UNIVERSITA' DEGLI STUDI DI PADOVA
DIPARTIMENTO DI SCIENZE ECONOMICHE E AZIENDALI "MARCO FANNO"

CORSO DI LAUREA MAGISTRALE IN ECONOMIA INTERNAZIONALE
LM-56 Classe delle lauree magistrali in SCIENZE DELL'ECONOMIA

Tesi di laurea

La Sharing Economy nelle città Italiane: un'analisi della presenza di Airbnb a Venezia

The sharing economy in the Italian cities: an analysis of Airbnb in Venice

Relatore:
Prof. CALOFFI ANNALISA

Laureando:
ROSSI ARIANNA

Anno Accademico 2017-2018

Il candidato dichiara che il presente lavoro è originale e non è già stato sottoposto, in tutto o in parte, per il conseguimento di un titolo accademico in altre Università italiane o straniere.
Il candidato dichiara altresì che tutti i materiali utilizzati durante la preparazione dell'elaborato sono stati indicati nel testo e nella sezione "Riferimenti bibliografici" e che le eventuali citazioni testuali sono individuabili attraverso l'esplicito richiamo alla pubblicazione originale.

Firma dello studente

ACKNOWLEDGMENT

I would like to express my sincere appreciation to my supervisor, Professor Annalisa Caloffi, for her constant support, trust and patience during this journey. I'm also grateful to Dr. Gianluigi Chiaro, who shared with me predacious advice that helped me to better define my research topic.

A very special gratitude goes to all my friends who shared with me laughter and tears during these years. I thank all the people I met in Padua Emma, Noemi, Marianna and, most of all, Francesca who always supported me and had the thankless task of dealing with my anxiety. I'm absolutely thankful to my beloved cheerleader, Teresa, who constantly inspires me and never misses a chance to push me further. Moreover, I feel blessed for having the chance to share my abroad experience in Boston with amazing human beings: Hediyè, Fabiola and Sara. Also, I would love to express my gratitude to my childhood friends, Annalisa and Michela, who have always been there for me, even if we were apart.

Finally, I wouldn't have made it without my family: my parents, my brother, Simonetta, Giuseppe and Gigi. The most important thank goes to Marco, who has always believed in me and has always been by my side with his strength and positivity.

TABLE OF CONTENTS

INTRODUZIONE

La presente tesi affronta uno dei casi più significativi riguardanti la *sharing economy*, fenomeno che negli ultimi anni ha evidenziato una crescita esponenziale, comportando impatti significativi sull'economia tradizionale. Lo studio si concentra su Airbnb, la nota piattaforma di *home sharing* che mette in contatto chiunque abbia spazio a disposizione, da una stanza condivisa ad un appartamento intero, con chi è alla ricerca di un alloggio a breve termine.

L'elemento di maggiore interesse è il potenziale rivoluzionario della piattaforma. Numerosi studi sono stati condotti per stimare l'impatto che questo nuovo modello di *business* sta avendo sulle economie dove Airbnb opera e soprattutto per valutare i potenziali scenari che potrebbero delinearsi in futuro. Infatti, oltre all'immediato beneficio di cui gli utilizzatori possono godere, che va dall'incremento del reddito per gli *hosts* alla disponibilità di un alloggio a buon mercato per i *guests*, sono molteplici le implicazioni che una crescita rapida ed incontrollata degli affitti a breve termine può portate con sé. Innanzitutto, l'aumento dell'offerta turistica in zone solitamente residenziali, come quelle dove gli *hosts* sono spesso situati, può rappresentare sì una spinta allo sviluppo economico, ma può anche comportare l'insorgere di disagi per i residenti. Inoltre, sono sempre più frequenti i fenomeni di *disneyfication* dei centri urbani, ovvero la modifica dell'aspetto delle città dovuta all'afflusso incontrollato dei turisti. Non a caso, nelle più note località turistiche si registra una costante intensificazione delle strutture commerciali ed alloggi turistici nel centro città, accompagnata da uno spostamento dei residenti verso le periferie.

Oltre a ciò, il grande successo di Airbnb potrebbe avere un impatto negativo sulle *performance* delle strutture alberghiere, in particolare su quelle di fascia medio-bassa. Nonostante la letteratura in materia sia ancora limitata, più di uno studio ipotizza che l'ingresso della piattaforma sul mercato abbia negativamente influenzato il RevPAR (*Revenue Per Available Room*) degli alberghi, e che possa incidere di conseguenza sul livello delle retribuzioni degli addetti del settore. Airbnb potrebbe infatti rappresentare un *competitor* per le strutture ricettive tradizionali, offrendo sistemazioni spesso più economiche e soggiorni più autentici, in quanto nelle residenze degli stessi cittadini. Per questo, secondo alcuni esponenti dell'industria alberghiera, la *sharing economy* potrebbe rappresentare un'innovazione distruttiva nel settore, trasformando l'offerta turistica in soluzioni più flessibili e personalizzate.

Infine, l'incremento dell'offerta di alloggi per le vacanze potrebbe influire sulla disponibilità immobiliare, determinando in alcuni territori un aumento dei prezzi delle locazioni. Ciò rischia di penalizzare chi è alla ricerca di un domicilio di medio-lungo periodo.

Anche in Italia, l'*home sharing* ha raggiunto dimensioni notevoli. Durante il 2016 infatti, Airbnb ha dichiarato 3,6 milioni di arrivi e la partecipazione di circa 83 mila *hosts,* stimando un impatto economico complessivo superiore ai tre miliardi.

La tesi intende indagare il potenziale impatto dell'ingresso di Airbnb in Italia.

Nel primo capitolo verrà presentata la piattaforma, il suo funzionamento ed il modello di *business* adottato. Inoltre, sono sintetizzati i contributi più rilevanti in letteratura circa l'impatto che la *sharing economy,* Airbnb in particolare, ha sull'economia delle località in cui si sviluppa. Il secondo capitolo prosegue con la discussione delle proposte di interventi regolatori volti a limitare gli effetti distorsivi che talvolta la diffusione dell'*home sharing* può portare con sé. Il terzo capitolo invece si concentra sulla penetrazione che Airbnb ha raggiunto nel mercato italiano e sulle criticità che potrebbero emergere in conseguenza all'avvento degli alloggi *peer-to-peer* nell'industria turistica. Infine, nel quarto capitolo, verrà svolta un'analisi preliminare della presenza della piattaforma nella città di Venezia, una delle mete turistiche più ambite nel territorio italiano, e che, anche per questo, è stata testimone di una imponente espansione di questo fenomeno. L'analisi si concentra principalmente sull'osservazione dell'andamento delle seguenti variabili: andamento dei canoni di locazione di lungo periodo, flusso migratorio dei residenti all'interno del comune, prezzo per notte delle strutture turistiche e tasso di occupazione. Soprattutto, verrà testata l'esistenza di una correlazione tra i ricavi per dipendente delle strutture alberghiere tradizionali ed il numero di Airbnb *listings* nella medesima zona.

Il risultato dello studio è finalizzato ad individuare opportunità e minacce che potrebbero rendere opportuni interventi normativi (locali e/o centrali) per contrastare gli effetti più distorsivi della *sharing economy* sul mercato immobiliare e turistico e, allo stesso tempo, ottimizzarne il valore per tutti gli *stakeholders* (ivi compresi i cittadini). A questo scopo vengono evidenziate e comparate le principali esperienze ed iniziativi ad oggi adottate nel mondo.

INTRODUCTION

The present thesis addresses one of the most significant case concerning the sharing economy, a phenomenon that in recent years has experienced an exponential growth, often implying significant impacts on the traditional economy. The study focuses on Airbnb, the well-known home-sharing platform that connects anyone with available space, from a shared room to a whole apartment, with those looking for short-term accommodations.

The element of greatest interest is the revolutionary potential of the platform. Numerous studies have been carried out to estimate the impact that this new business model is having on the economies where Airbnb operates and, above all, to evaluate potential scenarios that could emerge in the future. In fact, in addition to the immediate benefits that users can enjoy, which goes from an additional income for the hosts to the availability of cheap accommodations for guests, there are many implications that may come together with a rapid and uncontrolled rise in short-term rentals. First of all, the increase in tourist supply in residential areas, where often listings are located, may represent a boost to economic development, but it can also imply negative externalities for residents. Furthermore, another danger is urban *disneyfication*, that consists in a change in the urban landscape due to the uncontrolled tourism increase. It is no coincidence that in the most famous touristic destinations there is a constant intensification of commercial facilities and tourist accommodation in the city centre, often together with a shift of residents to the suburbs.

Besides, the great success of Airbnb could have a negative impact on the performance of the lodging industry, especially on the medium-low end hotels. Although the related literature is still limited, more than one study hypothesizes that the entry of the platform on the market has negatively influenced the RevPAR (Revenue Per Available Room) of hotels, and that it may affect the level of compensation of the employees of the sector. Airbnb may represent a competitor for hotels, often offering cheaper accommodations and more authentic stays, as in the residences of the same citizens. For this reason, according to some members of the hotel industry, the sharing economy could represent a destructive innovation in the sector, transforming the touristic offer into more flexible and personalized solutions.

Finally, the increase in the holiday accommodation supply could have an impact on real estate availability, resulting in an increase in rental prices in some areas. This risk may penalize those looking for a medium-long term domicile.

In Italy, home sharing has reached considerable dimensions. In fact, during 2016, Airbnb claimed 3.6 million arrivals and the subscription of about 83 thousand hosts, estimating a total economic impact of over three billion.

The thesis intends to investigate the potential impact of Airbnb's entrance in in Italy.

In the first chapter, it will be presented the platform, how it works and the business model adopted. Furthermore, the most relevant contributions in the literature relative to the impact that the sharing economy, Airbnb in particular, has on destinations' economies are summarized. The second chapter continues with the discussion of proposals for regulatory interventions aimed at limiting the distorting effects that sometimes the diffusion of home-sharing implies. The third chapter instead focuses on the penetration that Airbnb has reached in the Italian market and on the criticalities that could emerge as a consequence of the advent of peer-to-peer housing in the tourism industry. Finally, in the fourth chapter, a preliminary analysis will be carried out about the presence of the platform in the City of Venice, one of the most popular touristic destinations in the Italian territory, and which, for this reason, witnessed an impressive expansion of this phenomenon. The analysis is mainly focused on the observation of the trend of the following variables: trend of long-term rentals, flow of residents within the municipality, price per night of hotel rooms and occupancy rate. Above all, the existence of a correlation between the revenues per employee of traditional hotels and the number of Airbnb listings will be tested.

The result of the study is aimed at identifying opportunities and threats that could require an appropriate regulatory intervention to address the negative externalities of the sharing economy on the real estate and tourism markets and, at the same time, maximize the value for all the stakeholders involved. For this purpose, the main initiatives adopted to date in the world are highlighted and compared.

CHAPTER 1

What is Airbnb Impact on Destinations' Economies?

1.1 An overview on Airbnb

Airbnb is an on-line platform that allow people to offer and rent short-term accommodations all over the world. There are several types of accommodations available: shared rooms, private rooms and entire apartments, but also unique accommodations like castles or villas.

Airbnb is rapidly growing since August 2007, when it was founded in San Francisco, California. The idea was born in 2007, when two of the founders, Joe Gebbia and Brian Chesky, who were sharing a loft at the time, placed three air mattresses in their apartment in order to rent out a place to stay and earn some extra money. The pair crated a simple website, airbedandbreakfast.com, and they offered the three sleeping mats to visitors. They indeed exploited the temporary hotel rooms shortage that was due to a design conference in San Francisco. Soon, a third component, the Harvard computer scientist Nathan Blechardrczyk, joined the project and they finally founded the company in 2008. They turned their website into a service for other people who want to advertise their available spaces to host tourists. Within only four years, Airbnb reached one million nights booked in 85 different countries (Goree, 2016).

By now, the company counts more than 200 000 000 guests in more than 65 000 cities in almost 191 countries. Particularly, in Italy Airbnb offers lodgings in the whole territory, especially in the biggest cities such as Rome, with 25 000 listing; Florence, with 9 000 listings; Milan, with 13 000 listings and Venice, with 6 000. Worldwide, there are more than 3 000 000 listings (Airbnb.com, 2017). The dimension the phenomenon has reached so far is even more significant if considering the share of the total urban housing stock destined to home sharing. For instance, in Florence, Airbnb listings represent the 17.9% of the total housing stock, while in the smaller village of Matera, southern Italy, in 2016, they reached an alarming 25.3% (Picascia et al, 2017).

The functioning of the platform is very simple. Anyone can decide to offer his spare room or apartment trough the website at a certain price and in a determined period. As Airbnb does, from now on we refer to the people that rent out their available spaces as "hosts", while the accommodations are called "listings". Guests can search for the listings available in the city or neighbourhood they want to travel to. Each listing is described through a name and a set of characteristics, such as: the type of accommodation (eg. "entire apartment"), a brief description, the maximum number of guest allowed, the number of beds and bathrooms and the price per night. The available amenities, for example Wi-Fi or

hair driers, are listed too. Finally, the listing page shows the house rules set by the host, the cancellation policies and the reviews of the previous guests. Furthermore, each host is associated with some information: a photo, a personal statement, all the listings he has, guest reviews and the Airbnb-certified contact information. Once the guest selects the favourite accommodation, she can contact the host for further questions or send a reservation request. The host may ask questions too and has the faculty to decide whether to accept or not the request. (Airbnb.com, 2017)

The price is unilaterally and independently set by the host. It results from three components: nightly price, cleaning fee and eventually an extra guest fee. On the other side, Airbnb revenues derive from the service fee. The company charges guests from 9 to 12 % of the transaction and 3% the host. Finally, depending on the location of the listing, the Value-Added tax or other local taxes may be added to price (Airbnb.com 2017).

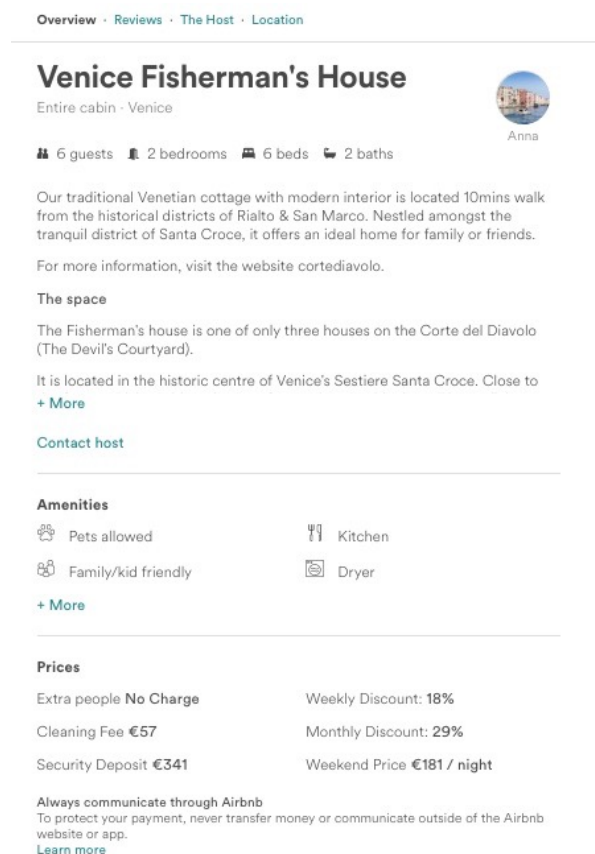Figure 1.1. Airbnb listing page. Source: Airbnb.com, 2017

One of the company's missions is to help to establish trust between hosts and guests. Peer to peer accommodation is indeed considered riskier than the traditional hotel industry and allowing to contact the host in advance through direct messaging communication, as Airbnb does, reduces uncertainties (Guttentag, 2015). Moreover, the platform enable its

users to build an online reputation offering a system of ratings and mutual online reviews. In fact, in order to rent out or book a property it is compulsory creating a user profile; both the guest and the host can rate and review one another after the experience. Also, the residence may be rated under different parameters, from cleanness to location. This system that enable hosts to signal quality (Bashir and Verma, 2016).

The Airbnb platform gives the host the possibility to review the guest too. This is new compared to the most common OTAs' websites, which only allow travellers to rate hotels. The introduction of this addition sounds reasonable because peer to peer accommodation is perceived riskier than the traditional lodging industry, and this is true also for the hosts that welcome strangers into their homes. As Lauterbach et al. (2009) state with regards to CouchSurfing, which enables reciprocal reviews too, "Reputation mechanisms are essential for online transactions, where the parties have little prior experience with one another. This is especially true when transactions result in offline interactions".

In practice, Airbnb visitors tend to value more the length of time a property has been listed, or the number of posted reviews, rather than the rating per se. Longer-listed accommodations with a high number of reviews, are found to earn greater revenues. Thus, the longevity of the listing is a measure of trustworthiness. (Coyle and Yeung, 2016)

Finally, another tool that the company introduced in other to guarantee transparency and increase users trust is Verified Identification; this system provides the proof of the host's online identity matches with the offline one. Hosts can link their Airbnb profiles with other personal or professional on line pages (such as Facebook or LinkedIn) and add a mobile phone number (airbnb.com/press).

As Airbnb is an intermediary between hosts and guests, residencies are generally cheaper than traditional accommodations. Guttentag (2015) compared the price of Airbnb accommodations (shared rooms, private rooms and entire apartments) with hotel and hostels rooms. He conducted the observations in six different cities: Chicago, Montreal, Rio de Janeiro, San Francisco, Sydney and Venice. Comparing price ranges, it appears that shared rooms may be similar to 1-2 stars hotel rooms, while private rooms to 3 star hotels rooms and the entire apartments to 4-5 star hotels. A further pricing analysis highlights that the mean of Airbnb accommodations' prices is lower than the average price of the corresponding hotel room category. For instance, Airbnb shared rooms prices are lower than the one star hotel rooms ones, and so forth. When calculating the median, the difference is even clearer. If considering the mean of the ten cheapest rates, Airbnb shared rooms are close to hostel prices. Furthermore, a research conducted in June 2013 by

Priceconomics for the major American cities had similar findings. The cost saving of staying at Airbnb rather than in a hotel is 21.2% if renting an entire apartment and 49.5% if choosing a private room.

The price difference between Airbnb accommodations and hotel rooms could be explained by the fact that hosts do not incur the fixed costs that hoteliers do. There is no need of big infrastructures and the repair and maintenance costs of a house are significantly lower than the ones required for a medium hotel building. Also, labour costs are absent or minimal for hosts and cleaning fee are usually borne by travellers. Finally, in many countries hosts are not even taxed (Bashir and Verma, 2016).

A low price is not the only utility of the platform. Airbnb offers the benefits that comes from staying in residence: a home-like experience and the possibility to exploit residential amenities (kitchen, washing machine etc..). Furthermore, it allows travellers to have a more local and authentic experience having the chance to interact with the host and ask him for advices. Finally, staying in non-touristy neighbourhoods may be the chance for a better understanding of the local culture (Kaplan et al., 2015).

Attributes that are more valued by travellers when booking an Airbnb accommodation have been investigated by Dogru and Pekin (2017). The authors state "Airbnb guests pay higher rates for space, quality, friendliness, and unique experiences". First, entire homes and private rooms tend to be preferred, and this is the reason why they are more expansive compared to shared rooms: the price is 141% higher for entire homes and 28% for single rooms. Posting more photo of the listing also positively affects the price. Moreover, the "super hosts" status, which is recognition of quality attributed by company to hosts that have some requirements (such as experience, high ratings, no cancellations etc.) increases the price of the accommodation by the 5%. Finally, accessibility for disable people, family-friendliness, washer and drier availability are correlated with higher prices. On the contrary, the price decrease as the distance from the city centre increase.

It is clear, and it will be deeper discussed later in this chapter, that Airbnb represents a business model innovation. Therefore, it is worth to mention what a business model is. [1] According to Rajala and Westerlund (2007) a business model can be defined as "the ways of creating value for customers, and the way in which a business turns market opportunities into profits through set of actors, activities and collaboration". Thus, the business model differs from the provided service, that is defined as an "intangible asset offered to the

consumer, that usually involves the interaction between the provider and the customer"[1].
Similar services may, indeed, be offered through very different business models. This is
what happens, for instance, between the traditional lodging industry and peer to peer
accommodation platforms, they both provide temporary accommodations to tourist, but
through very different business models.

Regarding to this, Bashir and Verma (2016) examined Airbnb using the four business
model components selected by Westerlund (2008). In terms of *value proposition*, Airbnb
allows users to list temporary unused residences and offer a cheaper home stay
accommodation to travellers. Coming to *assets and capabilities*, the company relies on a
digital platform that connects guest with hosts for free. The *economic and revenue logic* is
quite simple: hosts can set their own prices and Airbnb charges guests from 9 to 12 percent,
and hosts 3 percent. Finally, the *actors in business network* are few: the only business'
"suppliers" are landlords, who rent out properties, and freelance photographers that may be
asked to take picture to the rooms that will be posted on the website.

By now, Airbnb is the leading company in the peer to peer accommodation market,
but it already has several competitors. The most popular are Wimdu, 9flats, and
Roomorama; but also Onefinestay, which is focused on upscale listings. Big companies
have developed similar platforms too: HomeAway (its subsidiary VRBO), HouseTrip, and
FlipKey (a subsidiary of TripAdvisor). Finally, Couch Surfing is the widest hospitality
network in which hosts offer tourists accommodation free of charge (Guttentag, 2015).

Airbnb has been object of a recent but very-fast growing literature. First, it has been
studied as an important feature of the sharing economy. Later, mainly because of its
increasing popularity, contributions started focusing on home sharing on itself. Authors
have focused on the following aspects in particular: the business innovation behind the
sharing platform and the impact that short-term rentals have on destinations' economies.
Indeed, several are the eventual consequences of the on-line platform's entry in the tourism
industry, from a decrease in hotel room prices, to the increase of long-term rental prices, to
a sudden growth of tourism. The following section is destined to summarizing the major
contributions related to Airbnb activities.

---

[1] Marketing, McGraw-Hill Education, 3rd Edition (2014)

1.2. The Sharing Economy

Airbnb business model belongs to what is called sharing economy. This term refers to a marketplace, usually digital, that connects people who demand with people that offer. In fact, Airbnb defines itself as "a social website that connects people who have space to spare with those who are looking for a place to stay" (airbnb.com, 2017).

The sharing economy is an economic phenomenon that is wide spreading in the latest years, especially thanks to the ICT developments. There are several well-known examples of the magnitude of this exchange system, apart from Airbnb: the world of transportation is particularly affected thanks to Uber, Blablacar and Lyft; but there are also CouchSurfing, Just Park, Dog Vacay orUpWork. Through the on-line platforms that are created by these businesses, anyone can decide to temporary rent any kind of asset, tangible or intangible, from a ride, to a parking space, to a couch, to an hour of work.

As it is a new way of consumption there is not a univocal definition of sharing economy yet. Indeed, the term was added in the Oxford English Dictionary only in 2015. It refers to a system that exploit the value of assets that are not completely exploited, thanks to a more efficient market place. Bostman (2015) defines five key "ingredients" necessary to identify sharing-driven companies. First, the core business should be exploiting the value of under-utilized assets. The company should also have a values-driven mission and meaningful principles (such as transparency, authenticity...); and it should value and respect the providers. A fundamental element of the sharing economy is that the demand side should benefit from the good without owning it, but only paying for the access. Finally, the business should be built on decentralized networks creating a sense of community.

To summarize the literature about collaborative consumption, Suciu (2016) lists some critical dimensions to be considered when trying to identify typologies of sharing economies. First, the *type of (underutilized) assets*; second, the *nature of the market*: peer to peer, business to business, business to consumer, market-based trade between private individuals or decentralized exchange. Third, and this is common to all the sharing economy types, the *reduction of the transaction costs*, replacing the intermediary through a digital platform and sharing the knowledge about the exchanged product. A further distinction is whether the exchange is *profit or no profit.* Fifth, the *mechanism of self-governance* is important too: horizontal networks and participation of a community. Last, the type of (offline or online) service delivery. Following this reasoning, Airbnb could be defined as a sharing platform which allow to exploit underutilized home space. The market

nature is peer-to-peer as the exchange happens between non-business parties. Moreover, it is characterized by a for profit exchange as hosts receive a monetary payment in return for home sharing. The platform network is horizontal, indeed there is no hierarchal structure between the users. Besides, the delivery happens offline. Finally, Airbnb enables to reduce the transaction costs, easing the meeting between hosts and guests, and allowing them to arrange and pay trough the platform.

Furthermore, it is possible to identify two exchange models: the "Full Mesh" model, where companies lease out products that they own, while in a "Own-to-Mesh" model, the company serves as a third-party platform that connect individuals who will re-distribute their goods between each other. Airbnb belongs to the second category (Gansky 2014).

Coming to the raising of sharing economies, peer- to – peer exchange is usually digitally driven. Most of the drivers that lead to the diffusion of sharing systems are related to technology: the diffusion of internet and smartphones, and the development of information technology platforms as well as big data analytics. All these tools ease the match between users and providers, through the development of a matchmaking platform. Digitalization also decreased entry barriers in many industries because the necessary financial resources are significantly lower. Furthermore, internet eased financial transaction and increased transparency, through the online reputation that Airbnb uses too. Finally, two other key drivers of this economic phenomenon are the financial crisis, which induced people to seek other financial resources, and a declining consumption patterns (due to both economic and social reasons) (Felländer et al. 2015).

According to Felländer et al. (2015), this technology-driven boom enables to reduce transaction costs as the search of the product and of information is cheaper and faster. Policing and enforcement costs are lowered too thanks to the on-line reputation system that Airbnb adopts. Also on line payment systems may reduce the enforcement costs. For what concern bargaining costs, the effect of sharing economy is unpredictable, as the price-setting mechanisms are different one to another. Following this reasoning, the sharing economy offers a new market, more efficient and more cost saving, eliminating the third-party intermediary. The elimination of the intermediary may, though, lead to a risk increase for both the providers and the consumers, as these two parties have to bear the uncertainties once borne by the intermediary.

For instance, the impact of on line reviews has already been investigated in literature in several business areas. A positive correlation between on line reviews, both quantitative

and qualitative, and sales has been found and the effect tend to be stronger in the earlier stages of the product's life. This is because peer reviews are able to reduce purchasers' uncertainties (Hu et al., 2008). This phenomenon, also called Online Word of Mouth, is relevant in the hospitality industry too, especially after the diffusion of Online Travel Agencies (OTAs), like Expedia. The exposure to positive reviews increases the intention to bookand all reviews (positive and negative) increase the consumer awareness toward the hotel. The lesser the hotel is known the stronger is the reviews' impact. Thus, this may lead to think that, all things considered, on line reviews benefit hoteliers (Vermeulen and Seegers, 2009).

Part of the literature, however, claims sharing economy not to be about sharing. "Sharing" indicates an exchange, between people who know each other, without any profits involved; it should not be a market-mediated practice. Consequently, from this point of view, the sharing economy is a cost-efficient way to access resources without bearing the problems of ownership. Agents' behaviour is still driven by utilitarian value rather than the social value (Eckhardt and Bardhi, 2015).

Finally, it is worth to mention the fact that sharing economy is a phenomenon that may potentially have an impact on the traditional industries. This implication lead to several regulatory issues that will be discussed later, in particular regarding the Airbnb case.

1.3 Disruptive Innovation Theory

Some contributions have analysed Airbnb as a disruptive innovation. The theory of disruptive innovation was introduced by Clayton Christensen in 1995. A disruptive product is a newly launched product, which is able to challenge the incumbent companies of the market. Generally, it underperforms regarding the attributes of the leading products but it offers a new set of benefits to consumers. This usually happens when incumbents tend to focus on the most demanding and profitable segment of consumers, while entrants develop a product or service targeted for the underserved segments or create a new market. If the leading companies underestimate the entrants' potential, entrants can reach the mainstream market. This scenario is indeed the "disruption". From a timing point of view, the shift from the old market to the new one happens slowly. Disruptive innovation is in fact a process. This is because, according to the theory, during its first stages of life, the new

product is an inferior one; it will able to gain a consistent market size only after its quality has risen enough to satisfy the mainstream market (Christensen et al., 2015).

There are several examples of disruptive innovations in many sectors, including in the tourism industry. For example, OTAs (Online Travel Agencies) like Expedia, are gradually contributing to the decrease of traditional travel agencies, that are now focusing on more complex and expensive travels (Guttentag, 2015). Airbnb is certainly an innovation in the lodging industry. It is considered a business model innovation rather than a product or process innovation; and, according to most business theorists, it gives a stronger competitive advantage.

Guttentag (2015) tried to understand whether disruptive innovation theory applies to Airbnb. The three reasons why the business model could be disruptive are the following.

First, the growth timing of Airbnb perfectly match the theory's hypothesis. The market slowly grew from 2008 and only in February 2011 it reached the first million of night booked. But it took only four months, June 2011, to the second million to be reached.

Airbnb could offer an alternative to the traditional tourism accommodation market, which is by now dominated by formal businesses, such as hotels; it gives the possibility to be hosted by other ordinary people instead. Peer to peer accommodation already existed in the past thanks to traditional Bed and Breakfasts. What Airbnb succeeds in, is to help the host overcome difficulty of advertising the accommodation through Internet; thanks to airbnb.com, the company attracts consumers on behalf of the apartments owners. Moreover, Airbnb.com is simpler to manage by landlords than creating their own website or Facebook page. Also, posting is completely free and the company manages reservations and payments.

These features, together with the speed of growth of the Airbnb business, have induced some authors to speak about a disruptive innovation. As the theory states, to be disruptive an innovation needs to underperform in some areas that are important in the leading products and excel in some new attributes. Airbnb lacks in service quality, security and brand reputation compared to hotels. On the other side, it is cheaper and has additional benefits related to the staying in a residence. However, the platform is trying to improve its limits: it offers an identity verification mechanisms and 24-hours telephone hotline. Increasing the product quality is in line with the disruptive innovation theory.

A second hypothesis could be peer to peer accommodation system not to be disruptive, but parallel to the traditional hotel industry instead. Guttentag (2015) states that the elements that support this scenario are the following. First, Airbnb platform still has

22

deficiencies, such as security concerns; it takes longer to book, and therefore it is not reliable for last minute booking. As business travellers they tend to book last minute, Airbnb is not able to attract such type of consumers. In addition, business people often value hotel amenities, that private accommodations cannot offer, and they usually adhere to hotel loyalty programs. Furthermore, Airbnb, as the company claims, could be parallel to the traditional lodging industry, because it especially targets people who wouldn't travel otherwise, because they can't afford it. Finally, Airbnb capacity could be limited.

In conclusion, Guttentag (2015) affirms that, even though it is unlikely that Airbnb will substitute the hotel industry, it is possible that it will have a tangible impact on such industry.

1.4 The Impact of Airbnb on Destinations

Airbnb certainly offers benefits both to owners and renters: the formers can earn an extra income, while the latter can travel at a lower cost. However, the company is object of increased discussions, both by academics, and policymakers or citizens, due to its potential impact on the destinations' economies. Indeed, in the latest years, information has been collected in order to assess what is the effect of the massive presence of Airbnb on the tourism sector as a whole, on the traditional lodging industry and on citizens' quality of life. This information, together with their analysis, can provide the ground to the definition of a regulatory framework for the short-term rental activity. As it will be discussed later, indeed, the regulatory issue is central in the Airbnb debate and, more in general, in the sharing economies one.

1.4.1 Airbnb Impact on The Destination's Overall Economy

There are several reasons why destinations would benefit from Airbnb's activity.

First, Airbnb itself states to be parallel to the lodging industry, allowing to travel people who wouldn't have otherwise. Particularly, the company estimates that 35% of its users would not have travelled, or they would have stayed less, if it wasn't for the Airbnb accommodations. An increase in the supply of rooms could stimulate the demand, and attract tourists, which may have positive impacts on the broader tourism economy. The

latest economic investigation, commissioned by Airbnb, and focused on its impact on destinations was conducted in Belgium between August 2016 and August 2017. During the period under observation, it has been registered the arrival of 779,000 guests that generated a host extra income of nearly 2,100 dollars per year. The study also estimated the total guest spending around 241 million dollars and the total economic activity generated by hosts and guests around 304 million dollars (airbnbcitizen.com, 2017).

Other aspects can justify the positive impact of Airbnb. For instance, Open Homes is an Airbnb community service project born in 2012, that allows hosts to welcome victims of natural disasters, conflicts or similar events for free. This happens thanks to a partnership between the company and local government agencies or relief organizations, like the Red Cross. Hosts may also decide to offer their homes to relief workers too. For example, in June 2017, after the Grenfell Tower fire in London, several people offered accommodations for free to British Cross relief workers through the platform (The independent, 2017).

Moreover, the presence of Airbnb allows for some flexibility in handling fluctuating levels of the occupancy level, which is particularly helpful during major events, that may lead to a temporary depletion of hotel rooms. It is no coincidence that the success of Airbnb started with the Democratic National Convention in Denver in 2008, where the founders could promote their service thanks to an hotel room shortage that was occurring in the city. Given its ability to absorb brief demand spikes, the company often partners with localities and organizers hosting large-scale events. The most famous events where Airbnb listings played a major role are the London Summer Olympics in 2012, with 9700 guests, and the World Cup in Brazil in 2014. The company claims that its the presence of Airbnb in such cases benefited both hosts and guests, as well as the neighbourhoods where the listings are located. Also, an Airbnb commissioned research found travellers to stay 2.2 days longer when choosing the accommodations website, increasing the total expenses of visitors in the destinations' commercial activities. Finally, partnering with hosts may be positive for local governments too, as the infrastructure required to host big events are extremely expensive and not always environmentally sustainable (airbnbcitizen.com, 2017).

Another open debate related to the effect of short-term rentals activities on the destinations' neighbourhoods, is that it enables tourists to stay in residential areas. This may generate conflicts between travellers and residents. The hypothesis in which hosts rent out spare beds or rooms, in their own home, or that they decide to list the residence where they live while they are temporary away, increases the chance of the arrival of tourists in residential neighbourhoods. In London, for example, shared rooms and private

rooms massively cover the city, including suburban areas, while hotels and Airbnb entire apartments are more concentrated in the city centre (Quattrone, 2016). It can be that residential neighbourhood are not equipped to manage tourists' facilities and services.

In 2015, the NSW Parliament in Sydney launched an inquiry into the adequacy of regulations of the short- term rental system. Guerran and Phibbs (2017) analysed the local governments submissions trying to identify the issues that could arise when tourists penetrate in residential areas. A considerable number of resident complained about Airbnb accommodations. They reported noise, nuisance, traffic, and parking and waste management issues. However, the most recurrent complain was about the presence of several strangers in the neighbourhood, which however cannot be considered a problem per se. Also, security issues emerged by the analysis, such as the lack of appropriate fire, safety, emergency, and disability access requirements.

Another issue that generates lively debates is that Airbnb enables hosts to gain an extra income, specifically the amount of money necessary to landlords to afford their housing costs. The academic research related to this topic is very little, partly due to its complexity and partly because Airbnb doesn't divulge a lot of statistics about its users.

According to Guerran and Phibbs (2017) Airbnb income helps people to meet their housing costs only when the host shares the apartment with visitors, renting out spare rooms or beds. Only a small part of the hosts truly benefits from Airbnb income, gaining a rental income equivalent to 10% to 19% of median rents and mortgages, depending on the investigated neighbourhood. Moreover, the authors point out that people who could benefit more from the platform income could be excluded because they do not have an internet access or the necessary capabilities to list their property.

Regarding to this, Picascia et. al (2017) investigated income inequality between hosts in thirteen Italian cities. The Gini index reveals high inequality in all the analysed destinations. Besides, the results show that, in most of the cases, inequality increased between 2015 and 2016. This means that Airbnb benefits are mostly directed to a restricted number of users, and the trend seems to worsen over time. The authors also found that the distance to centrality is a good predictor of income inequality. Thus, revenues are higher for hosts whose listings are located in the very centre of the city.

On the other hand, Sperling (2015) claims Airbnb income to be a tool to address middle class income stagnation in the US, which is a phenomenon that has affected the Country for the last fifteen years. Appointed by Airbnb, he investigated five US cities: Portland, Los Angeles, New York, San Francisco and Boston. In these destinations, most

hosts rent out their primary residences for approximately 66 days per year, and the estimated typical host annual income is 7,530 dollars. Considering that the median household income is 52,770 dollars per year in the US, this amount of money results in a 14% raise in income. Thus, Airbnb income helps as source of liquid savings during periods of economic transition, or lost income as it is not tied to a job position. Sperling (2015) points out that 7,530 dollars corresponds to the 78% of a typical monthly mortgage payment. Finally, in the five observed cities, a substantial number of Airbnb hosts are either below median incomes in their areas or are among the nearly 80% of American households who make $100,000 or less per year.

Quattrone et. al (2106) analysed Airbnb market in the city of London, gathering information about listings and hosts. The data set, collected between March 2012 and June 2015, is composed by more than 14,000 hosts, more than 17.000 listings and 220,075 guest reviews. He found that London listings tend to be concentrated in attractive and accessible areas, not where there are more houses than flats and where there are more owned properties rather than rented ones. Furthermore, neighbourhoods that experience a high density of Airbnb properties are characterized by young, employed, tech-savvy and born outside UK residents. It also emerged that rooms (either shared or private) tend to be listed by high educated, non-UK born hosts, while entire apartments are offered by owners of high-end homes. When coming to the adoption trend, it's clear that at the early stages the most penetrated area was the city centre populated by young and ethnically diverse residents (possibly students). Instead, in more recent periods, predictors of hosting tend to be low income and the number of rented houses. Also, late adopters tend not to own the residence they list. Regarding Airbnb demand (estimated by the number of reviews), it is higher in the city centre and in attractive areas. This fact is constant over the observation period. As it will be presented in the second chapter, the authors suggest that Airbnb concentration in the central neighbourhoods of the city may involve diverse criticalities, such as unstainable tourism increase and the exacerbation of the socio-economic differences between neighbourhoods, that may need a regulatory innervation in order to be mitigated. In particular, Quattrone et. al (2016) claim the importance of local-specific interventions, as each municipality presents peculiar initial conditions that inevitably affect how the platform entry will evolve within the territory.

1.4.2 Airbnb Impact on The Lodging Industry

The most relevant part of the literature related to Airbnb is focused on estimating the impact of the peer to peer accommodation system on the traditional lodging industry. It is clear indeed that the two business models, even though they are different, offer similar services: temporary accommodations for travellers.

STR Global[2], an international company which provides market data to hotels, investigated the variation in the hotel performances due to Airbnb entry in 13 destinations located in different part of the world: Barcelona, Boston, London, Los Angeles, Mexico City, Miami, New Orleans, Paris, San Francisco, Seattle, Sydney, Tokyo and Washington, D.C. The observation period covered the period 2013-2016.

Largest Lodging Companies by Rooms/Listings
Less Unavailable, Shared Rooms, Private Rooms and Large Listings

Marriott International	1.1M
Airbnb	1.0M
Hilton Worldwide	774K
Intercontinental Hotels Group	717K
Wyndham Worldwide	677K
AccorHotels	519K
Choice Hotels International	511K
Best Western Hotels & Resorts	296K
Carlson Hospitality Group	177K
Hyatt Hotels Corporation	168K

Figure 1.2.. Source: Airbnb & Hotel Performance An analysis of proprietary data in 13 global markets (STR GLOBAL, 2016)

Figure 1.2 in the previous page shows the comparison between Airbnb supply and the major international lodging companies in 2016

The findings show that Airbnb occupancy generally was the highest in the cities where hotels had high occupancy, but still hotel occupancy was greater than the listings' one. The estimated demand share of Airbnb is 4 % and revenue share 3%.

---

[2] Haywood Jessica, Mayock Patrick, Freitag Jan, Owoo Kwabena Akuffo, Blase Fiorilla (2016) ; Airbnb &Hotel Performance, An analysis of proprietary data in 13 global markets.

When coming to the clients' features, Airbnb argue that the average age of its users is 35 and the 53% to be women; on the other hand, hotels report most travellers to be aged between 35 and 54 years old, and 63% of the hosts to be males. To estimate the type of travellers of the two operating models, STR compared the most booked days of the weeks. It turned out that hotels are more visited during week days, while Airbnb in the weekend; this may suggest Airbnb to be more leisure oriented. The study also confirmed the Airbnb hypothesis that guests stay longer when choosing Airbnb.

In most of the observed markets, Airbnb reported a supply growth higher than the 30% and a demand growth of the 20% between 2015 and 2016. Instead, the lodging industry experienced a smaller growth. Of course, in the comparison, it is necessary to consider the low baseline of Airbnb.

Airbnb Supply and Demand Growth
July 2016, 12-Month Moving Average

Market	Airbnb Supply PC	Airbnb Demand PC
Greater Barcelona	13.1%	36.2%%
Greater London	62.1%	67.9%
Mexico City	107.0%	119.2%
Paris	39.6%	33.0%
Sydney	53.1%	81.3%
Tokyo	252.4%	241.3%
Boston MA	62.7%	70.5%
Los Angeles/Long Beach CA	41.3%	61.5%
Miami/Hialeah FL	52.0%	60.6%
New Orleans LA	76.3%	79.3%
San Francisco/San Mateo CA	31.9%	25.1%
Seattle WA	77.9%	84.8%
Washington DC-MD-VA	53.7%	65.5%

● Airbnb Supply PC   ● Airbnb Demand PC

Figure 1.3. Source: Airbnb & Hotel Performance An analysis of proprietary data in 13 global markets (STR GLOBAL, 2016)

Observing the "compression nights", i.e. the nights in which hotels are nearer to full occupancy, STR registered a steady growth with a down in 2016. And this suggests that Airbnb flexibility during demand peaks did not significantly affected hotels during the observation period. Indeed, due to the low initial investment and the low fixed costs, Airbnb listings are generally considered able to better adjust to demand fluctuation rather than

traditional hotels. And this may especially verify during seasonality peaks.

In order to assess whether Airbnb has an impact on hotel pricing power, STR compared the Average Daily Rate (ADR) Premium in compression nights, that is the measure of the increase in the average price per day of hotel rooms during peak periods. The trend was stable (around 30%) but volatility slightly increased, suggesting a minimum impact by the increase in supply due to Airbnb arrival. In non US markets, the trend appeared less stable.

Airbnb's Share of Supply, Demand and Revenue (Hotels + Airbnb)
July 2016, 12-Month Moving Average
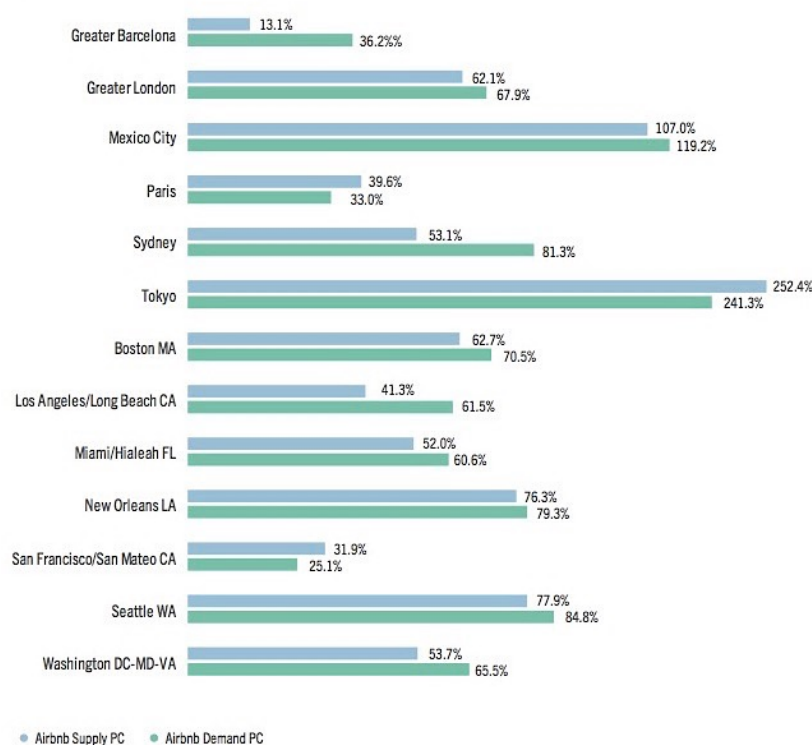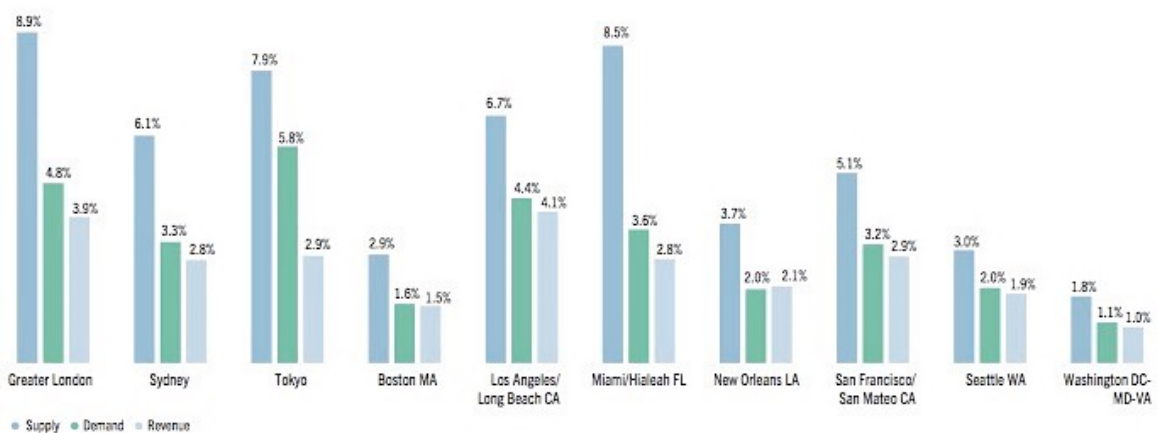
Figure 1 4. Source: Airbnb & Hotel Performance An analysis of proprietary data in 13 global markets (STR GLOBAL, 2016)

Zervas et al. (2014) investigated to what extent Airbnb is substitute for hotels accommodations. They used the presence of Airbnb in Texas, USA, and a decade-long panel of quarterly tax revenues for Texas hotels. The aim of the research was, indeed, addressing the impact of Airbnb on hotel revenues. The analysed period was from 2008 to 2013, and it covered 22,000 Airbnb stays and 4,000 Texas hotels. The finding is that Airbnb penetration is negatively correlated to hotels economic performances: a 1% increase in Airbnb listings results in a 0.05% decrease in total hotel revenues. To deepen the analysis, the authors isolated luxury hotels and hotels focused on business travellers, as controls groups. They hypothesized that, given the reduced number of amenities provided by Airbnb residences, lower-end hotels may be more directly affected by short term rentals, compared to high-end and business hotels, which may target a different segment of travellers. The result is that Airbnb is unevenly distributed across the lodging industry: lower-end hotels

incur most of the financial impact. The impact on luxury hotel is not significant. Also, the more business services the hotels provide the less they are affected by listings penetration.

Zervas et al. (2014) also performed a series of counterfactual simulations of possible regulatory interventions. Specifically, they made two hypotheses: the ban of renting non-shared accommodations and the permission to rent only one listing per host. They found that both regulations may reduce Airbnb impact on the lodging industry, but the former hypothesis show a more significant result. Indeed, the expected yearly revenue gain for Economy hotels in the first case is $56, 000 ± $22, 000, while the expected gain for Economy hotels when limiting the possibility to rent to hosts with a single property each is smaller: $11,000±$18,000.

In conclusion, according to the cited research, Airbnb is a legitimate competitive threat to the hospitality industry. However, Zervas et al. (2014) also found that an increase in the supply of traditional hotel rooms in Texas is associated with a roughly 0.29% decrease in hotel revenues. Therefore, the effect that listings' penetration have on the lodging industry is a sixth of the impact of an increase in the number of the supplied hotel rooms.

Neeser (2015) replicated Zervas' study in Europe. He investigated the effect of Airbnb on the revenue per available hotel room (RevPAR), on the hotel rooms prices, and on the room occupancy rate in Norway, Finland and Sweden. Data have been collected from 2004 to 2015. The RevPar is a very common indicator used in the lodging industry which consists in the product of the price and the occupancy rate of the room. The results show that an increase in 10% of Airbnb supply lead to a 0.111% decrease in monthly revenue per room. The coefficient increases when removing shared rooms; this may reflect the fact that it is more likely for hotel guests to substitute hotel accommodation with single rooms or entire apartments rather than shared spaces. On the contrary, when removing special listings, such as igloos or boats, Airbnb effect decreases, demonstrating that these types of accommodations do compete with the lodging industry. Furthermore, Airbnb has a weaker impact on hotels which offers business amenities, such as conference rooms, confirming Zervas et al. (2014) hypothesis. The paper also examines the different types of guests of the two business models: most hotel guests come from the same country where the hotel is located, while foreign travellers tend to be more frequent in Airbnb.

In 2016, another related study was conducted on the cities of San Francisco and Chicago between 2008 and 2014. The study included only entire apartments and private

rooms, hypothesizing that shared rooms are more likely to compete with hostels rather than hotels. The hotels performance was approximated as occupancy rate. Airbnb penetration had no significant impact on San Francisco occupancy rate, but a marginally significant impact in Chicago. It would be interesting investigating whether Chicago has more budget hotels or less business travellers than San Francisco. This result suggests that Airbnb is unlikely to overtake the lodging industry but may anyway have a limited impact, especially on lower-end hotels accommodations (Goree, 2016).

However, Coyle and Yeung (2016) found Airbnb to have a positive impact on hotel performances in 14 big European cities. If the Airbnb listing supply increases by 10%, hotel occupancy rate would increase by 5.7 %. Moreover, ADR would increase by 0.15 % and total revenues by 0.27%. This may seem contradictory with previous findings, but may be explained by the fact that travellers who do not switch from hotels to Airbnb accommodations are characterized by elastic relatively rigid demand curve.

1.4.3. Airbnb Impact on Local Labour Market

The sharing economy may also impact on the labour market of the more traditional industries. A popular example is Uber, the car sharing platform, whose presence has raised many concerns about the consequences on taxi drivers. Thus, regulators may have a strong interest in understanding whether Airbnb penetration has implications on the lodging industry workers.

The effect of digitalization on the labour market is object of an increasing number of analyses. Degryse (2016) identified the possible impact on the labour market coming from the digitalization of the economy. Obviously, this economic revolution can foster the creation of new jobs, especially in the informatics field. On the other side, there is the threat of job destruction, jobless growth and an increased insecurity of jobs. Finally, from a regulatory point of view, issues such as the working conditions and the erosion of the tax base should be central in the debate.

Suiciu (2016) investigated three hypotheses: whether high Airbnb penetration rates correlate with less employees in the lodging industry, whether it correlates with less full time employees in the lodging industry and whether it correlates with smaller daily wages. The investigation was conducted in 20 German cities between 2010 and 2014; Airbnb activity in Germany started in 2012. The cities were divided in two groups according to the

Airbnb penetration level (approximated in the number of listings per 100.000 inhabitants in each city). The results show that both level of employment and employment type are stable, and there is no significant change occurring from 2012 on. However, there is a small negative correlation between Airbnb presence and daily wages for cities. After 2012, the workers' daily wage is from 2% to 6% lower in cities with high Airbnb penetration than in cities with low penetration. The effect is slightly higher when considering only full-time employees (from 1% to 4%-5% when control variables are added). The same happens when the same analysis is conducted focusing only on small and medium enterprises in the hotel industry. Again, the conclusion is that even if there is not a strong causal relationship between Airbnb penetration and the lodging industry, there is at list a non-negligible correlation.

A similar study was conducted in Idaho, USA. The research aimed at estimating the effect of the introduction of Airbnb's rooms supply on the annual tourism employment level between 2009 and 2013. The results show a positive and significant correlation between Airbnb presence and tourism industry employment. However, the marginal effect of Airbnb entry decreases as the number of listings increases. This may mean that peer to peer accommodation system could benefit the entire tourism industry, generating new jobs, because more tourists are able to travel. The fact that the marginal effect decreases with the rise of the number of listings, may be interpreted as the result of the negative effect that Airbnb has on lower-end hotels. While budget hotels' workers may lose their jobs, Airbnb landlords do not hire new employees (Fang et al, 2016).

1.4.4 Airbnb Impact on Local Long-Term Rental Prices

Looking at the supply side of the peer to peer accommodation system, there are not only owners who offer their spare spaces, but also existing landlords who may decide to supply to short-term rather than long- term renters. After Airbnb entry, house owners consider what is the most profitable option between rent out their apartment to long term or to short term tenants. Thus, the possible conversion from permanent rental to touristy accommodation is a further issue that is often raised by Airbnb opponents. There are indeed concerns that property owners could switch from long-term residential tenancies to short term Airbnb lets in major cities. This could exacerbate the affordability of long-term rents, reduce the availability of longer-term accommodation and put pressure on the housing

market. City authorities are very interested in investigating this possibility, in order to eventually prevent the sharing economy from reducing the supply of accommodation available to residents.

This topic is particularly popular on newspapers. Businessinsider.uk[3] in 2016 published an article titled "Here's exactly what Airbnb does to rent in popular cities", describing how Airbnb entry could exacerbate rent prices in the hot neighbourhood in major cities, like London or New York. But also the Wall Street Journal[4] reported an interview with Edward Kung, an assistant professor of economics at the University of California Los Angeles that is the co-author of a working paper that try to asses this phenomenon. The Guardian[5] focused on Airbnb effect in Amsterdam. Those are just few of the many examples of the attention that the press is paying to the risk that Airbnb could make long term rental prices raise.

Lee (2016) conducted an analysis of how Airbnb, and short term rentals in general, modifies rent prices and house supply in Los Angeles, CA, a city which is experiencing an affordable housing crisis. He states that rental housing market traditionally did not overlap with the hospitality sector. However, with the advent of Airbnb things have changed. Indeed, peer to peer accommodation brought to a "hotelization" of cities, which occurs when, due to Airbnb premium income, property owners stop renting out to city residents and prefer tourists, basically converting entire buildings in accommodations for travellers.

Of course, Airbnb listings are concentrated in the most popular neighbourhoods of Los Angeles, and in these areas in 2014 rents were 20% higher than the others and they experienced a +33% growth. An average of 3% of the apartments supply of the city, which has a low vacancy rate of 3.5%, were listed in Airbnb, with a pick in tourist areas such as Venice (12.5%). Furthermore, in the same year 7,316 units (1% of the total supply) moved from the rental market to the short-term one and monthly rents increased by 7.3% (Lee, 2016). The author underlines that if the vacancy rate goes near to zero, the supply reduction inevitably results in a rental price increase, and this occurs especially because the house supply is very difficult to adjust compared to other assets. This could lead to a situation where residents are priced out from their own neighbourhood. The consequences of this scenario are several. First, an affordable house crisis, especially because low cost apartment

---

[3] http://uk.businessinsider.com/statistics-data-airbnb-rent-prices-2016-10?IR=T
[4] https://www.wsj.com/articles/how-airbnb-affects-home-prices-and-rents-1508724361
[5] https://www.theguardian.com/cities/2016/oct/06/the-airbnb-effect-amsterdam-fairbnb-property-prices-communities

are the most attractive targets for the conversion. Second, a gentrification of neighbourhoods, i.e. the replacement of lower income families by wealthier individuals, which may also negatively influence the integration within the city. Finally, an increase in socioeconomic inequalities, as only the owners of (at least) an apartment and, above all, the owners of apartments that are located in central and attractive areas can benefit from the possibility of integrating their income through Airbnb. As shown by Lee (2016), hosts benefits are proven to be higher in the seven most expensive neighbourhoods of Los Angeles: only 8% of the citizens live there, but the area generates two third of the total Airbnb income.

Guerran and Phibbs (2017) observed long term rental market in Sydney, Australia. Housing prices experienced a rapid growth in the region between 2015 and 2016 and the number of Airbnb listings in Sydney steadily increased till reaching 15,648 properties in January 2016. The cities properties are spread all-over the town, beyond the traditional touristy destinations. Also, the Australian capital is characterized by housing supply constraints, especially as employment opportunities tend to be concentrated in the city centre. This issue had also been reported by local authorities. The results of the authors are the following: nearly 1% of Sydney's total dwellings and 3.26% of the total rental stock were available as Airbnb accommodation in 2015. Airbnb income per month is estimated to be AUD$600 greater than then permanent rental income. This increase the likelihood that Airbnb supply could generate upward pressure on Sydney's rents. They also estimated the number of properties removed from the permanent rental market in Sydney. In Waverley for example, one of the most important tourist neighbourhoods, the number of Airbnb listings is more than three times the vacancy rate in the locality. This may mean that Airbnb activity has an impact on the availability of long term rentals with consequent pressure on the prices. Of course, in different areas of the city the proportion is lower, reflecting the area's distance from visitor attractions. In Sydney, a total of 1,268 properties are listed in the platform and they represent 144% of the city's vacant rental stock.

Coyle and Yeung (2016), however, found the arrival of Airbnb to be positively correlated with the rental price index in London, but not in the city of Berlin. In the UK capital, 1% increase in the number of Airbnb leads to a rise of 0.22 in the rental index.

Furthermore, they investigated the number of listings per hosts in fourteen European cities. As table 1.1 (in the following page) show, most hosts have one listing each.

Finally, short-term rentals may affect the value of residential property in highly

penetrated cities. This may happen because Airbnb offers a new income to hosts and because of the increase in space demand (both from tourists and residents). Another reason could be the positive economic impact of travellers on neighbourhoods. However, negative externalities of guests on destinations may lead to the opposite result: a property value fall. A model applied to New York city show that an increase in localized Airbnb supply is associated with an increase in the properties' value. In particular, the doubling of the listings is associated with a 6% to 11% increase in house values (Sheppard and Udell, 2016).

Table 3	1 listing	2 Listings	3 Listings	4 Listings	5 or more Listings
Paris	90.97%	6.73%	1.16%	0.36%	0.77%
Nantes	89.03%	8.61%	1.60%	0.35%	0.42%
Cologne	88.55%	8.33%	1.46%	0.66%	0.99%
Amsterdam	88.53%	7.92%	1.85%	0.69%	1.01%
Strasbourg	88.53%	9.01%	1.27%	0.47%	0.72%
Toulouse	87.55%	9.30%	1.53%	0.37%	1.25%
Munich	87.30%	9.47%	1.81%	0.79%	0.63%
Berlin	86.18%	9.83%	2.19%	0.72%	1.07%
Frankfurt	86.18%	10.34%	1.88%	0.86%	0.74%
Glasgow	83.50%	11.97%	2.45%	1.09%	1.00%
London	80.89%	12.03%	3.12%	1.27%	2.69%
Manchester	78.61%	13.18%	3.72%	1.62%	2.87%
Edinburgh	77.88%	14.03%	4.11%	1.66%	2.31%
Barcelona	69.37%	16.57%	6.11%	2.65%	5.30%

Table 1.1, Number of listings per host. Source: Coyle, D., & Yeung, T. (2016). Understanding Airbnb in fourteen European cities. The Jean-Jacques Laffont Digital Chair Working Papers.

1.5 Airbnb Related-Platforms

In addition to Airbnb impact on destinations, which is clearly difficult to measure, what is remarkable and easily noticeable is the turnover that the company generates.

First, the company value has now reached 31 billion dollars after less than ten years of activity. This value is the highest within the hospitality industry: it exceeds major international hotel chains such as Hilton Worldwide and Marriott international (fortune.com, 2016).

Furthermore, the home sharing platform has given rise to several smaller businesses which offer a complementary service to the Airbnb one. First of all, Inside Airbnb is an independent and non-commercial website which provide public Airbnbdata, for the purpose of better estimating the platform impact. Many of the studies mentioned above used this tool as a source of data (insideairbnb.com, 2017). Not unlike this website, Airbnb DNA offers scraped data of Airbnb listings in different destinations. Besides raw data, it also provides historical trends, market evaluation of short term rentals and rental performance around the world. It is aimed not only to research purposes but also to counsel hosts, investors but also hotel owners. Property owners can understand how they are positioned in the market and develop appropriate strategies to make their listing more attractive; investors, on the other side, may identify the most profitable locations in order to buy a property. Finally, hotels chains and OTAs are able to get the information necessary to compete with the home sharing system (airbnbdna.com, 2017).

The consultancy service is indeed one of the most commonly offered as a complementor to the Airbnb facilities. Rentingyourplace.com, probnb.com, learnairbnb.com are just few businesses that offer advices to hosts. Advices are related to pricing policies, competition strategies, effective marketing and so forth. Also, in the latest years, newspaper articles describing how to make profit with an Airbnb listing appeared on major media outlets. On libraries' shelves is easy to find similar publications too; one example is "Airbnb Toolbox" by Sandra Shillington. Moreover, hosts themselves created on line communities where they are enabled to ask questions and exchange tips one to another (e.g. airhostsforum.com).

Finally, some platforms provide real support services to property owners. Bnbsitter offers a complete listing management from the announcement post, to the guest check-in, to cleaning services. The similar Guest Hero adds 24-hours service of emergency management. While AirHost tries to reduce the gap between home sharing homes and hotel

rooms providing linens, towels and other supplies to visitors. Also, paperwork management and listings insurances are services available in the market.

In conclusion, supply and demand of Airbnb are both steadily growing all over the world. Drawing on the existing literature, Airbnb entry has been found to have at least a modest impact on several aspects on destinations economies. The platform could provide positive economic benefits for local communities, by boosting the tourism industry and generating new jobs and new sources of income (Fang and Law, 2015). However, it also comes with negative externalities due to the increase in the number of tourist. Also, consumers are increasingly substituting Airbnb stays for lower-end hotels, as Zervas et al. (2014) proved in Texas; and it could result in a decrease in lower-end hotels prices. The long term rental market may be affected too: Airbnb is proved to generate a little increase in rent prices and house prices and a decrease in house availability.

Nevertheless, literature is still limited and scattered even though the debate relative to home sharing is constantly increasing among experts, governments and also the public opinion. This is particularly true in Italy, where, so far, the contributions addressing the impact of the platform entry are only two (Picascia et al, 2017 and Airbnb, 2016). Furthermore, Airbnb listings reached significant penetration in several destinations within the territory and, because of the role played by the tourism industry in Italy, this may involve delicate criticalities. Moreover, Italian cities are characterized by a wide artistic and cultural heritage that need to be preserved and, thus, carefully considered when evaluating the platform's entry. Hence, the present contribution is aimed at analysing the presence of Airbnb listings in Venice, IT, one of the most coveted destinations, in order to have a clearer understanding of the phenomenon.

Chapter one presented the research background that policymakers should consider when regulating short term rentals activities. Furthermore, local authorities are concerned about the loss of tax revenues, and safety issues, as hosts listing can easily avoid the taxes and regulations applied to the lodging industry. Finally, the increased volume of visitors to already-crowded city centres should be considered by legislators.

So far, the regulation of the peer to peer accommodation system is uneven around the world and, in several countries, is still under development. The next chapter will focus on a brief summary of the legislative landscape and the main proposals for future developments.

CHAPTER 2

Whether and how short-term rentals should be regulated

Airbnb activity regulation is a widely-discussed issue both because of its complexity and its topicality. Due to the potential impact that short-term rentals may have on the destinations' economies, as part of the related literature claims, local authorities are considering whether and how to set some rules aimed to control the platform's entry in the hospitality sector. This is a particularly sensitive subject as potential regulatory approaches should take account of all the different stakeholders involved: travellers, hosts, destinations' residents, hotel owners, governors and Airbnb itself.

At present, different countries have chosen different (or partly different) legislative frameworks. Some countries already implemented limitations to short-term rentals, some others are willing to do it in the next future, while others are planning to promote these activities. As also mentioned in the previous chapter, several authors have developed theoretical proposals in order to address the problem.

The aim of the present chapter is to summarize the main issues involved in regulating Airbnb's activity and the most popular legislative solutions.

2.1 The Regulation of Sharing Economies

Airbnb regulation is indeed part of a broader discussion, that is the regulation of sharing economies. The elimination of a third-party intermediation, which is a characteristic of all the peer to peer exchanges, makes this economic model significantly different from that of traditional markets. Thus, it opens questions about the applicability of the same rules to both systems. Furthermore, as it was already explored in the previous chapter, platform economies are found to be generally more efficient but riskier than traditional systems. By now, two different opinions coexist: on the one side, some theorists believe that platform economies should be regulated in order not to be above the law regulating traditional markets. On the other side, some studies underline that sharing economies present some new efficiencies that would make a regulatory intervention outdated and sometimes protectionists, resulting in benefits just for incumbent firms. As it will be discussed later in this chapter, most of the reflections about sharing economies regulations are common to the Airbnb debate.

The main argument put forward by supporters of the regulatory intervention is that, as present regulations usually do not apply to peer to peer economies due to their peculiar

features, new ones should be developed in order to protect consumers, workers and market competition. The aim of the regulatory intervention should be reducing the risks that come with this unprecedented economic model.

Employment regulation policies, for example, is one of the most discussed topic. Digital platforms indeed tend not to define themselves as "employers", not even when their users provide services through the platform. Companies such as Airbnb and Uber are indeed considered "matchers" between demand and offer. This implies they are not liable of their user's social benefits and insurances, for example, the same way an employer is of his employee. Also, for service providers it is more difficult to obtain the collective bargaining privilege that traditional employees have thanks to labour unions. Thus, sharing economy is promoting a gradual shift from employment to self-employment and this could need a labour market policy reform in order to protect freelancers who can't access the same social benefits of traditional employees. Moreover, a more flexible labour market should be facilitated to ease mobility and safeguard self-employment (Felländer et al., 2015).

A second popular consideration concerns safety problems. Digitalization indeed enables consumers to access to a wider variety of products and services, and this could present some risks. Safety problems arises, for example, when laws set minimum standards only for new manufactured products and not for assets exchanged in the peer to peer market. For example, the gap between hotel safety requirements and short-term rental apartments' ones, is often claimed by Airbnb opponents. Besides, sharing economy entails that the exchange counterpart is usually unknown, and it could be less safe than relating to well-known enterprises. This risk increase, that both buyers and sellers have to bare, comes from the abolition of a third-party intermediary. Policy makers may consider to guarantee to consumers the same protection level they receive when buying from a traditional firm (Felländer et al., 2015).

Furthermore, peer to peer transactions' taxation is a central issue for Governments. Digital transactions are often found illegal because parties avoid paying taxes and, above all, in several contexts, it is still unclear which taxes apply to digital economies and which to traditional economies. A tax reform could be necessary in order to properly tax digital platform exchanges. Applicable fees and their amounts should be clearly listed, together with the specification of who is responsible for reporting the sale. Then, the value of the tax should be estimated. Also, a still open question is whether and how to tax transactions

where the payment is not monetary, which is not uncommon in such a context (Felländer et al., 2015).

These are just a few of the fields where sharing economy could be regulated, according to regulatory intervention supporters. Once determined the proper policy, a further challenge would be the harmonization between digital and traditional economies' regulations. The growth of software platforms, indeed, arises competition laws concerns, as it is demonstrated by lobbyists' interest in limiting the activity of software platforms. Not regulating sharing economies' entry could result in asymmetric regulations that penalize incumbents, that still have to comply with stricter requirements (Edelman and Geradin 2015).

However, part of the literature claims regulation to be unnecessary, if not counterproductive, especially when coming to the sharing economy. The aim of economic regulation is indeed to protect consumer welfare, but ICT, which sharing platform usually rely on, is sometimes believed to be a better tool to reach this goal. Koopman et al. (2014) state that regulation involves some non-negligible risks. The first one is *regulatory capture*, that is when companies subject to regulation have a strong incentive to influence applicable regulations, which could increase their profits. Also, the limitations that incumbents claim should be applied to digital platforms, could lead to *entry barriers*. Entry barriers usually reduce competition and, thus, limit innovation. It would result in a benefit increase for incumbent firms, which bare less competitive pressure, and a cost increase for consumers. Instead, information technology has the potential of increasing consumers' welfare, as it enables product variety and product quality growth, thanks to new entrants' activities. In this scenario, competition is increased rather than limited. Besides, digital platforms typically provide a lot information about the offered service and its providers, and users have the possibility to rate and review their experience. This may reduce *asymmetric information* between sellers and buyers, which is one of the main reasons behind legislators' interventions. Also, technology may offer other tools in order to reduce uncertainty; ID verification and online payments are some example. This consists in a self-regulating scenario where companies proper behave to increase the product demand and consumer trust. Thus, internet could be a valid alternative to regulation especially in the sharing economies, which mostly rely on digital platforms. Furthermore, a key consideration of policymakers' intervention opponents is that the efficiencies that software

platforms provide through technology are available to incumbents too, adopting comparable tools, which are easy to get nowadays.

Finally, some authors suggest that an updated regulatory framework is needed to enable the exploiting of platforms' key efficiencies, even removing unnecessary requirements, but at the same, forcing digital platforms to comply with requirements that protect users' rights and avoid the harm of nonusers. Edelman and Geradin (2015) identify four key efficiencies that regulations should facilitate, instead of limiting. First, the *reduction of transaction costs* in terms of economic investment, speed and communication costs. Also, the *allocative efficiency* of fully exploiting a product which is underused and the fact that users may dedicate the same asset both to private and commercial uses (Uber drivers' cars is the most suitable example). The *information efficiencies*, due to the well-developed reputation system, enable to deter opportunistic behaviours and reduce low quality service. Finally, the *pricing efficiency* of lowering the price thanks to the elimination of a third-party intervention and the ability to rapidly adjust to supply and demand fluctuations.

Edelman and Geradin (2015) also explored the areas where sharing economies may need a regulatory intervention. First, leaving new entrants unregulated would leave asymmetric regulation between new entrants and incumbents which could lead to market distortions. Lessening the overall regulatory scheme would be a possible solution but controversial issues, such as safety requirements, would remain dangerously unsolved.

Authority interventions should above all deal with negative externalities, that is the effect that the business has on non-consumers, who typically have less influence on platforms. For example, under insured Uber derivers may negative impact the general publics.

Furthermore, the authors claim that information asymmetries are only partly limited by the rating systems. Their efficacy is indeed questionable. Negative ratings are found to be uncommon because people are aware of their potential impact and also, users have no incentive to regularly rate a service. In order to overcome these limits, legislators could make post-use rating compulsory and list in advance the product features that should be rated. However, consumers may underestimate some dangers or they may focus more on less probable issues because of common cognitive biases. When users are not able to properly assess risks, regulatory intervention is needed.

Besides, policymakers should consider providing incentives to platform to serve disfavoured groups. Racial minorities, low income users and disable people risk indeed to be underserved. This is primary because of the decentralized decision making process which characterize sharing economies. An example is ensuring the service in every region. When the decision making is not centralized, offering a uniform service becomes more demanding. The concentration of Uber drivers in urban areas is an example. Accessibility to disable people is another significant concern. In fact, when a firm invest to increase its accessibility, usually the cost is borne by all consumers thanks to a small and uniform increase in price. While, in sharing economies a potential accessibility investment by a service provider is all to himself or the disable user. Regulators could require platforms to provide a fair share of "universal service", which means without discriminate categories of users. The certain proportion of accessibility could be reached by the platform giving incentives to service providers. Otherwise public authorities to designate a universal service provider and, to the extent needed, compensate that operator for the costs of providing the service.

Finally, a sensitive issue for Governments certainly is revenue raising. Transaction that happens through the platform should not be exempted by taxes. Indeed, the majority of platforms do not collect taxes on behalf of authorities as the transaction happens between service providers and consumers and it makes difficult for fiscal authorities to detect transactions. Compulsory electronic transactions may be a feasible solution that regulators may consider.

In conclusion, regulatory intervention should be aimed to enable a fair competition between platform economies and incumbents.

2.2 Airbnb Regulation

Airbnb's entry in the tourism industry raises questions about the necessity of a regulatory reform, which may cover different aspects, from taxation to safety. As it was previously underlined, this involves balancing the interests of different stakeholders. Indeed, the sharing platform is facing the opposition of landlords' coalitions and hotel-industry insiders, as it happened in New York where they intend to spend millions of dollars on a public campaign against Airbnb (Kaplan, 2015). Nevertheless, thousands of users, both guests and hosts, are now using the platform on a regular basis. Undoubtedly, in order

to properly develop a regulatory intervention, it is necessary to evaluate present and future studies addressing how short-term rentals do impact destinations' economies. As it is presented in the first chapter, in literature both positive and negative externalities have been identified. On one hand, Airbnb may foster tourism, provide extra income to families and allow to exploit the value of underused properties; on the other hand, it could exacerbate long-term rentals prices, negatively impact on the lodging industry and create discomfort on destinations' neighbourhoods.

In the present section, the main considerations about a possible Airbnb's activity regulation will be summarized.

Quattrone et al. (2016) claim that municipalities, in order to proper regulate short-terms rentals, need to consider *how, where, when* and *what* to regulate. In terms of *how*, the authors recommend a legalization system through "transferable sharing rights". As it will be presented in detail later, this scenario would envisage each house owner to have the right to engage short-term rental for a given period. This right could also be transferable between house owners. Coming to *where* and *when,* policymakers should carefully evaluate the initial local condition, which it was found to matter a lot when addressing Airbnb impact. Additionally, future consequence for adoption should be considered: local economies benefits need to be promoted, without forgetting that tourism should be sustainable and the concentration of short-term rentals avoided, in order to limit negative externalities on densely populated neighbourhoods. Finally, *what* to regulate is the central issue. Different categories of listings may present different criticalities. Again, different socio-economic conditions and consequences are area specific, thus, regulation should reflect these differences. Central and touristy areas present necessities which diverge from low-income residents' neighbourhoods.

After determining these critical aspects, the following phase would be establishing how to enforce regulations. An efficient system could be exploiting platforms technologies and create a data sharing ecosystem, matching Airbnb data with census one, which enables to easily identify offenders. Finally, policymakers need to constantly evaluate the impact of short-term rentals and its regulations, engaging in a dialog with citizens aimed to properly refine regulations.

Coming to the specific areas which regulations should aim at, in literature emerges a general agreement that limiting Airbnb's negative externalities should be the priority.

A widely discussed negative externality is borne by the destinations' neighbourhoods. Residents indeed complain about the increase of guests in non-touristy areas, as it often involves an increase in noise, traffic, a more intense consume of public resources and so forth. Airbnb's hosts impose costs especially to the residents who lives in the same building where the listing is located. A solution may be to forbid Airbnb's listings, unless the host obtains the consensus from all the apartments owners in the building. This policy may involve a risk, as it could result in limiting Airbnb activity (Edelman and Geradin, 2015).

Another possibility, could be letting building managers decide whether to ban or accept Airbnb's entry in their condos. However, this system would involve the cost of moving to an "Airbnb friendly" dwelling, or leaving it, according to tenants' preferences. Nevertheless, Horton (2015) states this would be the most efficient solution in order to address the negative externalities neighbours have to bear. The authors consider this situation a case of "tragedy of the commons", that happens when individually rational decisions of consuming a scarce commodity lower the overall social welfare. They developed a model where listing a property on Airbnb generates private benefits together with un-internalized social costs. In the model, building owners have the possibility to allow or to ban Airbnb and tenants move accordingly. The benefit from being a host is equal to the market price of the listings, that depends on the number of accommodations supplied. Predictions state that only few building managers would be willing to allow Airbnb, as agents tend to be loss averse, that means that they weight costs more than benefits. In this case, the cost is indeed represented by tenants' complaints. If tenants can sort across buildings based on the owners' policy choices, then the fraction of buildings allowing Airbnb listings should be socially efficient. Furthermore, the equilibrium would be efficient when a potential host, located in a Airbnb friendly building, is indifferent between listing or not his property, that is when the listing benefit was equal to the cost of starting to host. Efficiency is indeed reached when the marginal benefit equals the marginal cost.

Anyway, whatever measure is adopted it should be specifically designed for a certain municipality. The intensity of Airbnb's impact is indeed neighbourhood specific. For example, parking issues may be more severe in some regions, while totally absent in others (Edelman and Geradin, 2015).

The safety of properties represents another hot topic in the current debate. Airbnb do not control or inspect its hosts' listings, as it is not liable for their legality and regularity. Regulatory interventions opponents claim the review system to be able to uncover and signal unsafe dwellings. However, Airbnb guests may fail to properly evaluate risks (Edelman and Geradin, 2015). Extra exits, fire sprinklers, fire-resistant textiles, deadbolt on each door are just some of the safety requirements that a tourist accommodation should comply with, but may not capture the attention of visitors. Indeed, several Airbnb's listings have been found to be illegal in many ordinances because cities prohibit short-term renting without special permits. The reason behind the licence system often is the compulsory compliance with health and safety standards. Guttentag (2015) suggests that a permitting system could force hosts to register with the Government, easing the control on safety requirements. Moreover, if the registration necessitated a sustainable fee payment, the resulting amount could potentially finance periodic health and safety inspections. Registered hosts could benefit from the license too, advertising their legitimacy on the platform would signal their conformity.

Finally, the lack of safety measures enforcement on short-term rental apartments is part of the reason why the lodging industry often reports regulatory asymmetries between Airbnb's listings and hotel rooms. Notoriously, hotel accommodations have to comply with strict standards.

Besides, unfortunately, sharing economy is not free from discrimination behaviours. Indeed, Edelman et. al (2017) proved that potential guests with distinctively African-American names are 16% less likely to be accepted by hosts, compared to identical guests with White names. Also, Edelman and Luca, 2014 discovered that in New York City, NY, non-black hosts earn approximately 12% more than black landlords offering comparable accommodations. Similar results were found in San Francisco, were Asian and Hispanic hosts on average charge 8%-10% lower prices relative to White hosts (Kakar et al. 2017).

The wealth of information which characterize platform economies may facilitate discrimination, especially race-based ones. To protect minorities from inequities, legislators could forbid photos' posting on users' profiles (Edelman and Geradin, 2015). Airbnb.com should be a race-blind tool, also in order to prevent the gentrification of cities (Lee, 2016).

Furthermore, some municipalities seem to be threatened by the risk of a reduction long-term rentals supply. As explained in the first chapter, Airbnb listings may negatively impact on cities with limited house supply, determining rent increases for locals.

Lee (2016) explored the possible regulatory interventions that the city of Los Angeles. CA, could promote in order to face the housing crisis it is currently living. The author prioritizes housing needs of residence over tourists' needs. Also, he underlines the eventual regulation should aim at reducing the distortive effects brought by the units' conversion, from affordable units to Airbnb listings, and the hotelization phenomenon. First, he evaluated the San Francisco's Mayor, Eric Garcetti, proposal. The mayor suggested to collect 14% accommodation tax from each listing and destine the total amount, about $5 million per year, to the affordable housing trust fund of Los Angeles. Lee states that $5 million would enable building only sixteen units, against a supply decrease of 7,316 units. Thus, it would take 457 years to reach a full replacement of units, and only assuming Airbnb stops expanding. However, increasing the tax rate over the 14% would be unfair, as Airbnb should not bear the whole cost of replacing affordable houses. Besides, this system does not address the gentrification problem, or even the fact that rent increases are often concentrated in some neighbourhoods. On the contrary, developing a lower-income neighbourhood would exacerbate theseissues, intensifying poverty concentration.

A second hypothesis could be compensating affected residents through a redistribution scheme. Tax revenues from Airbnb listings may be directed to municipal housing voucher programs. Giving vouchers to low income residents in Airbnb dense neighbourhoods would help locals to stay in their houses and not to rent them out to tourists in order to face rent increases. Nevertheless, redistribution doesn't enable to replace units now allocated in the short-term rental market.

Furthermore, the author evaluated the effect of policies straight directed at the Airbnb business. A blanket ban would be the easiest and most effective solutionin order to lower short-term rentals' negative externalities, but it would also deprive residents from the platform benefits. Alternatively, restrictions could be targeted to discourage units' conversion and hotelization, still allowing short –term rentals. The most feasible possibilities could be: fining unlicensed hotels, or forbidding to engage in short tern rentals the year after the apartment purchase or, similarly, banning from the platform for a certain period landlords that evict tenants without fault. Prohibit to list more than a given number of property per host and for maximum number of days per year represents comparable regulatory interventions already adopted in some municipalities.

Geographically targeted restrictions, such as a maximum number of listings per neighbourhood, would be more difficult to enforce. Nevertheless, such measures could deter gentrification and poverty concentration. Airbnb could be allowed only in buildings that meet an affordability threshold. For examples, short-term rentals may be legal, only in buildings where there is at least a certain percentage of affordable units. This would incentive landlords to lower rent prices.

Finally, the author suggests that cities could adopt the community benefits agreement, CBA, model that local industries negotiate with unions and affordable housing advocates. The agreement grant house developers to benefit from tax credits to build lucrative developments (such as stadiums or malls) in exchange for their commitment to hire residents, build affordable units or realize public projects. Developers could be also allowed to build "Airbnb hotel apartments" in Airbnb dense neighbourhoods, giving a certain percentage to low income residence at a fair rent price, while listing the remaining units at the market price.

Coming to taxation, hotel occupancy taxes represent a substantial part of municipality revenues, especially in the most popular destinations, which happens to be dense of Airbnb's listings too. A critical issue is defining whether hosts should be charged of hotel taxes or different ones. A primary reason why accommodation taxes should be applied to listings owners too, is that they generate funds that Governments allocate to destination promotion, which benefits all tourism suppliers indiscriminately. Exempting Airbnb users from paying these taxes would make them "free riders", as they benefit from a public good (destinations' promotion), they do not pay for. It also results in a competitive advantage for peer to peer accommodations over the lodging industry, as the price gap between the two may also reflect the difference in tax burdens (Guttentag, 2015).

At present, there is lack of a uniform collection system as well. A licences system is a viable way of collecting host information for tax collection (Guttentag, 2015). However, the most efficient way to address the problem would be Airbnb to collect taxes on behalf of authorities, but is not a widely approved solution. In New York for example, the Department of Finance stated "Airbnb is not required to collect hotel room occupancy tax because, as a platform, it is neither a hotel operator nor a remarketer". However, Airbnb declared to be willing to help facilitate the collection and remittance of taxes, as it already does in several American and European cities (Kaplan, 2015). This would both lower the cost hosts incur in order tocomply with the laws and the enforcement cost of municipalities.

In this regard, Airbnb's entry could encourage policymakers toease the onerous regulations of non-hotel accommodations, such as traditional B&Bs. Indeed, Bad and Breakfast activities often require costly licences and numerous documents. Also, accommodations are required to comply with strict requirements similar to the hotels ones rather than apartment ones. This increases the complexity of running such an activity and may increase the likelihood of illegal behaviours (Guttentag, 2015).

Miller (2014) formalized a theoretical proposal for the purpose of legalize short-term rentals, while limiting their externalities as much as possible. In his view, Transferable sharing rights, or TSRs, could be an onerous but viable way to address municipalities' issues due to the rise of Airbnb supply. First, local authorities should design the initial allocation of TSRs. For example, they could provide each landlord the right to engage in a short-term rental for a limited period of time, depending on the city's peculiarities. A user can eventually decide to redeem his right, under the terms established by the city. The redeem action may necessitate a fee payment equal to the monetization of the externalities arising from Airbnb activities, from health services to the forgone hotel occupancy tax. If redeeming required an on-line registration to a city controlled website, this would enable authorities to collect useful data about rentals' trends and characteristics. Furthermore, TSRs should be alienable through a special on line marketplace. It would allow people who do not intend to redeem their rights, to sell them to who wants engage in short-term rentals for longer periods. To avoid market manipulation, only apartment owners could sell their TSRs, limiting the power of institutional players that could try to buy huge amounts of TSRs, in order to alter the market outcome.

Neighbourhoods would benefit from this system as the city could destine to them part of the collected fees, aiming at mitigating the negative externalities they are forced to sustain. Also, an on-line system would enable municipalities to prevent "hot spot" and limit the tourists number in spike periods. Finally, authorities could use TSRs as an economic development tool. they could indeed be able to ease the hosting process in developing areas, while requiring stricter conditions in already touristy ones.

Finally, regarding enforcement policies, Miller (2014) suggests local authorities to exploit their nuisance abatement power. Additionally, residents could be allowed to check TSRs within a limited area in order to be able to report violators. Monetary fines are essential to deter illegal behaviours and to compensate citizen suits that signal abuses.

Undoubtedly, regulating short-term rentals would have some impact on the lodging industry, that claim to be negatively affected by the peer to peer accommodation platform. These possible consequences need to be certainly taken in two account when evaluating short term rental policies. Zervaset al. (2014) simulated how a regulatory intervention would impact hotels in Austin, Texas. As some municipalities in the US allow only owner-occupied short-term rentals, two potential interventions have been tested: eliminating entire apartments from Airbnb and forcing host to list only a property each. Both scenarios would affect hotels' performances, but the first one seems to be the more powerful. Findings indeed show that the average of Economy hotels would yearly gain $56,000 $\pm$ $22,000 when removing entire apartments from the platform. While the yearly gain economy hotel would reach if hosts could list only one property would be $11,000±$18,000.

In conclusion, the recent fast increase of short-term rentals opened the debate about whether and to what extent policymakers should regulate these activities. Oskam and Boswijk (2016) summarized legislator interventions listing seven hot topics that should be covered: taxation, visitor stream, information ownership, safety, consumer protection, fair competition and the housing market. To this regard, several contributions considered different aspect of an eventual regulatory intervention. Nevertheless, several complications, that theoretical models can't fully encompass, still exist from sub-lease policies, to apartment buildings rules, to hotel-based labour unions' resistance, to jurisdiction issues (Miller, 2014).

However, literature seem to agree that regulations should be destination specific and specifically targeted to certain types of accommodation. This is fundamental in order to properly address each municipality's needs. Thus, cities play a central role in deciding which sharing economy practices to adopt, and to what extent, and which to reject.

Certainty, a clear regulation would make enforcement easier. Additionally, in this respect, a cooperation from Airbnb may be a key element to reach an effective implementation (Lee, 2016).

The following section will present the current legislation landscape and the most relevant regulatory interventions already implemented around the world.

2.3 The Current Legislative Landscape

Currently, regulation is uneven as a consequence of the uniqueness of each destination. Also, the fast innovation rate made difficult to Government to quickly define a proper intervention. Not to mention the difficulty of regulating an unprecedented phenomenon, such as the sharing economy. Current policies implemented around the world dealing with shot-term rentals range from exceptionally strict to non-existent.

Additionally, to date, enforcement has often been negligible, even if as short-term rentals become increasingly prominent. However, enforcement is primarily focused on entities running several permanent illegal short-term rentals, rather than individual occasionally illegal hosts. This is what happened for example both in New York and Amsterdam, where illegal business running permanent hotel operations have been the central object of authorities' controls and inspections actions (Guttentag, 2015).

A further problem concerning regulating Airbnb activity is the legislative competence. In many countries, different authorities may be responsible for the different aspect of interests when regulating shot-term rentals. For example, fiscal aspect may be regulated at state levels, while licences and permissions at a local level. Besides, the absence of clear precedent makes even more difficult to identify the competent authority. This represents an additional element of complexity.

To convey the idea of the diversity which, so far, have characterized the legislative landscape of short- term rentals, a study by Mehmed (2016) compared the actual legislation in three different US cities: City of Grand Rapids, MI, Malibu, CA and New York, NY. In the first city, rentals via Airbnb are allowed but limited to owner-occupied residents and no more than two adults guest per night. Also, there is a city limit of 200 permits and the neighbourhood needs to be notified. In Malibu instead, short-term renting is allowed as long as they it is payed a 12% transient occupancy tax, as hotels do. Airbnb in 2015agreed to collect and remit the tax of behalf or property owners. Finally, New York City prohibits short-term rentals in certain categories of dwellings; listing a property is not permitted in "Class A buildings" unless the landlord get authorized by the building. Additionally, hosts are charged by a variety of taxes: the occupancy tax, plus a per-room fee. Hosts are liable for collecting the taxes. A deeper focus on the city of New York will be discussed later in this chapter.

The case study cities clearly reveal that each municipality enforces different fiscal and functional regulations and with different intensities. The following table summarizes the main disparities between the investigated cities.

City of Grand Rapids, Michigan	City of Malibu, California	City of New York, New York
Hotel or Transient Tax (fiscal)		
County Lodging Tax (Airbnb not specified)	Transient Occupancy Tax (12%)	Hotel Occupancy Tax (5.875%)
General Law Ordinance, Municipal, or Administrative Code (functional)		
Class B home occupation license required.	Property registration for non-Airbnb hosts	Business license, certificate of occupancy, Multiple Dwelling Law (see State Level Policies).
Zoning Ordinance Provisions (functional)		
Definition for one room rental. Standards for one-room rentals in home occupations. Must abide by Zoning District standards.	None concerning short-term rentals. Hotel is defined.	Hotel, transient and hotel, apartment defined. Apartment hotel must abide by Zoning District standards.
State Level Policies or Regulations (Dillon's Rule and Home Rule authority)		
Michigan Zoning Enabling Act, 2006* Home Rule City Act, 1909* *Enabling acts above do not directly address the sharing-economy.	California Government Code title 4* California Government Code title 7* *Enabling code above do not directly address the sharing-economy.	Multiple Dwelling Law prohibits rentals less than 30 days in "Class A" units unless "natural" family present New York State Land Use Enabling Acts* *Home Rule granted by New York Constitution *Enabling acts above do not directly address the sharing-economy.
Stakeholders		
Existing hotels, bed and breakfast establishments, hosts, homeowners, Planning Commission, City Commission, ArtPrize, Airbnb	Hosts, homeowners, City Commission, Airbnb	Hosts, apartment building management/ownership, apartment tenants, condominium owners, homeowners, New York State Attorney General, Planning Commission, City Commission, Airbnb
References		
Grand Rapids, MI Municipal Code, (n.d.) Wilson, (2012)	Malibu, California Municipal Code, (n.d.)	New York, New York Administrative Code (n.d.) New York, New York Zoning Ordinance (n.d.)

Table 2.1. Different policies implemented in three US cities. Source: Mehmed, N. R. (2016). Airbnb and the Sharing Economy: Policy Implications for Local Governments. SPNHA Review, 12(1), 6.

Given these discrepancies, the role played by Airbnb differs depending on the destination where the host is located, especially regarding tax payments. About law compliance, the platform does not check for the legality of the listings via Airbnb. However, it warns its users to be aware of the regulatory regimes that is applied in their country, emphasising the host's responsibilities to comply to them. The following notice appears in Airbnb.com in the terms of use section.

"When deciding whether to become an Airbnb host, it's important for you to understand how the laws work in your city.
Some cities have laws that restrict your ability to host paying guests for short periods. These laws are often part of a city's zoning or administrative codes. In many cities, you must register, get a permit, or obtain a license before you list your property or accept guests. Certain types of short-term bookings may be prohibited altogether. Local governments vary greatly in how they enforce these laws. Penalties may include fines or other enforcement.
These rules can be confusing. We're working with governments around the world to clarify these rules so that everyone has a clear understanding of what the laws are.
In some tax jurisdictions, Airbnb will take care of calculating, collecting, and remitting local occupancy tax on your behalf. Occupancy tax is calculated differently in every jurisdiction, and we're moving as quickly as possible to extend this benefit to more hosts around the globe.
In the meantime, please review your local laws before listing your space on Airbnb. More information about your city's laws and regulations may be available on our Responsible Hosting page in the Your City's Regulations section.
By accepting our Terms of Service and activating a listing, you certify that you will follow your local laws and regulations" (Airbnb.com, 2017).

We report this brief statement as it perfectly summarizes the current legal situation about short-term rentals, which is scattered and often unclear, and the platform position. Tax duties and permissions appears to be the most controversial subject and are still very differently disciplined in the diverse jurisdictions. As mentioned before, the company does not list and check for all the requirement hosts should comply with in each municipality to act legally, often because of the complexity of the legal systems. However, it clearly emerges the company's intention to cooperate both with local Governments and hosts to reach a clearer and simpler set of rules to ease law compliance.

Regarding this, a recent example is given by the information disclosure policy. Initially, the platform did not disclose information about its users at all. Thus, it was not possible for authorities to systematically detect illegal activities happening via Airbnb. However, given the increase of information requests from law enforcement purpose around the world, in 2016 the company started posting a Law Enforcement Transparency Record". It consists in an annual report that lists all the requests received by the platform in the past

twelve months and the number of information disclosure that happened in response. This way, the company is trying to open a dialogue with local authorities, still guaranteeing privacy and transparency to its users. In 2016, about a thousand of law enforcement information requests have been made by 36 countries, while the disclosure rate reached about the 40% (Airbnbcitizen.com/transparency, 2017). Users' data sharing with local government remains a sensitive issue. Indeed, as several contributions underline, an open database would allow both a more effective law enforcement and, above all, a clearer comprehension of the phenomenon, that may enable the development of more appropriate policies.

Tax collection is another aspect where Airbnb and local governments are cooperating. In several municipalities, indeed, tax payments are collected and remitted through the platform. Airbnb lists on its website the countries and the cities where this service has been activated and signals in each host' personal page the duties requested in his region. However, due to its recent introduction, to date, the actual efficacy of tax agreements hasn't been tested yet.

Finally, Airbnb is independently trying to face some of the platform's limits mentioned in the previous paragraph. For instance, in 2017, the company launched a campaign called "We accept" and its main commercial was forecasted during the Super Bowl, the most watch sport event in the US. The company's aim was discouraging any racial behaviour among its users when they travel neither when they host (airbnb.com, 2017).

2.3.1 Empirical Examples of Airbnb Regulation

The present section consists in a brief presentation of the main regulatory interventions already implemented in the major US and European cities.

San Francisco, CA
In San Francisco, citizens who want to engage in short-term rental activities are required to obtain two certificates: a Business Registration Certificate and a Short-Term Residential Rental Certificate. The city also imposes some requirements that a legal short-term rental must comply with. The first one is the Primary Residency Requirement, that means that the host must live in the listed apartment for at least 275 days per year. The implication of this

rule is that hosts can share their space unlimitedly only if they are present, otherwise the entire apartment may be rented out for a maximum of 90 days per year. Besides, hosts are required to maintain at least $500,000 of liability insurance. Moreover, rent-controlled property owners should respect stricter requirements, including a maximum amount per month they can collect from hosts. San Francisco established also some building and housing standards that listings must respect. Finally, to verify that units meet with these conditions, local authorities impose to operators to file quarterly reports disclosing the number and dates of the short-term rentals happening in each unit. Together with the quarterly report, a record showing the unit compliance with the previous laws should be submitted by hosts. While, to ensure guests about the apartment safety, landlords must post a printed sign inside their building that gives information about all the safety equipment in the house (shorttermrentals.sfgov.org, 2018).

Regarding tax burdens, instead, the city imposes a 14% Transient occupancy tax for reservations lasting less than 30 days. Lately, Airbnb became in charge of collecting and remitting taxes (Airbnb.com, 2018).

New York, NY

The legality of short-term rentals has been widely debated in NYC, one of Airbnb largest markets. Indeed, in2014, during an investigation, the New York Attorney General claimed 75% of the advertised listings to be illegal under the city's laws. Furthermore, he emphasised that several units became unavailable for long-term lease because of Airbnb, threatening house affordability (Goree, 2016). Thus, it opened a battle between the local Government and the platform that is still unsolved.

At present, apart from a business licence, local authorities impose two limits to short term rentals: the Multiple Dwelling Law and the City Zoning Code. The first law ban short-term rentals in class A multiple dwelling units, that are buildings with three or more units, unless the owner is present. Zoning Codes are instead used in the US territories to establish with activities are allowed and which banned indifferent city's areas. Also, lease agreements usually prohibit subletting without the landlord permission. Local legislators recently intensified these limits, prohibiting even apartments advertisement for purpose other than permanent residence. Violators can be fined up to $ 1000.To date, authorities claimed to be focused on eliminating illegal hotels' activities, rather than targeting single users (The New York times, 2017).

The city imposed to Airbnb users some taxes, including occupancy taxes. Nevertheless, the platform is not allowed to collect and remit them. Indeed, New York City's Department of Finance clarified that Airbnb is not required to collect or remit the city's hotel room occupancy tax because, it is "neither a hotel operator nor a room remarketer"(Kaplan, 2015).

Portland, OR

In 2017 the City of Portland adopted specific regulations dealing withshort term rentals. Local laws define such activities as Accessory Short-Term Rentals (ASTR), underlining that the primary use of residential dwelling is permanent residence, while the short-rental purpose is only additional. The legislation recognizes two types of ASTRs: type A, that is when the residents rent out no more than two bedrooms, and type B, where the residents rents from three to five bedrooms. These two categories have different requirements, but hosts need to obtain a permission to engage in both. It is important to highlight that rentals of six or more bedrooms are not considered ASTR by Portland authorities (www.portlandoregon.gov,2018). In particular, the application process to obtain an ASTR permission, involves a neighbour notification, that inform the other buildings residents of the intention of becoming a host. Also, once the host-to-be submitted the licence request, the city schedules a residence inspection in order to check for the compliance with safety standards. Finally, the permissions will be given only to units' owners who prove to occupy the residence for at least 270 days per year. To further ease the enforcement, legal hosts, who obtained the licence, must post the licence number directly on their listing page on Airbnb platform (airbnb.com, 2017).

Finally, in Portland, Airbnb collects and remits taxes on behalf of its users, that precisely consists in lodging taxes and a registration tax (airbnb.com, 2017).

Barcelona, SP

The famous Spanish holiday destination is one of the municipalities who strongly opposed to the platform's entry in the tourism industry. Barcelona's mayor, Ada Colau, in 2016 fined the company €600,000 for advertising illegal properties on its website. Indeed, authorities claimed that 7000 over the 16000 properties listed online where unlicensed, while operators must receive the City Council permission before carrying out any short-term rental. Also, neighbours must be provided with hosts' telephone numbers in order to be able to contact them if necessary. The city set up a team of inspectors devoted to

detecting illegal activities (Theguardian.com, 2017). Furthermore, a *flat detector* app has been developed to enable to easily spot illegal units. The app is not only in service of inspectors, as the city invites travellers themselves to check whether the tourist flat where they stay is legal or not. When promoting the use of this tool, the city emphasizes the differences between a legal and an illegal accommodation, as it is reported in the figure above. From the third statement, that claims tourist-use flats to "contribute to gentrification and drive local residents out of their homes…", it clearly emerges the Governors' intention behind this measure, that is preventing housing shortage in Barcelona and safeguard its residents (meet.barcelona.cat, 2018).

👍 What differences are there between an legal tourist let and an illegal one?		^
	Legal tourist-use flats	Illegal tourist-use flats
Guarantee a 24 hour telephone support service To deal with complaints and resolve potential problems	✓	✗
Guarantee the contribution of corresponding taxes to make the city better for everyone.	✓	✗
Contribute to gentrification and drive local residents out of their homes in areas with the most tourists.	✗	✓
You run the risk of municipal inspectors expelling occupants from the home in order to seal it off due to illegal activity.	✗	✓
Mean greater control of those staying overnight in the city. Legal tourist-use flats detail who is staying in them, making those details available to the authorities and helping to avoid those wanted by the police from entering or staying in the country.	✓	✗

Figure 2.2. Source: http://meet.barcelona.cat/habitatgesturistics/e

Berlin, GR

The German capital intervened to limit short-term rentals as well. Indeed, in may 2016 the city enacted a law entitled *Zweckentfremdungsverbot,* or "ban on wrongful use". This measure bans the short-term let of entire apartments to tourists without a city permit. Landlords can still rent out their spaces as long as they let no more than 50% of their apartments. Again, the reason behind this intervention seems to be a reaction to the decrease in housing supply and the rent prices increase that recently affected the city of Berlin (www.theguardian.com, 2016).

Amsterdam, NL

Amsterdam is the first European city that in 2014 reached an agreement with the platform aimed to promote responsible home sharing. Under the agreement, Airbnb developed a webpage for hosts that clearly explains their duties and all the compulsory rules to follow when renting out units. Also, the company committed to send hosts updates' emails twice a year to remind city's regulations. Thanks to the accord, the municipality enabled the

platform to collect and remit tourist taxes, so to simplify the procedure. Finally, Airbnb and Amsterdam jointly agreed to tackle illegal hotels (www.iamsterdam.com, 2014).

However, from 2017 the city restricted the possibility of renting out "entire home" types of accommodations to60 nights per calendar year. The company decided to keep cooperating with local legislators automatically precluding to accept further bookings once the apartment reaches the maximum of days per year (aribnb.com, 2017).

As evidenced from the brief list above, there is no lack of cities that are currently trying to address the issues that come together with the short-term rental spread. Of course, there are several other cities that similarly introduced a cap on the number of days a unit can be rented to tourists, for instance London and Paris, but they have not been mentioned for reasons of brevity.

In conclusion, to date, legislators, when regulating Airbnb's entry, seem to be mainly determined to mainly prevent housing shortage and unsustainable tourism. Nevertheless, a complete short-term ban is unfeasible as the platform already became extremely popular among citizens. Hence, local authorities tried to find a middle ground, prohibiting short-term rentals only under certain circumstances. For instance, touristic leases are allowed limitedly to certain periods, or in determined neighbourhoods or in specific accommodations type. Finally, most of the municipalities centred their enforcement efforts on cracking down illegal hotels, that's why "entire apartments" are the most targeted accommodation types.

2.4 The Sharing Economy's Future Developments

Regarding regulatory interventions, a final consideration need to be done about how sharing economies, and home sharing practices, may eventually develop in the future. Such reasoning is crucial both to properly exploit the platform's potential and to limit risky market distortions.

Starting from the consideration that it's unlikely that the regulation issue will conclude with sharing economies either totally banned or left wholly alone in the market, while a more complex but balanced solution will be probably reached instead, Rauch and Schleicher (2015) hypostasize that sharing platforms and local governments could even cooperate to realize urban development goals. Sharing economies are indeed penetrating in

key sectors such as transportation or hospitality. The first prediction of the authors is that cities will actively *subsidize* sharing firms to enter or expands certain services. Sharing firms have the potential of creating uncaptured consumer surplus and to signal the city as a "world class city". In this context, sharing services may be compared to sport stadiums: they can make citizens more satisfied and improve the city's attractiveness. A second reason for subsidizing sharing firms is that their activities can potentially reduce urban congestion. Congestion risks characterize most of the modern cities and, allowing to borrow and reuse certain goods, could reduce the costly need of space. Justpark, the platform that allow people to rent out their parking lots when they don't use them, represents the most suitable example. To promote this benefits, cities could subsidize sharing firms in different ways: directly owing them, like urban bike-share services which is usually provided in the largest cities, or through tax breaks or through reduced-cost city services.

Furthermore, sharing firms may be used an *economic redistribution tool*. Sharing firms may benefit low income citizens, offering jobs opportunity and access to otherwise unaffordable goods. However, most companies can't reach poor communities, for instance because they don't have internet connection or credit cards or because reputation systems may disadvantage low income users. Hence, cities may exchange regulatory approval for the requirement of the firm serving the poor segment too.

Finally, municipalities could hire sharing firms as *contractors to provide municipal lservices*. Indeed, there is a set of expensive goods and services that cities require, but only occasionally. From municipal employees' cars, to road-paving machines, to conference spaces, cities often face the idle-capacity dynamic that sharing economies usually tackle. Therefore, rent-as- needed agreements could help cities to exploit specialised equipment, but also employing highly trained employees, without wholly bearing the cost of owing it. Cities may also partner with sharing firms in case of citywide crises. For instance, home sharing platforms become a crucial tool when facing natural disasters, such as earthquake, that leave temporary homeless thousands of people.

Coming specifically to Airbnb's platform spread, Oskam and Boswijk (2016) focused on the future scenarios of the hospitality industry. The authors state that, as hosting represents a full-fledged for-profit business, peer-to-peer accommodations entails the advent of a new networked business model, that will probably succeed in the hospitality industry.

In 2015, two panels with hoteliers, hotel investors and representatives from travel and destination management organizations were conducted. The aim was understating their opinions about threats and opportunities for hotels in light of Airbnb's growth. This enable to identify "highly probable" trends within the industry. For hotels, the drivers of change resulted to be technology and data. Regarding guest instead, they will probably expect more well-designed experiences and their preferences will move from standardized offers to local contacts and authentic events seeking. Tourism will probably increase in the next future. Coming to Airbnb, its prospective will strongly depend on the regulatory measures that will implemented.

Specifically, authors hypothesized four future scenarios depending on two variables: regulation intensity and demand evolution. The first possibility is the *status quo*, characterized by stable demand and a repressive regulation against the platform. The imagined outcome would be hotels leading the market, with peer to peer accommodations being hindered by authorities and, thus, exploited only under peak periods. The *experimentation* hypothesis, forecasts stable demand but a deregulated legislative landscape. The outcome could consist in second tier destinations exploiting short-term rentals to relaunch their image, while most famous destinations adopting alternative accommodations only to serve a market niche, leaving hotel still serve the mainstream market. However, it is likely that in the future touristic demand will increase. This eventuality gives birth to two alternative scenarios, depending on local authorities' reaction. If the legislator tried to decrease the number of visitors, implementing bans against Airbnb's listings, traditional accommodations would be protected and would create an oligopolistic market, characterized by high prices and low innovation rates. This scenario named by the authors *exclusivity*. Instead, the *commercialization* hypothesis foresees the cities embracing the tourism increase and opening the market to new entrants. This could lead to innovations both in the hotel industry and peer to peer accommodations. In particular, commercial parties may probably invest in the short-term rental market, making "multilistings" host serving the majority of travellers. However, the risk involved in this scenario is the gentrification of tourist areas, as residents would find convenient destine their properties to touristic purposes.

The aim of these four extremes scenarios is to ease the forecast of future outcomes in the tourism industry according to its most significant variables. However, authors underline that no one of these predictions will fit all cities, but evolutions will certainly be destination-specific instead.

CHAPTER 3

Airbnb in Italy

The aim of the present contribution is to analyze, at the best of our possibilities, the impact of Airbnb's entry in the City of Venice, IT. Therefore, the following section will explore the current Italian situation regarding the tourism industry and peer-to-peer accommodations. At the end of the chapter, it will be discussed the presence of the platform in Venice. Indeed, the major role that the tourism industry plays in the Italian economy is one of the main reasons why short-term rentals may represent a sensitive issue in the Country. Also, Venice is characterized by some peculiarities, such as the historical and artistic heritage or the limited housing capacity, that are typical of several Italian destinations and may entail different criticalities, compared to most international capitals, when dealing with home sharing. These are the main reasons why it has been selected as subject of our study.

3.1 The Tourism Industry in Italy

In Italy, the home sharing phenomenon is extremely relevant as the Country represents one the most coveted locations for travelers. Indeed, in 2016, Italy reached the fifth place in the world's top tourism destinations, in terms of visitors. It experienced 52,4 million arrivals, that represents a 3.2% growth compared to 2015 (UNWTO, 2017). Furthermore, the tourism industry is a crucial resource for the Italian economy. Considering both international and domestic tourism, in 2015, the whole tourism industry directly and indirectly contributed to 11,8% of the total Italian GDP. Also, the average total expense of foreign visitors in Italy is steadily growing from 1997. The 2016 was characterized by a decrease in the average expense per day, but also by an increase in the average overnight stays that led the total expense to grow by 1,35% compared to 2015. Finally, in 2016, revenues from international arrivals in Italy amounted to 2,2% of the GDP (Banca d'Italia, 2017).

Furthermore, the Italian lodging industry is the one of the most prominent among the European countries, together with Germany and UK. Italian hotels provide 16% of the total EU lodging supply. Also, the employment benefits from this industry. In 2015, 225 thousand of workers were employed in hotel industry in the whole national territory (Federalberghi, 2017).

Anni	Alberghi		Agriturismi*		Campeggi e villaggi turistici		Altri esercizi extralberghieri	
	val. ass.	var. %	val. ass.	var. %	val. ass.	var. %	val. ass.	var. %
2000	1.854.101	-	77.171	-	1.314.010	-	664.716	-
2001	1.891.281	2,0	88.993	15,3	1.327.103	1,0	716.953	7,9
2002	1.929.544	2,0	102.981	15,7	1.329.274	0,2	737.786	2,9
2003	1.969.495	2,1	111.066	7,9	1.343.134	1,0	734.926	-0,4
2004	1.999.729	1,5	123.392	11,1	1.327.588	-1,2	754.868	2,7
2005	2.028.452	1,4	139.954	13,4	1.344.242	1,3	837.885	11,0
2006	2.087.010	2,9	155.107	10,8	1.357.208	1,0	899.585	7,4
2007	2.142.786	2,7	168.595	8,7	1.331.879	-1,9	842.321	-6,4
2008	2.201.838	2,8	191.099	13,3	1.360.935	2,2	895.178	6,3
2009	2.228.639	1,2	194.115	1,6	1.324.381	-2,7	853.224	-4,7
2010	2.253.342	1,1	215.707	11,1	1.353.729	2,2	876.074	2,7
2011	2.252.636	-0,03	224.114	3,9	1.366.836	1,0	898.152	2,5
2012	2.250.704	-0,1	226.538	1,1	1.358.044	-0,6	927.315	3,2
2013	2.233.823	-0,8	235.559	4,0	1.328.079	-2,2	930.719	0,4
2014	2.241.239	0,3	244.352	3,7	1.409289	6,1	954.552	2,6
2015	2.250.718	0,4	251.179	2,8	1.365.661	-3,1	1.011.775	6,0

Figure 3.1. Number of beds per type of accommodation Type. Source: Federalberghi.

Considering the composition of the hotel industry in Italy, three stars hotel represents the most widespread category, amounting to 54,7% of the total supply. Since 2000, five-stars, four-stars and three-stars hotels have all increased their weight at the expenses of two-stars and one- stars hotel, that, by now, represents combined the 29% of the total offer. Finally, is also worth to consider the trend that hotels and non-hotels accommodations are facing in the last decade. On one side, hotels experienced a constant positive growth, excluding the period of the economic crisis. On the other side, non-hotels accommodations are continuing to expand, reaching in 2015 a 6% increase compared to the previous year (Federalberghi, 2017)

3.2 Airbnb in Italy

Over the past few years, Airbnb's entry in the Italian market has been widely debated. Even though, to the best of our knowledge, the studies that assess the impact of the platform in the Country are still limited, the spread of short-term rentals has drawn the attention of local governments and the press. Several are the aspects that concerned the public opinion, so far. First, the growth speed of the phenomenon, that reached exponential rates in certain locations. For instance, in Bologna, between 2015 and 2016, listings increased by 149%.

Also, the unfair competition that may arise between unconventional accommodations and the lodging industry is a popular claim by Airbnb opponents (Larepubblica.it, 21st July 2017). In this respect, in Italy there is no lack of professional multilistings hosts, that could threaten the hotels supply. The newspaper Il Venerdì (26th July 2017) describes one of the most powerful Italian hosts who listed 507 properties on the platform and defines him as "the Airbnb landowner". Tax avoidance represents another critical issue, especially for local municipalities, as only a restricted portion of hosts report the Airbnb income. In Turin, for example only 13% of the listings comply with its tax duties (La Stampa, 27th February 2016). Finally, there are plenty of media who denounce hosts' discriminatory behaviors and listings' safety concerns (Larepubblica.it, 5th June 2017)

Above all, it's the tourists' flow the main concern in the Italian territory. Several destinations, mostly historical cities such as Florence or Venice, claimed that visitors' arrivals are becoming unsustainable in the latest years. The unprecedented increase in the number of tourists did not impact only major destinations. Smaller villages, that sill offer a vivid artistic and cultural heritage, are facing serious difficulties in dealing with tourists' management. Siena, Capri and the Cinque Terre are just few examples. The city of Matera, in southern Italy, world-wide famous for its extensive cave-dwelling districts (the *sassi*), witnessed a significant depletion of its citizens from the city centers. The 25% of the local housing supply is now destined to short-term rentals. Residents are leaving to rent out their properties to visitors, but this trend is dangerously changing the city landscape. The commercial activities, like libraries, are leaving the historic center too, as the rent price soared sky-high (Internazionale, 4th September 2017). Hence, cities centers' transformation represents a major concern in Italy, especially if not planned and short-term profit driven.

However, Italy benefits from Airbnb activity too. The additional income that families receive when hosting travelers and the expenses of the increasing number of tourists, both consist in valuable resources for the overall economy. In 2016, short-term rentals contributed to €4 billion of the Italian GDP, as the platform enabled hosts to earn €621 million, while guests spent €3,5 billion during their stays (La Stampa, 21st may 2017). Not to mention the potential gain of municipalities, once tax compliance will be properly regulated. Indeed, as it will be explained later in this chapter, in 2017 a new flat tax has been introduced to ease tax payments and enforcement. Also, several cities extended the local accommodation tax to short-term rentals.

Finally, a cooperation between Governments and the platform represents useful tool to address temporary municipalities' issues. For instance, the Airbnb project Open Homes

has been adopted in Milan in order to face the sudden increase in refugees' arrivals in the city. Hosts can temporary welcome in their accommodations refugees who are waiting for a long-term placement (Il corriere della sera, 5th July 2017).

In conclusion, in the Italian territory, Airbnb entry seems to come together with both positive and negative externalities. Hence, authorities should regulate short-term rentals to enhance positive impacts, while limiting market distortions. In order to implement appropriate policies, it is necessary to obtain a clearer picture of the phenomenon. For this purpose, analytical investigations should be conducted. At the best of our knowledge, so far, two studies have been carried out to assess the platform impact in Italy; one commissioned by Airbnb itself, while the other is by the University of Siena.

Airbnb recently conducted a research to estimate the impact of its activity in the Country from January 2015 to January 2016. During the observed period, 83.300 citizens engaged in hosting activities for an average period of 26 nights per year. While, guests amounted to 3,6 million, with an average overnight stay of three days. The 92% of the guests stated to have visited Italy for leisure.
Regarding listings' distribution, the following figure highlights the locations that received most bookings in 2015.
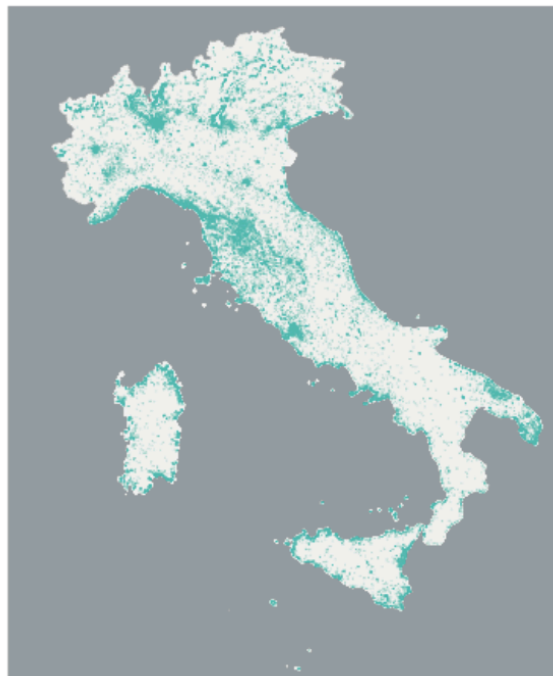

Figure 3.2. Where listings are located in Italy. Source: Airbnb, 2016

A crucial topic, when analyzing the presence of the platform within a region, is represented by the types of offered listings and the number of listings per host. These two

variables give a first insight about the nature of the phenomenon, whether it consists in actual sharing or commercial activities are run instead.

Type of accommodation		Number of listings per host	
Shared rooms	1%	From one to two listings per host	87%
Single rooms	26%	From three to four listings per host	9%
Entire homes	73%	More than four listings per host	4%

Table 3.1 Accommodation types and Listings per hos. Source: Airbnb, 2016

The company also tried to profile an Italian host. On average, hosts are 43 years old and the 53% of them are women. From an economic point of view, the 49% of hosts receive a family income lower or equal to the Italian average (€ 22.200 per year). However, 27% of hosts' income is higher than €33,000 per year. Thanks to hosting activities, each landlord earns on average € 2.300 per year (Airbnb, 2016).

Furthermore, the company claims that peer-to-peer accommodations, as alternative to traditional accommodations, enable to reduce energy waste. The energy saving due to home sharing, in 2015, was equal to the consumption of 51,1 million housing units.

Finally, the overall economic impact estimated by the company amounts to€3,4 billion. Precisely, Airbnb claims guests to have spent a total of€ 2.13 billion during their Italian holidays, considering expenses like restaurants, food, shopping, transportation and entertainment (Airbnb, 2016).

So far, the mayor contribution regarding the impact of Airbnb in Italy is "The airification of cities: making sense of the impact of peer-to-peer short-term letting on urban functions and economy" by Picascia et al. (2017). The authors expressed their concern for the little debate over long-term consequences of the fast rise of Airbnb, compared to the attention payed to this delicate topic in other countries. Indeed, due to the historic and artistic heritage, which deeply characterize several Italian cities, an unstainable growth of tourism entails the danger of turning these municipalities in tourist-oriented "cathedral of consumption", distorting their landscapes and empting the center areas of residents.

The study analyses the dynamic of supply and demand of Airbnb accommodations in 13 Italian municipalities. The first founding is that most listings consist in entire apartments in all the thirteen cities and the trend seem intensifying between 2015 and 2016, the period of observation. Also, this feature is even more pronounced in urban centers rather

than elsewhere. However, this variable, that is entire apartments in historical cores over total of entire apartments listed in a city, show decreasing values over time. It could be interpreted as Airbnb spreading outside central areas towards more residential and suburban neighborhoods. Finally, the housing stock destined to peer-to-peer accommodations in historic centers is increasing over the time. Also, it sometimes reached critical levels, for instance18% in Florence or 25% in Matera. This founding is alarming and it suggests phenomena like *touristization* or *disneyfication* of urban centers. Nevertheless, this is not true for all the investigated cities, but it is most relevant in art cities. Indeed, Milan is characterized by a more scattered and spread distribution of listings among the city areas. However, even in the destinations where listings are very concentrated in centrals neighborhoods, demand happens in suburban areas too, probably due to lower prices.

Furthermore, the study explores the drivers behind Airbnb supply. First of all, tourism seems the more suitable predictor of the volume of listings. Indeed, tourist flows almost correlates perfectly with the number of Airbnb accommodations within a city. However, a second variable may influence landlords' decision to rent out their properties to tourists, that is the economic advantage of short-term rentals over long-term rentals. Thus, authors compared the revenues each host would get through long-term rentals with the Airbnb income. The correlation happens to be quite high in this second hypothesis too.

Finally, a last aspect has been investigated, that is the income inequality between hosts. Inequalities that may arise between different hots represent a crucial issue that has already been considered in literature, as mentioned in the first chapter. The high number of entire apartments listed and the increase of multiple listings hosts, it begs the question to what extent short-term rentals are carried out by local families or by professional operators. In the investigated cities, inequality is found to be high and increasing over time. Two thirds of the revenues generated via Airbnb are earned by operators who offer several properties each. A further analysis dealt with spatial income inequality. Indeed, revenues not only differ according to the type of property, but also depending on different city neighborhoods. The distance from the city center happen to be a good predictor: the average earnings per unit decreases as the distance from the town center increases. These founding are particularly relevant when evaluating tax and zoning policies, they should reduce inequality, rather than increasing it.

3.2.1 The Italian Legislative Landscape about Short-Term Rentals

Due to the newness of short-term rental popularity, Italian policymakers did not develop a specific regulatory intervention yet, if not a partial one focused on easing fiscal obligations, as will be explained below. Along with its newness, a further element of complexity is that the different areas, that may be affected by Airbnb entry, fall under distinct legislative competences, as some subject are regulated by national authorities, while others by local authorities. Finally, the several types of accommodations that the platform allow to list, may present peculiar characteristics that sometimes entails the compliance with specific requirements that, again, are different form type to type.

The Italian legislative landscape about short term rentals is still scattered and sometimes difficult to interpret. The aim of this paragraph is trying to summarize the most relevant regulations that may apply to Airbnb's listings in Italy.

The Italian Legislation does not univocally define Touristic Rentals. However, from different rental laws, it can be deducted they consist in those leases aimed to satisfy temporary housing needs, and, mandatorily, do not involve the providing of any type additional service. They fallow under the legislation of standard lease contracts (Legge 9 dicembre 1998, n. 431, art. 1, comma 2 lett. c.; D.Lgs. 23 maggio 2011 n.79 art. 53). Instead, the Short-Term Rental is a specific type of lease that last no more than 30 days (DL 50/2017). Thus, short-term rentals consist in a touristic rentals' subcategory, and sometimes they must comply with different requirements. The 30 days' limit is calculated computing all the leases, even of shorter duration, with the same lessee within a year. This means that landlords can't rent out the same property to the same tenant for more than 30 days in a year, but there is no limit in the number of short-term rentals they can engage in with different lessees (Agenzia delle Entrate, circolare n. 26 del 2011).

Touristic Rentals fall under the national legislative competence, as citizens have the right to benefit from and dispose of the real estate they own. However, Regions have concurrent legislative power on tourism, so they can sometime set limits to such activities, especially when distinguishing between who is carrying out a professional activity and who is just benefiting from his property. Also, Regions and Municipalities are entitled to collect information from users and eventually to impose an accommodation tax (Legge n. 3/2001; DL 50/2017).

Touristic Rentals' contracts, in order to be legally valid, must be made in writing and must include a minimum set of information (apartment data, rent price, ease period and so forth…). Also, contracts must be registered. However, Short-Term Rental contracts represent an exception as they are not required to be registered. (Legge 9 dicembre 1998, n. 431, art. 1, comma 2 lett. c.; GU n.292 – Legge 9 dicembre 1998, n. 431, art. 1, comma 4; Decreto del Presidente della Repubblica 26 aprile 1986, n. 131)

It is not compulsory for landlords to issue a receipt after they receive the payment. However, they are obliged to, if requested by the tenants. Payments may happen through online platforms too (Articolo 22, comma 6 del DPR n. 633/72; DL 50/2017).

Furthermore, all landlords, like touristic operators, regardless the lease purpose and its duration, must communicate the guests' identity to the State Police. For this purpose, a specific web-portal has been developed, *Alloggiati Web*, where host must register guests' data within 24 hours from their arrival (Testo Unico delleLeggi di PubblicaSicurezza, art 109).

Coming to the difference between Short-Term Rentals and commercial activities, the Italian Legislator state the following. Short-term rentals can be promoted through online websites and digital platforms. It is prohibited put up a sign outside of the property. Also, the lessor of a Touristic Rental can not provide any complementary service, defined as *servizio alla persona* (service to individuals), for example food services, cleaning services or transportation services. Besides, sublet is allowed only if specifically mentioned on the lease contract. Most important, business companies are allowed engage in short-term rentals. However, their activities do not follow under the new regulatory intervention, DL 50/2017.(DPR 22 dicembre 1986, n. 917 – Testo Unico delle Imposte sui Redditi; TUIR art. 90)

Finally, the DecretoMinisteriale del 5 Luglio 1975 defines the physical characteristics apartments should meet for safety reasons. For instance, minimum rooms' height, rooms' dimensions, the maximum number if people per square metre and so on. Also, cadastral categories must be respected and specific certificates, that certify buildings' energetic profile, are compulsory.

3.2.2 DL 50/2017

In June 2017, the Italian Legislator introduced a new tax regime targeted to short-term rentals. As stressed before, the tax evasion represents one of the major Governments' concern about Airbnb legality. Thus, this first regulatory intervention was aimed to ease the tax system relative to Touristic Rentals, which was previously more complex and sometimes unclear. The source of the legal provisions we are about to discuss is the art. 4 of the Decreto-Legge 24 Aprile 2017, n.50 (Decree Law April 24th 2017, n. 50).

First, the norm is directed to short-term rentals concluded by natural persons, this means that enterprises that carry out short-term rentals professionally can't benefit from this law. Also, it is clearly specified that contracts concluded through digital platforms that connect people who offer and people who search for housing units fall under the present regulation. This is a clear reference to Airbnb and its users. The Decree Law states that from the 1th of June 2017 on, a flat tax of the 21% is applied to short-term rentals' incomes. Furthermore, intermediaries and digital platforms that ease the meeting of demand and supply of temporary housing units must submit the information about contracts concluded through them. Most important, intermediaries and digital platforms that intervene in the payment between the parts and/or charge a commercial fee are obliged to collect and deposit the 21% flat tax on behalf of the parties. The final introduction is that, starting from 2017 on, local authorities, who are allowed to impose an accommodation tax to visitors, are empowered to introduce or reshape such a tax.

Summing up, the present regulatory intervention introduced three innovations in the short-term rentals tax regime. The first one is the implementation of the flat tax aimed to ease tax compliance by landlords. The second one regards digital platforms like Airbnb. Indeed, even though platforms do not act as intermediaries, they must comply with two requirements. If they enable contracts' conclusion, they must submit transactions' information to fiscal authorities and, if they also enable rents' payment, they must collect the flax tax on behalf of lessors. Through this settlement, the legislator tries to simplify the law enforcement. Finally, the Government authorizes local authorities to impose the accommodation tax to short-term rentals too. Indeed, before this introduction, municipalities could impose accommodation taxes only to commercial actives, such as hotels or bed & breakfasts. Extending accommodation taxes to Airbnb guests, could enable municipalities to collect the necessary resource to overcome the negative externalities of short-term rentals.

It's worth to mention how the Accommodation Tax works in Italy. The normative source is D.Lgs. n. 23/2011. Not all the Italian Cities can apply an accommodation tax to incoming tourists. Indeed, only Provincial Capitals, touristic cities and art cities are allowed to collect such tax. The tax value is established independently by each municipality and it can reach a maximum amount of € 5 per day per person. Furthermore, when setting the tax value, local authorities must adopt a scale approach relative to the price paid by each visitor. However, to ease the enforcement, most of municipalities set the tax value depending on the type of accommodation and the length of the stay, variables that should reflect the amount payed by the customer.

By now, some Italian municipalities reached an agreement with the company in order to enable it to collect the accommodation tax. For instance, Milan signed the agreement with Airbnb in December 2017. The expected revenue coming from the tax introduction is about€3 million (ansa.it, 2017).

3.3 Tourism in Venice

The research site chosen for the present study is the City of Venice, IT. The reasons behind the choice are several. Indeed, the city presents limited dimension, but it is a world-wide famous holiday destination and, thus, tourism has always been subject of debate. Revenues from the hospitality industry represent a fundamental resource for the local economy, however, in the latest years, visitors' arrivals became unstainable, creating quite a few concerns among local authorities and residents. Furthermore, Venice provides the most suitable example of historical and art city, which characterize several Italian destinations. This implies specific criticalities, such as the conservation of cultural assets, that may be affected by an uncontrolled tourism increase. Finally, from 2014, the city witnessed a massive growth in the number of Airbnb listings, that now amount to 6,778 (airdna.com, 2018).

The tourist flow in Venice is remarkable. In 2016, the arrivals from all over the world amounted to 8.798.677 visitors, with a total of 34.419.316 night booked (Istat, 2018). Furthermore, the lodging industry is predominant in the city economy. Venice is the fourth Italian province in density of the lodging industry in Italy, reaching the value 39,5 beds/

km^2 in 2015 (Federalberghi, 2017). In 2016, 4109 businesses were active, summing hotels and non-hotels activities (istat.com). Also, the accommodation tax generated a revenue of € 28,1 million in 2015.Tourists also contribute to the city's economy through their expenses in shops, restaurants and cultural attractions. For instance, the taxes collected from the famous Casinò, one of the most popular attraction hosted by the city, generated€93.128 revenues in 2016 (Rendiconto di Gestione 2015).

Despite the relevance of the tourism industry, a peculiarity of Venice is its small dimension, especially if compared to big international capitals who usually hosts similar tourists' flows. The City of Venice indeed has total surface area of about 15.684,7617 square meters. However, the insular area, that amounts to the historic city as well as the touristic area, covers a 797,9631 square meters' surface (commune.venezia.it, 2018).

The large tourists flow and the limited capacity may exacerbate the tourism increase' negative externalities. In the latest years, several controversies have been advanced in this respect. Indeed, media often report about the risk of defacing the city's landscape because of overcrowding. Buildings damages, acts of vandalism and traffic problems are just few of the most frequent complaints. Also, visitors need to be entertained, accommodated and fed, thus restaurants, pizzerias, kebab shops, minimarkets and hotels are gradually replacing local activities. This phenomenon is often referred to as "Venetian Disneyland", arguing that the city is turning into a fake copy of itself aimed at entertaining travelers (ilcorriere.it, 2017). Moreover, in 2016 UNESCO warned the city that it could be removed from the UNESCO World Heritage sites, as the uncontrolled flow of visitors and related practices, for instance cruise ships sailing across the lagoon near the historical center, endanger the cultural heritage of Venice (lanuovavenezia,it, 14th July 2016).

This issue is so critical that the Region Governor, Luca Zaia, made a proposal about establishing a maximum number of tourists per day that can access to the city. Since Venice has only two entries, Piazzale Roma and the railway station, this would be a feasible measure to control the stream of incoming visitors. Indeed, the city faces some spikes of presences during the year, for example during August or Carnival, and this could enable to limit overcrowding. Obviously, the proposal didn't reach a unanimous approval as the categories who mostly economically rely on tourism are contrary to such intervention. An example is given by gondoliers, whose income directly depend on the number of tourists they can tour across the Venice canals (veneziatoday.it, 16th February 2017).

Finally, it is becoming increasingly difficult for locals to keep leaving in Venice. Latest years trends show that residents tend to move outside of the city center. In 2016 the

residents amounted to 55.075 people, while in 20000 Venice hosted 66.386 inhabitants (Esposito, 2016).

3.3.1 Overview of the Airbnb presence in Venice

The aim of the present section is to describe the current presence of Airbnb in the City of Venice. All the data have been collected by Airdna.com in January 2018. Airdna is a company that monitors listings in several locations around the world in order to advise hosts about eventual investments, pricing strategies and additional features that may attract guests in their unit.

In Venice, currently, in January 2018, 6784 properties were available on Airbnb.

Rental Types	
Entire Homes	76% (5 155 rentals)
Private Rooms	23 % (1 551 rentals)
Shared Rooms	1 % (78 rentals)

Table 3.2 Rental Types. Source: Airdna, 2018

Hosts	
Single listing	34 % (996 hosts)
Multiple listings	66 % (1947)

Table 3.3 Single listing hosts and Multiple listings hosts. Source: Airdna, 2018

As highlighted by the two tales above, the large majority of listings consists in "Entire apartments", while, coming to the hosts, who amount to 2943, the 66% of them owns more than one property. Also, 71% of the properties are owns Furthermore,42% of properties are available on the platform from 10 to 12 months per year, 21% is available 7 to 9 months, 17% is available 4 to 6 months and 20% is available for 1 to 3 months per year.

Airdna also evaluates the destination market under four variable. First, combining annual occupancy and listings growth rate, it approximates the *rental demand*. The result is 69%. Monitoring the RevPAR of listings over the years, the estimated *revenue growth* is around 48%. Also, comparing the RevPAR in different times of the year, the seasonality phenomenon is investigated and, in Venice, it is about 44%. Finally, Airdna tries to estimate

a *regulation* level observing listings' behaviours, like number of entire apartments, number of listings per host, required licences and general charges. Regulation appear to be low, as the score is 82%, with 100% corresponding to an unregulated destination.

Coming to pricing, entire homes are on average priced €134 per night, while private rooms € 70 per night and shared rooms € 32 per night. The median monthly revenue for hosts who list entire properties is € 1100, while private rooms generate a monthly revenue of € 611 per night, and the monthly Airbnb income of owners of shared rooms is €241 per month. All prices and revenues calculated referring to January 2018.
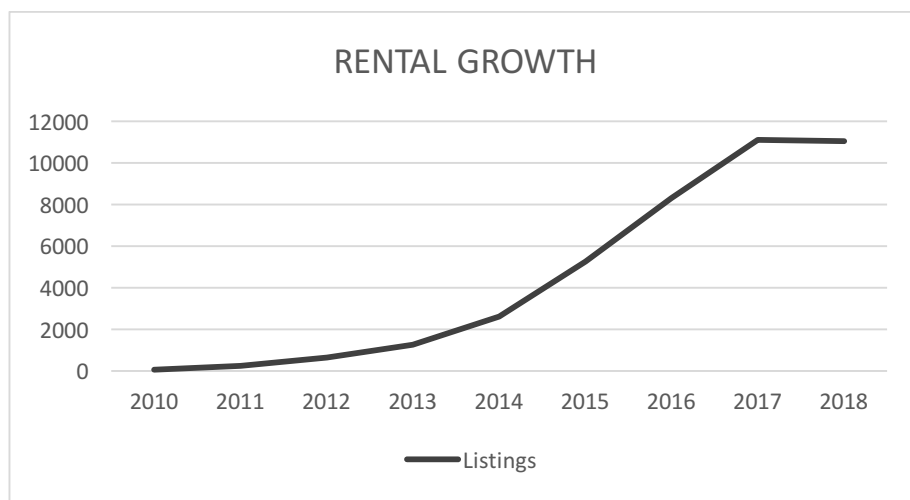

Figure 3.3 Rental Growth in Venice. Source: Airdna.com, 2018

The estimated rental growth is 33% per year. Figure 3.3 shows the cumulative number of units listed on the platform from 2010 to2018. As it clearly appears form the graph, the growth rate began to increase in 2014.

However, as tourism tend to be concentrated in the historic centre of the city, it is worth to focus on the most central neighbourhoods of Venice. In table 3.4, the main variables of the selected neighbourhoods have been summarized. Data refers to the listings available on the platform in January 2018. The *daily price* refers to the average daily rate of January 2018 for entire homes, while *monthly revenue* consists in the median of the total revenue earned by entire homes' hosts in the same period.

Selecting the central neighbourhoods of Venice, it emerges that 5233 listings over 6784 are located in the very centre of the city. Also, the average share of entire apartments is 2% higher (78%) compared to the average of the whole city (76%). Finally, the average daily price is €157 against a total average of €134.

Neighbourhood	Listings	Entire Apartments	Private Rooms	Shared Rooms	Occupancy Rate	Daily Price	Monthly Revenue
Cannaregio	1369	77%	22%	1%	35%	€132	€1233
Castello	1288	83%	16%	1%	28%	€140	€1058
Dorsoduro	553	87%	13%	0	32%	€150	€1381
Giudecca	152	88%	12%	0	25%	€129	€885
San Marco	793	83%	16%	1%	32%	€167	€1433
San Polo	560	83%	15%	2%	32%	€141	€1385
Santa Elena	58	74%	26%	0	25%	€121	€724
Santa Croce	456	77%	23%	0	32%	€141	€1303
Tronchetto	4	50%	50%	0	6%	€290	€580

Table 3.4 Airbnb Listings in the Central Neighbourhoods of Venice.

Table 3.5 below instead underlines that the number of multiple-listings hosts and the number properties owned by multiple- listing hosts are lower in central neighbourhoods. The average of multiple-listing hosts is indeed 27%, against 34% of the whole city, while the average number of properties listed by a multiple-listing landlord is 54%, against 66% for the City of Venice.

Neighbourhood	Listings	Multiple- listing hosts	Properties listed by multiple-listing hosts
Cannaregio	1369	31%	66%
Castello	1288	32%	66%
Dorsoduro	553	31%	61%
Giudecca	152	21%	42%
San Marco	793	30%	63%
San Polo	560	26%	54%
Sant'Elena	58	12%	22%
Santa Croce	456	31%	59%
Tronchetto	4	33%	50%

Table 3.5 Multiple-listings hosts

3.3.2 Short-term rentals regulation in Venice

As explained earlier in this chapter, municipalities have the right to regulate some aspects of touristic activities and, in particular, of short-term rentals. Therefore, the present section is destined to analyse the main requirements hosts have to comply with in Venice.

By now, any specific regulation related to Venetian short-term rentals have been introduced. Hosts can engage in short term rental activities without any restriction. They just have to communicate their intention to the municipality, specifying the lease period and the unit features. Also, they must periodically communicate guests' information both to the State Police, for safety reasons, and to the Regional authorities, for statistical purposes (Provincia di Venezia, 2018). Finally, from January 2018 an accommodation tax it is applied to incoming visitors. It varies from €2 to €5 per person per night according to the accommodation category (Comune di Venezia, 2018).

In conclusion, Italy seems to face the same issues related to short-term rentals increase addressed so far in the literature and claimed by most of the western international capitals. In addition, it presents some specific criticalities due to the cultural and historical heritage of its cities. The second part of this chapter was destined to a deeper focus on the City of Venice, IT, as it has been selected as study subject of the present contribution.

CHAPTER 4

Analysis

The contributions examined in the previous chapters revealed that Airbnb may have several impacts on destinations' economies. Also, the two studies conducted in Italy so far (Picascia et al. 2017 and Airbnb, 2016) and the penetration level the platform reached in the Country suggest that Italian destinations may be affected by the externalities that home sharing often implies. Additionally, short-term rentals represent a sensitive topic in Italy, especially if considering the role played by the tourism industry in the national economy.

As highlighted previously, Airbnb activities' impacts are often complex to asses. First of all, because the potential effects to consider are numerous, from tourists' flow, to additional family income, to neighbourhood issues, to the "disneyfication" of urban centres, to competition dynamics, to long-term rental prices increase, and so on. Furthermore, each of these aspects consists in the result of the interaction of several variables that are difficult to isolate. Finally, the data required to properly conduct such an investigation are several and often not available, starting from Airbnb itself that do not disclose information about its users, the offered listings and historical trends.

Therefore, the aim of the present contribution is to conduct, at best of our possibilities, a preliminary analysis of Airbnb entry in the City of Venice, IT, in order to investigate whether some of the economic trends related to short-term rentals may apply to the Italian market too.

Venice consists in an adequate study sight, as it represents one of the most popular touristic destinations of the Italian territory and because it is characterized by some of the peculiarities shared by several Italian municipalities, such as cultural and artistic heritage and limited dimensions. These attributes may indeed entail further criticalities when dealing with peer-to-peer accommodations. Furthermore, the statistics related to the platform's penetration summarized in the third chapter highlight the increasing dimension that home sharing is gaining in Venice. To visualize such phenomenon, we realized a number of maps showing the evolution of Airbnb listings in the City over the past three years (2015, 2016 and 2017). The maps (see Figure 4.1) have been realized through Qgis, using listings data collected by Tom Slee (tomslee.net, 2018).

In particular, our study focuses on two major aspects: long-term rentals and the lodging industry. Indeed, in the first part of the analysis, examining residents' flows over time and long- term rental prices trends, we'll investigate whether the city of Venice has witnessed the emptying of locals in historical centres, possibly due to rental prices increase,

AIRBNB IN 2015

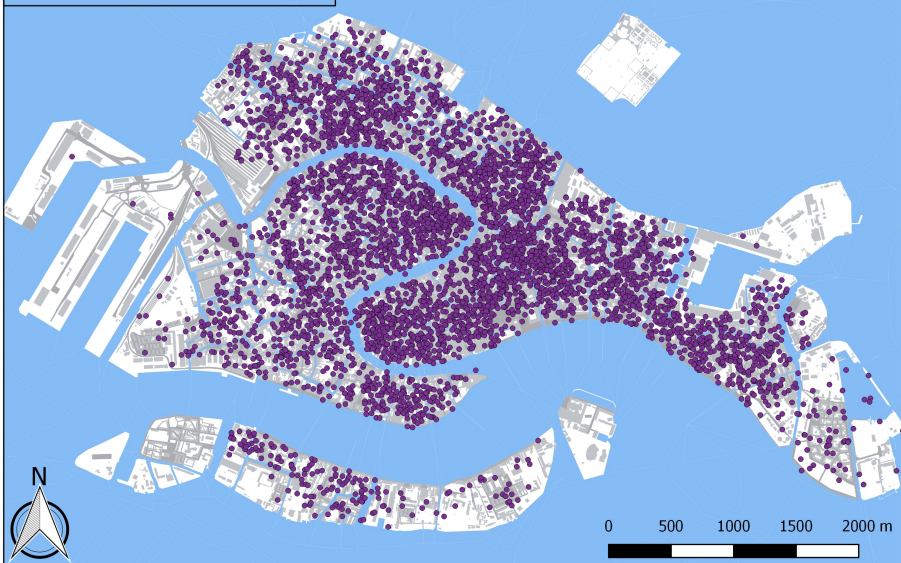**AIRBNB IN 2016**
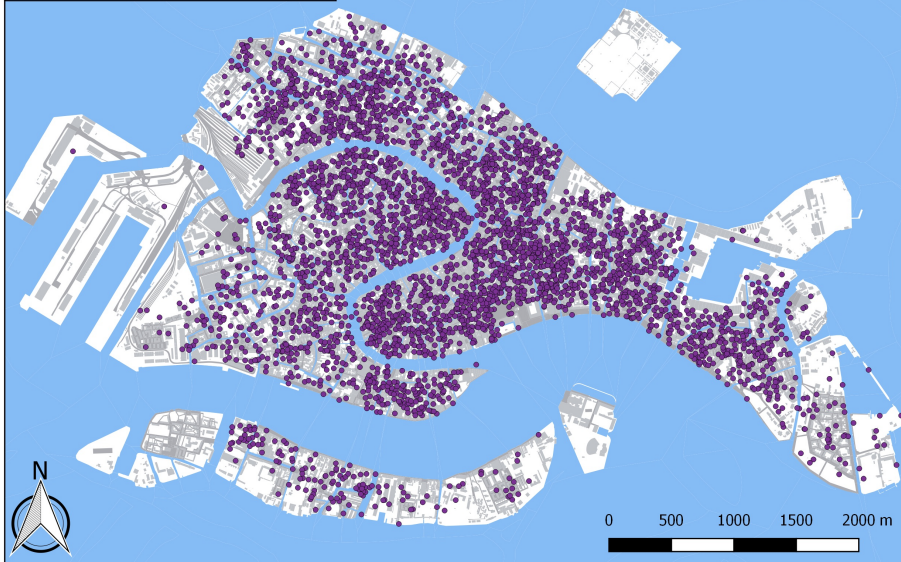
AIRBNB IN 2017

Figure 4.1 Airbnb Listings evolution in Venice. Each purple dot represents a listing.

as several international Capitals are currently experiencing. Instead, in the second part, we'll analyse whether hotel performances may be affected by the increasing competition with short-term rentals. Hence, we'll examine price trends of different category hotels, and, most of all, we'll investigate the existence of a correlation between hotel revenues and number of listings. This investigation also benefited from the support of Nomisma[6] – and in particular of the "Osservatorio sul mercato immobiliare" managed by Gianluigi Chiaro – whose data have been used in the analysis.

4.1 Rental Market in Venice

As presented in the first two chapters, part of the literature claims that the increase of short-term rentals may lead to an affordable housing crisis and the empting of locals in urban centres (Lee, 2016). This may happen because the growth of touristic accommodations decreases the long-term housing supply, eventually generating a rental price increase. Thus, according to this hypothesis, residents who can no longer afford rent prices, move in suburban areas of the city, where housing prices are lower. This trend may also entail to two dangerous consequence: a drastic change in city landscape (Picascia et al., 2017), where urban centres are mostly destined to tourists' entertainment, and the rise of urban gentrification (Lee, 2016).

4.1.1 Residents Internal Migration

In order to verify if this may apply to the Venice area too, we first examined the population growth trend and migration flows from 2010 to 2016. The demographic data used for the present analysis were collected by the Municipality of Venice (Servizio Statistica e Ricerca - Comune di Venezia, 2017). Each month, the Municipality registers the dynamics of the resident population, including mortality and birth rate, immigration and emigration rate, and the internal migration flows among different neighbourhoods. Furthermore, we used listings data collected by AirDNA.com. All AirDNA data presented from now on are updated to January 2018.

---

[6] Nomisma is a prominent economic research centre in Italy. The company indeed carries out different kind economic researches, offering consulting services both to businesses and public administrations, and it is specialized in real estate markets.

To perform a more precise analysis, we divided the city in three macro areas: City Centre, Islands and Suburb. The *City Centre* corresponds to the historic area of Venice and comprehends its most central and popular neighbourhoods, such as San Marco, Cannareggio, Castello and so forth. The *Islands* encompasses the lagoon area and its islands. The most extended ones are Murano, Burano and Lido. Finally, *Suburb* indicates the land territories of the Municipality (Mestre, Marghera, Tessera and so on), which correspond to periphery of the City.

The whole city population appears to be constantly decreasing since 2010, as it is represented in Figure 4.2. Indeed, the overall population, at the beginning of the observation period, amounted to 270.884 residents, while in 2016 it decreased by about 3%, reaching 261905 individuals.
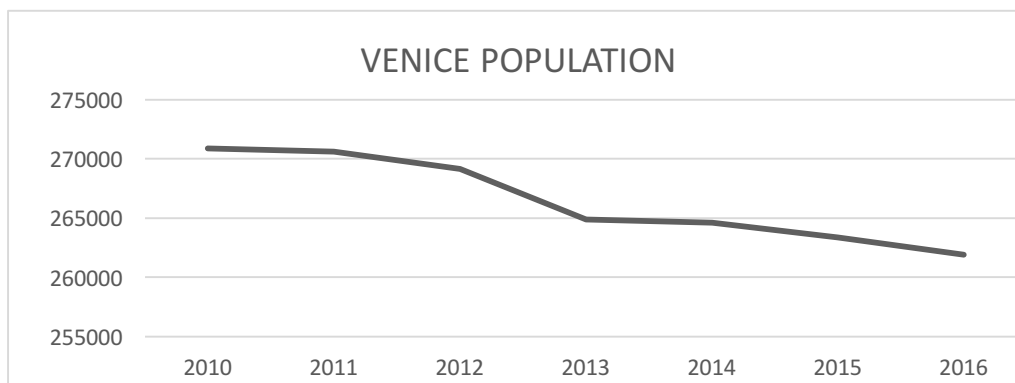

Figure 4.2 Venice Population from 2010 to 2016

Breaking down this trend per geographic area, the analysis shows that the City Centre is the neighbourhood that each year, a part from 2014, experienced the greater negative variation in number of residents (Figure 4.3). Indeed, residents of central districts decreased by about 8% between 2010 and 2016.
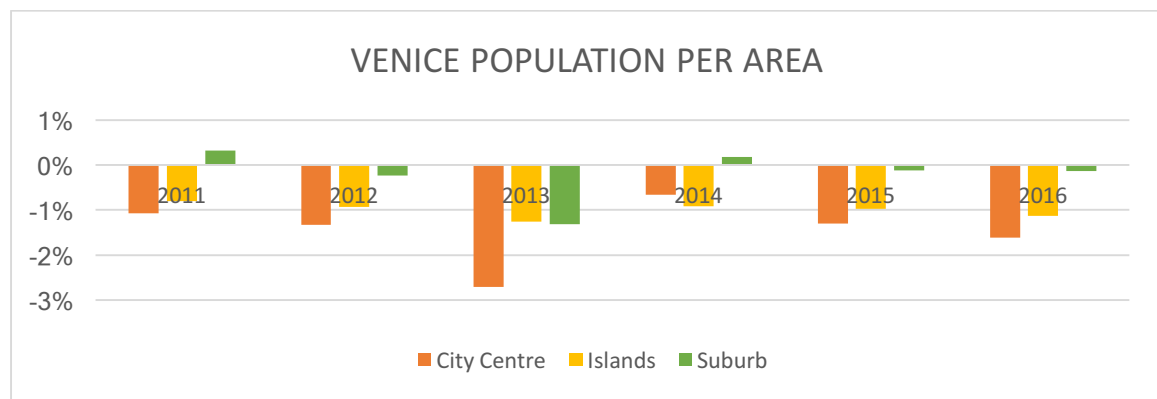

Figure 4.3 Population percentage change in the three areas of Venice

However, variations in the number of residents per neighbourhood depends on several variables. For instance, mortality and birth rates and abroad immigration rates may differ from area to area. Thus, we focused on internal migration flows, which consist in the movement of residents across different neighbourhoods within the same municipality. During the observation period, the City Centre is always characterized by a small but negative variation in number of residents. Moreover, the trend is increasing in intensity in the past three years, as the annual percentage change raised from -0,36% in 2014, to -0,77 in 2016. Instead, suburban inhabitants constantly increased since 2011. The internal migration trend is displayed in Figure 4.4.
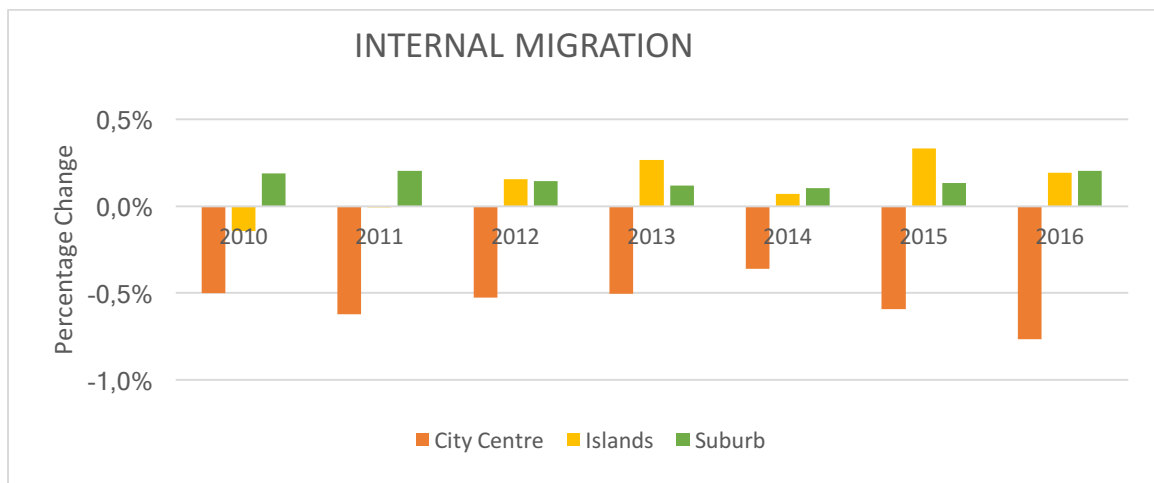

Figure 4.4 Internal migration in the City of Venice

In order to investigate the possibility of a correlation between the decrease in the number of residents and Airbnb penetration, we estimated the listings density in each of the three districts. At this regard, we registered the cumulative number of Airbnb units in each neighbourhood from 2010 to 2016 and we grouped neighbourhoods according to the macro areas. Finally, we obtained listings density values dividing the number of listings by the corresponding area's surface.

Central Neighbourhoods witnessed a constant negative net Internal Migration. More precisely, 3,7% of the residents moved toward suburbs since 2010. On the other side, both peripheral areas are characterised by a small but positive increase in the number of residents. Net internal migration's dimensions appear to be modest, however it is clear that the migration flow is directed from the city centre to the suburbs.

We can see from Table 4.1 that the three investigated areas have a very different listings density (number of listings/Km^2). Indeed, central areas present the highest density with 8,9 units per Km^2, while islands register a lower value 0,4 listings per Km^2 and, finally, suburbs have the lowest density (0.06 listings/ Km^2).

Neighbourhood	Listings	Listings per Area	Areas	Surface (Km²)	Listings Density	Net Internal Migration (Residents)
S.Marco; Castello; S.Elena; Canneggio	4944	7128	**City Centre**	797,9631	8,93274388	-2212
Dorsoduro; S.Polo; S.Croce; Giudecca	2184					
Lido; Malamocco; Alberoni	331	409	**Island**	991,4476	0,41252810	247
S.Pietro in Volta; Pellestrina	0					
Murano; S.Erasmo	70					
Burano; Mazzorbo; Torcello	8					
Favaro; Campalto	79	776	**Suburb**	13.004,40	0,05967209	1965
Carpenedo; Bissuola	73					
Mestre Centro	352					
Zelarino; Cipressina; Trivignano	10					
Chirignago; Gazzera	87					
Marghera; Catene; Malcontenta	175					
TOTAL	8313	813		14793,81	0,5619	

Table 4.1 Listings Density and Internal Migration in Venice

Therefore, the present results don't exclude that residents' movement outside the city centre, even if modest, may be correlated with Airbnb growth. Indeed, in the past few years locals are moving from high Airbnb dense neighbourhoods to less dense ones. Nevertheless, there are several factors that may influence residents' decisions to relocate outside the city centre. For instance, transportation means represent a very sensitive topic for Venice habitants, as the presence of canals and the lagoon impede the use of motor vehicle, which makes travelling around the city more time consuming.

4.1.2 Long-Term Rental Prices

We deepened our study considering long-term rental prices trends in Venice. In order to perform this investigation, Nomisma provided us with data collected from 2009 to 2017 at neighbourhood level. The company indeed monitors the real estate markets tracking the average rental price for new and used properties, and maximum and minimum values for

each housing category. Rental prices we refer to in this section consists in the annual price per square meter (€/m² per year).

A first insight suggests the overall city trend of rental prices to be decreasing during the observation period. Indeed, in 2009 the average long-term rental price amounted to €154,66, while the first semester of 2017 value equals to €137,18.
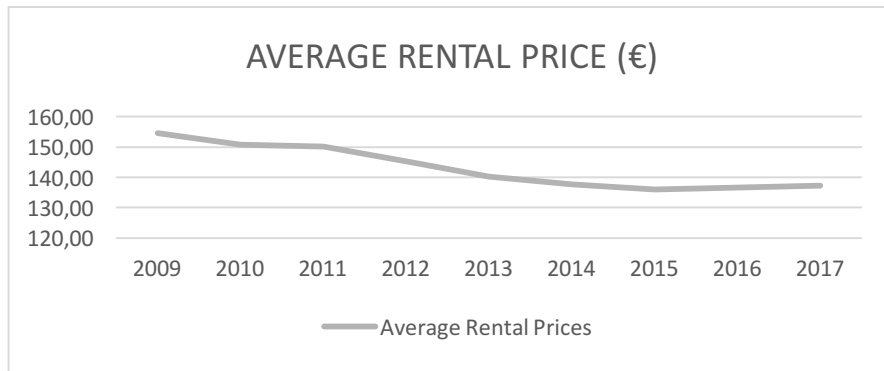

Figure 4.5 Average Rental Prices in Venice

We then estimated the average rental price per macro area, following Nomisma clusters. The *City Centre* comprehends: Cannaregio, Castello, Dorsoduro, Lido Centro, San Marco, San Polo, Santa Croce, Santa Croce and Sant'Elena. While, the neighbourhoods of Burano, Ca' Savio, Cavallino, Giudecca, Lido San Nicolò, Lido Terre Perse, Marghera Centro, Murano and Treporti fall under *the Semi-Suburb* category. Finally, the *Suburb* consists in the following districts: Marghera, Lido Alberoni, Lido Malamocco, Marghera Periferia, Mazzorbo, Torcello, Pellestrina, Sant'Erasmo and Vignole.

	City Centre (€)	Percentage Variation	Semi-Suburb (€)	Percentage Variation	Suburb (€)	Percentage Variation
2009	230,80		160,0263701		145,8843328	
2010	224,30	-2,8%	149,9724677	-6,3%	138,3105306	-5,2%
2011	233,62	4,2%	152,0114788	1,4%	138,0588659	-0,2%
2012	236,83	1,4%	153,8946435	1,2%	138,7268764	0,5%
2013	203,12	-14,2%	129,1959629	-16,0%	116,4440736	-16,1%
2014	193,26	-4,9%	137,6647924	6,6%	123,9696981	6,5%
2015	183,06	-5,3%	140,3832644	2,0%	124,0807793	0,1%
2016	182,62	-0,2%	139,5364581	-0,6%	126,054499	1,6%
2017	185,98	1,8%	148,0402118	6,1%	129,3673217	2,6%

Table 4.2 Long Term Rental Prices in Venice

The comparison (Table 4.1) reveals the City Centre to be the area where rental prices decreased the most since 2009. More precisely, the City Centre is characterized by a negative annual growth from 2013 on, a part from a small increase (1,8%) in 2017. On the other side, suburban districts both distinguish for an opposite trend, that is a modest but constant increase in rental prices since 2014.

Furthermore, we calculated the difference between City Centre average rent and the Suburban one for each year observed. Table 4.3 unveils that the value is constantly decreasing since 2012, suggesting that the two areas' rental prices are becoming less dissimilar over time.

	Price Difference
2009	84,92
2010	85,99
2011	95,56
2012	98,10
2013	86,68
2014	69,29
2015	58,97
2016	56,56
2017	56,62

Table 4.3 Rental Price Range between City Centre and Suburb units in Venice

Therefore, these preliminary estimations show that the most Airbnb listings dense neighbourhoods (the City Centre) are experiencing a decrease in rental prices. On the other side, less dense areas (the suburbs) show a smaller decrease, if not an increase (from 2014 on). In addition, areas characterized by extremely different level of short-term rentals penetration seem not to be witnessing an exacerbation in rent differences.

These results seem contradictory to the hypothesis that the shortage of housing supply due to Airbnb may lead to a long-term rentals price increase (Lee, 2016). However, we can't exclude that these trends may somehow be influenced by short term rentals, especially if considering that Picascia et al. (2017) claim that the proportion of housing stock destined to entire apartment listings in Venice amounted to 6.10%, in 2015, and 8.9% 2016. A further analysis may investigate the quality of housing units offered through Airbnb compared to long-term rental supply. Indeed, a considerable difference in the properties' value may partly explain this result. Finally, the growing emigration rate of residents from the city centre is consistent with a decrease in rental prices.

4.2 The Lodging Industry in Venice

The second part of our analysis concerns Venice hotels' performances. The aim of the present investigation is understanding whether the increasing number of short-term rentals may have an impact on hotels prices, occupancy rate and revenues, or not. This may give an insight of whether these two business models are competing with each other or they serve different market segments. Indeed, as highlighted in chapter one, the level of competition between the lodging industry and short-term rentals is still debated.

4.2.1 Preliminary Analysis of Hotel Prices and Occupancy Rates

Data utilized in this section are collected by Trademark Italia. The company offers consulting services to touristic operators; therefore, it monitors the main Italian touristic destinations. It provided us with monthly prices and monthly occupancy rates of three stars, four stars and five stars' hotels located in Venice, IT from 2008 to 2017. The composition of the sample is the following: 612 luxury hotel rooms (five stars hotels), 974 upscale hotel rooms (four stars hotels) and 588 Midscale hotel rooms (three stars hotels). The total panel amounts to 2.174 hotel rooms, which equals to 15,3% of the overall lodging supply of the City (14.174 hotel rooms). Furthermore, regarding Airbnb listings data, again, we used data collected by Airdna (updated to January 2018). Finally, the data we based on to realize graphic representations of listings and hotel locations in Venice, are collected by Tom Slee for what concern Airbnb units, while hotels information are provided by the Municipality of Venice (Comune di Venezia).

NEIGHOBORHOOD	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cannaregio	5	43	140	249	547	1050	1670	2202	2261
Castello	11	49	138	287	581	1114	1689	2141	2186
Dorsoduro	10	29	64	125	261	445	714	928	942
Giudecca	2	4	15	32	59	125	186	252	258
Sacca fisola					1	4	5	6	7
San Marco	8	25	80	175	307	616	1008	1348	1397
San Polo	9	26	53	101	203	423	645	923	935
Santa Croce	2	21	47	82	188	389	608	798	819
Sant'Elena			7	11	22	50	89	117	117
Tronchetto					1	3	7	14	18
TOTAL	47	197	544	1062	2170	4219	6621	8729	8940

Table 4.4 Cumulative number of Listings in Venice

For this analysis, we focused on the City Centre of Venice as it resulted the most penetrated area by Airbnb listings. At this regard, we report in Table 4.4 the cumulative number of listings in each of the central neighbourhood considered.

It appears evident that the dimension of the phenomenon is notable. And since 2013, when Airbnb reached the first thousand of listed properties, the growth rate is constantly increasing.

We were also interested in investigating the different geographical spread of listings compared to hotel rooms. We repot in the next page two maps realized through the Qgis software (Figure 4.6), displaying two highly short-term rentals dense neighbourhoods: Cannaregio and Castello. Airbnb listings appear to be homogeneously spread in the considered area, while hotels, regardless of the category, are more concentrated in specific locations.

In order to better understand the lodging industry performance since Airbnb arrival, we observed the evolution of three variables over time: hotels occupancy rate, hotels prices and hotels price dispersion.

Regarding hotel rooms occupancy rate, it appears to be modestly increasing since the fall in 2009, probably due to the economic crisis of 2008, for all the hotel categories considered. In 2007, luxury hotels rooms reached 68 % occupancy rate, while upscale accommodations' occupancy rate amounted to 73% and midscale rooms' one equalled 69%.
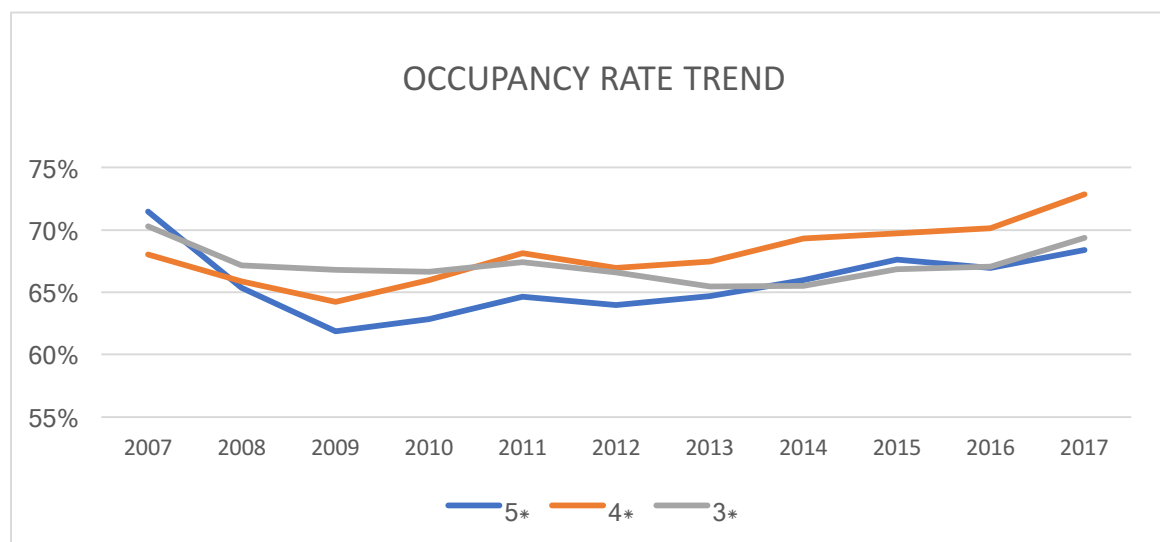

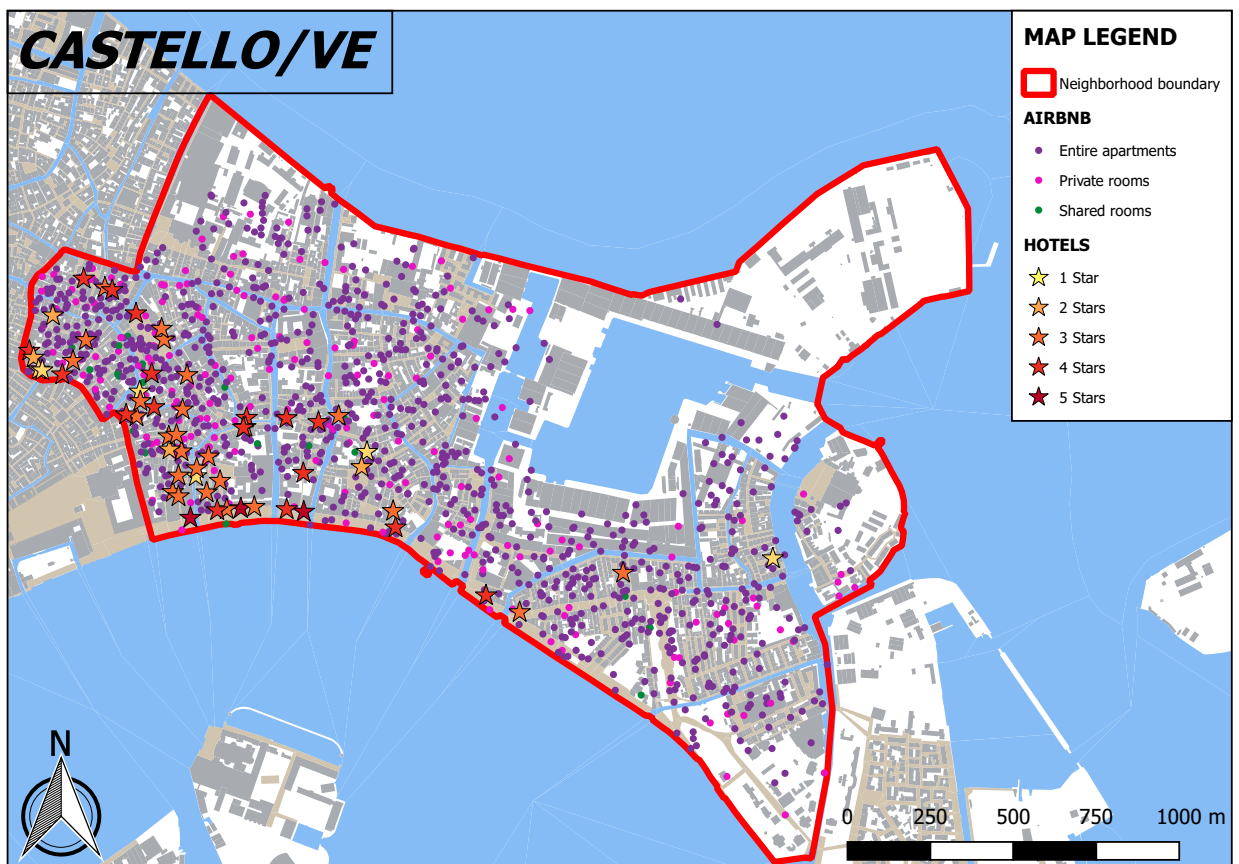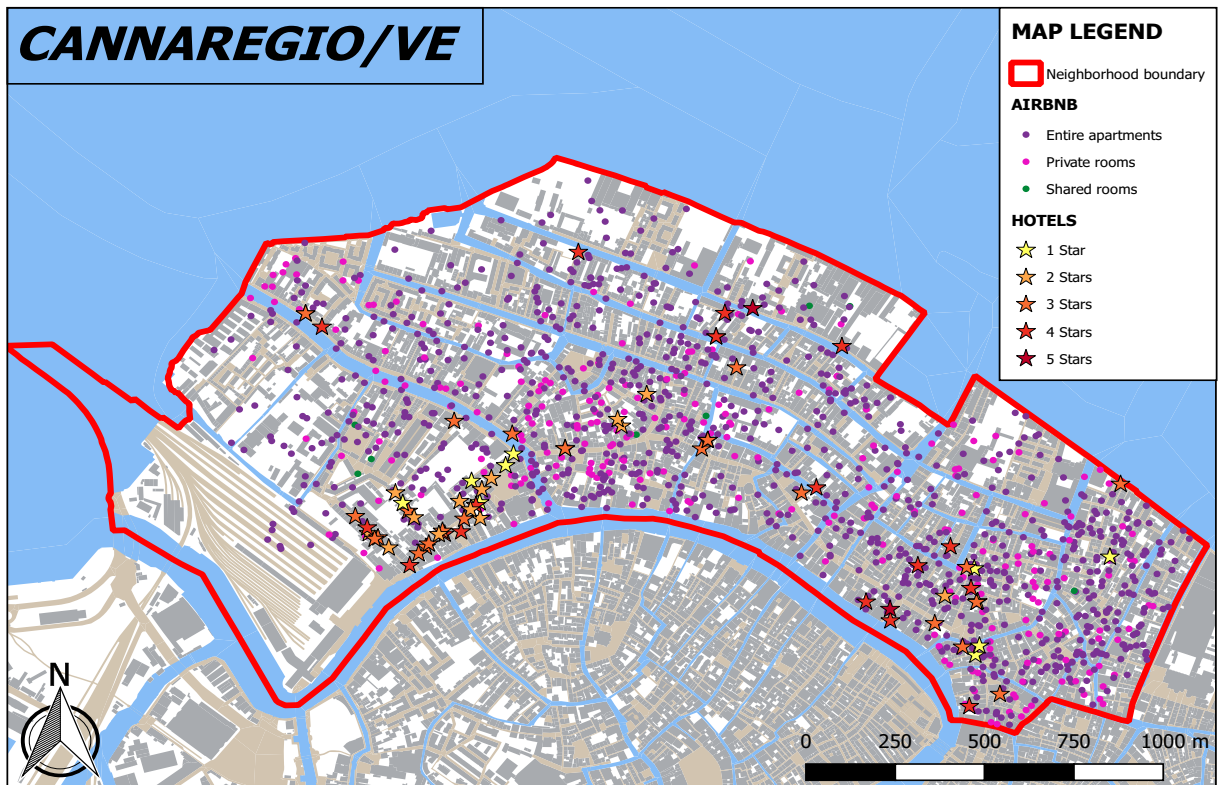
Figure 4.7 Hotel Rooms occupancy rate in Venice

Figure 4.6 Airbnb Listings and Hotels location in Cannaregio and Castello, VE

Following the hypothesis that luxury hotels do not compete with peer to peer accommodations (Zervas, 2014), we focused on four and three stars hotels. Both hotel categories are characterized by a slight increasing in the occupancy rate. However, since 2012, three stars hotels growth rate in occupancy is lower than four stars hotels ones (Figure 4.8).
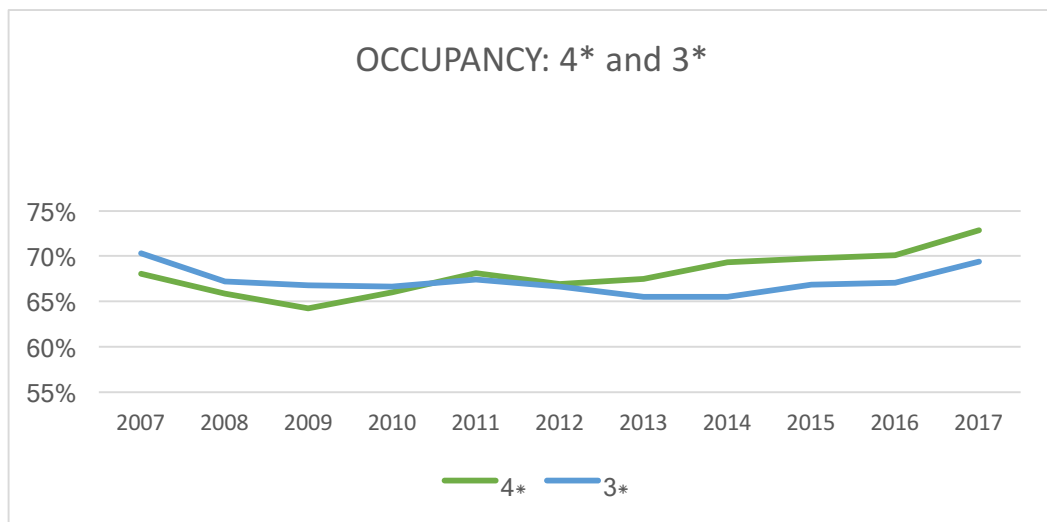

Figure 4.8 Hotel Rooms occupancy rates in four stars hotels and three stars hotels

The second investigated variable is hotel room price per night. The overall trend, that comprehends all three hotel categories, increased constantly from 2008 on (Table 4.9).
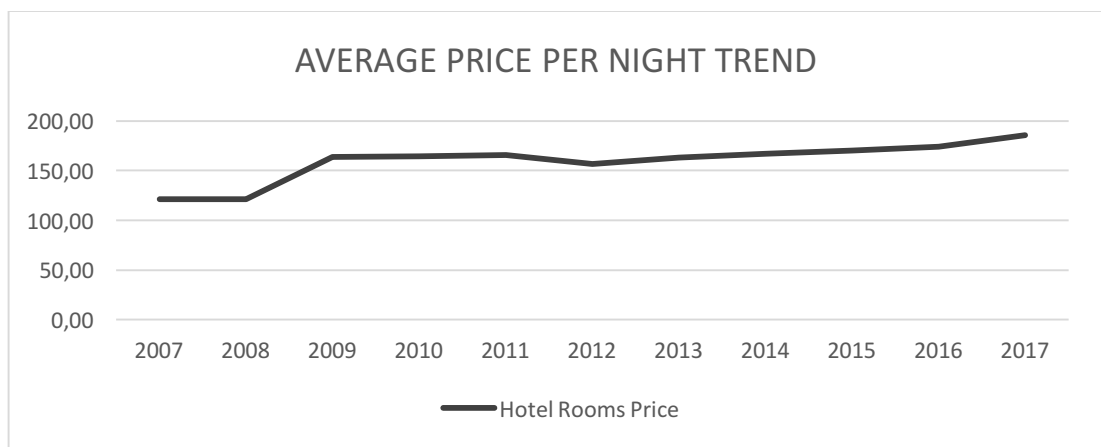

Figure 4.9 Average hotel room price per night in Venice

Again, we focus on upscale and midscale accommodations. Per night price trends outlines that four stars hotel are constantly increasing in price at a faster growth rate compared to three stars hotel (Figure 4.10). Indeed, from 2013 to 2017, the first

accommodation type's price per night increased by about 9%, while three stars hotel rooms grew by 3%.
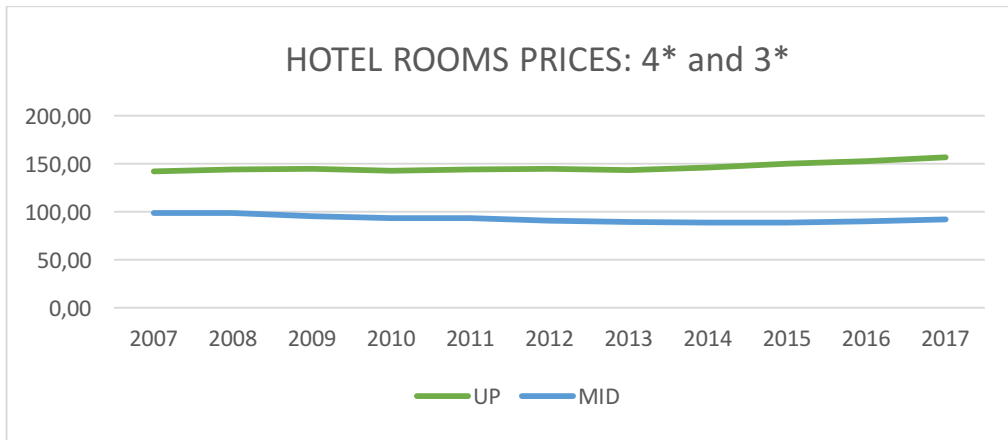

Figure 4.10 Price per night in four stars hotel rooms and three stars hotel rooms

Therefore, the third variable we decided to investigate is the price dispersion, that indicates the difference in price between upscale hotels and midscale ones. We measured it through the variance between monthly prices of the two hotel categories. Results are summarized in Table 4.5 and Figure 4.11. The variance is increasing constantly since 2009, increasing in intensity in the latest years. This suggests that upscale and midscale hotel prices are becoming more dissimilar over time.

	Var	St Dev
2007	648,59	25,47
2008	770,91	27,77
2009	843,95	29,05
2010	876,29	29,60
2011	889,23	29,82
2012	971,87	31,17
2013	1015,84	31,87
2014	1073,56	32,77
2015	1237,47	35,18
2016	1285,55	35,85
2017	1374,14	36,59

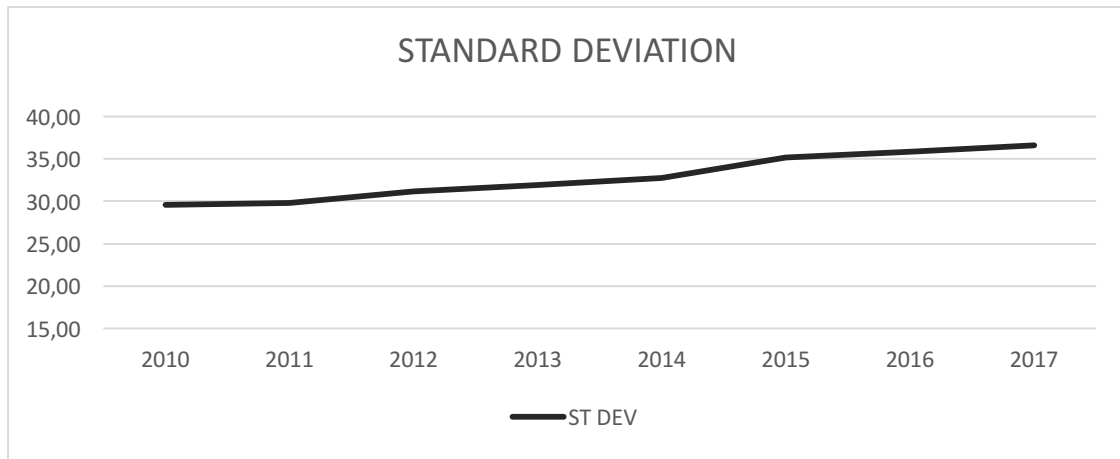Table 4.5 Variance and Standard Deviation of hotel prices

Figure 4.11 Standard Deviation of hotel prices over time

To sum up, these preliminary analyses revealed that both hotel occupancy rate and prices are growing during the observation period. However, when focusing on upscale and midscale hotels, the first category's variables seem to be growing faster, especially after 2012. Also, the price dispersion between the two groups is increasing over time.

Therefore, we believe that hotel performance dynamics should be deeper investigated in the light of the high Airbnb penetration. Indeed, our preliminary examination does not exclude that the platform's entry may interfere with the lodging industry market outcomes, as some contributions already found in other destinations (Zervas, 2014).

4.2.2 Revenue per Employee

Finally, we investigated whether Venice hotels' revenues may be affected by Airbnb listings growth.

We conducted a panel data analysis with random effects. The considered variables are summarized in Table 4.6. Our dependent variable is revenues per employee (*revenues/employee*), which represent hotels revenues weighted for the hotels' dimension, that is approximated by the number of employees. Revenues and employee data are collected by Aida- Bureau Van Dijk. We considered 216 hotels, all located in Venice city centre, and the sample also comprehends Bed & Breakfast accommodations. The panel goes from 2007 to 2016 and it is strongly balanced.

The independent variables are *Arrivals*, which equals to the number of tourists who checked in lodging accommodations within a year and *Tourists' Presence*, that consists in

total number of nights that tourists spent in hotel rooms. However, these two values don't consider Airbnb guests, as hosts are required to communicate incoming visitors only since 2016. We also considered *Airbnb Listings*, that consists in the cumulative number of listings in each neighbourhood of the historic centre of Venice. Finally, we also include the *hotel category*, from Bed and Breakfast to five stars hotel, and the year dummies from 2007 to 2016.

Variable	Description	Obs	Mean	Std. Dev.	Min	Max
Revenues/employees	Hotel revenues divided by the number of employees. Aida data	1529	235.78	645.91	-10212.2	12739.5
	between	n=212		893.3003	-1038.97	12739.5
	within T-bar = 7.21226			496.2677	-8937.45	4321.547
Arrivals	Number of tourists that spent some night in the city. Data from Istat (National Institute of Statistics)	1944	8055556	552130.6	7200000	8800000
Tourists' presence	Number of nights that tourists are spending in hotels. Data from Istat (National Institute of Statistics)	1944	34000000	471525.8	33000000	35000000
Airbnb listings	Number of listings on Airbnb. Data from Airdna.com	2160	1584.3	2294.465	0	7109
Category	Hotel category dummies. Data from hotels web sites:					
	0=B&B or other lodgings	760				
	1=1 and 2 stars hotels	290				
	3=3 stars hotels	540				
	4=4 stars hotels	500				
	5=5 stars hotels	70				
Year	Year dummies (2007-2016)	216 per year				

Table 4. 6 Descriptive Statistics

The aim of the present test is verifying the existence of a correlation between revenues per employee and the number of Airbnb listings in each neighbourhood. Hence, we are not interested in estimate a model that provides a full explanation of the main sources of hotel revenues.

The results are displayed in Table 4.7. The model reveals a negative correlation between revenues per employee and the number of listings, and this correlation is statistically significant for three and four stars hotels. Therefore, the increase in the number of listings leads to a small but significant reduction in the revenues these two categories of hotels. The sign of the coefficient is negative also for low end hotels (Bed and Breakfast

and one and two stars hotels) and for luxury accommodations. However, in this case variability is too high and we do not get any statistically significant result. As the year dummies reveal, the crisis seems to have hit hotel revenues. The negative and statistically significant result that we found with respect to the tourists' presences in the city might be related to the fact that clients get some discount when they lengthen their stay in the hotel. However, this effect is negligible, as the coefficient is almost zero.

	Coef.		Std. Err.	z	P>z	[95% Conf.Interval]	
Y=Revenues/employees							
Tourists' presence	-0.000	**	0.000	-2.29	0.022	0.000	0.000
Arrivals	-0.000		0.000	-1.15	0.248	0.000	0.000
Year							
2008	(base)						
2009	-4.151		111.5848	-0.04	0.970	-222.853	214.551
2010	-106.310		145.1688	-0.73	0.464	-390.836	178.215
2011	-100.100		122.3411	-0.91	0.324	-291.162	166.135
2012	-283.988	***	81.20931	-3.5	0.000	-443.155	-124.821
2013	-196.249	***	73.97223	-2.65	0.008	-341.232	-51.266
2014	-109.209	*	65.6696	-1.66	0.096	-237.919	19.501
2015	-66.873		61.37261	-1.09	0.276	-187.161	53.415
2016	-60.188		58.2221	-1.07	0.245	-176.441	47.504
Category							
0	(base)						
1	37.255		164.4597	0.23	0.821	-285.08	359.5903
3	127.189		132.1276	0.96	0.336	-131.776	386.1545
4	427.624	***	135.1798	3.16	0.002	162.6766	692.5718
5	301.859		313.5221	0.96	0.336	-312.633	916.3507
Airbnb	0.024		0.102734	0.23	0.816	-0.17744	0.225271
Category#Airbnb							
1	-0.071		0.117617	-0.61	0.544	-0.30193	0.159122
3	-0.149	*	0.089957	-1.66	0.097	-0.32539	0.02724
4	-0.291	***	0.090443	-3.22	0.001	-0.46873	-0.1142
5	-0.285		0.188156	-1.51	0.13	-0.6535	0.084061
_cons	8113.561	***	2809.64	2.89	0.004	2606.769	13620.35
sigma_u	656.334						
sigma_e	481.140						
rho	0.650						

Figure 4.7 Results

Note to table: Statistical significance: $^*p< 0.10$, $^{**}p< 0.05$, $^{***}p< 0.01$
Wald chi2(19)   =   124.18; Prob > chi2   =   0.0000
R-sq: within = 0.1068; between = 0.0343; overall = 0.0746.
Tot obs: 1230, 211 groups. Obs per group: min = 1; avg=5.8; max=8

Conclusion

In the light of the growing impact that the famous home sharing platform, Airbnb, is having around the world in the past ten years, the present research was aimed at evaluating whether the same trends may apply to the Italian market too. Indeed, from the literature analysis emerged several contributions claiming that the platform's activity may entail numerous externalities. First of all, it may enable low cost travelling and it may provide additional income for hosts' families. Also, the increase in the number of tourists may represent a precious economic recourse for destinations. However, the increase in short-term rentals has found to come together with negative externalities too. The growth of the number of tourists may indeed cause difficulties to touristic destinations, especially to residential neighbourhoods, where listings are located, that often are not equipped to welcome large number of visitors. A further danger related to uncontrolled tourism increase is the "disneyfication" phenomenon, that occurs where urban landscapes change due to the increase of touristic attractions (hotels, restaurants, shops and small markets) at the expenses of local activities. Most of all, listings concentration may lead to the rise of long-term rental price because of the shortage of housing units. This trend risk to favour gentrification and inequality among locals. Finally, a critical issue is assessing whether and to what extent short-term rentals compete with the traditional lodging industry. Indeed, Airbnb listings may entail a negative impact on different hotel performances.

As in Italy studies assessing the economic impact of Airbnb are still limited, we conducted a preliminary analysis on the City of Venice, one of the most coveted destinations, in order to explore the consistency of some of the previous hypothesis on the Italian territory. Regarding the penetration level, by now, the City hosts almost 9000 listed units, only in the city centre and we found the concentration to be higher in the historic neighbourhoods than in suburban areas. Although the aspects to consider are several, we focused on two markets: long-term rentals and the lodging industry. Our findings are the following.

First of all, the internal migrations among different Venice neighbourhoods reveals that residents tend to move outside the city centre toward suburban areas and the negative variation, which is modest, is increasing in past few years. We can't exclude a relation between the empting of the city centre and Airbnb listings. Indeed, it would be consistent with contributions that claim the risk of disneyfication of urban centre and point out neighbourhoods' difficulties to hosts large numbers of travellers.

However, the observation of long-term rental prices trends unveils that rents are lowering in the city centre while modestly growing in the suburb. This result appears

inconsistent with the hypothesis that rental prices increase due to the housing shortage that Airbnb involves. Nevertheless, we believe that the phenomenon should be further investigated, including additional variables to the analysis.

Coming to the lodging industry, we first analysed the historical trends of three variables: occupancy rate, room prices and price dispersion. The occupancy rate and the average price per night are increasing since 2010 in all hotel categories. However, the price dispersion between upscale hotels and midscale one is constantly rising over time.

Most important, we found a negative correlation between hotel revenues per employee and the number of listings in the same neighbourhood. This is compatible with the hypothesis of growing competition between the traditional lodging industry and peer-to-peer markets. However, the negative correlation is true for three and four stars hotel categories, while is no longer significant for lower end accommodations and luxury hotels. This result may be explained in the light of the price ranges of Airbnb listings and hotel rooms. Indeed, we found the average price of an entire apartment in Central Venice in January 2018 to be about €140 per night. On the other side, the investigated trends revealed that the price per night of a four-star hotel room amounts to €156, while to about € 91 for three stars rooms. Thus, when considering price ranges, Airbnb is likely to compete with these categories rather than luxury accommodations or cheaper alternatives.

Certainly, our analysis presents several limitations. Above all, the first investigation conducted consist in preliminary examinations and we can't infer a causal relationship between the described trends and Airbnb penetration. Also, the data regarding Airbnb penetration are not provided by the company itself, which may imply some imprecisions, and several useful information were not available. For instance, historical trends about listings' prices.

Nevertheless, we believe that from the literature review and our study emerges the possibility that short-term rentals may have an impact on Italian destinations, especially on urban landscapes and on the lodging industry. Therefore, the empirical analysis should be deepened and expanded. Other Cities should be investigated and several other variables taken into account. For instance, the dynamics of the competition between traditional accommodations and home sharing should be further explored considering hotel and listings' prices and capacity. Also, comparing the quality of short-term accommodations and long-term rentals may be a key variable to explain rents' fluctuation. Furthermore, another interesting research topics would be testing whether Airbnb's entry is correlated with the growing number of small markets located in touristic detestations and whether it

impacts on their economic performance. Such evaluation would be valuable both when considering the disneyfication phenomenon and the overall economic benefit of Airbnb on destinations.

In conclusion, it is worth to stress that the proper estimation of the economic impact of the home sharing in Italy would be aimed at identifying market distortions that may come together with this new business model, as well as growth opportunities for the Italian cities. Indeed, as it already happened in several European and US municipalities, a regulatory intervention may be necessary in order to maximize its value and minimize the negative externalities for all the stakeholders involved. The sharing economy represents a fast growing and resourceful economic model that is spreading all over the world. However, its entry in the Italian tourism industry, one of the most important in the Country's economy, encompasses several criticalities that should be carefully considered.

REFERENCES

CHAPTER ONE

Bashir, M., Yousaf, A., & Verma, R. (2016). Disruptive business model innovation: How a tech firm is changing the traditional taxi service industry. *Indian Journal of Marketing*, *46*(4), 49-59.

Bostman (2015). Defining the sharing economy: what is collaborative consumption—and what isn't? https://rachelbotsman.com/work/defining-the-sharing-economy-what-is-collaborative-consumption-and-what-isnt/

Christensen C., Raynor M., McDonald R. (2015); what is disruptive innovation? *Harvard Business Review*

Coyle, D., & Yeung, T. (2016). Understanding Airbnb in fourteen European cities. *The Jean-Jacques Laffont Digital Chair Working Papers*.

Degryse, C. (2016). Digitalisation of the economy and its impact on labour markets. *Browser Download This Paper*.

Dogru, T., & Pekin, O. (2017). What do guests value most in Airbnb accommodations. *An application of the hedonic pricing approach*, *5*(2).

Eckhardt, G. M., & Bardhi, F. (2015). The sharing economy isn't about sharing at all. Harvard business review, 28(01), 2015.

Fang, B., Ye, Q., & Law, R. (2016). Effect of sharing economy on tourism industry employment. *Annals of Tourism Research*, *57*, 264-267.

Felländer, A., Ingram, c., & Teigland, R. (2015). Sharing economy. *Embracing change*.

Gansky (2010); The Mesh: Why the Future of Business Is Sharing; Portfolio

Goree, K. (2016). Battle of the Beds: The Economic Impact of Airbnb on the Hotel Industry in Chicago and San Francisco.

Gurran N. & Phibbs P. (2017) When Tourists Move In: How Should Urban Planners Respond to Airbnb?, Journal of the American Planning Association, 83:1, 80-92, DOI: 10.1080/01944363.2016.1249011

Guttentag, D. (2015). Airbnb: disruptive innovation and the rise of an informal tourism

accommodation sector. Current issues in Tourism, 18(12), 1192-1217.

Haywood Jessica, Mayock Patrick, Freitag Jan, Owoo Kwabena Akuffo, Blase Fiorilla (2016); Airbnb & Hotel Performance, An analysis of proprietary data in 13 global markets.

Kaplan, R. A., & Nadler, M. L. (2015). Airbnb: A case study in occupancy regulation and taxation. U. Chi. L. Rev. Dialogue, 82, 103.

Lauterbach, D., Truong, H., Shah, T., & Adamic, L. (2009, August). Surfing a web of trust: Reputation and reciprocity on couchsurfing. com. In *Computational Science and Engineering, 2009. CSE'09. International Conference on* (Vol. 4, pp. 346-353). IEEE.

Lee, D. (2016). How Airbnb Short-Term Rentals Exacerbate Los Angeles's Affordable Housing Crisis: Analysis and Policy Recommendations. Harv. L. & Pol'y Rev., 10, 229.

Marketing, McGraw-Hill Education, 3rd Edition (2014). Chapter 13.

Picascia, S., Romano, A. and Teobaldi, M. (2017), The airification of cities: making sense of the impact of peer to peer short term letting on urban functions and economy, Proceedings of the Annual Congress of the Association of European Schools of Planning, Lisbon 11-14 July 2017

Quattrone, G., Proserpio, D., Quercia, D., Capra, L., & Musolesi, M. (2016, April). Who benefits from the sharing economy of Airbnb?. In Proceedings of the 25th International Conference on World Wide Web (pp. 1385-1394). International World Wide Web Conferences Steering Committee. ISO 190

Rajala, R., & Westerlund, M. (2007). A business model perspective on knowledge-intensive services in the software industry. International Journal of Technoentrepreneurship, 1(1), 1-20

Sheppard, S., & Udell, A. (2016). Do Airbnb properties affect house prices (No. 2016-03).

Sperling G. (2015); How Airbnb Combats Middle Class Income Stagnation. https://www.airbnbcitizen.com/report-the-impact-of-airbnb-on-middle-class-income-stagnation/

Suciu, A. M. (2016). The Impact of Airbnb on Local Labour Markets in the Hotel Industry in Germany.

Vermeulen, I. E., & Seegers, D. (2009). Tried and tested: The impact of online hotel reviews on consumer consideration. Tourism management, 30(1), 123-127.

Zervas, G., Proserpio, D., & Byers, J. W. (2017). The rise of the sharing economy: Estimating the impact of Airbnb on the hotel industry. *Journal of Marketing Research*, *54*(5), 687-705.

Airbnb.com

Airbnbcitizen.com, 2017

Airdna.com

Insideairbnb.com

http://uk.businessinsider.com/statistics-data-airbnb-rent-prices-2016-10?IR=T

http://www.independent.co.uk/news/uk/grenfell-tower-fire-latest-accomodation-residents-airbnb-volunteering-help-a7800481.html

https://www.theguardian.com/cities/2016/oct/06/the-airbnb-effect-amsterdam-fairbnb-property-prices-communities

https://www.wsj.com/articles/how-airbnb-affects-home-prices-and-rents-1508724361

CHAPTER TWO

Edelman, B. G., & Geradin, D. (2015). Efficiencies and regulatory shortcuts: How should we regulate companies like Airbnb and Uber. Stan. Tech. L. Rev., 19, 293. ISO 690

Edelman, B., Luca, M., & Svirsky, D. (2017). Racial discrimination in the sharing economy: Evidence from a field experiment. American Economic Journal: Applied Economics, 9(2), 1-22.

Edelman, Benjamin G. and Luca, Michael, Digital Discrimination: The Case of Airbnb.com (January 10, 2014). Harvard Business School NOM Unit Working Paper No. 14-054. Available at SSRN: https://ssrn.com/abstract=2377353 or http://dx.doi.org/10.2139/ssrn.2377353

Felländer, A., Ingram, C., & Teigland, R. (2015). Sharing Economy. Embracing Change.

Guttentag, D. (2015). Airbnb: disruptive innovation and the rise of an informal tourism accommodation sector. Current issues in Tourism, 18(12), 1192-1217.

Horton, J. J. (2015). The Tragedy of Your Upstairs Neighbors: Is the Airbnb Negative Externality Internalized?. arXiv preprint arXiv:1611.05688.

Kakar, Venoo and Voelz, Joel and Wu, Julia and Franco, Julisa, The Visible Host: Does Race Guide Airbnb Rental Rates in San Francisco? (June 18, 2016). DOI: 10.1016/j.jhe.2017.08.001. Available at SSRN: https://ssrn.com/abstract=2967902

Kaplan, R. A., & Nadler, M. L. (2015). Airbnb: A case study in occupancy regulation and taxation. U. Chi. L. Rev. Dialogue, 82, 103.

Koopman, C., Mitchell, M., & Thierer, A. (2014). The sharing economy and consumer protection regulation: The case for policy change. J. Bus. Entrepreneurship & L., 8, 529.

Lampinen, A., & Cheshire, C. (2016, May). Hosting via Airbnb: Motivations and financial assurances in monetized network hospitality. In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (pp. 1669-1680). ACM.

Lee, D. (2016). How Airbnb Short-Term Rentals Exacerbate Los Angeles's Affordable Housing Crisis: Analysis and Policy Recommendations. Harv. L. & Pol'y Rev., 10, 229.

Mehmed, N. R. (2016). Airbnb and the Sharing Economy: Policy Implications for Local Governments. SPNHA Review, 12(1), 6.

Miller, S. R. (2014). Transferable sharing rights: A theoretical model for regulating Airbnb and the short-term rental market.

National League of cities (2015), Cities, the Sharing Economy, and What's Next

Oskam, J., & Boswijk, A. (2016). Airbnb: the future of networked hospitality businesses. Journal of Tourism Futures, 2(1), 22-42.

Quattrone, G., Proserpio, D., Quercia, D., Capra, L., & Musolesi, M. (2016, April). Who benefits from the sharing economy of Airbnb? In Proceedings of the 25th International Conference on World Wide Web (pp. 1385-1394). International World Wide Web Conferences Steering Committee. ISO 190

Rauch, D. E., & Schleicher, D. (2015). Like Uber, but for local government law: the future of local regulation of the sharing economy. Ohio St. LJ, 76, 901. ISO 690

shorttermrentals.sfgov.org, 2018

www.portlandoregon.gov,2018

http://meet.barcelona.cat/habitatgesturistics/en

https://www.iamsterdam.com/en/our-network/media-centre/city-hall/press-releases/2014-press-room/amsterdam-airbnb-agreement

www.theguardian.com/technology/2016/jun/08/berlin-ban-airbnb-short-term-rentals-upheld-city-court

https://www.nytimes.com/2017/04/07/realestate/how-to-host-on-airbnb-legally.html

www.theguardian.com/technology/2017/jun/02/airbnb-faces-crackdown-on-illegal-apartment-rentals-in-barcelona

CHAPTER THREE

Agenzia delle Entrate, circolare n. 26 del 2011

D.Lgs. 23 maggio 2011 n.79 art. 53

Decreto del Presidente della Repubblica 26 aprile 1986, n. 131

Decreto Ministeriale del 5 Luglio 1975

DL 50/2017

DPR 22 dicembre 1986, n. 917 – Testo Unico delle Imposte sui Redditi

DPR n. 633/72, Articolo 22, comma 6

Fattore sharing: l'impatto economico di Airbnb in Italia, Airbnb, 2016

GU n.292 – Legge 9 dicembre 1998, n. 431, art. 1, comma 4

Legge 9 dicembre 1998 n 431 art. 1, comma 2 lett. c, Disciplina delle locazioni e del rilascio degli immobili adibiti ad uso abitativo

Legge n. 3/2001

Picascia, S., Romano, A. and Teobaldi, M. (2017), The airification of cities: making sense of the impact of peer to peer short term letting on urban functions and economy, Proceedings of the Annual Congress of the Association of European Schools of Planning, Lisbon 11-14 July 2017

Testo Unico delle Leggi di Pubblica Sicurezza, art 109

Testo Unico Imposte sui Redditi art. 90

UNWTO Tourism Highlights: 2017 Edition

https://www.bancaditalia.it/pubblicazioni/indagine-turismo-internazionale/2017-indagine-turismo-internazionale/statistiche_ITI_17072017.pdf

http://milano.corriere.it/notizie/cronaca/17_luglio_06/airbnb-apre-case-migranti-servizio-accoglienza-diffusa-e53521ce-61b4-11e7-bdfb-e027df3feb8d.shtml

http://www.corriere.it/tecnologia/cards/airbnb-booking-affitti-brevi-incubo-come-difendersi-consigli-proprietari-ospiti.shtml

http://www.lacasacheavanza.it/locazione-turistica-facciamo-un-po-di-chiarezza/

http://www.turismo.provincia.venezia.it/upload/1/images/Locazioni_turistiche/guida-locazione-turistica-rev-3-2.pdf

http://www.lastampa.it/2016/02/27/italia/cronache/viaggio-tra-i-furbetti-di-airbnb-soltanto-uno-su-quattro-denuncia-di-affittare-ibtNBZmdnOSUm3glfBgaAI/pagina.htm

https://www.fiscomania.com/2016/03/imposta-di-soggiorno-la-guida-per-i-gestori/

http://www.lastampa.it/2017/05/21/economia/manovra-airbnb-da-noi-oltre-miliardi-di-euro-nel-siamo-una-risorsa-m2WirY0Rql95h97KhO9L1N/pagina.html.

http://www.repubblica.it/tecnologia/2017/06/05/news/airbnb_discrimina_i_disabili_respinti_piu_spesso_degli_altri_-167304671/

http://bologna.repubblica.it/cronaca/2017/07/21/news/a_bologna_1_500_airbnb_albergatori_in_allarme_e_concorrenza_sleale_-171255419/

http://www.repubblica.it/venerdi/reportage/2017/07/26/news/airbnb_italia_appartamenti_stanze_posarelli-171675871/

https://www.internazionale.it/reportage/giada-zampano/2017/09/04/airbnb-matera

http://live.comune.venezia.it/it/2017/10/locazioni-turistiche-appartamenti-e-abitazioni-dal-2018-imposta-di-soggiorno-proporzionale
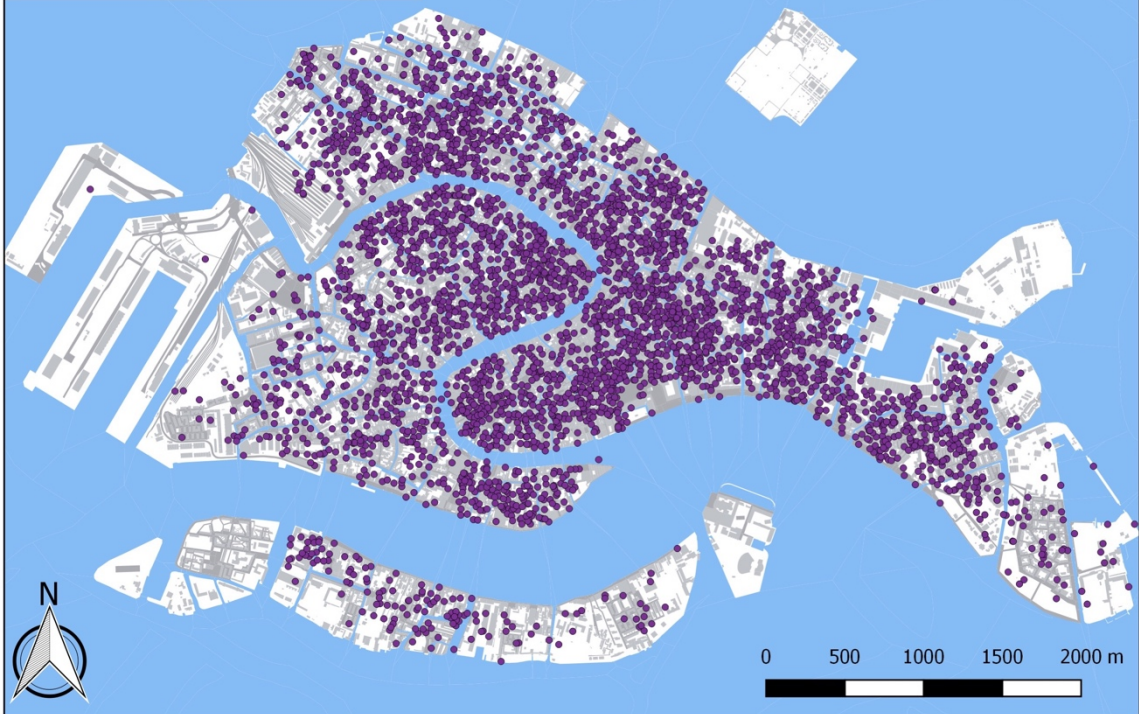
http://www.ansa.it/lombardia/notizie/2017/12/01/accordo-comune-milano-con-airbnb_0aa357a1-a181-445a-bd45-c8b571c17986.html

APPENDIX

AIRBNB IN 2015

AIRBNB IN 2016

AIRBNB IN 2017

SAN MARCO/VE

MAP LEGEND

Neighborhood boundary

AIRBNB
- Entire apartments
- Private rooms
- Shared rooms

HOTELS
- 1 Star
- 2 Stars
- 3 Stars
- 4 Stars
- 5 Stars

SAN POLO/VE

MAP LEGEND

Neighborhood boundary

AIRBNB
- Entire apartments
- Private rooms
- Shared rooms

HOTELS
- 1 Star
- 2 Stars
- 3 Stars
- 4 Stars
- 5 Stars

SANTA CROCE/VE

MAP LEGEND

Neighborhood boundary

AIRBNB
- Entire apartments
- Private rooms
- Shared rooms

HOTELS
- 1 Star
- 2 Stars
- 3 Stars
- 4 Stars
- 5 Stars

0   250   500   750   1000 m