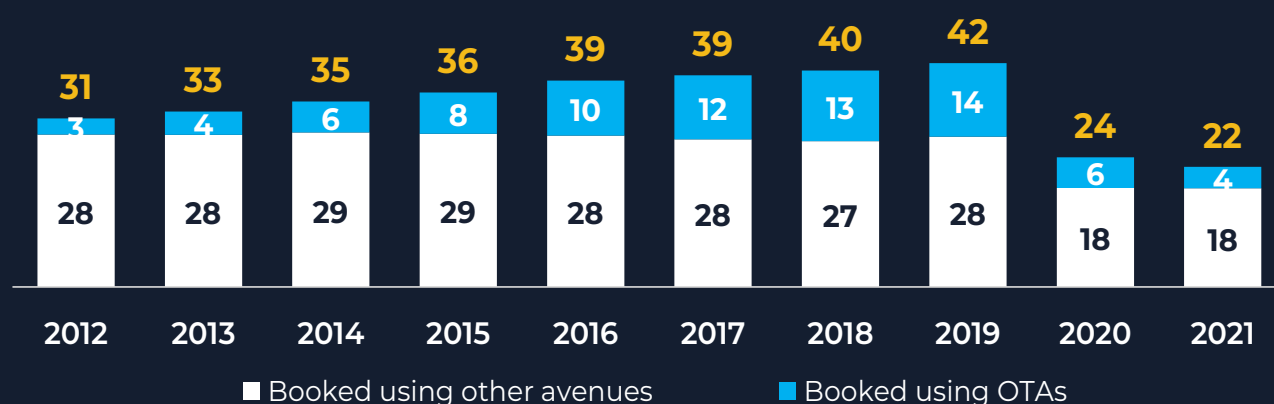
As shown in the accompanying chart, approximately 14 million room nights were booked through OTAs in 2019, representing 33% of the 42 million total room nights booked – a higher share than in previous years. In 2020, only 6 million room nights were booked through OTAs, representing 24% of the total 24 million room nights booked. There was a further decline in total bookings in 2021, with 4 million nights booked through OTAs out of a total market of 22 million (18%).

## Key Impacts of OTAs in New Zealand in 2019



## Nights in All Accommodation Types in New Zealand 2012-2021

Millions of Room Nights



## OTAS MAKE TRAVEL MORE AFFORDABLE

If OTAs did not exist rates in New Zealand's accommodation market would be higher. Between 2014 and 2019, OTAs generated an average reduction in rates of NZ\$16.50 per room night (8.6% reduction) across New Zealand.

### Reduction in Average Daily Hotel Rates Attributable to OTAs, 2019-2021



## OTAS INCREASE BOOKINGS & EXPAND THE MARKET

OTAs provide businesses with an online platform to advertise their accommodation offer and expand their consumer base. OTAs also improve trust in providers, and reward quality.

### Additional Nights (Millions) in All Accommodation Attributable to OTAs, 2019-2021



## OTAS CREATE ADDITIONAL GDP GROWTH

OTAs generate additional economic growth across New Zealand. OTAs added an incremental NZ\$1.1 billion to the economy in 2019. OTAs contributed NZ\$0.7 billion to New Zealand's GDP in 2020 and NZ\$0.6 billion to New Zealand's GDP in 2021.

### GDP Impacts (NZ\$ Billions) Attributable to OTAs in New Zealand, 2019-2021



## OTAS GENERATE JOBS AND ECONOMIC OPPORTUNITIES

OTAs generate significant job impacts across various sectors of New Zealand's economy. In 2019, the economic impacts attributable to OTAs included 11,000 jobs. In 2020 and 2021, OTAs were responsible for 7,000 and 6,000 jobs respectively.

### Job Impacts Attributable to OTAs in New Zealand, 2019-2021





# NEW ZEALAND OTA DETAILS

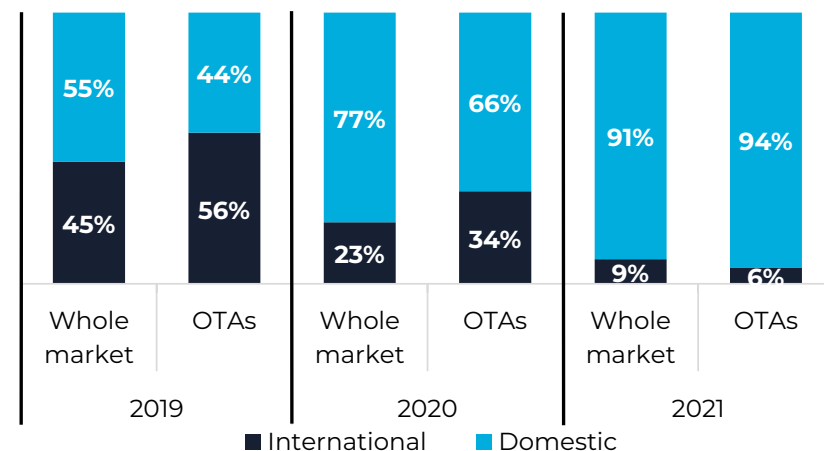
## MARKET CHARACTERISTICS

International bookings have tended to make up a greater proportion of OTA bookings compared to the market as a whole

The international proportion of OTA bookings was higher than that for the market as a whole in 2019 and 2020. However, the international share of bookings was slightly lower for OTAs than the wider market in 2021, as the international tourist presence in New Zealand fell dramatically due to restrictions on inbound arrivals.

### Market Characteristics of OTAs Compared to Whole Market in New Zealand

Share of Nights (International & Domestic)



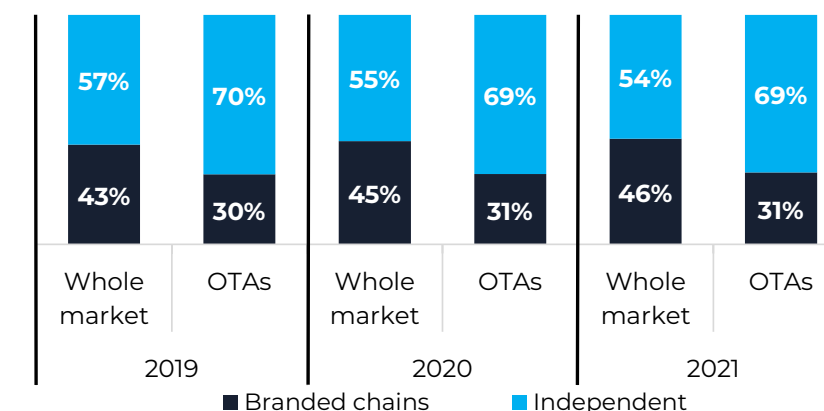
Source: Tourism Economics & Booking.com

### OTAs support particular segments of the market

OTA bookings in New Zealand have tended to be more oriented towards independent hotels compared to the market as a whole. In 2021, 69% of bookings made via OTAs were independent, compared to 54% across the wider market.

### Market Characteristics of OTAs Compared to Whole Market in New Zealand

Share of Total Sales (Branded Chains & Independent)



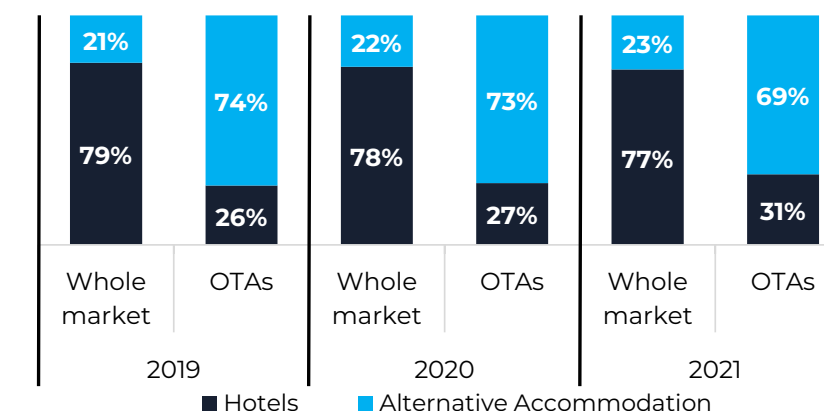
Source: Tourism Economics & Booking.com

### OTAs are important for alternative accommodation

Guests are much more strongly oriented towards alternative accommodations when booking through OTAs. In 2021, 69% of sales booked on OTAs were for alternative accommodations compared to 23% for the market as a whole.

### Market Characteristics of OTAs Compared to Whole Market in New Zealand

Share of Total Sales (Hotels & Alternative Accommodations)



Source: Tourism Economics & ComScore

## Summary Impacts of OTAs in New Zealand, 2019-2021

Amounts as Indicated

	More Affordable	Increases in Travel	GDP Impacts	Job Impacts
2019	<b>-NZ\$18</b> reduced daily rates	<b>+1.4M</b> room nights	<b>NZ\$1.1B</b> incremental GDP	<b>11,000</b> jobs
2020	<b>-NZ\$15</b> reduced daily rates	<b>+0.8M</b> room nights	<b>NZ\$0.7B</b> incremental GDP	<b>7,000</b> jobs
2021	<b>-NZ\$14</b> reduced daily rates	<b>+0.7M</b> room nights	<b>NZ\$0.6B</b> incremental GDP	<b>7,000</b> jobs

### Rural bookings are on the rise

The rural booking index increased significantly above trend in 2020. OTAs have demonstrated they can quickly accommodate changes in consumer preferences.

### OTA Rural Booking Index in New Zealand

2012-2021



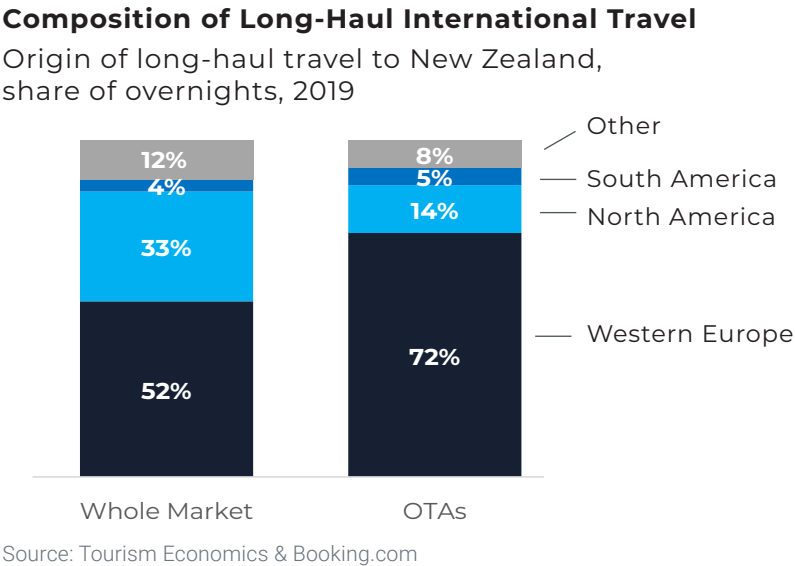
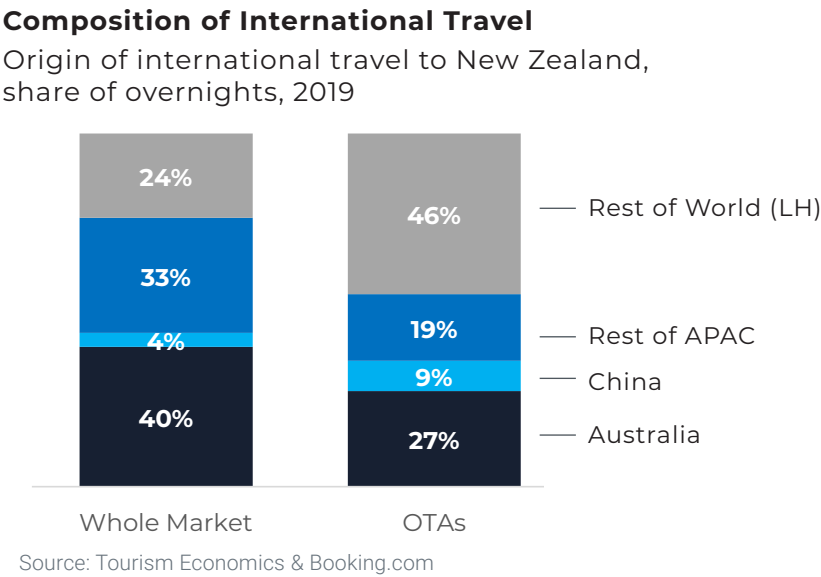
Source: Tourism Economics, ComScore, STR



COMPOSITION OF TRAVEL

OTAs provide relatively more support for long-haul markets compared to the broader market composition.

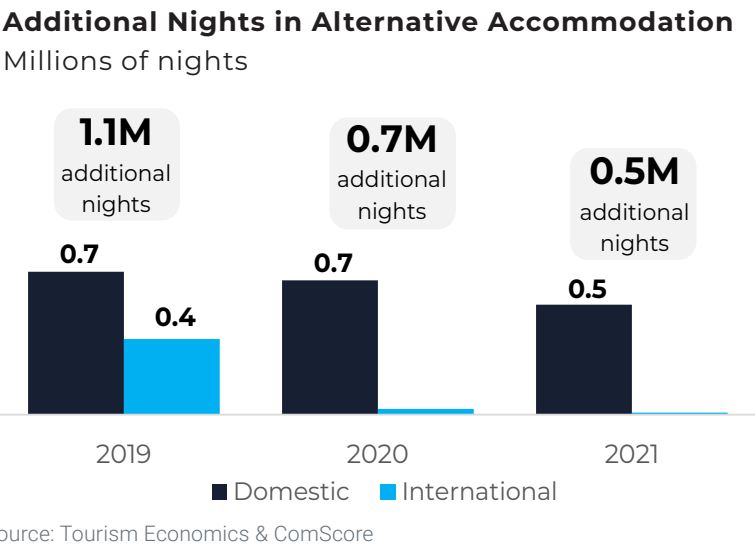
Just over half of international overnight stays in New Zealand booked through OTAs were arranged by individuals from elsewhere in APAC, By comparison, for the market as a whole, arrivals from APAC accounted for 76% of total international overnight stays. OTA international overnight bookings from long-haul markets were almost double the size of the market overall (in percentage share terms). OTAs support for long-haul arrivals is primarily directed towards arrivals from Western Europe, with this region accounting for 72% of OTA bookings compared to 52% of all international overnight arrivals. By contrast, OTAs provided relatively less support for visitors from North America – these visitors accounted for 14% of OTA bookings, as opposed to 33% of all international arrivals. For other long-haul regions, the support provided by OTAs was relatively small and typically similar to their broader market presence.



MARKET EXPANSION EFFECT ON ALTERNATIVE ACCOMMODATIONS

OTAs support alternative lodgings

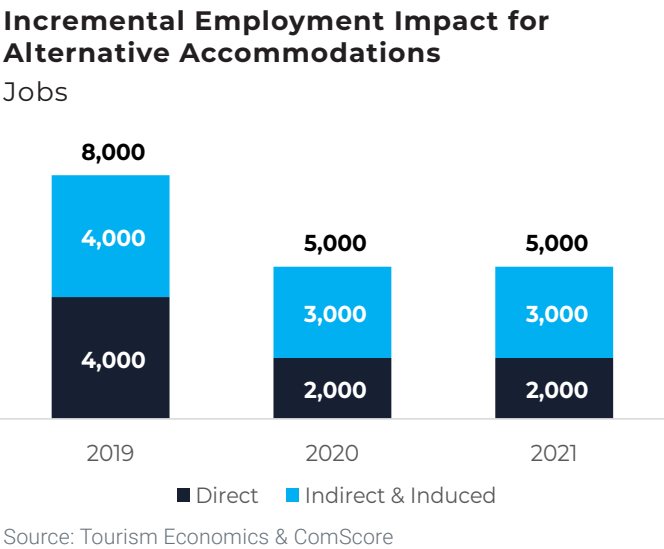
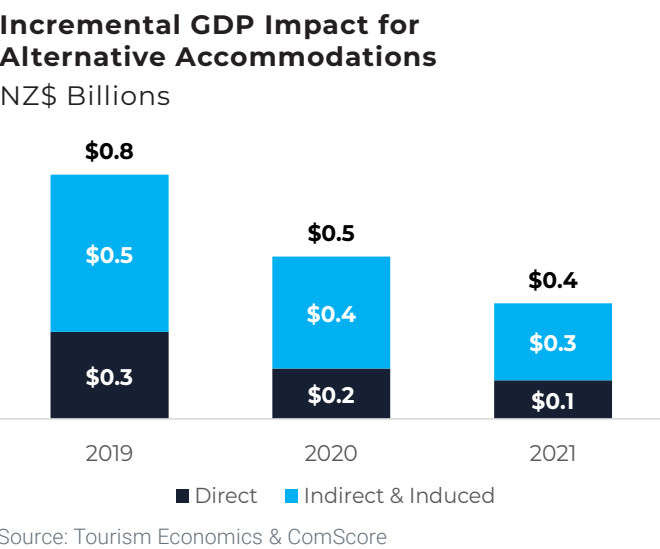
In each year from 2019 to 2021, OTAs increased the number of overnight stays in alternative accommodations in New Zealand. In 2021, bookings via OTAs generated an additional 0.5 million nights in New Zealand.



ECONOMIC IMPACTS ON ALTERNATIVE ACCOMMODATIONS

OTAs generate incremental economic impacts in the form of GDP and jobs for alternative lodgings

OTAs generate economic impacts for alternative accommodations in the form of additional spending associated with non-hotel staying guests. In 2021, OTAs generated NZ\$0.4 billion in total incremental GDP and 5,000 total jobs although both were higher in 2019.





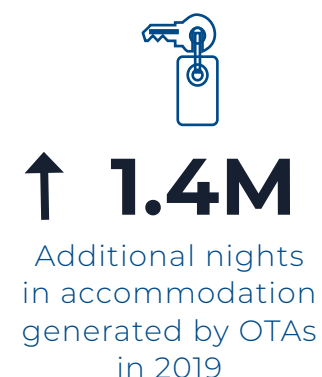
# SINGAPORE KEY INSIGHTS

OTAs generate additional travel demand for accommodation in Singapore boosting GDP and job creation. In particular independent accommodations benefit from OTAs by accruing a larger share of bookings than the market average. Consumers in Singapore also benefit from OTAs through more affordable rates offered to travelers.

The number of travellers organising travel to Singapore through OTAs increased steadily from 2012 to 2019, before the effects of the pandemic led to a sharp decline in all travel bookings.

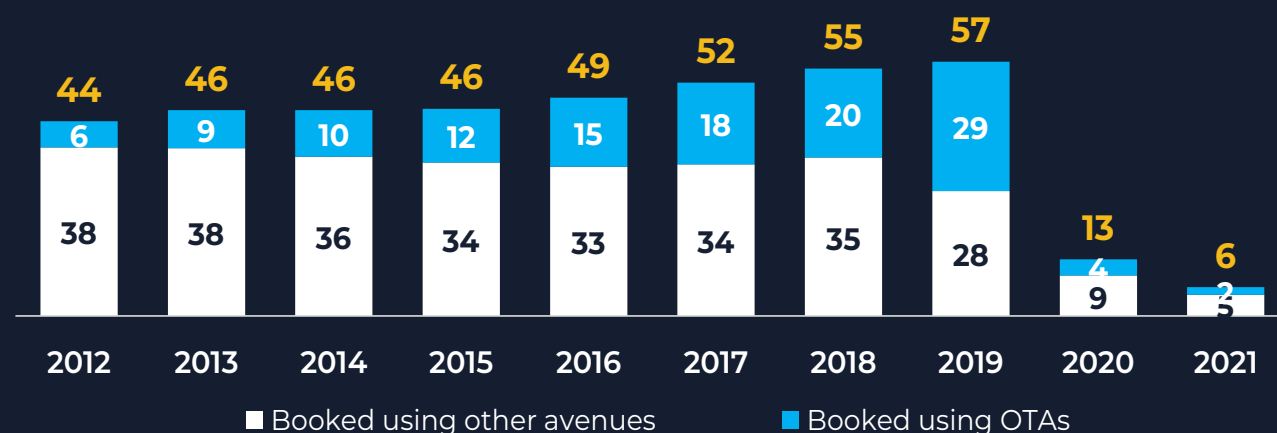
As shown in the accompanying chart, approximately 29 million room nights were booked through OTAs in 2019, representing 51% of the 57 million room nights booked – a higher share than in previous years. In 2020, just 4 million room nights were booked through OTAs, equivalent to 29% of the total 13 million room nights. There was a further decline in total bookings in 2021 with 2 million nights booked through OTAs out of a total market of 6 million.

## Key Impacts of OTAs in Singapore in 2019



## Nights in All Accommodation Types in Singapore 2012-2021

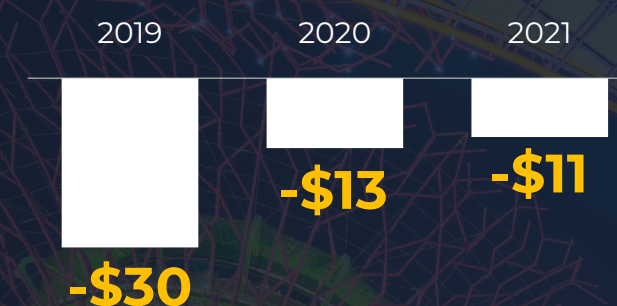
Millions of Room Nights



## OTAS MAKE TRAVEL MORE AFFORDABLE

If OTAs did not exist rates in the Singaporean accommodation market would be higher. Between 2014 and 2019, OTAs generated an average reduction in rates of S\$24 per room night (9.2% reduction) across Singapore

### Reduction in Average Daily Hotel Rates Attributable to OTAs, 2019-2021



## OTAS INCREASE BOOKINGS & EXPAND THE MARKET

OTAs provide businesses with an online platform to advertise their accommodation offer and expand their consumer base. OTAs also improve trust in providers, and reward quality.

### Additional Nights (Millions) in All Accommodation Attributable to OTAs, 2019-2021



## OTAS CREATE ADDITIONAL GDP GROWTH

OTAs generate additional economic growth across Singapore. OTAs added an incremental S\$551 million to the economy in 2019. OTAs contributed S\$56 million to Singapore's GDP in 2020 and S\$43 million in 2021.

### GDP Impacts (S\$ Millions) Attributable to OTAs in Singapore, 2019-2021



## OTAS GENERATE JOBS AND ECONOMIC OPPORTUNITIES

OTAs generate significant job impacts across various sectors of the Singaporean economy. In 2019, the economic impacts attributable to OTAs included 5,300 jobs. In each of 2020 and 2021, OTAs were responsible for around 600 jobs.

### Job Impacts Attributable to OTAs in Singapore 2019-2021





# SINGAPORE OTA DETAILS

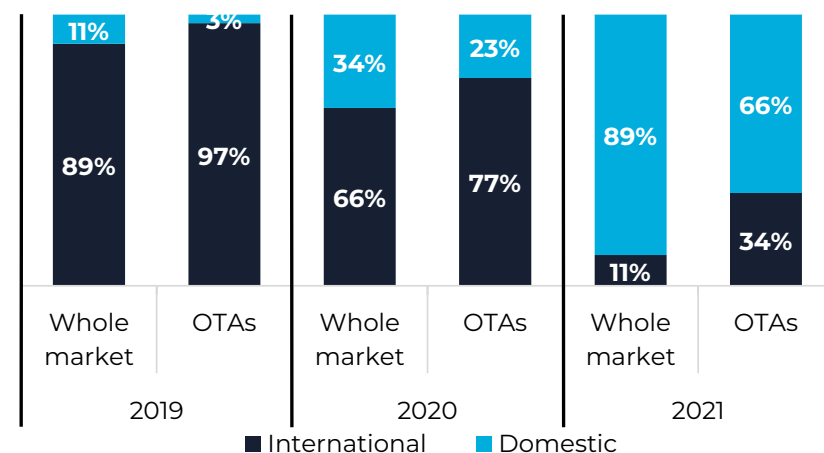
## MARKET CHARACTERISTICS

International bookings make up a greater proportion of OTA bookings compared to the whole market

The international proportion of OTA bookings was higher than that for the market as a whole in each of 2019, 2020 and 2021. However, while the share of OTA-linked travel accounted for by international visitors has remained higher than that for the broader market, the international share of both has fallen alongside the pandemic restrictions on arrivals.

### Market Characteristics of OTAs Compared to Whole Market in Singapore

Share of Nights (International & Domestic)



Source: Tourism Economics & Booking.com

## Summary Impacts of OTAs in Singapore, 2019-2021

Amounts as Indicated

	More Affordable	Increases in Travel	GDP Impacts	Job Impacts
2019	<b>-\$S\$30</b> reduced daily rates	<b>+1.4M</b> room nights	<b>\$S\$551M</b> incremental GDP	<b>5,300</b> jobs
2020	<b>-\$S\$13</b> reduced daily rates	<b>+0.1M</b> room nights	<b>\$S\$56M</b> incremental GDP	<b>600</b> jobs
2021	<b>-\$S\$11</b> reduced daily rates	<b>+0.1M</b> room nights	<b>\$S\$43M</b> incremental GDP	<b>600</b> jobs

## OTAs support particular segments of the market

OTA bookings in Singapore have tended to be more oriented towards independent hotels compared to the market as a whole. In 2021, 52% of sales booked on OTAs were independent compared to a 48% share across the wider market – a narrower difference than in previous years.

## OTAs are important for alternative accommodation

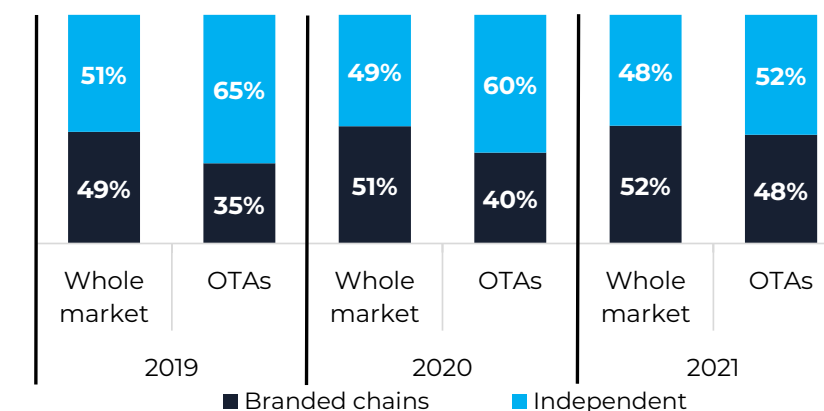
In 2019 and 2020, guests were slightly more oriented towards alternative accommodation when booking through OTAs. However, in 2021 this was reversed, with 23% of bookings via OTAs having been for alternative accommodations compared with 35% for the market as a whole.

## OTA platforms impact rates across the whole market

Price reduction effects are stronger for hotels that advertise on OTAs compared to those that do not. Those listed on OTAs saw an average reduction of 15%; those not listed saw an average reduction of 4%.

## Market Characteristics of OTAs Compared to Whole Market in Singapore

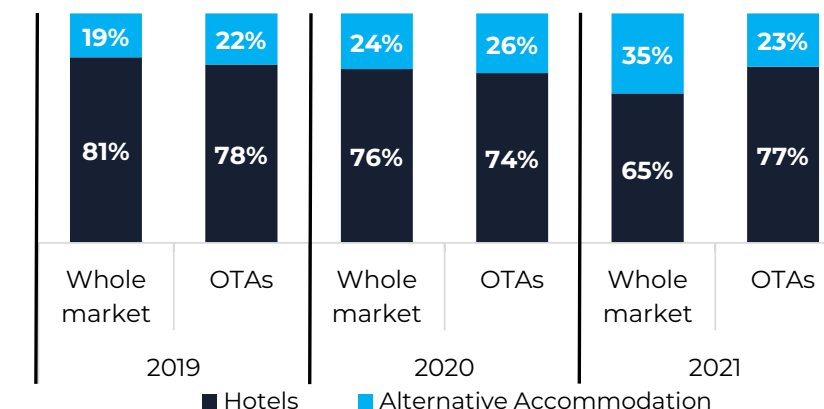
Share of Total Sales (Branded Chains & Independent)



Source: Tourism Economics & Booking.com

## Market Characteristics of OTAs Compared to Whole Market in Singapore

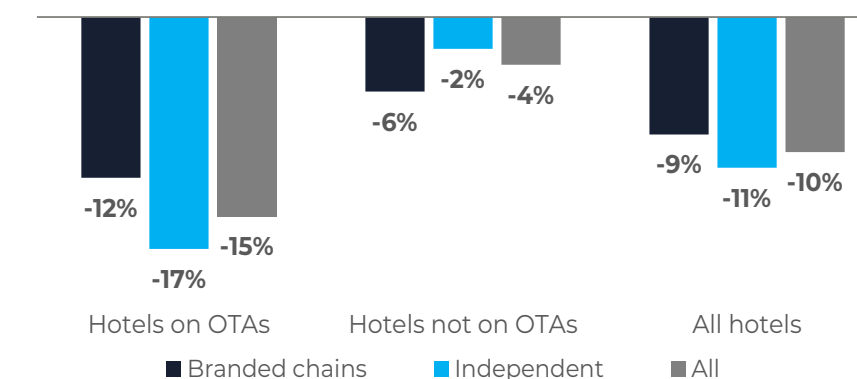
Share of Total Sales (Hotels & Alternative Accommodations)



Source: Tourism Economics & ComScore

## Total impact of OTA Activity on Average Daily Rates in Singapore in 2019

Percentage Reduction in Daily Rates



Source: Tourism Economics, ComScore, STR



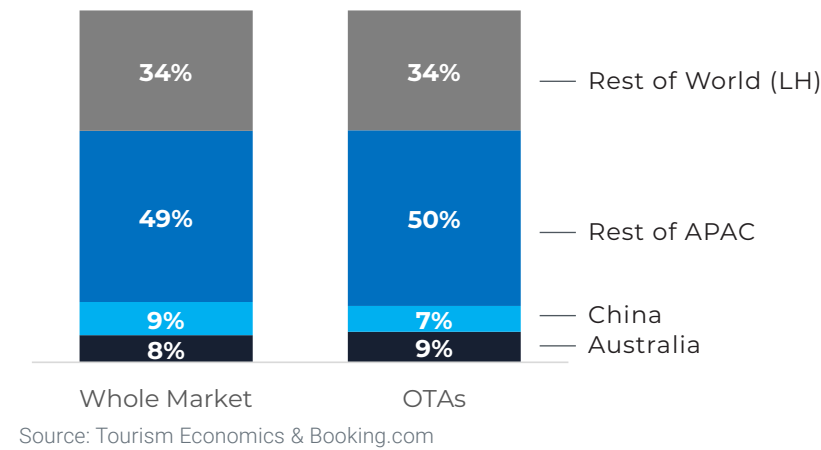
COMPOSITION OF TRAVEL

OTAs support a wide variety of travel to Singapore – from both other APAC countries and further afield.

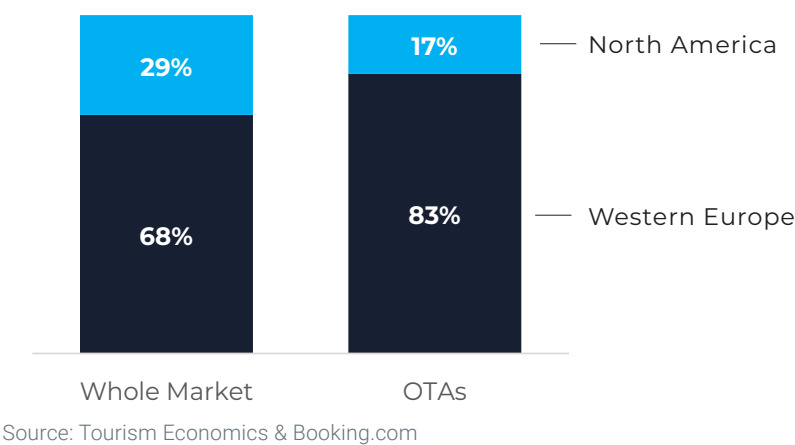
Two-thirds of international travel booked on OTAs in Singapore is from countries elsewhere in APAC – the same share as accounted for by APAC source markets for the market as a whole. This includes 9% from Australia, 7% from China and 50% from other APAC countries, which again was almost identical to the broader market composition. This means that OTAs provided a level of support that broadly reflected the wider market composition.

The remaining one-third of inbound OTA-linked stays originated from long-haul markets. The majority of this was accounted for by individuals booking from countries in Western Europe.

Composition of International Travel  
Origin of international travel to Singapore, share of overnights, 2019



Composition of Long-Haul International Travel  
Top origin markets of long-haul travel to Singapore, share of overnights, 2019

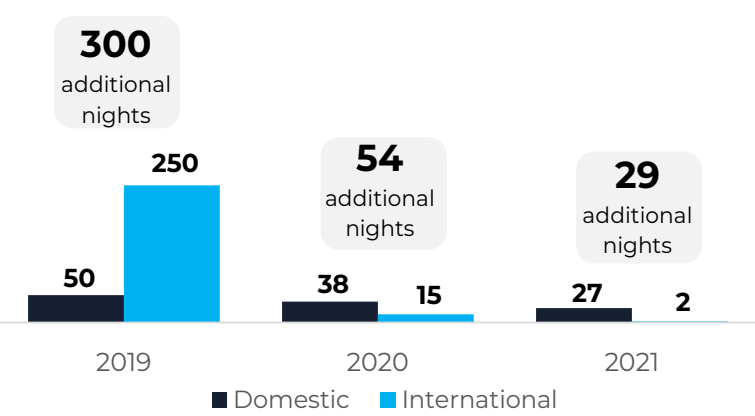


MARKET EXPANSION EFFECT ON ALTERNATIVE ACCOMMODATIONS

OTAs support alternative lodgings

In each year from 2019 to 2021, OTAs increased the number of overnight stays in alternative accommodations in Singapore, though these impacts were small in 2020-21. In 2021, bookings via OTAs generated an additional 29,000 nights in Singapore.

Additional Nights in Alternative Accommodation  
Thousands of nights

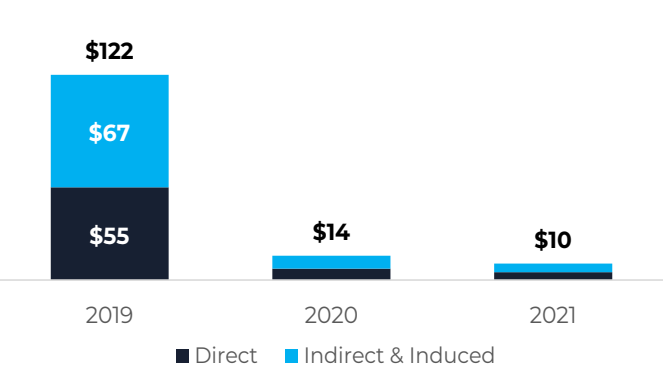


ECONOMIC IMPACTS ON ALTERNATIVE ACCOMMODATIONS

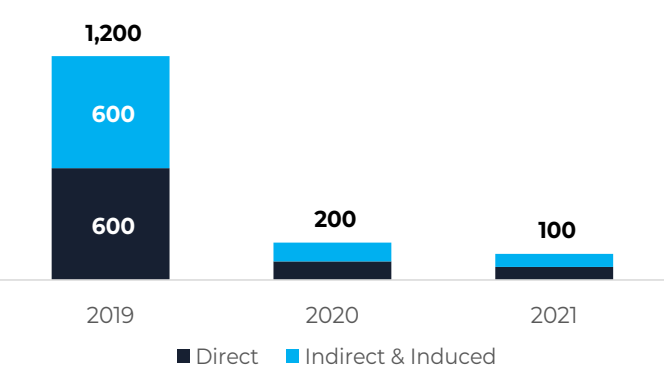
OTAs generate incremental economic impacts in the form of GDP and jobs for alternative lodgings

Economic impacts are generated through the additional spending associated with non-hotel staying guests. In 2021, OTAs generated S\$10 million in total incremental GDP and 100 total jobs, although both were significantly higher in 2019.

Incremental GDP Impact for Alternative Accommodations  
S\$ Millions



Incremental Employment Impact for Alternative Accommodations  
Jobs





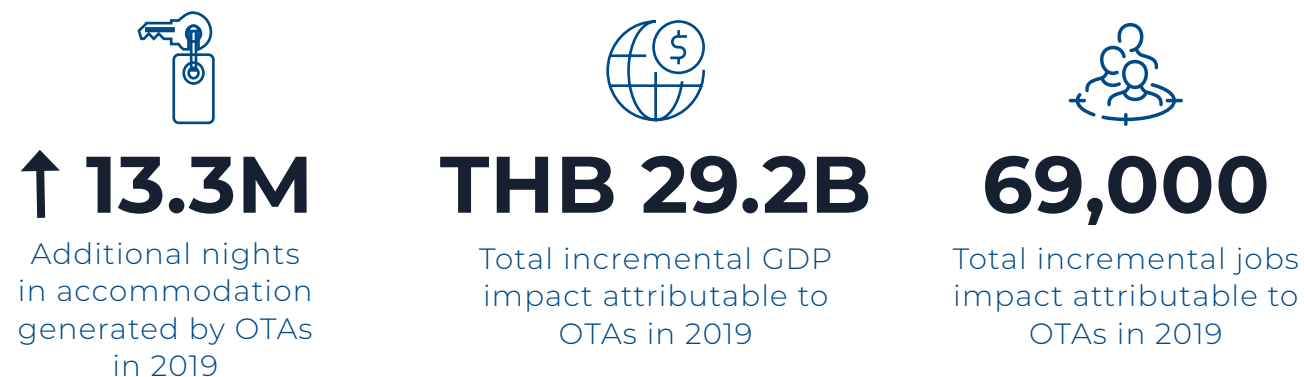
# THAILAND KEY INSIGHTS

OTAs generate additional travel demand for accommodation in Thailand boosting GDP and job creation. In particular independent accommodations benefit from OTAs by accruing a larger share of bookings than the market average. Consumers in Thailand also benefit from OTAs through more affordable rates offered to travellers.

The number of travellers organising travel to Thailand through OTAs increased steadily from 2012 to 2019, before the effects of the pandemic led to a sharp decline in all travel bookings.

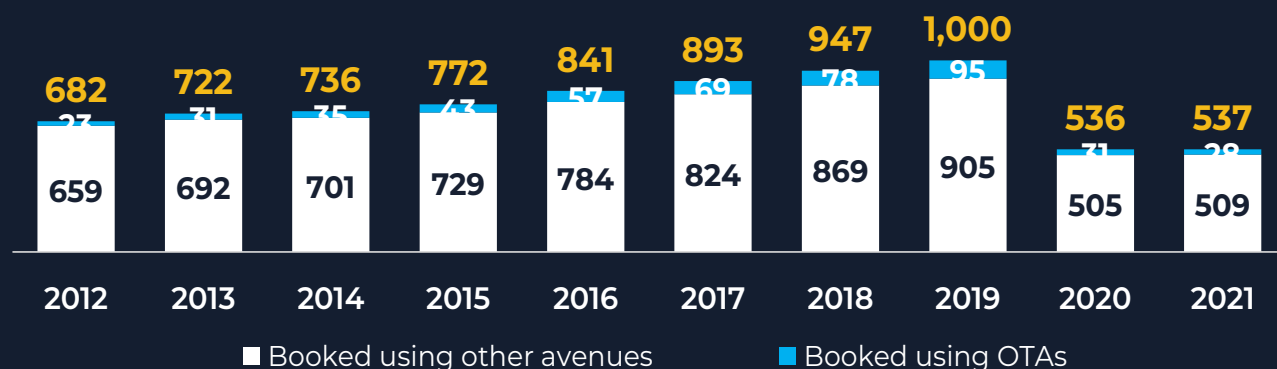
As shown in the accompanying chart, approximately 95 million room nights were booked through OTAs in 2019, representing 10% of the 1.0 billion room nights booked (a higher share than in prior years). In 2020, only 31 million room nights were booked through OTAs, equivalent to 6% of the total 536 million room nights. OTA bookings fell slightly in 2021 to 28 million nights, compared to a total market similar to the previous year (representing a share of 5%).

## Key Impacts of OTAs in Thailand in 2019



## Nights in All Accommodation Types in Thailand 2012-2021

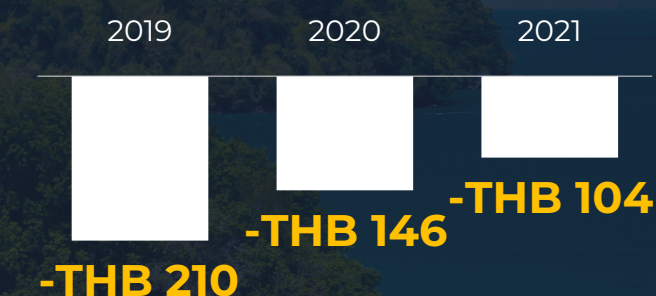
Millions of Room Nights



## OTAS MAKE TRAVEL MORE AFFORDABLE

If OTAs did not exist rates in the Thai accommodation market would be higher. Between 2014 and 2019, OTAs generated an average reduction in rates of THB 183 per room night (5.2% reduction) across Thailand.

### Reduction in Average Daily Hotel Rates Attributable to OTAs, 2019-2021



## OTAS INCREASE BOOKINGS & EXPAND THE MARKET

OTAs provide businesses with an online platform to advertise their accommodation offer and expand their consumer base. OTAs also improve trust in providers, and reward quality.

### Additional Nights (Millions) in All Accommodation Attributable to OTAs, 2019-2021



## OTAS CREATE ADDITIONAL GDP GROWTH

OTAs generate additional economic growth across Thailand. OTAs added an incremental THB 29.2 billion to the economy in 2019. OTAs contributed THB 7.7 billion to Thailand's GDP in 2020 and THB 3.4 billion in 2021.

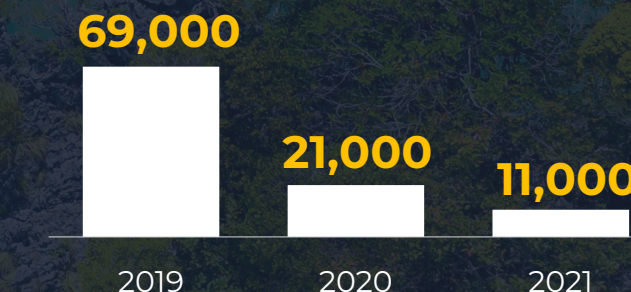
### GDP Impacts (THB Billions) Attributable to OTAs in Thailand, 2019-2021



## OTAS GENERATE JOBS AND ECONOMIC OPPORTUNITIES

OTAs generate significant job impacts across various sectors of the Thai economy. In 2019, the economic impacts attributable to OTAs included 69,000 jobs. In 2020 and 2021, OTAs were responsible for 21,000 jobs and 11,000 jobs respectively.

### Job Impacts Attributable to OTAs in Thailand 2019-2021





# THAILAND OTA DETAILS

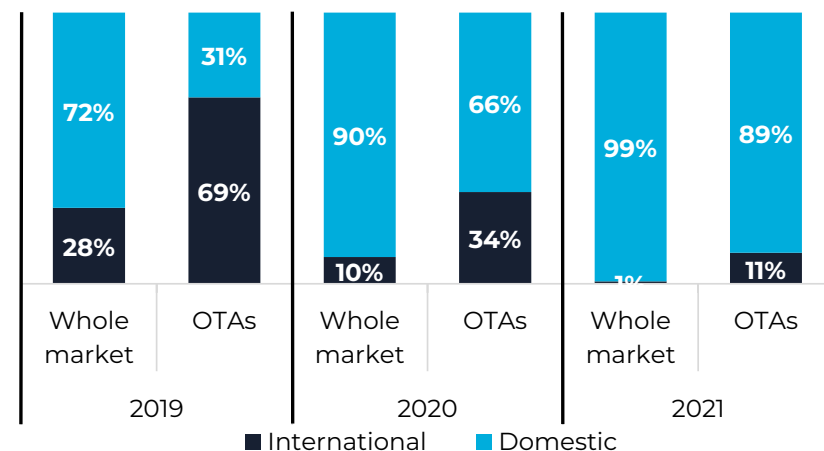
## MARKET CHARACTERISTICS

International bookings make up a greater proportion of OTA bookings compared to the whole market

The international proportion of OTA bookings was significantly higher than the market as a whole in each of 2019, 2020 and 2021, though the overall presence of international bookings declined notably (for OTA-linked stays and in general) as a result of the pandemic.

### Market Characteristics of OTAs Compared to Whole Market in Thailand

Share of Nights (International & Domestic)



Source: Tourism Economics & Booking.com

### OTAs support particular segments of the market

OTA bookings in Thailand have tended to be more oriented towards independent hotels compared to the market as a whole. In 2021, 82% of bookings made via OTAs were with independent providers, compared to 58% across the wider market.

### OTAs are important for alternative accommodation

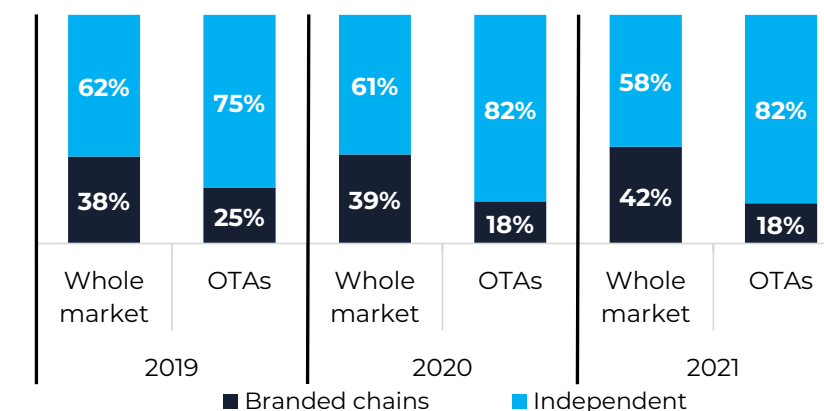
In 2019, OTA-linked stays indicated similar preferences to the wider market. In 2020 and 2021, however, guests have been less oriented towards alternative accommodations when booking through OTAs (compared to the market as a whole). Nevertheless, alternative accommodation options still accounted for 40% of OTA-linked stays in Thailand in 2021 (as opposed to 64% for the broader market).

### Rural bookings are on the rise

The rural booking index increased significantly above trend in 2020. OTAs have demonstrated they can quickly accommodate changes in consumer preferences.

### Market Characteristics of OTAs Compared to Whole Market in Thailand

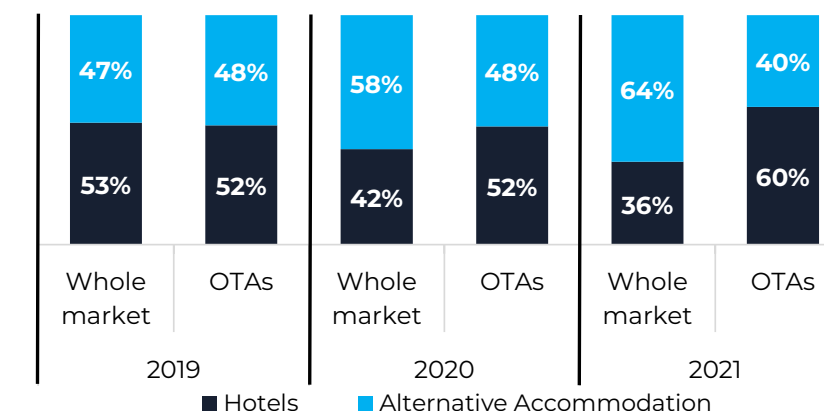
Share of Total Sales (Branded Chains & Independent)



Source: Tourism Economics & Booking.com

### Market Characteristics of OTAs Compared to Whole Market in Thailand

Share of Total Sales (Hotels & Alternative Accommodations)



Source: Tourism Economics & ComScore

### OTA Rural Booking Index in Thailand

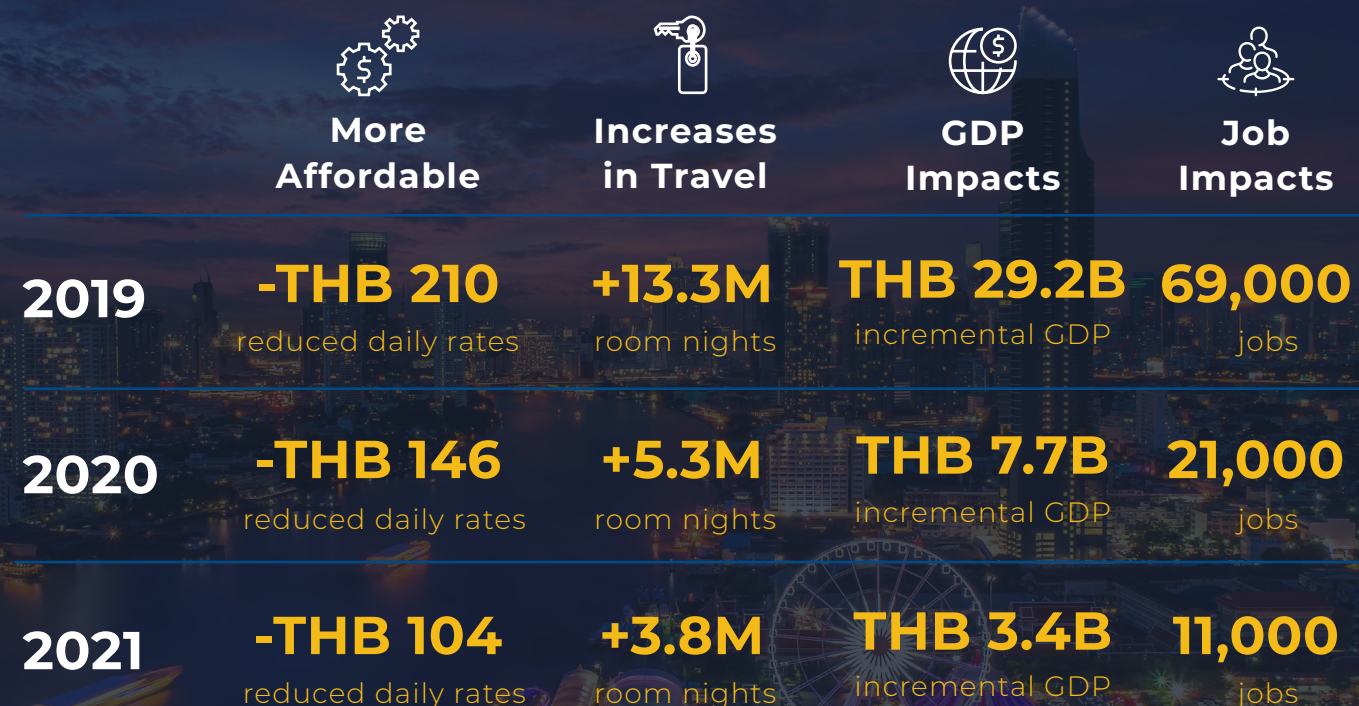
2012-2021



Source: Tourism Economics, ComScore, STR

## Summary Impacts of OTAs in Thailand, 2019-2021

Amounts as Indicated



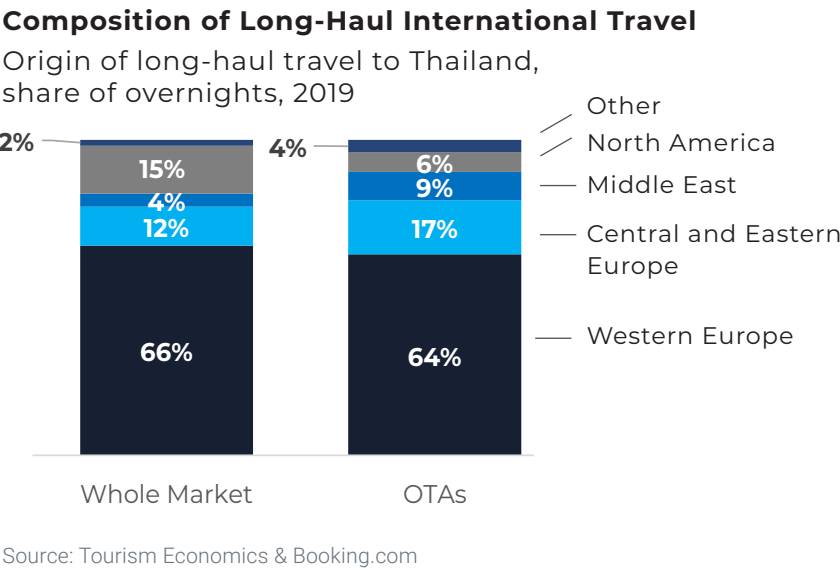
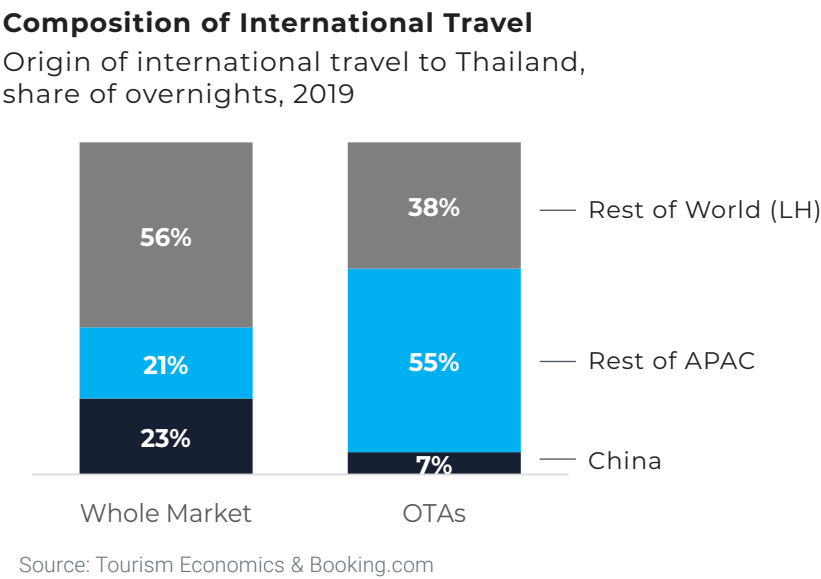


COMPOSITION OF TRAVEL

OTAs support a wide variety of travel to Thailand – from both other APAC countries and further afield.

More than 60% of international travel booked on OTAs in Thailand is from countries elsewhere in APAC. By comparison, for the market as a whole, arrivals from APAC accounted for 44% of international overnight stays.

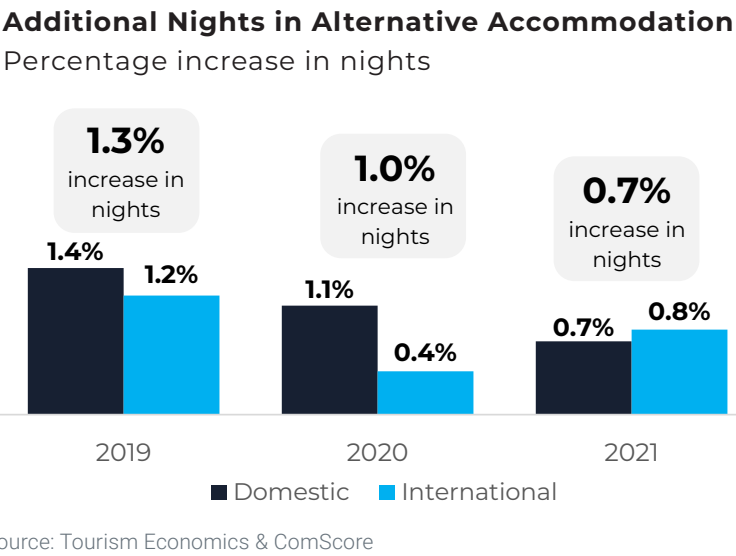
Under 40% of OTA-linked international stays originated from long-haul markets – lower than the share of long-haul visitors for the market as a whole (56%), indicating that OTAs provided relatively less support for such travellers. Among long-haul markets, Western Europe accounted for around two-thirds of both OTA-linked travel and the whole market. A moderately larger share of OTA-linked travel was accounted for by travellers originating in Emerging Europe and the Middle East, compared to their share of the overall market for long-haul visitors. By contrast, a much lower share of OTA-linked travel was made up by individuals from North America than their wider market prominence.



MARKET EXPANSION EFFECT ON ALTERNATIVE ACCOMMODATIONS

OTAs support alternative lodgings

In each year from 2019 to 2021, OTAs increased the number of overnight stays in alternative accommodations in Thailand, accounted for almost entirely by domestic travellers. In 2021, bookings via OTAs increased the number of overnight stays by 0.7%.

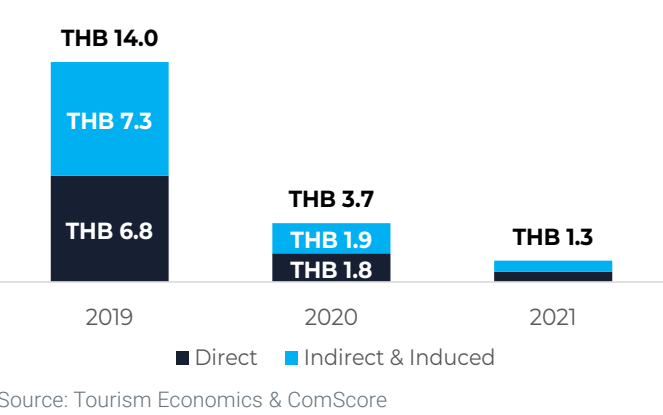


ECONOMIC IMPACTS ON ALTERNATIVE ACCOMMODATIONS

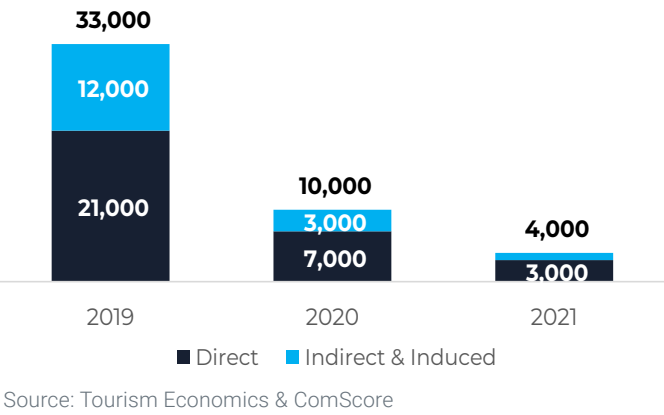
OTAs generate incremental economic impacts in the form of GDP and jobs for alternative lodgings

Economic impacts are generated through the additional spending associated with non-hotel staying guests. In 2021, OTAs generated 1.3 billion THB in total incremental GDP and 4,000 total jobs, although both were significantly higher in 2019.

**Incremental GDP Impact for Alternative Accommodations**  
Billions of THB



**Incremental Employment Impact for Alternative Accommodations**  
Jobs





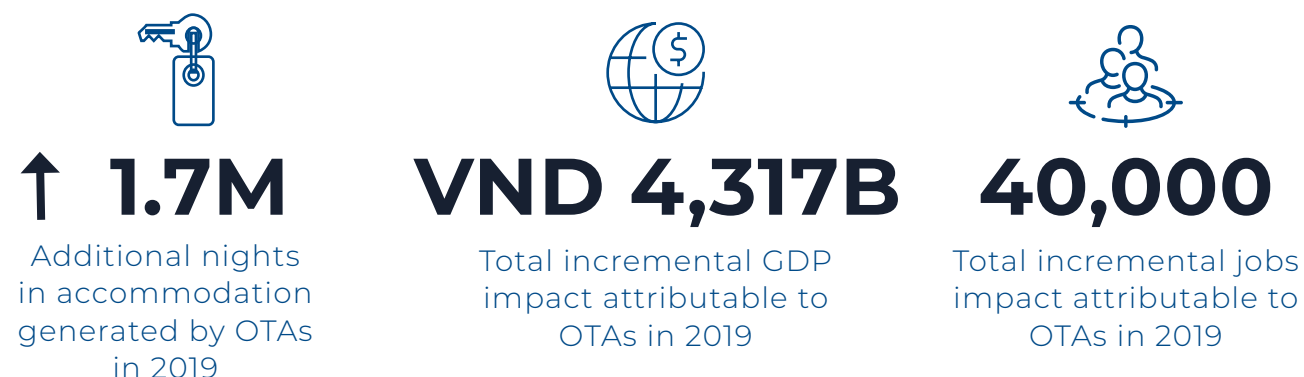
# VIETNAM KEY INSIGHTS

OTAs generate additional travel demand for accommodation in Vietnam boosting GDP and job creation. In particular independent accommodations benefit from OTAs by accruing a larger share of bookings than the market average. Consumers in Vietnam also benefit from OTAs through more affordable rates offered to travellers.

The number of travellers organising travel to Vietnam through OTAs increased strongly from 2012 to 2019, before the effects of the pandemic led to a sharp decline in all travel bookings.

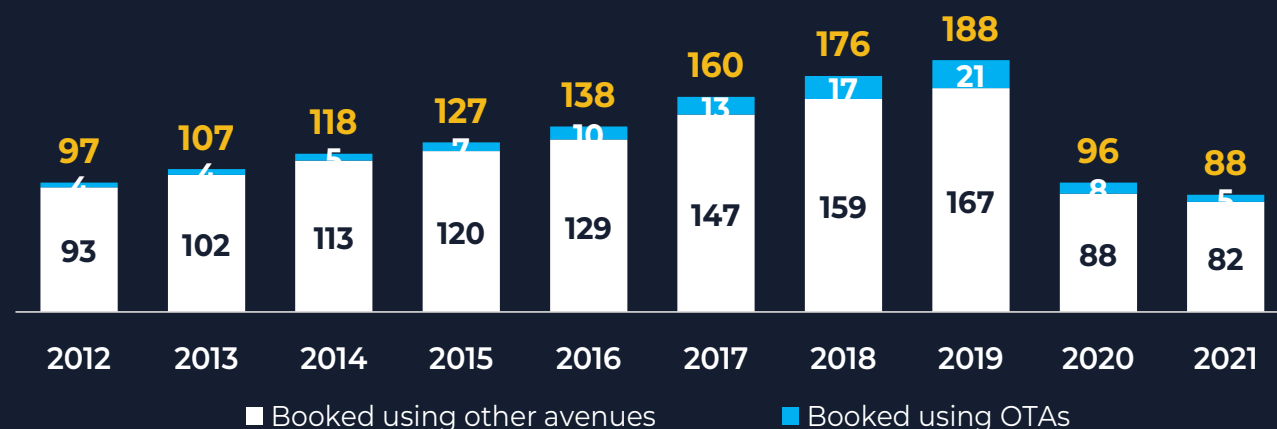
As shown in the accompanying chart, approximately 21 million room nights were booked through OTAs in 2019, representing 11% of the 188 million total room nights booked. In 2020, just 8 million room nights were booked through OTAs, equivalent to 9% of the total 96 million nights. There was a further slight decline in 2021, with 5 million nights booked through OTAs out of a total market of 88 million (6%).

## Key Impacts of OTAs in Vietnam in 2019



## Nights in All Accommodation Types in Vietnam 2012-2021

Millions of Room Nights



## OTAS MAKE TRAVEL MORE AFFORDABLE

If OTAs did not exist rates in the Vietnamese accommodation market would be higher. Between 2014 and 2019, OTAs generated an average reduction in rates of VND 165,000 per room night (5.5% reduction) across Vietnam.

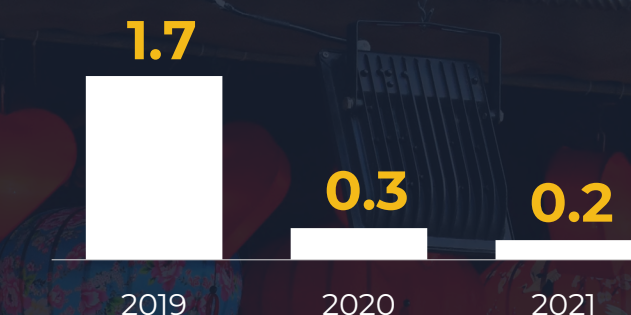
### Reduction in Average Daily Hotel Rates Attributable to OTAs, 2019-2021



## OTAS INCREASE BOOKINGS & EXPAND THE MARKET

OTAs provide businesses with an online platform to advertise their accommodation offer and expand their consumer base. OTAs also improve trust in providers, and reward quality.

### Additional Nights (Millions) in All Accommodation Attributable to OTAs, 2019-2021



## OTAS CREATE ADDITIONAL GDP GROWTH

OTAs generate additional economic growth across Vietnam. OTAs added an incremental VND 4,317 billion to the economy in 2019. OTAs contributed VND 653 billion to Vietnam's GDP in 2020 and VND 315 billion in 2021.

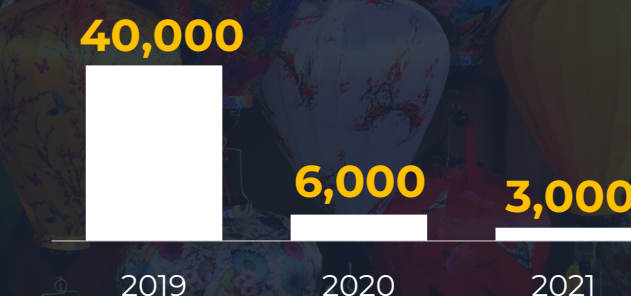
### GDP Impacts (VND Billions) Attributable to OTAs in Vietnam, 2019-2021



## OTAS GENERATE JOBS AND ECONOMIC OPPORTUNITIES

OTAs generate significant job impacts across various sectors of the Vietnamese economy. In 2019, the economic impacts attributable to OTAs included 40,000 jobs. In 2020 and 2021, OTAs were responsible for 6,000 and 3,000 jobs respectively.

### Job Impacts Attributable to OTAs in Vietnam 2019-2021





# VIETNAM OTA DETAILS

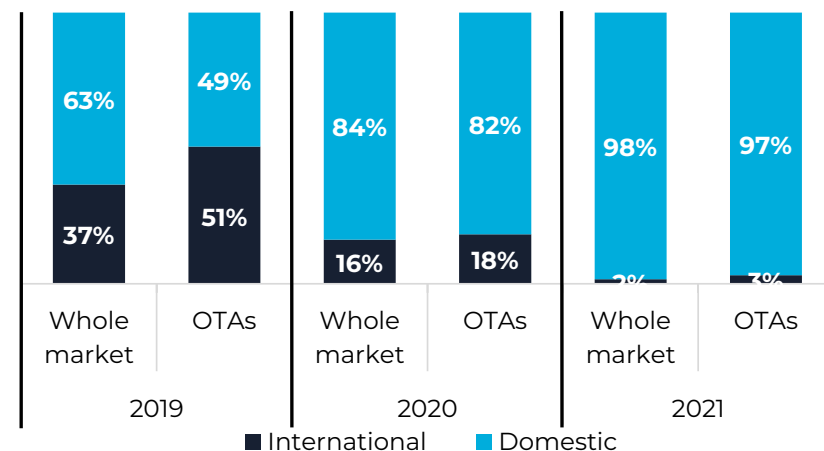
## MARKET CHARACTERISTICS

International bookings make up a greater proportion of OTA bookings compared to the whole market

The international proportion of OTA bookings was significantly higher than that for the market as a whole in 2019, though only slightly higher in 2020 and 2021 (alongside a decline in all international visits due to pandemic restrictions).

### Market Characteristics of OTAs Compared to Whole Market in Vietnam

Share of Nights (International & Domestic)



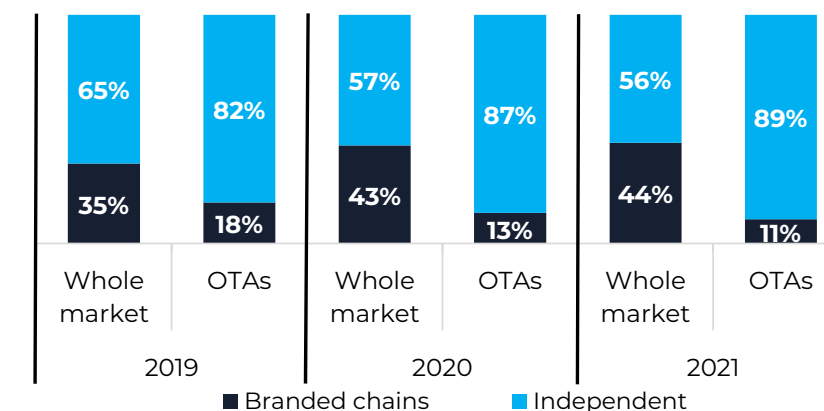
Source: Tourism Economics & Booking.com

### OTAs support particular segments of the market

OTA bookings in Vietnam have tended to be more oriented towards independent hotels compared to the market as a whole. In 2021, 89% of bookings made via OTAs were with independent properties, compared to 56% across the whole market.

### Market Characteristics of OTAs Compared to Whole Market in Vietnam

Share of Total Sales (Branded Chains & Independent)



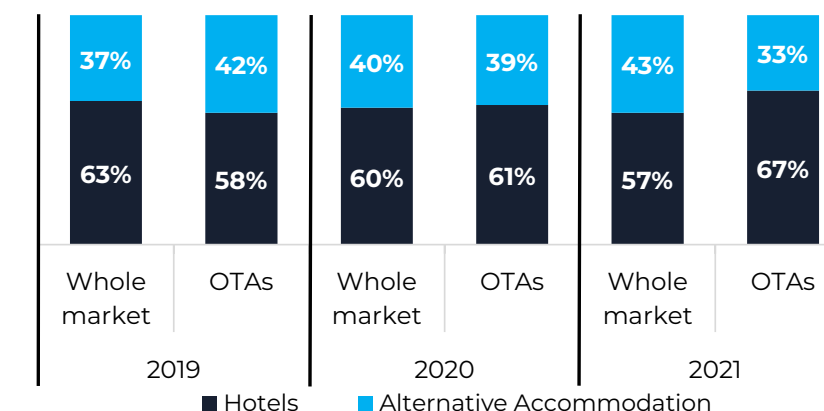
Source: Tourism Economics & Booking.com

### OTAs are important for alternative accommodation

In 2019, guests were slightly more oriented towards alternative accommodations when booking travel through OTAs: 42% of bookings made via OTAs were with alternative accommodation providers, compared to 37% for the wider market. However, in 2021 this reversed, with OTA bookings being less oriented towards alternative accommodation than the market as a whole.

### Market Characteristics of OTAs Compared to Whole Market in Vietnam

Share of Total Sales (Hotels & Alternative Accommodations)



Source: Tourism Economics & ComScore

## Summary Impacts of OTAs in Vietnam, 2019-2021

Amounts as Indicated

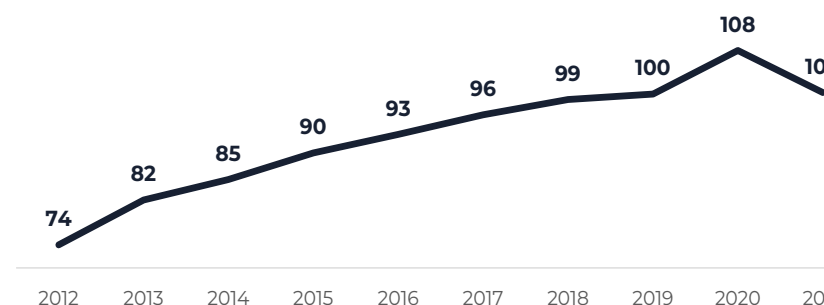
	More Affordable	Increases in Travel	GDP Impacts	Job Impacts
2019	-VND 202 reduced daily rates	+1.7M room nights	VND 4,317B incremental GDP	40,000 jobs
2020	-VND 142 reduced daily rates	+0.3M room nights	VND 653B incremental GDP	6,000 jobs
2021	-VND 78 reduced daily rates	+0.2M room nights	VND 315B incremental GDP	3,000 jobs

### Rural bookings are on the rise

The rural booking index increased significantly above trend in 2020. OTAs have demonstrated they can quickly accommodate changes in consumer preferences.

### OTA Rural Booking Index in Vietnam

2012-2021



Source: Tourism Economics, ComScore, STR

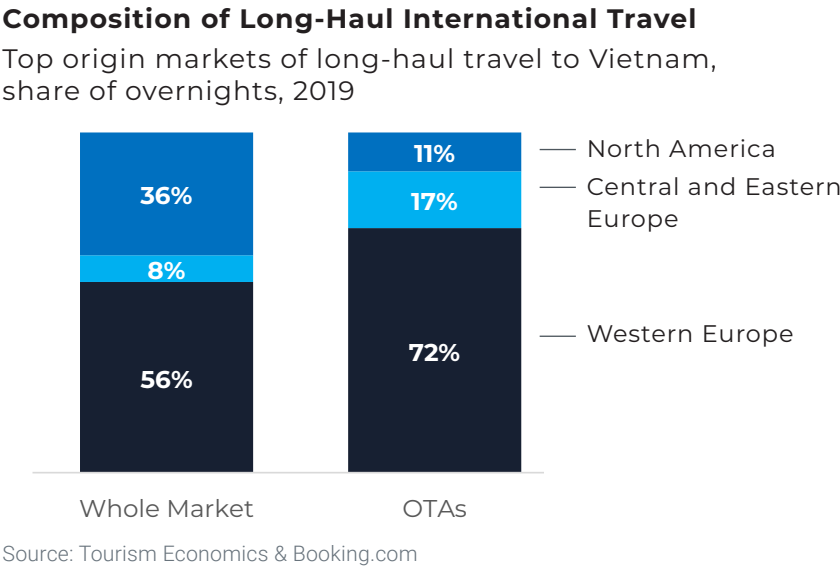
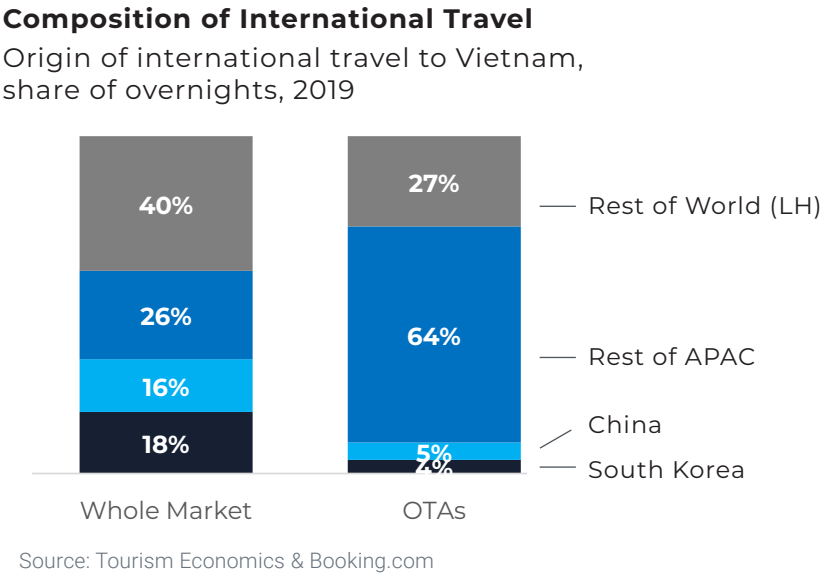


COMPOSITION OF TRAVEL

OTAs primarily support travel from elsewhere in APAC, but with some additional support towards longer-haul source markets.

More than 70% of international overnight stays in Vietnam booked through OTAs were arranged by individuals from elsewhere in APAC, compared to 60% across the wider market. China and South Korea – two key source markets for Vietnam – represented a much smaller share of OTA-linked bookings (around 5% each) compared to their share of all overnight international travel to the country overall. The opposite was true for travel from countries elsewhere in APAC – these visitors accounted for almost two-thirds of OTA-linked bookings, compared to one-quarter of all international arrivals.

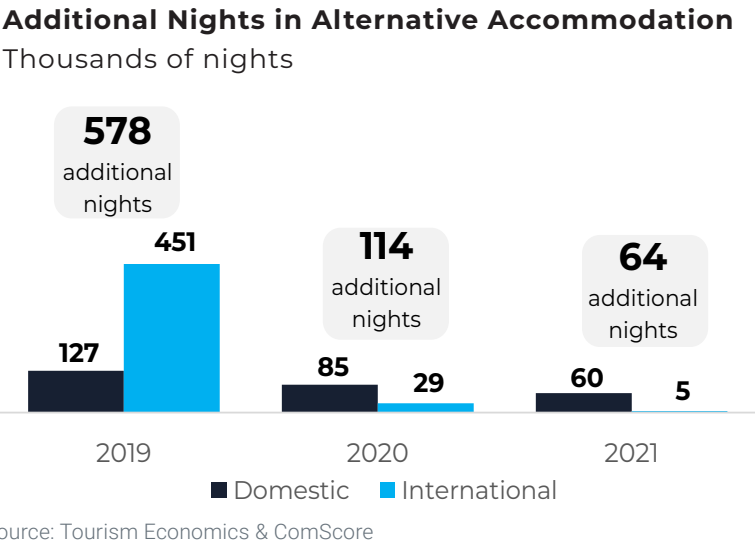
OTA support for long-haul arrivals was mostly directed towards Western Europe – 72% of OTA-linked long-haul stays, which was higher than the 56% of all long-haul visits accounted for by this region. OTAs were also relatively more prominent for visits from Central and Eastern Europe compared to that region’s overall market presence. However, the opposite was true for North America, for whom OTAs provided relatively less support.



MARKET EXPANSION EFFECT ON ALTERNATIVE ACCOMMODATIONS

OTAs support alternative lodgings

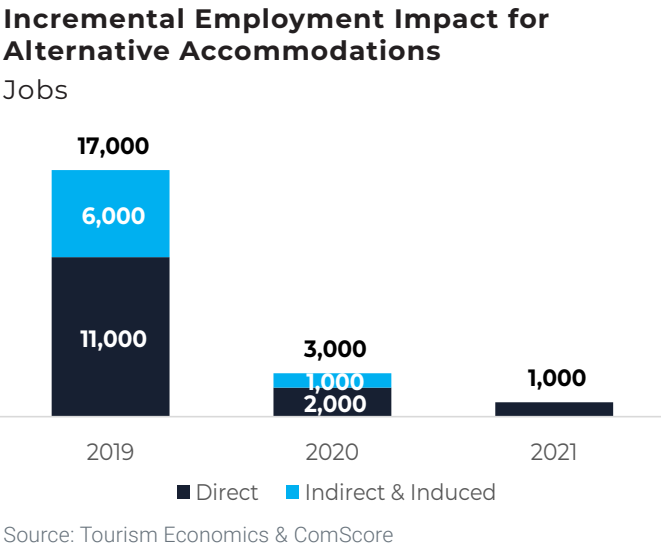
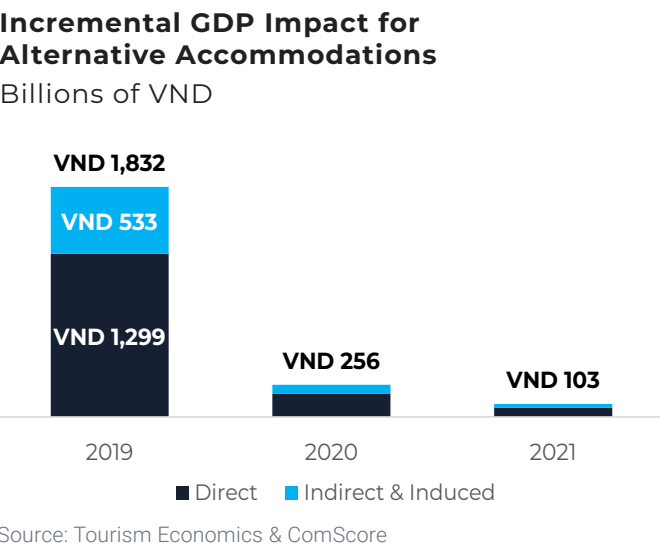
In each year from 2019 to 2021, OTAs increased the number of overnight stays in alternative accommodations in Vietnam. In 2021, bookings via OTAs generated an additional 64,000 nights in Vietnam.



ECONOMIC IMPACTS ON ALTERNATIVE ACCOMMODATIONS

OTAs generate incremental economic impacts in the form of GDP and jobs for alternative lodgings

Economic impacts are generated through the additional spending associated with non-hotel staying guests. In 2021, OTAs generated 103 billion VND in total incremental GDP and 1,000 total jobs, although both were significantly higher in 2019.





# APPENDICES

## INTRODUCTION

In these appendices we explain how OTA influence, the key explanatory variable used in the analysis, was constructed (Appendix 1). We also describe the econometric equations used to estimate OTA impact on nights and average daily rates (Appendix 2).

This study assessed the impact of OTAs in three global regions: North America, Europe, and APAC. We produced estimates for individual countries within these regions as well as for the regions as a whole. This report presents the results for Europe and 17 selected markets.

Estimates for the key explanatory variable were developed for each of the markets examined in the study. Econometric equations were developed using a panel dataset which included all countries considered in the study (across the three regions) and covered the period 2012 to 2021, where data was available.

## GEOGRAPHICAL COVERAGE

The key markets considered in this study are:

1. Asia Pacific (8 markets)

- Australia
- India
- Japan
- New Zealand
- Singapore
- South Korea
- Thailand
- Vietnam

2. North America (2 markets)

- Canada
- USA

Note: findings for key states and metro areas in the US are also reported.

3. Europe (17 markets)

- |            |               |
|------------|---------------|
| • Austria  | • Greece      |
| • Bulgaria | • Malta       |
| • Croatia  | • Netherlands |
| • Czechia  | • Portugal    |
| • Denmark  | • Spain       |
| • Estonia  | • Sweden      |
| • France   | • Switzerland |
| • Italy    | • UK          |
| • Germany  |               |

## APPENDIX 1

### DEVELOPMENT OF THE OTA INFLUENCE VARIABLE

OTA influence is a measure of OTA's share of online travel research, in each country for each year in the survey. By using this as the explanatory variable in the analysis, it is possible to assess how changes in the use of OTAs (as distinct from changes in online usage) affect the key outcomes variables.

The measure of OTA influence in the online travel market was constructed using two different methodologies: i) the “top-down” approach; and ii) the “bottom up” approach. By using two different methods to measure OTA influence, the estimated impact of OTAs can be validated by comparing the results of each method.

The bottom-up approach aggregates and scales Booking.com activity data (e.g. number of transactions) to estimate the overall level of OTA activity, while the top-down approach calculates OTA influence by identifying the OTA share of online travel activity. OTA influence calculated in this way includes travel booked through OTAs as well as travel activity researched through these platforms but booked in other ways.

#### The Bottom-Up Approach

The bottom-up approach to estimating OTA influence combines information from Booking.com on the overall number of bookings and the number of room nights booked on its own website, and an estimate of the share of OTA activity accounted for by Booking.com. Essentially the bottom-up measure is an estimate of the total bookings, guests, and room nights booked through OTAs, in each of the countries examined in this study. (The measure can be presented both as an absolute value, or as a share of online travel research – see further discussion in the next section, below.)

Booking.com provided the data on the total number and value of transactions and the length of stay booked on Booking.com, on a yearly basis for 2012-2021 (inclusive), for all geographies it currently operates within. Information that allowed chain and non-chain (independents) accommodation bookings to be identified as well as the country of origin of each transaction was also provided.

Information on the number of guests per booking was not available to Booking.com, so total guests were instead calculated using an assumption that the average number of guests per booking is 1.5, which is in line with previous work by Oxford Economics on average room occupancy.

To estimate the Booking.com share of the online sector, Oxford Economics used data from ComScore which tracks unique visitors to an exhaustive list of online travel sites. This was used to calculate the Booking.com share of unique visitors to all OTAs, as well as the share of all travel research accounted for by OTAs.

To obtain the volume of transactions, guests and room nights influenced across all OTAs, activity for Booking.com was divided by Booking.com's estimated share of OTA visits by geography. This implicitly assumes that unique visitors to Booking.com do not have a higher propensity to book (for example) than consumers on other OTAs, and that the average length of stay for bookings on Booking.com is representative of the average length of stay for other OTAs.

The final stage of the analysis was to convert our results from a source market basis (i.e. country of consumer origin) to a destination basis (i.e. by geography in which the accommodations are based). To do



this, booking.com data was used to create a matrix of source-destination flows for all geographies within the regions of the study, of which a simplified version is shown in the table below (note, numbers are for illustrative purposes only).

In this table, the source countries are shown in the columns and the destination countries in the rows. The resulting diagonal elements show domestic travel, while the off-diagonal elements refer to foreign or outbound travel. This matrix can then be applied to the number of OTA influenced trips and room nights for each source market to determine the destination size of OTA influence.

The levels of OTA activity, thus obtained, were compared to the total travel demand by destination market to obtain a share of guests, room nights, and transaction value accounted for by OTAs. The estimates of total travel demand by source market were taken from the Oxford Economics’ Global Travel Service (GTS) model. This model includes historic data and forecasts for visits, room nights and spend for 185 countries as both source markets and destinations, including bilateral country-to-country flows. It provides a comprehensive view of the total travel market for comparison with the estimated OTA impacts.

Source-Destination Matrix

	Germany	France	United Kingdom
Germany	0.80	0.10	0.10
France	0.15	0.60	0.25
United Kingdom	0.05	0.30	0.65

The Top-Down Approach

The top-down approach to estimating OTA influence instead starts by identifying the share of a country’s population that are internet users, and estimates the proportion of those users that relied on OTAs for their travel and research decisions.

The total population and rate of internet penetration in each country, for 2012-2021 (inclusive), were based on data provided by the World Bank. Rates of internet penetration were corroborated with other sources such as Internet Live Stats to ensure measurement was consistent across countries – this was used for validation purposes only, and was not used for any further calculations.

To identify the proportion of the online population that used the internet to research travel decisions specifically, ComScore data was used. The results from this analysis were checked against results from previous studies.

To identify the size of the OTA segment, ComScore data was again used to calculate OTAs’ share of unique visits to all online travel sites. Combining these data with previous estimates for the total online population researching travel provides the top-down measure of OTA influence.

This share is then applied to data on trips (from our GTS model) to determine the proportion of trips that were influenced by OTAs. Data on average length of stay is then used to convert influenced trips to influenced room nights. Average length of stay data is also included within Tourism Economics’ GTS model.

As with the bottom-up estimation, these data were converted from a source country basis to a destinations basis, using data on origin/destination travel patterns based on the GTS model.

Top-Down Methodology

Group	Number of individuals (millions)	Proportion of prior group	Data Source
Online Population	67		World Bank
Researching Travel	52	0.785	ComScore
Using OTAs	27	0.515	ComScore

By way of example, the table above shows the steps to calculate the level of OTA influence for UK in 2019. Using the figures presented above, the proportion of the UK’s online population using OTAs is 40% (27M/67M).



APPENDIX 2  
ECONOMETRIC ANALYSIS

Equations to estimate OTA impact on additional nights

OTAs impact on additional room nights was estimated using the measure of OTA influence as an explanatory variable in an econometric specification.

The basic econometric specification employed is a reduced form version of Oxford Economics’ global tourism model, which regresses the number of hotel nights stayed by country of consumer origin on key economic indicators in each country, including GDP, unemployment and exchange rates. The estimation is given by the equation below

Nights - Equation 1

$$\log\text{NIGHTS}_{it} = \beta_0 + \beta_1 \text{trend}_t + 1 \cdot \log\text{GDP}_{it} - 0.1 \cdot \log\text{UP}_{it} + 0.1 \cdot \log\text{RXTOUR}_{it} + \alpha_i + u_{it}$$

*NIGHTS* – nights spent by residents of country *i* on trips abroad and within the country

*GDP* – Gross Domestic Product for country *i*

*UP* – unemployment rate

*RXTOUR* – weighted average exchange rate index; weights are derived according to bilateral travel flows.

Coefficients have been imposed on GDP, unemployment and exchange rates, according to prior estimation results, to avoid excess explanatory power attributed to any new indicators; additional indicators of online and OTA influence therefore only help to explain current equation errors and time trends.

These panel data equations have been estimated using generalised least squares (GLS) with cross-section weights, for the entire set of countries examined in the study between 2012 and 2021. Cross-section weights were applied to place greater weight on the more reliable country flows and relationships. Weights were derived from the inverse of the equation standard deviation for each country in an initial unweighted calculation.

To determine whether the OTA influence has an incremental impact on nights, OTA influence was added as an explanatory variable to the basic specification, see equations below.

As these equations show, indicators of online research and OTA influence were initially included individually to confirm that these do help to improve estimates and explain a proportion of the error and exogenous trends in the prior specification. This also clarifies that using OTA influence alone would overstate the impact by providing a similar impact to the inclusion of online research as they follow a similar trend over time.

As a result, the size of the online population was added as a further explanatory variable to ensure that OTA influence – which can be expected to be strongly correlated with the use of the internet – isolates increased OTA usage from online usage altogether. Including both variables therefore ensures the additional impact of OTAs on room nights accounts for wider economic fluctuations and the broader impact of the internet on travel.

Nights - Equation 2

$$\log\text{NIGHTS}_{it} = \beta_0 + \beta_1 \text{trend}_t + \log\text{GDP}_{it} - 0.1 \cdot \log\text{UP}_{it} + 0.1 \cdot \log\text{RXTOUR}_{it} + \beta_2 \log\text{ONLINE}_{it} + \alpha_i + u_{it}$$

$$\log\text{NIGHTS}_{it} = \beta_0 + \beta_1 \text{trend}_t + \log\text{GDP}_{it} - 0.1 \cdot \log\text{UP}_{it} + 0.1 \cdot \log\text{RXTOUR}_{it} + \beta_3 \log\text{OTA}_{(it-1)} + \alpha_i + u_{it}$$

*NIGHTS* – nights spent by residents of country *i* on trips abroad and within the country

*GDP* – Gross Domestic Product for country *i*

*UP* – unemployment rate

*RXTOUR* – weighted average exchange rate index; weights are derived according to bilateral travel flows.

*ONLINE* – number of internet users by country

*OTA* – number of trips influenced by OTAs

The final specification includes both online access (ONLINE) and the ratio of OTA transactions to online travel research (RESEARCH). This ratio is the propensity for travel research to involve an OTA, which has increased power to explain the OTA impact.

In this equation (shown on the following page), OTA influence as a proportion of research is included as a lagged variable; i.e. the prior period’s OTA influence is used in the equation. If contemporaneous OTA influence was used instead, this would result in a high degree of collinearity between the OTA effect and the wider online effect. This would make it harder to identify the effect of each factor. The final specifications estimated dropped the trend term as it is statistically insignificant.



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**Nights - Equation 3**

$$\log \text{NIGHTS}_{it} = \beta_0 + \beta_1 \text{trend}_t + \log \text{GDP}_{it} - 0.1 \cdot \log \text{UP}_{it} + 0.1 \cdot \log \text{RXTOUR}_{it} + \beta_2 \log \text{ONLINE}_{it} + \beta_3 \log (\text{OTA}_{(it-1)} / (\text{RESEARCH}_{(it-1)})) + \alpha_i + u_{it}$$

*NIGHTS – nights spent by residents of country i on trips abroad and within the country*

*GDP – Gross Domestic Product for country i*

*UP – unemployment rate*

*RXTOUR – weighted average exchange rate index; weights are derived according to bilateral travel flows.*

*ONLINE – number of internet users by country*

*OTA – number of trips influenced by OTAs*

*RESEARCH – number of people using the internet for tourism research*

This model was used to estimate the impact on total and foreign nights separately. The domestic impact can be derived from the difference between the two.

The estimation was calculated on a demand by origin (domestic and outbound) basis. So the final step was to convert these results to destination effects, taking into account overall demand uplift (i.e. estimation) as well as market share changes (from origin to destination flows in Booking.com data).

**Equations to estimate OTA impact on average daily rates**

One of the key beneficial effects of OTAs is the downward pressure they exert on average daily rates (ADR). As with room nights, an econometric model can be used to quantify the impact OTAs have on ADR.

The econometric model is based on several key drivers identified by Tourism Economics:

- Inflation (measured by the CPI index). ADR follows prices in the wider economy, reflecting increased costs and consumer purchasing power and;
- Cyclical hotel room occupancy, which ADR typically follows with a 6 month lag.

These drivers, combined with country-specific fixed effects and a time trend are the components for a reduced form model of ADR. Although ADR and room occupancy are jointly determined, this does not occur contemporaneously. Therefore, as the cycles of ADR and occupancy are linked, lagged occupancy can be used to predict current ADR.

The equations have all been estimated using OLS over a panel dataset of the countries in the study between 2012 and 2021. STR provides data on the rates of hotel occupancy and ADR for the whole hotel market in each country. Monthly data (and daily data for some large markets) are collected by STR from a representative sample of properties in each country and are summed to an annual level to provide the total census of hotel rooms.

**Average Daily Rates - Equation 1**

$$\log \text{ADR}_{it} = \beta_0 + \beta_1 \text{trend}_t + \beta_2 (\text{CPIE}_{it}) + \beta_3 \log \text{OCC}_{(it-1)} + \alpha_i + u_{it}$$

*ADR – Average Daily Rate charged by hotels for rooms in USD*

*CPIE – Consumer Price Index converted to USD terms from local currency*

*OCC – average room occupancy rate for hotels*



As with the estimation procedure used for nights, an additional variable capturing the effect of online presence as a whole was used to isolate the specific effect of OTAs, see equation below.

Average Daily Rates - Equation 2

$$\log \text{ADR}_{it} = \beta_0 + \beta_1 \text{trend}_t + \beta_2 (\text{CPIE}_{it}) + \beta_3 \log \text{OCC}_{(it-1)} + \beta_4 \log (\text{OTA\_NIGHTS}_{it} / \text{DNIGHTS}_{it}) + \beta_5 \text{TRAV\_RESEARCH}_{it} + \alpha_i + u_{it}$$

*ADR – Average Daily Rate charged by hotels for rooms in USD*  
*CPIE – Consumer Price Index converted to USD terms from local currency*  
*OCC – average room occupancy rate for hotels*  
*OTA\_NIGHTS – nights spent in hotels booked influenced by OTAs. This corresponds to the OTA indicator used in the additional nights equation, although OTA\_NIGHTS relates to influenced nights whereas OTA relates to trips.*  
*DNIGHTS – nights spent by on trips within country i by residents and foreign visitors*  
*TRAV\_RESEARCH – propensity to research tourism online in travel to country i relative to the regional average.*  
*It is defined as: (DRESEARCHi / DNIGHTSi) / (DRESEARCH EU / DNIGHTSEU)*  
*DRESEARCH - number of people using the internet for tourism research for country i as a destination*

OTA\_NIGHTS/DNIGHTS is the OTA-influenced share of room sales by nights. TRAV\_RESEARCH is a relative measure of propensity to research travel online for a country compared to the specific regional average. This is a better indicator of prices over time and across countries and helps to explain some of the cross-country fixed effects and time trend. A greater propensity to research travel online is related to a lower ADR. Using both of these measures improved model fit and ensured that the OTA effect was not overstated. Again, t-tests were run on the coefficients of interest to determine their statistical significance.

In total, four final equations were estimated for ADR (chain OTA sales, non-chain OTA sales, chain non-OTA sales, non-chain non-OTA sales) and the impacts were then combined to give the total final impact. These equations are given overleaf: the ADR impact was calculated separately for chain and non-chain hotels, and separately for OTA sales and non-OTA sales to improve model fit and to estimate more accurately the impact of OTA influence on these different sub-segments.

Average Daily Rates - Equation 3

$$\log \text{ADR\_CH\_OTA}_{it} = \beta_0 + \beta_1 \text{trend}_t + \beta_2 (\text{CPIE}_{it}) + \beta_3 \log \text{OCC\_CH}_{(it-1)} + \beta_4 \log (\text{OTA\_NIGHTS}_{it} / \text{DNIGHTS}_{it}) + \beta_5 \text{TRAV\_RESEARCH}_{it} + \alpha_i + u_{it}$$

$$\log \text{ADR\_CH\_NOTA}_{it} = \beta_0 + \beta_1 \text{trend}_t + \beta_2 (\text{CPIE}_{it}) + \beta_3 \log \text{OCC\_CH}_{(it-1)} + \beta_4 \log (\text{OTA\_NIGHTS}_{it} / \text{DNIGHTS}_{it}) + \beta_5 \text{TRAV\_RESEARCH}_{it} + \alpha_i + u_{it}$$

$$\log \text{ADR\_IN\_OTA}_{it} = \beta_0 + \beta_1 \text{trend}_t + \beta_2 (\text{CPIE}_{it}) + \beta_3 \log \text{OCC\_IN}_{(it-1)} + \beta_4 \log (\text{OTA\_NIGHTS}_{it} / \text{DNIGHTS}_{it}) + \beta_5 \text{TRAV\_RESEARCH}_{it} + \alpha_i + u_{it}$$

$$\log \text{ADR\_IN\_NOTA}_{it} = \beta_0 + \beta_1 \text{trend}_t + \beta_2 (\text{CPIE}_{it}) + \beta_3 \log \text{OCC\_IN}_{(it-1)} + \beta_4 \log (\text{OTA\_NIGHTS}_{it} / \text{DNIGHTS}_{it}) + \beta_5 \text{TRAV\_RESEARCH}_{it} + \alpha_i + u_{it}$$

*ADR – Average Daily Rate charged by hotels for rooms in USD, by type of property*  
*\_CH\_OTA – chain hotel sales through OTAs*  
*\_CH\_NOTA – chain hotels sales not through OTAs*  
*\_IN\_OTA – independent hotel sales through OTAs*  
*\_IN\_NOTA – independent hotel sales not through OTAs*  
*OCC – average room occupancy rate for hotels, by type of property*  
*CPIE – Consumer Price Index converted to USD terms from local currency*  
*OTA\_NIGHTS – nights spent in hotels booked influenced by OTAs. This corresponds to the OTA indicator used in the additional nights equation, although OTA\_NIGHTS relates to influenced nights whereas OTA relates to trips.*  
*NIGHTS – nights spent by residents of country i on trips abroad and within the country*  
*TRAV\_RESEARCH – propensity to research tourism online in travel to country i relative to the regional average.*

Key Adjustment

To account for changes in price parity regulation, additional dummy variables (for relevant years and countries) were included in the panel estimation to assess the OTA impact on additional room nights and average daily rates. In some instances, there are apparent step changes in data in the years that policy changes came into force. The inclusion of these dummy variables allows quantification of the apparent policy effect distinct from all other underlying indicators. Different dummy indicators have been included by type of policy change. The inclusion of these policy dummies improves the equation fit and adds greater confidence to the estimated coefficients, as well as highlighting some of the apparent risks.

Dummy had the strongest effect on ADR, consistent with theory as some of the benefits of comparison, and increased competition, are eroded.



## ABOUT THE RESEARCH TEAM



Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college to provide economic forecasting and modelling 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 200 countries, 100 industrial sectors and over 3,000 cities. Our best-of-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.

Oxford Economics is an adviser to corporate, financial and government decision-makers and thought leaders. Our worldwide client base comprises over 2,000 international organizations, including leading multinational companies and financial institutions; key government bodies and trade associations; and top universities, consultancies, and think tanks.

This study was conducted by the Tourism Economics group within Oxford Economics. Tourism Economics combines an understanding of traveler dynamics with rigorous economics in order to answer the most important questions facing destinations, investors, and strategic planners. By combining quantitative methods with industry knowledge, Tourism Economics designs custom market strategies, destination recovery plans, forecasting models, policy analysis, and economic impact studies.

Oxford Economics employs 400 full-time staff, including 250 professional economists and analysts. Headquartered in Oxford, England, with regional centers in London, New York, and Singapore, Oxford Economics has offices across the globe in Belfast, Chicago, Dubai, Miami, Milan, Paris, Philadelphia, San Francisco, and Washington DC.





