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ABSTRACT

This paper considers the linkages between the home-sharing platform Airbnb and the housing crisis in the Greater Dublin Area (GDA), in Ireland. This area is in the midst of a housing crisis, with a significant undersupply of housing units and rising unaffordability, especially the city of Dublin. While the sharing economy, better exemplified here by Airbnb, has become a major part of the global economy, it is less clear what is the regional impact of Airbnb, an online platform that allows people rent out part or all of their home for short stays. Among the claimed benefits for the tourism sector there are concerns that home sharing removes potential housing supply from the private rental sector to the short-term rental sector, which could aggravate the housing shortage. Along these lines, this paper documents this contemporary urban spatial issue, using rental asking prices data and data from Airbnb listings. The study does not intend to criticize the sharing platforms themselves but rather their disruptive impact and the short-term rental market within a digital economy context more widely. It is found that whilst not the only factor for the current housing crisis in Greater Dublin, Airbnb's presence in the short-term housing is a vivid element of the current housing crisis in the country, which poses challenges for regulators and home seekers.

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SHARING ECONOMY, DISRUPTIVE INNOVATION AND AIRBNB

Recently, the so-called sharing economy allows broad segments of the population to collaboratively make use of under-utilized goods via fee-based sharing. While the sharing of goods and services is an age-old occurrence, the key enabler to this enterprise has been the rise of online platforms that facilitate these transactions (Zervas, Proserpio, & Byers, 2014). Some call it a 'peer-to-peer economy', 'collaborative economy', 'on-demand economy' or 'gig economy'. Nevertheless, 'sharing economy' is the most used term in the scientific literature. Despite the growing research interest in the sharing economy as a research field, the academic literature examining the concept is relatively new. The meaning of this term has only been established in recent times.

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From research conducted in 179 academic publications, Ranjbari, Morales-Alonso, and Carrasco-Gallego (2018) provided 10 core principles of a sharing economy. These core principles are summarized in Table 1, which are the most important characteristics of a framework for the sharing economy. Some features, such as using online platforms, temporary access and using idle capacity, can be considered as standalone features, meaning it is not necessary to find all features in order to define a business as a sharing economy. Considering the challenge of elaborating a definition, Ranjbari et al. offered the follow definition for a sharing economy:

an economic system, whose intermediary companies utilize online platforms to facilitate and lower the cost of the for-profit transactions of giving temporary access– without the transfer of ownership– to idle resources of consumers in the peer-to-peer networks that it has created, because of the trust built among its members, who may be individuals or businesses. (p. 13)

Henceforth, in a sharing economy, a platform connects the supply and demand sides. Several popular companies are included in this category, including Airbnb, Über, Turo (car sharing); Kickstarter and Indiegogo (crowdfunding), TaskRabbit, Fiverr, Zaarly (talent sharing) and many niches services (DogVacay, Spinlister, etc.).

The literature on the sharing economy highlights its potential for positive impacts on neighbourhoods and municipalities, such as increased tourism-related activity, better allocation of resources and additional income to locals (Quattrone, Proserpio, Quercia, Capra, & Musolesi, 2016). However, despite some benefits, it may disrupt traditional industries (DiNatale, Lewis, & Parker, 2018), such as the hotel and housing industries. This practice become disruptive because accommodation offered in web-based platforms is often illegal or unregulated (i.e., operating without a licence/permit, without paying proper taxes/fees, in violation of zoning ordinances or without having proper inspections). These practices give regulated business an economic disadvantage and these services are often accused of proffering unfair competition. In this way, home-sharing companies are a challenging disruptive innovation to traditional industries. Unfortunately, there is little quantitative evidence about Airbnb’s impact in the tourist and housing sector to date.

Disruptive innovation

A disruptive innovation is a product whose attractiveness does not come from improved performance; instead, this new product introduces an alternative set of benefits, generally centred on

Table 1. Sharing economy main features.

Main features of a sharing economy
Online platforms
Idle capacity
Collaborative form of consumption
Peer-to-peer connection
Temporary access/non-ownership
For-profit activity
Convenience of participants
Trust and network-based activity
Sustainability
Intermediary role

Source: Author’s elaboration and adaptation from Ranjbari et al. (2018).

being cheaper, simpler, novel and more convenient (Christensen & Raynor, 2003). That is, disruptive innovations are inferior but ‘good enough’ products when compared directly with existing competitors. In his book *The Innovator’s Dilemma* (2015), Christensen presents several case studies showing firms that seem paralyzed when a lower cost, lower performing innovation enters the market and begins to ‘disrupt’ the established industry structure (Weeks, 2015, p. 418). When ‘innovative business’ topple a pre-existing business model in a regulated industry, the outcome can be a policy disruption. It means that there is a disconnection between the structure of the regulatory system governing regulated sectors and the firms disrupting the industry. The disruption can come from either business sector exploitation of loopholes in regulatory regimes or the introduction of fundamentally new business that have never been regulated, which forces governments to reconsider the regulation of entire sectors (Biber, Light, Ruhl, & Salzman, 2017).

In the housing area, the concept of a disruptive economy encompasses the idea of how technology contributes to the disruption of the basis of supply and demand for housing in low-supply areas. The short-term letting by itself will not automatically lessen the number of residential units available in the economy. The letting of a spare room or underused dwelling can be an additional source of income for families by helping them to pay off debts, such as mortgages and other costs (Sans & Domínguez, 2016). This can support security of tenure and also the tourism sector but also allows for gentrification (Füller & Michel, 2014; Smith, 2018). The appeal of short-term lettings comes from their unique set of attributes that are attractive to some consumers, which in the case of Airbnb is related to some features offered by the platform, such as novelty, money saving and local authenticity (Guttentag, Smith, Potwarka, & Havitz, 2018). The company’s enterprise and global reach represents the bold side of a model that will neither be shut down by local governments nor be allowed evolve free of regulation, but which will probably be governed by ‘mixed regulatory strategies’ (Rauch & Schleicher, 2015).

The concept of disruptive innovation is useful for urban studies because home sharing is potentially causing a disruption in the hotel industry as well as in the mainstream housing provision system. As of today, most of the studies on the impact of the giant Airbnb come from the hospitality literature, and there are little published data on the impact of Airbnb in the housing market. Nonetheless, recent academic work has focused on the impact of Airbnb on local neighbourhoods and urban planning. The rise of Airbnb and other peer-to-peer short-term rental services within the sharing economy represents a transformative innovation that may have a significant impact on urban environments, as they disrupt traditional forms of hospitality, service industry and housing markets (Ferreri & Sanyal, 2018).

The literature on the impact of short-term lettings is rather disputed at present. On one hand, studies describe the negative impact of home sharing. Edelman and Geradin (2016) and also Rauch and Schleicher (2015) claim that companies such as Airbnb take homes off the long-term rental market and converted them into tourist accommodation. Barron, Kung, and Proserpio (2018) analyzed the impact of Airbnb and found that a 10% increase in Airbnb listings leads to a 0.39% increase in asking rents and a 0.64% rise in house prices in the United States. Quattrone, Greatorex, Quercia, Capra, and Musolesi (2018) analyzed Airbnb’s spatial penetration in eight US urban areas, finding that areas close to city centres have the highest number of Airbnb offerings. A comparison study between New York City and New Orleans found that home sharing was associated with rises in property values (Kindel et al., 2016; Sheppard & Udell, 2016). On the other hand, some literature downplays the impact of sharing economy companies by concluding that companies such as Airbnb hardly create any disruption in the hotel and housing industry (Snelling, Colebrook, & Murphy, 2016; Varma, Jukic, Pestek, Shultz, & Nestorov, 2016) by attracting visitors away from conventional accommodation. Other studies claim that home sharing helps to preserve property values by providing an extra income to homeowners that can then repay mortgages and allow them to carry out home renovations (Jefferson-Jones, 2015). Worth mentioning is Wegmann and Jiao’s (2017) study on the types of neighbourhoods

that have the most numbers of Airbnb listings in five large US cities: Austin, Boston, Chicago, San Francisco and Washington, DC. They found that most of the Airbnb listings are clustered around neighbourhoods with a higher number of non-family households. They did not, however, consider the relation between tenure and rent, which, a propos, was conducted by Quattrone et al. (2016), who found that in London, Airbnb hosts tend to rent rather than own the property.

Those research results suggest that the impact of home sharing on housing varies according to geographical regions and local economy types. In common, many publications openly discuss the problem of access to data and the lack of available data to evaluate fully the impact of a sharing economy (Barron et al., 2018; Quattrone et al., 2016; Wegmann & Jiao, 2017).

Airbnb

Airbnb provides an online accommodation platform connecting tourists and local homeowners, potentially affecting the hotel market (Garau-Vadell, Gutiérrez-Taño, & Díaz-Armas, 2018) and, more recently, the housing market (Barron et al., 2018; Lee, 2016). It has expanded globally, raising substantial planning and regulatory concerns. Airbnb became famous for offering tourist guests 'a local experience'. The company maintains that guests impose no additional burdens on neighbours and communities while bringing new income to local hosts and businesses (Gurran & Phibbs, 2017; Khadem, 2016).

The idea of monetizing idle accommodation capacity through a temporary access to travellers was not invented by Airbnb (Ranjbari et al., 2018). Numerous other companies offer this service, such as Oasis, OneFineStay, GuesToGuest, HomeAway, VRBO and FlipKey, to cite a few. Some of those home-sharing companies target specific groups, such as Noirbnb, which focuses on travellers of colour, and HomeAway, which focus on holiday homes. Even popular travel fare aggregators and search websites, such as Booking.com and TripAdvisor, have embraced short-term rentals. Airbnb, however, stands out as one of the most reputable companies in the sharing economy and short-term rental market, active in 191 countries. According to the *Financial Times* (Hook, 2018), Airbnb made nearly US\$100 million in profit in 2017 on US\$2.6 billion in revenue, as gross bookings grew by about 150% if compared with 2016 alone. Hence, Airbnb is the centre of praise and debate surrounding the sharing economy.

Critics, however, claim that Airbnb enables tourism accommodation to penetrate residential neighbourhoods, creating conflict between visitors and residents, displacing scarce permanent accommodation in high-demand cities and exacerbating affordability pressures for low-income groups (Brousseau, Metcalf, & Yu, 2015; Gurran & Phibbs, 2017).

In contrast, the potentially high financial returns of offering a home or a room on Airbnb may encourage homeowners to move their property from private residential long-term accommodation to short-term letting to tourists. It has been noticed elsewhere that investors purchase residential units for short-term letting as an investment option (Gurran & Phibbs, 2017). An example from Ireland, according to figures from the Daft.ie Q4 (2017) report (2018), the average rent for a whole one-bed home in Dublin 8, a popular area closed to Phoenix Park, costed €1501 per month. Considering the €108 average Airbnb per night, it is possible to estimate that an owner in Dublin 8 could make up to €857 income per month. This is obviously less than the income from a long-term resident, but entire homes and apartments in Dublin city are available for rent 32% of the time. Therefore, a property that is let for one-third of a month could generate roughly the same as long-term tenancy agreement.

The present paper uses the concept of disruptive innovation to consider Airbnb's potential to disrupt the housing market in the Greater Dublin Area (GDA), where local authorities have only recently demonstrated efforts to regulate the short-term rental sector. The next section explores the impact of Airbnb in European cities and some governments' responses to it. The paper then presents the empirical data, followed by a discussion and conclusions.

AIRBNB AND THE CITIES

In recent years, European capitals have seen rents rise faster, while on the opposite direction affordable housing is becoming increasingly scarce (Fields & Hodkinson, 2018). With the rise of home-sharing websites, Airbnb become the focus of criticism.

Paris, Berlin and London are the biggest Airbnb markets in Europe. Since May 2016, unlicensed renters were banned from service in Berlin and property owners need a licence to negotiate on Airbnb (*The Guardian*, 2016). However, authorities have stated that the numbers of permissions are purposely small: about 95% of the requests are rejected. In an attempt to keep rental rates affordable for residents, a regulation called ‘Zweckentfremdungsverbot’ (prohibition on the use) prevents Berliners from renting whole apartments via Airbnb and other similar platforms. The penalty for those who break the law is a fine of up to €100, but the rental of single rooms is still allowed in Berlin. The new legislation had a significant effect on the city: with 18,800 apartments announced in the platform, 40% of the offers on Airbnb disappeared at the time the law came into force. As of late 2017, nearly 11,700 houses and apartments are available on the platform.

Paris is the capital city with the highest number of ads on Airbnb, approximately 65,000 in June 2018, according to Forbes.¹ To secure long-term accommodation to citizens, the Council of Paris has established some conditions for short-term rents and has carried out strong supervision to ensure those conditions are observed (Vidalon, 2017). Contrasting the many attempts to regulate home sharing, such as in Barcelona, Tokyo and Los Angeles, the city of London opted for a path of further deregulation of the sector. In 2015, the UK government deregulated short-term letting, so owners are allowed to rent their properties for fewer than 90 days per year without the need for official authorization (Ferreri & Sanyal, 2018). In the context of housing shortages, other countries are beginning to take heed of Airbnb’s impact, with Iceland and the Netherlands also imposing restrictions to short-term letting.

Turning to Dublin, it had until recently unclear rules for short-term lettings, despite a soaring housing crisis. In Temple Bar, a tourist hotspot in Dublin city centre, an apartment had a profit of €79,000 in Airbnb in 2016 (Kelly-Quinn et al., 2014). After protests from site users, Dublin City Council (DCC) has decided that owners must apply for planning for the commercial use of their properties if they wish to continue renting for short periods. The decision, however, was specific to that particular area at the time.

THE HOUSING SHORTAGE IN THE GDA

Ireland was among the European Union countries that were harshly affected by the 2008 economic meltdown. The austerity measures implemented between 2010 and 2014 were some of the most severe in the European Union and, among the different sectors of the Irish welfare state, social housing was one of the most affected areas by the associated cutback of public spending (Byrne & Norris, 2018; Dukelow & Considine, 2017).

Besides the overwhelming consequences for Ireland and its economy, the property bust created serious challenges across the housing system. Data from the Central Bank of Ireland shows that 10% of mortgage owners were in arrears in March 2018 (Central Bank of Ireland [CBI], 2018), and lending for mortgages for property development has declined radically since 2008. Together with state retraction from social housing, these events have precipitated a marked decline in new house building from 71,356 units in 2007 to 14,932 in 2014 (Byrne & Norris, 2018; CSO, 2018). The dwindling in housing construction numbers has created a severe housing shortage in Irish cities. In Dublin, where the economic recovery is most prominent, and the population and its density are increasing, the housing issue has become acute over the past

three years. It is clearly evident by rapid rising rents, which have raised by 12.8% on a year-by-year basis (Lyons, 2018) and the increasing number of homeless families in the Dublin area from 556 in July 2015 to 1367 families in July 2018 (Dublin Region Homeless Executive, 2018).

In April 2017, just 1265 homes were available to rent, one-third below the average over the last five years (Lyons, 2018). Meanwhile, there were more than 5377 places available to rent on Airbnb in Dublin city alone in the same period, and over 6700 available when the Dublin region (Dublin, Dun Laoghaire, Fingal and South Dublin) is also included. Rent pressure zones (RPZ) were designed in areas where rent is above the national average and rising quickly, and all counties in the GDA have areas designated in the RPZ geographical range. In these areas, rents are frozen for a two-year period and homeowners are only allowed rise rents by a maximum of 4% annually.

Despite the challenges in the housing area, Airbnb holds on to the benefits of its home-sharing platform. An Airbnb report called *Home-Sharing: The Positive Impacts on Dublin* (2017) presents statistics about the accommodation site in Ireland. In 2016, Airbnb users generated nearly €275 million for Dublin's economy, as 6100 Airbnb hosts welcomed 403,500 visitors to Dublin for an average of 3.2 nights (Airbnb, 2017).

In October 2017, the Irish Housing Department released a guideline for planning applications for short-term lettings in the form of a circular letter that gives power to local authorities to grant permits if properties are used as short-term lets. This circular was based on an An Bord Pleanála (the national planning appeals board) individual case ruling deciding that using residential apartments for short-term lets was a 'change of use' and therefore requires planning permission.² In particular, the circular highlighted the growing use of online platforms that may, if not adequately regulated, facilitate and encourages property owners to remove their properties from the long-term rental market (Department of Housing, Planning and Local Government [DHPLG], 2017).

The circular also reminded local authorities to be proactive in investigating short-term lets cases that breach planning regulations. Under this new guideline, a property owner planning to let a property for a short term must apply for a change-of-use from residential to short-term letting. In this case, a letting cannot exceed 60 nights per year and not be more than five consecutive nights in any specific letting. Permissions can be refused on the grounds that the property is located in an area where demand for housing is high. There were, however, some regulations before the Airbnb era. According to the Planning and Development Act 2000, an individual found to be breaching planning rules by carrying out unauthorized activities must pay a fine amounting to €10,000 or two years of imprisonment, sometimes both. Recidivism makes an individual liable to fines of €10,000 per day. Yet, reports that local authorities have not been proactive flood the news media (e.g., Murray, 2018; Neylon, 2017).

Dublin city is not alone in trying to regulate Airbnb as part of its response to the housing crisis. In other world cities, governments wage legal battles to regulate home sharing, such as Edinburgh, which is planning a licensing system, and Sydney, where the government now imposes a 180-day cap on the number of days empty properties can be rented in the city.

Many housing and homelessness charities in Ireland have criticized the government's slowness at regulating the proliferation of Airbnb-style rentals. Homeless organizations, such as Focus Ireland, The Simon Community and St Vincent De Paul, claim the number of homes being advertised on sites such as Airbnb is contributing to the city's housing crisis. While preliminary data indeed support these claims that a potentially high number of properties were withdrawn from the long-term rental market for use for short-term lettings, this paper aims to document how the housing markets are being affected by Airbnb's presence in the short-term housing. It argues that the low housing supply and slow uptake of new housing projects increases the pressure on the housing markets in both Dublin and areas outside the city limits, and that Airbnb might be compounding this pressure even more.

METHODS AND CASE SELECTION

The location chosen for this study is the GDA for four main reasons: (1) Airbnb listings demonstrated a steep increase in listings in the past years; (2) Airbnb has its Europe headquarters in Dublin; (3) Airbnb has successfully lobbied with the government for less regulation; and (4) the GDA is currently in the middle of a serious lack of affordable housing and Airbnb, if not properly regulated, may encourage properties to be withdrawn from the long-term rental market, particularly in Dublin, because of the possibility of higher income earning (evidence presented by the Joint Committee on Housing, Planning & Local Government, 2017). To conduct this

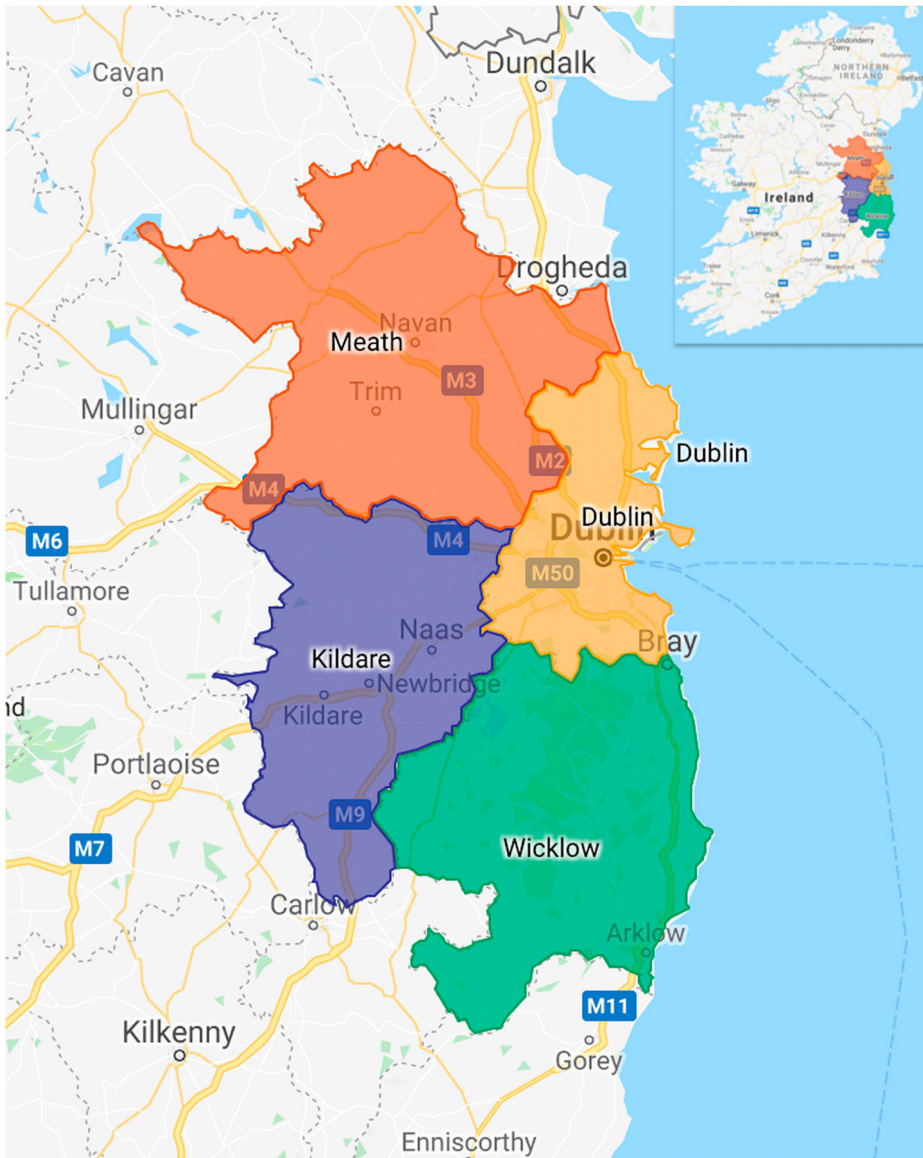


Figure 1. The Greater Dublin Area (GDA) and its hinterland.
Source: Google Maps.

research, the author analyzed Airbnb listings in the Dublin area from the Inside Airbnb project (a data-collection project that compiles information of Airbnb listings for public use) and reports on Irish rental price (standardized average rent) from the Residential Tenancies Board (RTB).

The GDA is composed of the Dublin region and its counties (Dublin City, South Dublin, Dún Laoghaire–Rathdown and Fingal), and also Meath, Kildare and Wicklow counties, as defined by the National Transport Authority of Ireland (see [Figure 1](#)). The population of the GDA as of the Census 2016 was 1,904,806 people, an increase of 100,000 since 2011. The population living in the area equates to 40.03% of Ireland's population. The growth of the area over recent years has resulted in a further increase in the share of the total population and of the labour force that is resident in the region, and more densely populated areas are predominantly located within the GDA (CSO, 2016), with an increased flow of long-distance commuting (Williams, Walsh, & Boyle, 2010). In Dublin, the housing prices and rents are high and affordability problems are more acute, but it has also becoming the case in the GDA areas.

DATA/EMPIRICS

The purpose of this study is to document the rise of Airbnb in Dublin's GDA areas and its causal links to rental prices in the GDA based on rental prices and Airbnb listings. These analyses provide empirical insights into Airbnb's status as a disruptive innovation in a regional perspective. Descriptive statistical analysis was used to identify correlation between rental prices rises over the period 2016–18 and Airbnb listings from 2016 and 2018– the only period when data from Airbnb started to be systematically collected in an online accessible platform.

[Figure 2](#) presents the breakdown of rental prices by year in the four GDA counties (Dublin, Kildare, Meath and Wicklow). Rent is higher in 2018 than in 2015. This trend is not observed only in Dublin, but also in the GDA as a whole. What stands out is that even with the rent freeze policy being in place since December 2015, rents still increased by 20% nevertheless. Hitherto, this measure to tackle the housing crisis has not presented positive results.

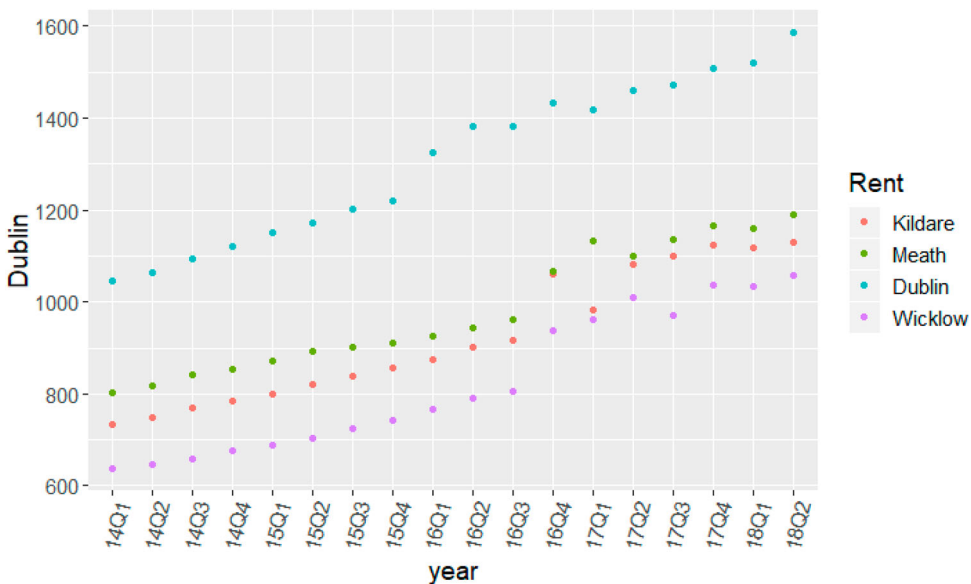


Figure 2. Rents in the Greater Dublin Area (GDA).

Source: Author's elaboration using Residential Tenancies Board (RTB) rental reports (various years).

Table 2. Number of Airbnb listings in the Dublin region.

Period	Entire homes/apartments	Total listings	%
January 2016	1682	3773	44
August 2016	2826	6224	45
February 2017	3166	6729	47
April 2018	4519	8949	50
May 2018	4580	9028	50
July 2018	5016	9866	50
August 2018	5038	10020	50
September 2018	4941	9803	50

Source: Author's elaboration of Inside Airbnb project (various years).

Turning to Airbnb listings, [Table 2](#) illustrates the breakdown of Airbnb listings for the Dublin region between January 2016 and September 2018, where data were available. The number of listings increased significantly over the three-year period, especially from January to August 2016, when total listings and entire homes almost doubled. Also, in August 2018, during the summer high season, the number of listings in Airbnb reached 10,021, in which 5038 units (or 50%) were entire homes or apartments, an increase of 56% if compared with August 2017. During this period, only 1400 properties were on the rental market in Dublin, according to the [Daft.ie 2018 Q2 rental price report \(2018\)](#). The same report also shows that inflation rose, as rents in Dublin were 13.4% higher in the second quarter of 2018 than a year earlier. While there is definitely a place for short-term lettings in the hospitality market, it is very likely that homeowners are withdrawing entire homes from the long-term rental market to list them on Airbnb.

What used to be low-rent areas, such as neighbourhoods in Meath and Kildare, are much higher over time. Note that in September 2018, half the GDA listings in Airbnb were entire homes or apartments, meaning that 4951 units were available for booking for more than 90 days of the year, probably adding to the already reduced housing supply, not to mention the potential adversely effects on the homeless crisis.

DISCUSSION

Prior studies have noted the potential Airbnb impact in neighbourhoods, the housing market and the tourism sector. This study set out to document the effect of Airbnb listings in the housing market in the GDA. It found that the increasing number of Airbnb listings in the Dublin region is co-related to less housing being available in the long-term rental market and a rise in rental prices in the GDA. This result is part of a set of factors contributing to the current housing crisis. Dublin's case shows that in a highly pressured housing market, a new, disruptive product is on the rise, and it is difficult to argue that Airbnb has no effect on the housing crisis. Even with the best lobbying strategy, it is problematic to have confidence on Airbnb's claims about the 'positive impacts home sharing is creating in Ireland', because Airbnb refuses to share further data for academic scrutiny ([Finn, 2018](#)). In reality, the government has been very slow at responding to the rise of home sharing, as people try to escape from the high rents in Dublin. The solution for some might be to move to areas where rents are more affordable at first, but a longer commute might be necessary.

The data show a consistent increase between the number of short-term rental listings and the increasing rents in the GDA. A possible explanation is that the high number of Airbnb listings in Dublin has an effect on the housing markets in the GDA, together with other factors, such as population growth. The population in the GDA rose by 100,000 between 2011 and 2016,

which also has an impact on the housing market in the area. The population of the GDA is projected to grow significantly over the coming decades, from its current 1.3 million to 2.1 million by 2022 (Kelly-Quinn et al., 2014). It means that if regulation for the short-term letting sector is not in place and too few housing units are added to the market, the housing crisis will probably escalate further in the next few years. From the data analysis, it is possible to observe an association between the number of Airbnb listings in the Dublin region and the rise of rental prices within the same region, but the study cannot say conclusively what is the precise role of the rise of Airbnb in the Dublin housing crisis.

An analysis of the regulatory framework developed by DCC pointed out the inadequacies of its regulatory framework. The challenges of regulating the home-sharing sector was also evidenced by strong Airbnb lobbying power. When threatened by an attempt at regulation, Airbnb responds by taking legal action. Some of the arguments of the Airbnb defence are: (1) Airbnb is a mere platform, not a service provider; and (2) because it is an online business, Airbnb is immune to any regulation on business transactions, as the company insists that occasionally sharing space in a home is not the same as running a business. Airbnb has top legal experts to manage legal crises, with hundreds of law firms hired around the world. Thus, the company saves valuable time to strengthen and increase its approval and popular sympathy. In addition, it wants to impose its legal views on shared economies.

The concept of a disruptive economy helps to explain some of Airbnb strategies. As a 'disruptive company', Airbnb tries to make each city a particular case, thus it has been negotiating individual agreements with each city (Hook, 2016). The company's goal is to reach a general agreement for the world's main cities, considering that those areas attract most of the demand and it is also where people have criticized the service more often. This is possible thanks to Airbnb's strong lobbying power, especially within the European Union. A report from the independent Corporate Europe Observatory (CEO) research group on how online rental platforms use the European Union to frustrate cities' affordable housing measures indicates that home-sharing companies, such as Airbnb and HomeAway, consistently work to interpret European Union rules in favour of their tourist accommodation platforms (CEO, 2018).

These findings help one to understand that home sharing through Airbnb has disrupted the traditional business model for short-term letting, possibly impacting the GDA housing and rental markets. While each local government authority is required to adopt regulations, the policy framework for monitoring and regulating the impact of Airbnb rentals has been very limited. These findings evidence the difficulties governments face at regulating in the context of disruptive economies, as it is also evidenced in previous research on Über car sharing and similar services in other European countries (Rauch & Schleicher, 2015).

While Airbnb services remain in the process of being regulated in the GDA, other cities have tightened regulation to safeguard their local housing market. More regulation has been successful in some cities, such as San Francisco, which has reduced the number of Airbnb listings by 50% by introducing a licensing system.

The impact of home sharing has led to a call for regulatory policies. Such as in the hospitality sector, the clear definition of regulatory housing policies and the evolution of home sharing are variables that determine future scenarios. Attempts to ban home sharing mean a disincentive to innovation and protect oligopolistic markets; more receptive policies may have the desired results if tourism grows moderately within a regulatory framework (Oskam & Boswijk, 2016). The data and conclusion presented in this research can be useful for policy-makers to justify and reinforce the need for appropriate regulation of short-term tourism-related lettings, given the housing and rental policy objectives in each individual municipality. More broadly, more research still needs to confirm that Airbnb is contributing to the housing shortage in many cities around the world. A critical limitation is the unavailability of data concerning the impact of short-term lettings. A full picture of this impact will only be possible

when home-sharing companies make their data fully available and transparent for use by researchers and policy-makers.

CONCLUSIONS

Airbnb is a clever idea, but not a benevolent innovation. While certainly not only one cause of the current housing crisis, the prominence of Airbnb properties in high-demand areas of the GDA might aggravate the problem. The convenience of Airbnb for consumers must always be balanced against inconveniences for citizens and the state. The rise in the number of short-term lettings in a poorly unregulated environment indicates a weak regulatory framework in planning policies. Despite calls for short-term letting regulation, Airbnb homeowners and users praise the platform for its flexibility and cheaper accommodation. The fact that most of the rent agreements in the platform are informal does not seem to bother Airbnb supporters.

While short-term lettings in Airbnb alone are not responsible for the current lack of affordable housing in Dublin city, its presence in the housing market plus the frail regulatory framework has negative and disruptive impacts. This impact is disproportionately felt by specific groups within the housing system, such as people reliant on private rented units for accommodation. The enforcement of a new regulatory framework for short-term letting in Dublin could have a positive impact on the housing market in the GDA as whole, considering that many of the housing units current advertised on Airbnb would return to the market as an option for long-term accommodation. The policy lesson from the Airbnb experience includes measures to increase the supply of housing, while developing protocols and processes that encourage and facilitate home sharing by preventing unauthorized rentals being advertised on the Airbnb platform.

All planning efforts should be supported by a strong policy framework for monitoring the impact of Airbnb rentals on the availability and cost of lower cost permanent rentals. Findings in this paper are constrained by the difficulties of monitoring other aspects of the housing crisis, since the study was limited to the impact of Airbnb listings. For this reason, it was not possible to add to the analysis other aspects of the housing crisis in the Dublin region. Further work is needed to understand fully the implications of Airbnb for neighbourhoods and its impact on the housing market, in light of other factors, such as property speculation, the shortage of social housing units, population growth and the limited accommodation in the private market. While this paper cannot (and has not attempted) to establish a link between cause and effect in relation to rising rents and the rise of Airbnb, at the very least the removal from the market of units for short-term rental in the context of a pressurized GDA housing market requires further scrutiny through both quantitative and qualitative means.

The challenge for governments and municipalities at present is to develop short-term letting regulation from a set of compulsory and flexible provisions, which at the same time offers municipalities some discretion to define their own regulations to respond to local conditions.

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NOTES

¹ Estimates are from <http://insideairbnb.com/>. Inside Airbnb is an independent data-collection project that compiles information of Airbnb listings for public use. The project publishes periodic reports. Data from Inside Airbnb have been largely used in academic research as well as by the Joint Committee on Housing, Planning & Local Government in Ireland to support recommendations for home-sharing regulation. For information about the project's methods, see <http://insideairbnb.com/>. See also Kuper (2018).

² An Bord Pleanála (case reference PL29S.RL3490), 'Whether the use of residential apartment for short term holiday lettings is or is not development or is or is not exempted development' (2016).

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