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Airbnb and the City: Comparative Analysis of Short-Term Rentals policies in Florence (Italy)

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Abstract:

This work aims at investigating and problematizing the effectiveness of regulating short term rental (STR) in the housing sector, by comparing 9 different policies applied in a matching number of cities worldwide. The research focuses on the municipality of Florence, and takes it as a ground zero case study, given that so far regulamentation and monitoring policies in Italy have been absent or at least negligible. The paper aims at providing a comparative analysis of the effects imputable to the hipotetical application of several housing policies to the case study of Florence. Although many cities are experiencing the same dynamics (overtourism, gentrification, commercial use of private apartments), there is not a regulation fitting all of them. While the goal of regulation could be quite similar (reducing the overtourism and limiting commercial style STRs), the underlying processes and consequences differ per city. In this paper we argue that an adequate and data-driven policy can be implemented to ensure that the positive effects of new companies like Airbnb stay within the community and that the majority of hosts using the platform are representative of the community, not multinational commercial operations. The analysis of the Florence case study are based on spatial GIS techniques fuelled by Airbnb scaped data and other data base. Results shows that shifting from a laissez faire approach (which is the status quo) to even the weakest of such policies can have a large impact on dynamics of supply within short term and long term rental housing.

Keywords: short term rentals, AIRbnb, spatial analysis, GIS, housing policies

JEL codes: Q18, R11, R12

1. Introduction

Since its start in the 1950s, modern tourism has played an important role in economies around the world, along with its benefits and drawbacks for local communities (Butler, 2000; Hall, 2019; Cazzari et al., 2022) The tourism industry was focused primarily on getting as many people to travel as possible and it was very successful as in the 2019 the number of international arrivals has been 1.466 million worldwide (UNWTO, 2022). Furthermore, international tourism reached 80% of pre-pandemic levels in the first quarter of 2023 as an estimated 235 million tourists travelled internationally in the first three months, more than double the same period of 2022 (UNWTO, 2023). In 2018, the contribution of the tourism sector to regional GDP has topped 596 billions of euro in Europe (Eurostat, 2022), and in several of the most populated countries in EU tourism ranges between 7% and 12% of national GDP (i.e. Italy, France, Spain. Greece etc.) (Fig. 1).

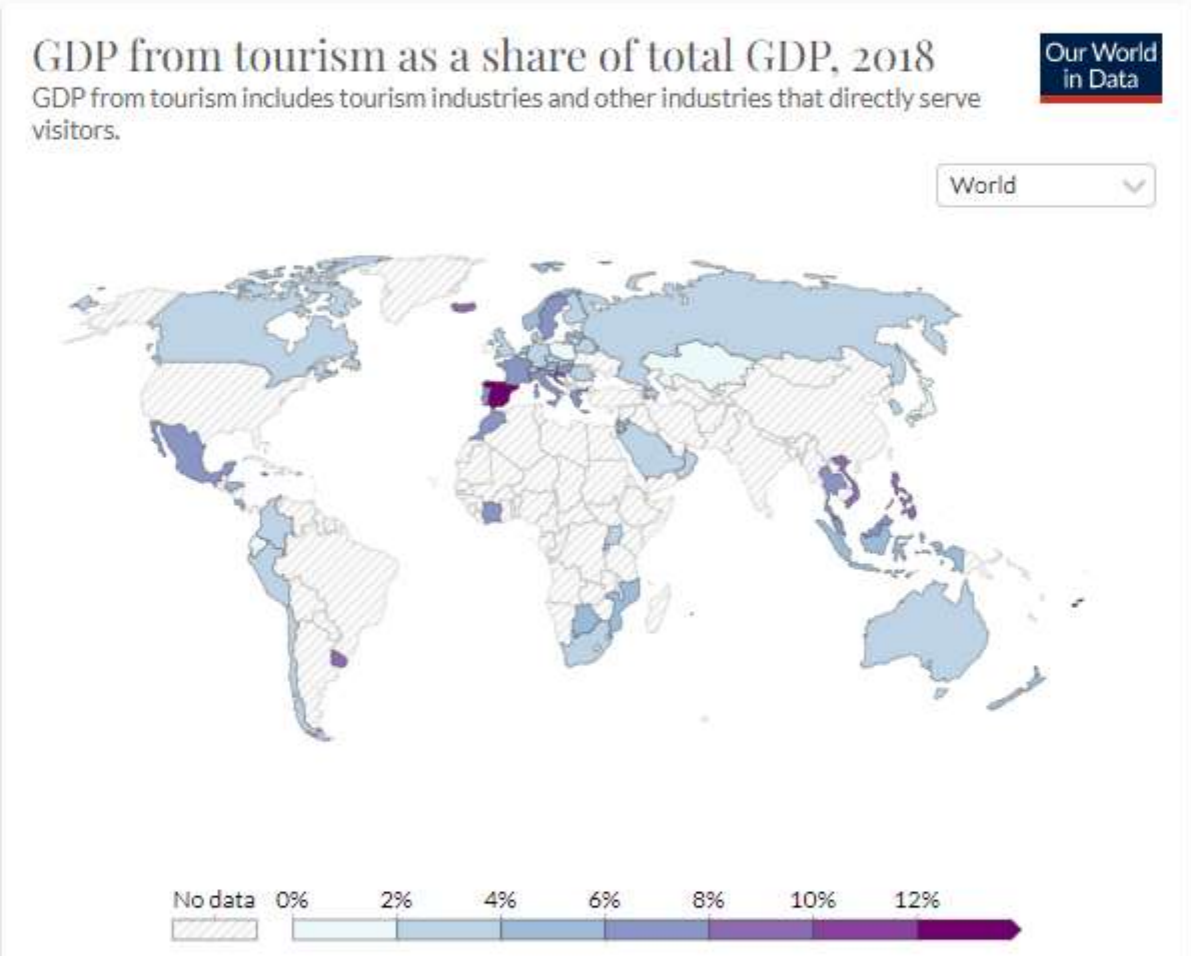

Figure 1 GDP from tourims as a share of total GDP in 2018.

Source: Our World in Data - https://ourworldindata.org/search?q=tourrims+gdp

Among different types of accomodation, peer-to-peer (P2P) rentals have dramatically grown in the last two decades (Cheng, 2016), and among P2P rental platforms[1], Airbnb is currently the global leader, and has transformed the tourism industry and the way we all travel since it began in 2008 (Roelofsen and Minca, 2018). Today there are about 6 million active listings in more than 100,000 cities around the world (Milone et al., 2023). In November 2022 The Washington Post (2022) aknowledged that "The company [AirB&B] reported a record $1.2

[1] (see Cheng, 2016 for a review),

billion of net income, equivalent to a 42% profit margin, as the average daily rate of properties booked on its site exceeded $150 [....] more than 90% of customers come directly to the site"

The pandemic has underlined this successful path by showing how much of the city centre had been hollowed out by P2P short-term vacation rentals. From Dublin, Edinburgh, to Berlin, Paris, Venice and Florence, it was possible to note the rows of dark apartment windows of their city's downtown during the height of the pandemic lockdown (Irish Times, 2020). With tourists mostly obsolete in these cities, their absence showed just how much of the city had been catering to them over long term residents.

While most citizenry and municipalities welcome tourists back and look forward to the end of the pandemic and a revival of their tourism dependent economies, many have also been questioning how to rebuild in a more balanced and sustainable way (Iannucci et al. 2022). The status-quo of letting the tourism industry and more specifically the STR platforms self-regulate is failing our communities and cities, and ultimately, hurting the longevity of the entire tourism industry as a whole by damaging the neighbourhoods that made the tourist destination appealing in the first place (Smith et al., 2018; Grimmer et al., 2019; Nieuwland and van Melik, 2020; Hati et al., 2021; Randelli and Martellozzo, 2019).

On a consumer and investor point of view the platform has been very successful and provides positive value, while on the other hand some scholars have also found that the impacts of the platform can be quite negative for local communities (for a review see Hati et al., 2021). The positive effects of Airbnb pointed out by several scholars are social ties creations (Balampanidis et al, 2019; Tulumello e Allegretti, 2021), natural environment preservation and reduction of green house gases (Chamusca et al., 2019; Farmaki et al., 2019) and job and business opportunities (Contu et al., 2019; Grimmer et al., 2019). Among negative externalities scholars mentioned: competition for public resources such as parking (Amore et al., 2020; Balampanidis et al., 2019), digital discrimination (Brauckmann, 2017; Chamusca et al., 2019), water scarcity (Robertson et al, 2020; Rodriguez-Perez et al., 2019), waste management issues (Stergiou and Farmaki, 2019), prostitution (Wachsmuth and Weisler, 2018) losing authenticity and traditions (Wyman et al., 2020; Xu et al., 2019) and the carbon footprint (Cheng et al., 2020) although the most frequent studied are both rising housing rental prices (Gant, 2016; Lee, 2016; Garcia-Ayllon, 2018; Rodríguez-Perez de Arenaza et al., 2019; Morales-Pérez, 2020; Benítez-Aurioles and Tussyadiah, 2021) and gentrification (Horn and Merante, 2017; Jiao and Bai, 2020; Robertson et al, 2020; Park et al., 2023). From a more olistic standpoint, Airbnb in particular has been observed having an unequalizing effect on the spatial organisation of economic activity, which result in reshaping urban spaces encouraging tourist-oriented businesses (e.g. defined as businesses where tourists spend more than locals), at the expense of businesses primarily oriented to locals, thus making traditional residential neighborhood economic structure to fade a way, and change into a culturally disconnected economic structure from the location it pervades. Hence, determining the forced trade-in of specialized workforce substituted by labour with very little specialization, thus causing the entire structure to be less resilient and more prone to suffer from exhogenous effects impacting tourism flows (Hidalgo et al, 2023; Huebscher et al. 2022).

Negative externalities arosed by Airbnb's presence in the neighborhoods need to be overcome via government intervention, as Airbnb seems to be less proactive in finding its own solutions to such negative issues (Nieuwland and van Melik, 2020). Policy makers are therefore motivated – or at least should be - to seek a balance between legislative frameworks designed to support local communities issues, whilst at the same time leveraging the value that the sharing economy brings, and being able to minimize its detrimental externalities (Grimmer et al., 2019; Davies et al., 2023).

Internationally governments have struggled with how to respond to the P2P economy and today the sharing economy is still a highly unregulated business (Grimmer et al., 2019) and government in different areas applies different regulations (McKee, 2017; von Briel and Dolnicar, 2021). Furthermore, some scholars recognise that Airbnb has flourished especially because of an unstructured, often unregulated urban planning system (Smith et al., 2018; Bei and Celata, 2023). Building off previous researches on the negative impacts to the host community, this paper first surveys the most popular legislation of Airbnb from cities around the globe, and then proposes a suite of policies that can lessen the negative effects of the platform in order to transform it into a more sustainable and equitable force for community stakeholders (Park et al., 2023). Using the city of Florence in Italy as a case study, this paper will illustrate how appropriate regulation can make the platform more sustainable and equitable for all stakeholders.

The paper is structured as follows. Section 2 surveys the most popular legislation of Airbnb from cities around the globe; in section 3 it intruduces the case study of Florence; in section 4 we point out the methodology, in section 5 we report about results, and finally in section 6 results are critically discussed.

2. Global Airbnb Policy Survey on Selected Cities

Since 2015 Airbnb has been in countless negative headlines, lawsuits, and protests around the world (Nieuwland and van Melik, 2020). This resulted in many municipalities creating new regulations to confront and curb the negative effects of Airbnb in their city (Hawkins, 2016). For the scope of this project we will focus on countries that have exhibited similar backlash and created regulatory reform (Grimmer et al., 2019).

In general, regulating Airbnb is quite challenging because it is a P2P (peer to peer) platform and then the traditional regulations cannot be applied to the case (Guttentag, 2015). Furthermore, targeting as responsible the hosts rather than Airbnb, it is difficult to trace whether they are complying with the rules (Lines, 2015). The regulation model can vary from a full prohibition, through certain restrictions up to the "laissez faire" approach (Jefferson-Jones, 2014; Miller, 2014; Guttentag, 2015; von Briel and Dolnicar, 2021). A full prohibition means to ban Airbnb in the entire city or a part of it, but it implies a lost on tax revenues and risk the creation of an underground market for STRs (Jefferson-Jones, 2014). It follows that the limitations are the most common and according to Nieuwland and van Melik (2020), there are four main types of restrictions: (i) quantitative, (ii) locational, (iii) density, and (iv) qualitative.

i. Quantitative restrictions are instruments aimed at limiting the size or the volume of each single host/licensee. For example limiting the number of listings a host can have, and/or capping the number of guests allowed during each stay, and/or setting a threshold for the number of days rented out in a year.
ii. Locational restrictions focuses on regional cumulative distribution of hosts and it needs the adoption of geographical zoning schemes and laws to contain the listings in certain areas. This is historically how most municipalities have regulated the hotel industry.
iii. Density restrictions, may be considered a subset of "locational restrictions policies", and focuses precipuosly on limiting the density of listings in a given area. For example by setting a threshold to the number of listings on Airbnb per long term rental unit in a given area (i.e. thorugh zones, neighbourhoods, zip codes, etc.) in a given time.
iv. Qualitative restrictions, target directly hosts, and are aimed at limiting the numebr of listings according to a set of qualities that must/must not be possessed in order to be considered a legit and eligible listing. For example, this qualitative selection can be based on the type of listing that can be rented out, ie. an entire home or a shared room, or dictate that all hosts must have applied for a certain permit or business licence before hosting on the platform.

In this chapter we will go through the regulatory strategies of five cities in the USA, and four in Europe. These cities were selected in order to provide a brief overview of the types of relationships cities have had with the Airbnb platform[2]. In some cases the city was chosen because of their unique or rare policy measure (that is the case of Portland) while in other cases the city was chosen because of their important role in the global regulation history, such as San Francisco and Paris. Last but not least, we have selected both American and European cities because of cultural differences, as the latter have a more receptive approach to Airbnb than American cities, which are stricter and make it more difficult for Airbnb to operate (Nieuwland and van Melik, 2020). According to us it deals with the fact that Airbnb has been active longer in the US, possibly having bigger impacts on cities by now, requiring stricter regulations. As a matter of fact, today also Amsterdam and Paris (see table 1) require a registration and have introduced a listing cup of one listing, while in the 2018 they did not yet (see Nieuwland and van Melik, 2020, p. 817).

In most of these 9 selected cities there is a mix of all the 4 types of restrictions mentioned above. From an implementation point of view, the qualitative restrictions are the simplest since they are applied to all hosts and it is hard to find loopholes or hide activity. Unless there is a robust task force dedicated to enforcing these new laws and funded sustainably, most municipalities ought to begin with these qualitative restrictions.

In order to have a broad outline of Airbnb regulations, we have conducted a qualitative content analysis of relevant policy documents of selected cities. Firstly the absolute necessary piece of policy is a registering system (Column "Registration" in table 1) such as a permit or a licence. A common component to the registration it is an associated "yearly fee" (see table 1) with that go towards funding a task force dedicated to enforcing and checking compliance (i.e. Making sure residents are who they say they are and live where they say they live). A stel forward it is to pass a policy that forces the platform to only list units who have been registered. As noted by other similar studies (Nieuwland and van Melik, 2020) we are not able to know how easy those permits can be obtained and if there are differences among cities.

Other qualitative restrictions are "primary residency requirement", in order to avoid commercial investors turning residences on the platform, "listings cap" and "day cap" in order

[2] For this selection of cases we intentionally avoided including any Italian city, because in Italy the "laissez faire" approach is largely diffused – if not the norm - although some protests have recently sprouted in Venice (Campaign for living Venice, 2022) and Florence (AP news, 2023).

to limit both the number of listings per host and the number of days yearly per listing. The column "health, safety and fire check" reports about other qualitative restrictions such as a smoke detector, fire extinguisher and emergency contact information. Finally, the column "zoning" report about eventual locational restrictions in the city, usually designed to limit the spread of STR in residential areas. In table 1 we have reported also the fines applied to individuals not respecting such regulations.

	Registration	**Yearly Fee**	**Primary Residence Requirement**	**Day Cap**	**Fines**	**Listings Cap**	**Health, Safety and Fire Check**	**Zoning**
Amsterdam	yes	€50	yes	60	*€6k inconsistent*	*1*	*none*	*Yes*
Dublin	yes		yes	90	*€5k or 6 months in prison*	*none*	*none*	*Yes*
Jersey City	yes	$250	yes	60 if entire listing; all other listings no limit	*$2k a day*	*3 per host including their primary residence*	*yes*	*none*
Los Angeles	yes	$89-$850	yes	120	$500-$2000	Only primary residence	*none*	*none*
New Orleans	yes	$250-41000 a year	yes	none	*$15k for repeat offenders*	*Each permit tier has a limit*	*none*	yes
Paris	yes	none	yes	120	€50k	*1*	*none*	*none*
Portland	yes	$65,$105, $5800	yes	95 days	*$1k-5k*	*Only primary residence*	yes	yes
San Francisco	yes	*$450 every two years*	yes	90	*$484-$968 a day*	*Only primary residence*	Yes; $500k liability insurance	yes
Vienna	yes	*none*	yes	Occasionally if within a residential zone		*Only primary residence if in a residential zone*	*none*	yes

Table 1. The top most common regulation levers used in the selected cities.

It is important for governments looking to make real impactful change to pass realistic and enforceable legislation, and to learn from other cities. On the other hand it seems crucial to keep the ordinance and associated licensing system as simple as possible because introducing too many requirements would lead to complicated and hence infeasible on-site inspections and unnecessary or costly lawsuits from Airbnb (Nieuwland and van Melik, 2020).

While the regulatory stories of the nine cities have been long, there have been important successes among them. It goes to show that it is possible to implement a regulatory mechanism that limits the type of hosting that is so detrimental to communities. With a registering system in place, where hosts cannot transact unless they have a license listed on their profile, as is the case in London and Santa Monica currently, along with fully giving preference to hosts who are true home-sharers, those who are present and listing their primary residence, which has been done in every city we outlined, this platform can live up to its promise of helping create new connections and strengthen communities.

3. The case of Florence in Italy

In Italy is still applied a “laissez faire” model of regulation, although some protests are going on in the last few years in the main cities by residents and university students that cannot afford an apartment or a room to reasonable prices. The lack of regulation has exacerbated a housing market already triggered in the main tourist cities by foreign investors and the demand of international students.

The “laissez faire” approach does not means that in Italy the tourist sector is not regulated at all. At the federal level, for instance, Italy requires hosts to request and record Id’ photos and number of all guests, and to pass the information to the police. If the guests stay for less than 30 days, hosts within 24 hours must submit the identification of each guest through a web application.

Beyond that, in 2017, decree no. 50/2017 was passed in Italy and it changed the tax code so that only non professional host, no matter their income, could claim a flat 21% tax rate (Cedolare Secca). This helped large hosts who typically have other income and would have been paying closer to 43% national tax. After passing the decree in 2017, the Italian Tax Agency (Agenzia delle Entrate) and Federalberghi (Association of Italian Hotels) have engaged in a legal battle with all platforms to ensure they remitted the 21% taxes applicable to non-professional hosts. In December 2019 the European Court of Justice decided the case in favour of Airbnb: Airbnb does not qualify as an intermediary for the purposes of the application of the 21% withholding tax obligation above. Finally, in December 2022 the Court of Justice of the European Union partially found Airbnb wrong in the appeal on the Italian tax regime for STRs introduced in 2017: the law can ask to collect information and data on the rentals made, and above all to apply the withholding tax at the source provided for by the national tax regime. This final decision, to be confirmed by the Council of State (Consiglio di Stato), indicates that Airbnb will be responsible for remitting taxes for non-professional users.

In addiction to national tax codes, municipalities are allowed to collect a “tourist tax” which is typically paid in cash by the tourist to the hotel based on the number of stars the hotel has, how many guests stayed and how many nights they stayed. This on average is 4€ a night per person. In the case Florence, Airbnb has agreed to pay and remit cumulatively at the end of the year all tourist taxes owed to the Municipality. However, it is crystal clear that without a registration system that accurately accounts for each host and the duration of stay, or a datashare with the platform, it is nearly impossible for the Municipality of Florence to validate and/or question that the appropriate amount of tourist tax is being remitted by the platform. This misalignment further supports the argument that a nation-wide regulation confronting STRs in Italy, is needed for future improvements. Furthermore, if we analyse the data available on Inside Airbnb, Florence has the highest rate of listing per 1000 inhabitants (see table 2), followed by Venice. This is due to the lack of regulation and limitations in Italy, such as viewed in table 1, that has pushed investors increasingly buy up houses and apartments to permanently rent out on platforms like Airbnb.

City	**Number of listings**	**Entire apartments**	**Average nights booked**	**Price/night in Euro**	**Average income in Euro**	**Listings per 1000 inhabitants**	**Listings per Km^2**
Florence	10867	8554 (78.7%)	84	208	16,352	15,3	106
Venice	7286	5672 (77.8%)	104	211	15,405	11,4	17
Copenhagen	14759	13134 (89.0%)	35	189	6.644	10,8	171
Porto	12410	10127 (81.6%)	86	116	7,978	9,4	298
San Francisco	6936	4458 (64.3%)	99	302	17.800	8,4	57
London	75241	45714 (60.8%)	47	200	7.800	7,9	48
Lisbon	20097	15363 (76.4%)	94	140	10,537	6,7	201
Vienna	12525	9843 (78.6%)	64	96	5,622	6,4	30
Dublin	7877	3955 (50.2%)	48	208	11,125	6,3	8,5

Table 2 Top ten ranking per listings per 1000 inhabitants (Source: Inside Airbnb; Statista; Macrotrends; June, 2023)

As of June 2023, there are listed on Airbnb in Florence 10.867 apartments with a high density in the central area (see Fig. 1). Among them 8.854 (78,7%) are entire apartments (18.3%) that are entire apartments, non-hotels and booked frequently. An important attribute to analyse is the distribution of hosts within the city. As we can see in figure 2, the further away from the city centre the less dense the Airbnb listing stock becomes. This outcome is in line with other studies that have explored how Airbnb interact with the tourist areas within the city. For instance, in the case of Barcelona, some scholars (Arias-Sans and Quaglieri, 2016; Gutierrez et al., 2017) have shown how Airbnb activity overlaps with heavily touristified areas. Ioannides (2019) founds the same results in Utrecht and Yrigoy (2019) in Palma de Maiorca.

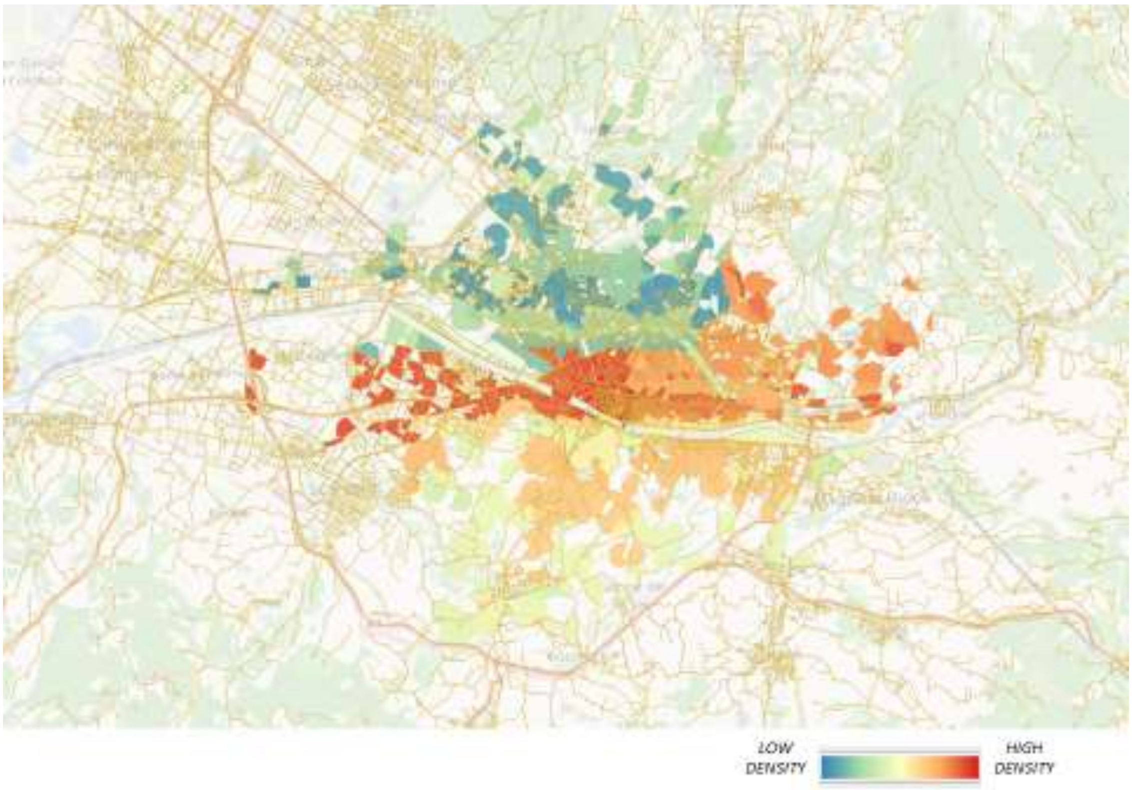

Figure 2 Density of listings per neighbourood in the municipality of Florence

Furthermore, the Historical Centre sees the most commercial hosts with multiple listings, some over 100 listings per host (see fig. 3). Likewise, repeat hosts throughout the neighbourhoods indicate that some commercial hosts have listings throughout the city. “CleanBnb Team”, and “Edoardo e Michela” jump out as operating a city-wide dispersed hotel with the CleanBnb Team having 87 entire listings and 9 private rooms, and Edoardo e Michela running more than 160 entire listings. If you consider that according to Statista (2021), a mid-sized global hotel has only 41 rooms, these two hosts are clearly bypassing many local laws applicable to tourism accommodation providers. There are a little more than 5,120 unique host for the 10.867 listings in Florence, and 60% are instant bookable indicating they are likely commercial or not a primary residence while 67% of hosts claim Florence as their home location. The typical listing accommodates roughly 4 people with 1.5 bedrooms, 76% of listings are entire apartments, and about 50% of listings are part of a portfolio of more than 2 listings, which also indicates the host is commercial. As shown in fig. 3, a large number of apartments are managed by hosts with more than 20 apartments each, which makes the offer on Airbnb largely commercial.

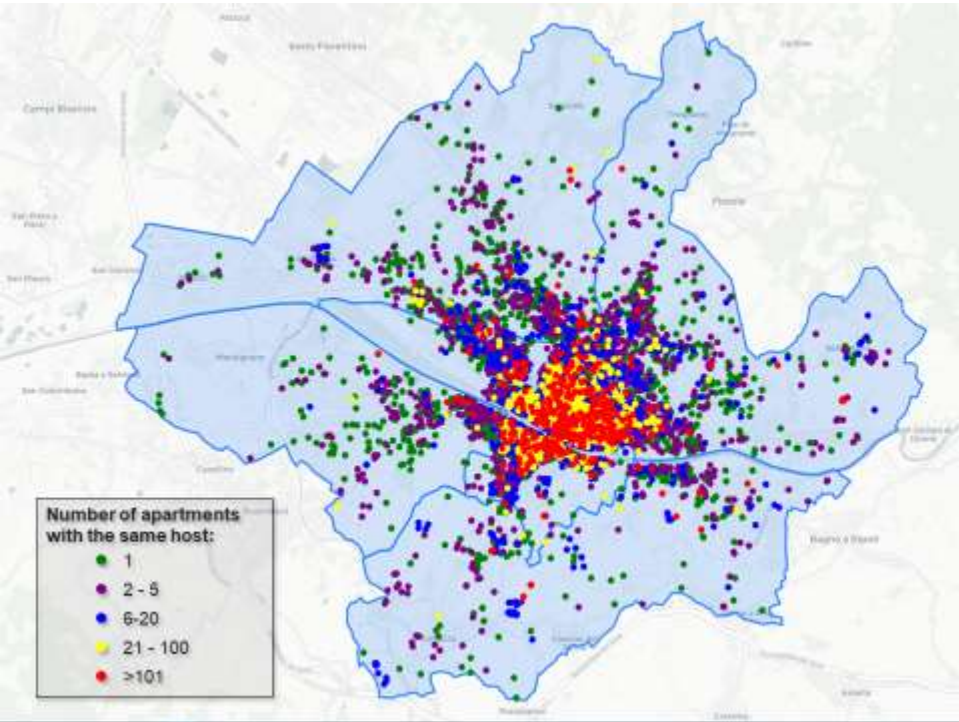

FIGURE 3 Density plot of AirBnbs in Florence (2023) classified per number of apartments per host

4. Methodology: the Policy Proposal for Florence

After reviewing the most popular regulation globally (see table 1), in this chapter we propose three different policies for the city of Florence and we measure the effects of every one on existing listings, tourist tax (municipality tax) and national tax (cedolare secca). The measure on local and national taxes does not mean that hosts today are not paying those taxes, but simply that existing regulation does not allow an automatic control by public authorities. The evaluation of every single policy effect was possible due to the availability of scraped AirBnb data from “Inside AirBnb”. The suite of legislation that is proposed for the case study of Florence is as follows:

1. Enforce mandatory government-issued fee-based licenses for airbnb hosts.
2. Prohibit entire home listings.
3. Limit each host to one listing.

These three policies were chosen on the basis of most popular regulations on table 1. We believe that more than the “laissez faire” approach, these regulations allow to build long term sustainability for the city as an attractive tourist destination as well as a functioning city for long term residents, and increasing equality among all stakeholders.

4.1 Mandatory licenses

This regulation is the most important one any city can pass, because the municipality can begin to understand the phenomenon and collect their own data on it. The first step could be that licences are mandatory and the city could request or sue (like other cities have done) the platform if they allow listings without a licence number to collect monetary transactions and be booked. Later if the city chooses to, they can apply a negligible fee to the licence renewal every year, and with those funds create a committee dedicated to investigating compliance and the effects of the phenomenon. If desired the committee can identify which listings are commercial and charge a larger fee or apply a higher tax rate to the hosts. With those funds the city can invest in rehabilitating vacant unused housing or subsidise vulnerable communities housing costs so as to offset the effects of gentrification. They could also start to invest in the housing programs that were defunded after the global recession.

Ideally, three permits would be created. One for residents who are living in the unit and sharing their primary residence, a second for resident business who rent out the entire apartment, and lastly a third for businesses who have more than one unit. All businesses would have a higher permit fee and be taxed at a higher rate. They could be limited outside of specific zones such as high rent pressure zones and limited density per street. All listings should need to go through health and safety checks like any hotel.

4.2 Prohibit entire home listings

This policy prioritizes the interests of everyday homeowners over real estate investors and commercial landlords, and allows the platform to truly be a place where travelers can share a home with a local for a unique experience. Ostensibly, if the host can offer up the entire unit unoccupied, then they most likely do not live there full time. It does this by removing units that are only investment properties, and makes the privilege of using the platform one reserved to full time residents who call the tourist destination their home. As we have seen previously in this section, many iterations of this law require the host to prove the listing is their full time residence through a mail verification step. Many cities also add a caveat where primary residents can rent out their home as an entire unshared listing for a maximum of days a year.

4.3 Limit each host to one listing

Finally, limiting Airbnb listings to one per host helps eliminate multifamily housing units and homes from being converted into tacit hotels where each room is its own shared airbnb listing. It also helps cover any gaps in the primary residence verification process, which can be costly to implement. Furthermore by limiting the number of listings each host can have it returns units to the long term housing supply and lessens the rental burden on long term residents who don't happen to be home-owners.

5. Results for the Florentine Case Study

Due to the availability of scraped AirBnb data from "Inside AirBnb" we are able to examine the results of three proposed policies when applied to the city of Florence. The policy 1 (mandatory license) would affect 10.228 units out of 10.867 (94.12%) as the large majority of hosts has not registered yet a license although 6.588 listings out of 10.867 (60.63%) have more than 4 listings, which is usually considered a threshold to become a professional host in Italy.

Policy #1 would allow to the Municipality of Florence to collect €475.770 in added fees a year assuming a €30 fee for single lister and €60 for multilister, which can be condiered low fees if compare with other cities (see table 1). It means almost to double the total amount of the already existing “tourist tax” which approximately should permit to the Municipality to collect €613,386, as it is due on days stayed in every listings last year assuming conservatively only 2 guests and the lowest end tax rate of €3 a night per guest. These roughly add up to 1 million euro that could be potentially be used for public housing policy, targeting students, young professional and families, or low skilled workers. For instance, the Municipality of Florence already supported low-income urban dwellers in facing the expenses for housing, with an average contribution of circa 2700 euros in 2022[3]. This conrtribution, has been cancelled in 2023, and the 1 extra million potentially coming from the implementation of a registration fee as described above, could actually ripristinate this support intrument to an average of 1500 euro for each of the the roughly 700 families benefitting from it in 2022. The lack of public funds for the recovery of publicly owned housing is a fact in Italy (Firenze Today, 2023) and therefore the failure to collect taxes on STRs, is even more incomprehensible.

Policy #2 (Prohibit entire home listings) will affect 8.356 units out of 10.867 (76.92%). It means that 12,211 out of 14,804 bedrooms (82%) potentially will return to the long term housing stock for residents and students. Although this will also reduce the supply for the tourist sector, doing this will have a double effect: (i) making tourists go back to the conventional *hotelerie* providers, which particularly in time of crisis have suffered the competition from Airbnb hosts; and (ii) replenish the supply for long-term rentals hence having a decreasing effect on its prices. Students population in Florence – which adds up to about 50 thousands students - will mainly benefit from it, given that students and young professional are more eager on sharing an partment rather than families. Policy #2 will potentially bring back to the long-term rentals for students a number of bedrooms matching 1 fourth of the whole student population in Florence.

Policy #3 (limit each host to one listing) will affect 5.379 units out of 10.867 (49.53%) which it means that almost half of listings have at least two apartments. This 3rd policy will have the same effect of Policy #2 but to a different magnitude, and presumably family households in need of an entire apartment may be benefit from it.

Applying all these three policies, or a mix of them, effectively means that no commercial entities can operate in the city on Airbnb, and most importantly, that all listings will be monitored by the local government. This will be unpopular amongst many powerful

[3] The public policy we refer here is the “BANDO PUBBLICO PER L’EROGAZIONE DI UN CONTRIBUTO AD INTEGRAZIONE DEL CANONE DI LOCAZIONE” (i.e. transl. *Integrations support to house rent expenses*) for year 2022. https://servizi.comune.fi.it/sites/www.comune.fi.it/files/bando_contributo_affitto_2022_rettifica_firmato.pdf

stakeholders already existing in the city, but also small hosts and "micro-entrepreneurs" who use a property manager to manage their home. This is intentional since the city of Florence is one of the many cities in the world characterised by overtourism. No level of hosting can be supported by the city currently since they are already over capacity, and experiencing a very high rent burden. To avoid increased homelessness levels, loss of character, increased burden on the welfare system, petty crime and unrest that other cities in the world experience due to an unstable housing environment, the city of Florence cannot support commercial operators in their limited finite number of long term housing units. As a matter of fact, Dario Nardella the mayor of Florence has announced on June 2023 the will to adopt a provision for the ban on the use of residential properties for STRs throughout the Unesco area of the historic centre (T24, 2023). In any case, the announcement did not follow an official provision and it is still not clear how the city of Florence wants to regulate STRs.

This proposal will help make the Airbnb a force for sustainability and equality in the city of Florence, and could provide learnings for other cities and places all over the globe. Enforcing this proposal would mean that over 7,000 entire apartments with approximately 12,000 bedrooms can be opened up to residents who contribute to the city long term, spend more money over the long term, and who can still, if they choose to, host a traveler in a spare room and give them a true cultural exchange experience. Furthermore the city would benefit from at least half a million in permit fees a year, that net new revenue could go into funding a committee on short term rentals, and implement sustainable tourism, public infrastructure, after-school programs, job training, and housing initiatives across the city that create future value, increase livability for all residents, and over the long term secure the attractiveness of the destination to tourists.

6. Conclusions

We are aware that any decision about the regulation of P2P rental platforms is a matter of policymakers and then there are a plethora of decisions and opportunities moving from de-regulation to over-regulation. In this paper we argue that an adequate and data-driven policy can be implemented to ensure that the positive effects of new companies like Airbnb stay within the community and that the majority of hosts using the platform are representative of the community, not multinational commercial operations. With spatial analysis and data visualisation, communities can start to take back their cities, and governments can assess the true cost of the STRs phenomenon and can create appropriate policy measures that ensure the longevity of their city.

This paper surveyed the global legislation options, reviewed the Airbnb situation in the case study of Florence and then applied a tailored suite of policies simulation to the city of Florence. The urgency to craft appropriate and effective regulation is undeniable (von Briel and Dolnicar, 2021) given the fact that current research either proves or strongly suggests the relationship between increased Airbnbs and increased housing insecurity and neighborhood fragmentation for full time residents due to rising housing costs (Horn and Merante, 2017; Hati et al., 2021; Grimmer et al., 2019). In an environment where there is ample housing, and so rooms are truly spare and unused, the market that Airbnb creates, of renting out rooms to visitors, can likely be seen as an entirely positive economic activity. The reality is that it does not describe the environment of most if not all places where the platform operates and in particular in tourist cities such as Florence. Moreover, touristification dynamics fuelled by STRs platforms - and Airbnb is the world leader in this sector - brings a decline in resident-oriented activities and an increase in food-related establishments. Ready-to-eat standardized food consumption rises, while variety and local economic resilience decline. Short-term rentals exacerbate the problem by straining city services, and creating demand for low-skilled workers while raising housing prices displace them out of the areas where they are demanded (Hidalgo et al, 2023; Huebscher et al. 2020). Hence increasing also traffic and road congestions. Nonetheless, touristification cannot be neglected that generates some sort of wealth, however whether it also adds value this is strongly questioned, as most of this wealth flows away from the local community because it responds to global speculative interests. Shifting the perspective away from touristification as an economic catalyst, and hence moving the focus of the discussion on how to calibrate public regulation aiming at fostering the blending-in of the tourist economy within the traditional economic structure is necessary to prevent long-term impoverishment.

This paper argues that municipalities have the tools to evaluate STR situation in their city in order to choose appropriate legislation that can increase sustainability and equality in their city, and help the Airbnb platform function as its mission statement intends, as a home sharing app that connects travelers with locals for increased social ties and authentic memorable experiences. In that way, Airbnb can be a force for the best possible opportunities of travel and tourism: to increase connection and community around the world.

Although many cities are experiencing the same dynamics (overtourism, gentrification, commercial use of private apartments), there is not a regulation fitting all of them (Ioannides et al., 2019). While the goal of regulation could be quite similar (reducing the overtourism and limiting commercial style STRs), the underlying processes and consequences differ per city. In few cities, the focus is mainly on the positive impacts of STRs and mitigating negative externalities (Nieuwland and van Melik, 2020). In other cities, which are traditionally touristic, for instance such as Florence, Venice, Barcelona and Paris, the attention is mainly on issues such as overtourism and housing availability.

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