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Is Airbnb a sharing economy superstar? Evidence from five global cities

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ABSTRACT

The "sharing economy" concept has been embraced by governments, entrepreneurs and commentators as delivering new forms of opportunity for local and national economies. Accommodation-sharing platform Airbnb is often considered a sharing economy exemplar, and has promoted itself as helping middle-class residents to gain and retain a foothold in expensive housing markets. This narrative is particularly salient in "global cities", where poor housing affordability and high tourist demand inevitably coexist. However, critics claim many Airbnb listings are actually permanent short-term rentals. Thus, instead of enabling new efficiencies in the use of housing assets and providing financial security for existing residents, Airbnb may be a variation on an old theme: removing properties from the market for long-term rental or purchase. This paper has three aims: it critically interrogates the sharing economy concept in relation to Airbnb; it reviews the regulatory responses to Airbnb in five global cities; and it examines Airbnb listing data in each city. Ultimately, the paper argues that while some Airbnb listings do fit the sharing economy narrative, others are part of the traditional economy of short term letting. Policy makers need to recognise the different impacts of these uses in their responses to Airbnb and the sharing economy.

"共享经济"受到政府、企业和评论人的一致称赞，认为它为国家和地方经济提供了新机会。住房共享平台爱彼迎常被视为共享经济的典范，该平台的自我宣传则称帮助中产阶层居民在昂贵的住房市场中站稳脚跟。这种话语在"全球城市"中尤为高调，这些城市一方面住房承受能力低，另一方面旅游需求旺盛，这两方面不可避免地并存。然而，批评者认为许多爱彼迎房源实际成为专门的短租房。因此，爱彼迎可能并未在住房的使用和房主经济保障方面提供新效率，而是穿新鞋走老路：将长租或购房市场的财产转移出去。本研究有三个目的：第一，对以爱彼迎为代表的共享经济概念提出质疑；第二，评价全球五个城市对爱彼迎的管理措施；第三，分析每个城市的爱彼迎房源数据。文章最后指出，爱彼迎的部分房源的确属于共享经济，但也有一部分房源属于传统的短租市场。决策者需认清爱彼迎和共享经济对两类使用的不同影响。

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1. Introduction

> My claim is not, of course, that we live in a unique moment of humanistic sharing … The capital cost of effective economic action in the industrial economy shunted sharing to its peripheries … The emerging restructuring of capital investment in digital networks…is at least partly reversing that effect. (Benkler 2004, p. 278)

In the aftermath of the Global Financial Crisis (GFC), the "sharing economy" has been embraced by governments, entrepreneurs and commentators as delivering new forms of economic opportunity to local and national economies. As Benkler argues, the sharing economy phenomenon reflects a significant shift in how economic value is created and distributed in the twenty-first century. Using new digital platforms, the sharing economy allows participants to easily share the excess capacity in assets and services. The benefits promoted by supporters of the sharing economy phenomenon include environmental sustainability, more equitable redistribution of wealth, and the growth of social capital in new sharing communities. But as the sharing economy has grown, it has attracted an increasing number of critics, who claim that the sharing economy creates damaging new externalities, and that its proponents use its positive image to avoid appropriate regulation.

Accommodation-sharing platform Airbnb has become "practically synonymous with the sharing economy" (Schor 2014), and now turns over billions of dollars in revenue each year, with an overall business value at over \$20 billion (Klampet 2015). It claims that by allowing home owners to share their property, it is helping middle-class residents to gain and retain a foothold in expensive housing markets. This narrative is particularly salient in so-called "global cities" (Sassen 1991), where poor housing affordability and high tourist demand inevitably coexist. Yet these cities have also seen some of the strongest reactions against Airbnb, with critics arguing that landlords now choose Airbnb over long term rental, removing housing stock from already tight rental markets (e.g. Poston & Khouri 2015; Gurran and Phibbs 2017, Barron *et al*. 2017; Wachsmuth *et al*. 2018).

Following on from these debates over the impact of the sharing economy are questions about how participants should be regulated. Slee (2015, p. 26) argues that the regulatory issue is what best defines the sharing economy, concluding that "[t]he Sharing Economy is a movement: it is a movement for deregulation." Airbnb has certainly lobbied hard for a light regulatory touch–for example, spending over \$8 million campaigning to defeat a measure limiting Airbnb use in San Francisco (Cutler 2015). Ultimately, however, regulatory decisions regarding Airbnb and other sharing economy participants should be informed not by political capital, but by the type of economic activity taking place, and its potential benefits and harms (Miller 2016). As Zale (2016, p. 509) argues, before we can determine how best to regulate the sharing economy,

> we must first answer a more fundamental question: what does it mean to "share" property? In the rush to label the sharing economy as good or bad, both sides of the debate have largely overlooked this question.

This paper helps to rectify this oversight through a combination of theoretical, regulatory and quantitative analysis. It begins by outlining the defining features of the sharing economy, and examining how well Airbnb fits the model. It then provides an overview of how five global cities have regulated Airbnb, and how these responses characterise Airbnb's economic activity. Finally, it provides an analysis of quantitative data from five global cities to determine how much Airbnb is in fact used for sharing. Together these lines of inquiry shed light on the question of whether Airbnb should be considered a sharing superstar, and more importantly, what this means for how Airbnb should be regulated.

2. What is the sharing economy?

Perhaps the one thing that observers agree on is that the sharing economy is a nebulous and poorly-defined concept (Schor 2014, Slee 2015, Miller 2016, Zale 2016, Frenken and Schor 2017). To an extent, this reflects the concept's relative novelty, as a phenomenon that has existed for less than a decade. But this uncertainty also reflects the diversity of services associated with the sharing economy.

One explanation for the sharing economy's meteoric growth is that it has largely been portrayed as a positive development, meaning businesses are keen to associate with it (Schor 2014). After all, most of us feel positively disposed towards the idea of sharing, and are therefore likely to adopt the same attitude towards sharing economy participants. As Zale (2016) argues, "labels are powerful agenda setters", and the term "sharing economy" has helped to evoke a more socially conscious business model than the practices which led to the GFC. More recently, however, this positive narrative has come under fire, with critics arguing that "sharing" and "economy" are inherently contradictory concepts (Slee 2015), and that many participants are just "share-washing"–using the sharing economy label to cover for aggressive business tactics (Zale 2016).

These conflicting views about the sharing economy's nature lie at the heart of debates about the best regulatory responses. Underpinning these views are quite different assessments of exactly what the sharing economy is and who benefits from it. Key debates include:

- Is it actually a more socially responsible business model?
- If it is simply a new business model—what makes it novel?

This section briefly summarises the responses to these two questions.

2.1. A more socially responsible business model?

As discussed above, the sharing economy has benefited from a positive public image, having even been portrayed as a social movement more than a business model (Slee 2015). This was particularly true in the early days, as Schor (2014, p. 8) explains:

> The debut of the sharing economy was marked by plenty of language about doing good, building social connections, saving the environment, and providing economic benefits to ordinary people. It was a feel-good story in which technological and economic innovation ushered in a better economic model. Especially in the aftermath of the financial crash, this positive narrative was hard to resist.

As the sharing economy expanded, however, these claims have come under scrutiny. The activities associated with the sharing economy have become increasingly diverse, and include many exchanges driven primarily by profit motives rather than a humanistic sharing attitude.

Given these changes, a critical analysis of the sharing economy's true nature requires looking beyond the fact that sharing is involved, to analyse the specific activity taking place (i.e. what is being shared, who benefits, any externalities, etc.) Doing so reveals a diversity of economic activities, with few features in common. Schor (2014) identifies four broad categories of economic activity generally included in the sharing economy:

- recirculation of goods (e.g. reselling/giving away goods through eBay or Gumtree);
- increased utilization of durable assets (e.g. home or car sharing via digital platforms like Airbnb and Couchsurfing, or Zipcar and Car Next Door);
- exchange of services (e.g. hiring a cleaner through Airtasker); and
- sharing of productive assets (e.g. co-working spaces and makerspaces).

Each of these categories does involve *sharing of excess capacity* in an asset or service, which is one of two qualities Benkler (2004) identifies as essential elements of the sharing economy. This sharing of excess capacity may often be more efficient than the production of new goods or services, and helps to justify the sharing economy's reputation for supporting sustainability (Schor 2014).

There is no guarantee businesses in these four categories will also display Benkler's second quality, however, which is a *sharing attitude or motivation*. This question of motivation is significant, as Benkler (2004, p. 327) explains:

> Money-oriented motivations are different from socially oriented motivations. Sometimes they align. Sometimes they collide. Which of the two will be the case is historically and culturally contingent.

In other words, while the goal of making a profit doesn't preclude the goal of doing good, it does fundamentally change the nature of a transaction. Exchanges where resources are reallocated based on price signals are inherently different from exchanges based on non-price social relations, even if the latter also involves money (such as paying for a share of the petrol used in a car-share ride). It is non-price exchanges that are the primary reason for our positive response to "sharing" as a concept. For this reason, Schor (2014) concurs that the profit/non-profit divide is a key distinction between sharing economy participants.

Given the significant number of profit-making enterprises involved, it is hard to sustain an argument that altruism or social responsibility is a defining feature of the sharing economy. For this reason, some observers point instead to the use of new digital platforms as the defining feature that makes the sharing economy novel.

2.2. What makes it novel? The significance of new digital platforms

So if the sharing economy is best understood as a novel business model, exactly what is new about it? Even within the categories outlined by Schor, questions and contradictions persist. Why, for example, is Airbnb in, while traditional bed and breakfasts are out? As Schor (2014, p. 2) notes, "[w]hen I posed these questions to a few sharing innovators, they were pragmatic, rather than analytical: self-definition by the platforms and the press defines who is in and who is out." This response is telling, as it reaffirms the critique that the sharing economy is as much about branding as about creating new forms of economic activity.

Beyond this promotional aspect, however, there is another shared feature of sharing economy participants: the reliance on new digital platforms. Indeed, the use of these platforms is arguably the most coherent feature of the new sharing economy (Miller 2016). Sharing economy enterprises such as Airbnb, Uber and Deliveroo have been the darlings of Silicon Valley's start-up scene, and much of the excitement about them reflects broader excitement about the internet's potential to reshape our social, economic and political interactions. The important question for regulatory purposes, however, is posed by Zale (2016): "is there something truly 'innovative' about [sharing economy] activities, or are they simply the same as existing activities, made superficially unfamiliar by the veneer of technology?"

As Schor (2014) demonstrates, the economic activity underpinning many sharing economy businesses is nothing new, and to an extent "the discourse of novelty in this sector is overrated". What new technology has allowed, however, is a step change in the scale and reach of sharing economy businesses, as well as their costs, and potentially their reliability. Zale (2016) helpfully outlines three key features of this shift:

> Technology enables the sharing economy by performing three key functions: (1) the large-scale identification of users—both those who have assets they want to monetize and those who want access to those assets; (2) location services to enable these two groups to find each other at the right time and right place; and (3) trust verification methods that lower transaction costs involved with "stranger sharing."

Platform technologies have made economic activities which were traditionally restrained by small markets and high transaction costs–such as running a Bed and Breakfast–far easier and more efficient to run. These activities have also become less risky, with payment processes and quality assurance outsourced to a third party. These are significant innovations. While the effectiveness of two-way online review systems is open to debate (Zervas *et al.* 2015, Frenken and Schor 2017), this approach to quality assurance is clearly one of the sharing economy's most innovative features (Schor 2014, Zale 2016).[1]

The net effect of these changes has been a dramatic expansion of the pool of participants willing to engage in sharing assets and services. Only a few sharing economy businesses follow the more traditional "business-to-peer" model, with the shared assets centrally owned (e.g. carsharing platforms like GoGet or Zipcar). Most instead enable "peer-to-peer" sharing, where individuals each share a few assets, and may participate both as providers and users. The ease of engaging in economic activity via these platforms is key to the sharing economy's promotional narrative, offered as evidence that the sharing economy is facilitating a more equitable redistribution of wealth.

What this narrative obscures is that benefiting from such "sharing" first requires ownership or effective control of an asset capable of monetization. It also obscures the fact that the businesses benefit even more, as their fee-per-exchange model means more trades create more income (Schor 2014).

This is another reason why technology is the sharing economy's most innovative feature: the internet's global reach allows peer-to-peer sharing platforms to produce profits their analogue forbears could hardly have imagined. This change in the scale of economic activity is significant enough to fundamentally change how the social costs versus benefits should be assessed (Zale 2016). It is also significant enough to necessitate a reassessment of the broader impact of these economic activities–something an increasing number of jurisdictions are now doing, as this paper will outline shortly.

But first, to summarise what distinguishes the sharing economy as a new phenomenon (and what doesn't):

- it is not an inherently socially responsible economic model. While the sharing economy can improve environmental outcomes and enable more equitable resource distribution, these outcomes depend on the motivations of the participants and how they are regulated;
- sharing the excess capacity in assets is not a new form of economic activity, but new technologies have fundamentally changed the *scale* of this activity; and
- the sharing economy's novelty therefore lies in the way new digital platforms have expanded the pool of participants and reduced the costs and risk.

3. How well does Airbnb fit the sharing economy model?

Having identified the defining features of the sharing economy, the next question is how well Airbnb fits this framework. Given the diversity of participants, the fact that a business has been labelled part of the sharing economy says very little about its specific business model and impact. This section provides a brief overview of Airbnb, before examining whether it should be viewed as a quintessential sharing economy company, and the implications for regulation.

Airbnb is a digital platform that connects hosts offering private rooms or residences with guests seeking short-term accommodation, in return for a small fee. After a decade in existence Airbnb claimed to have welcomed over 200 million guest arrivals in 4 million listings in more than 190 countries (Airbnb 2017). Australia has approximately 50,000 listings nationally, with a significant growth trajectory. These listings are typically concentrated in high-demand residential areas (Ting 2016). The economic impact is significant; for example, in 2015 Deloitte assessed Airbnb's economic contribution to Australia at $284 m, of which $115 m was in the state of New South Wales (Deloitte Access Economics 2015).

Airbnb describes itself as a "home sharing" service that facilitates access to spare rooms and temporarily vacant homes. The association with sharing has been strongly promoted by the company, as Slee (2015) points out:

> Airbnb is the poster-child for sharing: in its public statements and in its marketing it actively promotes a bucolic "shared city" where "local mom and pops flourish again … that fosters community, where space isn't wasted, but shared by others".

Hosts using Airbnb in this way are engaging in a form of economic activity that has long been a feature of urban housing markets (Schreter and Turner 1986, Jefferson-Jones 2015), from private boarding in the twentieth century (O'Hanlon 2005) to contemporary private rental "share houses" (Clark and Tuffin 2015). But while these precedents involved relatively small-scale economic activity, Airbnb has opened house sharing up to a global market of millions. In this regard Airbnb is the quintessential sharing economy superstar, harnessing new peer-to-peer digital platforms to dramatically "upscale" an existing economic activity, by reducing transaction costs and providing access to a truly global market.

At the same time, however, one feature of Airbnb distinguishes it from many of its sharing economy counterparts. While Airbnb primarily caters to the markets for short-term tourism and business accommodation,[2] it does so by providing access to an asset traditionally used to service an entirely different market–the long-term housing market. Furthermore, Airbnb has the capacity to provide housing investors with an alternative source of income to long-term rental, at least in areas of high demand for tourist or business accommodation. It is clear some properties on Airbnb are now permanently available for short-term rental, meaning they are "shared" only with other visitors, not permanent residents. The obvious implication is that these properties have been removed from the market for long-term rental, and are now used as permanent tourist and/or business accommodation instead.

Given its extraordinary reach, Airbnb enables such a radical upscaling of a previously marginal form of housing activity that it represents a fundamental shift. While Uber has a similar business model (facilitating the use of private vehicles for transport by paying customers), any impact on the demand for private vehicles can quite quickly be met with new supply. Producing new housing supply is more challenging, however, particularly in big cities with high land prices and little undeveloped space. This restricts the ability of housing markets to absorb Airbnb's impact without affecting prices. This arguably makes Airbnb a special case in the sharing economy pantheon, and one that requires targeted regulatory attention.

While Airbnb has been happy to acknowledge its significant impact–grandly describing the platform as a tool that "democratises travel and democratises capital"[3] – it has been less willing to examine its potential impact on housing markets. Instead, Airbnb promotes itself as a middle-class champion, enabling owner-occupiers to use home sharing to offset the cost of big-city life and stay in their homes (Hunt 2016). This narrative seeks to counteract claims that many Airbnb hosts are best viewed as business operators, not home sharers. Yet as Zale (2016) argues, Airbnb's position is open to debate:

> the personhood values implicated in owning a home—as opposed to owning a hotel or retail store—have led some scholars to consider it "one of our quintessential constitutive resources … a priori immune from public regulation." Yet when homeowners increasingly use their homes in much the same way as a hotel, as some high volume hosts have done on Airbnb, that a priori assumption of immunity from regulation comes into question.

In other words, the focus when determining how best to regulate sharing economy participants should be on how shared assets are actually being used. While it is important that new regulations don't unnecessarily stifle greater participation in longstanding economic activities, this is tempered by the need to ensure these economic activities don't begin to cause undue harm to other members of society. Businesses like Airbnb should therefore be regulated in a way that reflects their overall impact, not the fact that they are innovative or efficient.

In this regard, Airbnb arguably stands in a category of its own among sharing economy participants, given its potential to create negative externalities. Central to this assessment is whether Airbnb is being used to facilitate the sharing of spare housing capacity, or to monetise housing in a way that reduces access to long-term rental accommodation. With housing affordability a significant concern in cities around the world, it is not surprising that many have now grappled with this question. The next section examines regulatory responses to Airbnb in five cities around the world: Paris, London, New York, Sydney and Hong Kong. The first three cities regularly rank as the three biggest Airbnb markets in the world, while Sydney is Australia's biggest market (and a top-10 market globally), and Hong Kong is among Asia's biggest markets (Bishop 2017). Each is also regularly identified as a "global city" (e.g. AT Kearney 2017), and regularly ranks in the top 20 most expensive rental markets worldwide (Millington 2017). This review demonstrates how different jurisdictions have distinguished between the use of Airbnb for sharing excess capacity, and the use of Airbnb as an alternative to long-term rental.

4. What do regulatory responses tell us about Airbnb as a sharing platform?

While global cities are not the only places being reshaped by Airbnb, they are by their nature likely to be significantly affected. Both high rates of tourism and expensive housing markets are defining features of these influential urban hubs, and also features that exacerbate Airbnb's negative effects. At the same time, however, it is important to note that in each of the cities examined here, short-term letting had been the subject of specific regulatory regimes since before Airbnb, as a matter of preserving housing stock, protecting residential amenity, and maintaining standards in tourist accommodation.

The regulatory changes introduced in recent years vary in approach: regulation in both New York and Paris has tightened, and Hong Kong is considering a tighter regulation; in London, regulation has loosened, with the apparent intention that the amended regime be more realistic and effective. Sydney has yet to make any substantive city-wide changes. In each city short-term letting is regulated by private law, too, the impact of which is outlined later in this section.

4.1. Hong Kong

Hong Kong regulates short-term letting as "guesthouse accommodation" under a regime established in 1991, which requires that all premises that offer "sleeping accommodation for a fee for fewer than 28 days" must be licensed.[4] Operating a guesthouse without a licence is an offence, with penalties up to $HK 200 000 or two years imprisonment. Since 2009 the regime has also included a scheme for licensed guesthouses to identify themselves with a logo. The licensing process involves consideration of fire safety, health, sanitation, and the ability of the prospective licensee to supervise the premises. As such, no formal allowance is made for unregulated "sharing economy"-style letting; all short-term letting activity is regulated as traditional tourist accommodation.

The Office of Licensing Authority (OLA) reports a steep increase in enforcement activity between 2009 and 2013 (Office of the Licensing Authority (Hong Kong) 2014), but also difficulties administering the regime, particularly in collecting evidence. At 2014, there were 1220 licensed guesthouses in ordinary apartment buildings (Office of the Licensing Authority (Hong Kong) 2014). As a consequence, the OLA commenced a review in 2014 with a view to tightening the regulations, including by introducing a "fit and proper person" criterion, requirements for insurance and "a 24-h manned reception counter", new powers of entry onto premises, and heavier penalties. These changes have not yet been made (Table 1).

4.2. London

Unlike Hong Kong, in London some regulatory space has been formally carved out for "sharing economy" lettings. In Greater London, residential premises may be used as "temporary sleeping accommodation" for up to 90 nights per calendar year without planning permission, provided the accommodation provider is a resident, not a corporation (i.e. they are liable to pay council tax, not business rates[5]). Short-term letting of residential premises for more than 90 nights a year is a change of use which requires planning permission. Planning requirements vary by local council; at least one London council advises that applications will likely be refused (Camden Council 2017).

This regime commenced 2015, and represents a loosening of prior restrictions around short-term letting. Under the previous regime, dating back to 1973, the use of residential premises as temporary sleeping accommodation (for less than 90 days) was a change of use requiring planning permission.[6] This meant any short-term letting of the whole of premises without planning permission was an offence.[7] The restriction became controversial following the rise of Airbnb and, in particular, the tourist influx around the London 2012 Olympics. The British Government thus set about "modernising this out-dated legislation, so that residents can allow their homes to be used on a short-term basis without unnecessary red tape" (Department for Communities and Local Government (UK) 2015).[8]

In response, Airbnb began automatically limiting "entire home" listings in London to 90 nights in a calendar year.

Table 1. Hong Kong enforcement.

	2009	2010	2011	2012	2013
Enforcement action	2430	2678	3125	6791	9889
Prosecution	39	38	53	128	171
Conviction	36	44	39	110	161

4.3. New York

Airbnb's history in New York City (NYC) has been a torrid one, including a lawsuit against the city, and accusations the company manipulated its data to present an overly positive picture of its impact in the city (Cox and Slee 2016). Part of the reason for this controversy is that short-term lets were a government concern long before Airbnb's arrival. Short-term lets are restricted under the Multiple Dwelling Law (MDL). Units in buildings certified as class A multiple dwellings (including apartments and "apartment hotels") must be used for "permanent residence purposes", defined as "occupancy of a dwelling unit by the same natural person or family for thirty consecutive days or more" (section 8(a)). The MDL allows shorter periods of occupation in two limited sets of circumstances:

- where the guests are "living within the household of the permanent occupant such as house guests or lawful boarders, roomers or lodgers"; and
- where "the permanent occupants are temporarily absent for personal reasons such as vacation or medical treatment, provided that there is no monetary compensation paid to the permanent occupants for such occupancy".[9]

The effect is to prohibit the letting of entire units for less than 30 days, unless free of charge–which is holding the "sharing economy" strictly to its word.

The MDL also prohibits the advertisement of unlawful short-term lets, with penalties ranging from \$1000 to \$7500 (section 121). This provision, introduced in October 2016, was the subject of a legal challenge by Airbnb; that suit was settled in December 2016 when New York City undertook to prosecute only hosts, not Airbnb. The Mayor's Office of Special Enforcement is responsible for enforcing the regime.

All these restrictions apply to class A multiple dwellings, which house three or more families (section 4–7); buildings for occupation by one or two families are not subject to the restrictions, and class B multiple dwellings (for "transient occupancy") are subject to specific regulations.

Current restrictions are a tighter version of restrictions that date from at least 1961. At that time, class A multiple dwellings were defined as "occupied, as rule, for permanent residence purposes", with permanent residence or occupancy distinguished from "transient" occupancy (which for decades the City interpreted to mean periods of less than 30 days). However, in 2009 the New York State Supreme Court held that the 30-day threshold did not have a legislative basis, and that class A multiple dwellings need not be used exclusively for permanent occupancy. This meant that some degree of use for short-term lets was permissible.[10] Consequently, the MDL was amended to expressly include the 30-day threshold in the definition of "permanent residence purposes".

4.4. Paris

In Paris, the regulation of short-term letting is shaped by longstanding regulations and cultural practices around the keeping of "secondary homes", as distinct from a person's "primary residence". Where premises are a person's "principal residence"–that the person lives there for at least eight months a year—short-term letting is allowed without authorisation.[11] This definition means that where entire premises are let short-term for a total of more than four months in a year, the premises cannot be a "primary residence". Premises occupied by the same person for fewer than eight months a year are a "secondary home", and short-term letting is subject to several restrictions.

Letting an entire secondary home for short-term holiday accommodation is a change of use, and authorisation is required from the municipal government.[12] In Paris, a municipal by-law (adopted 2008) provides that as a condition of authorisation the owner must first purchase an equivalent area of commercial space for conversion to housing; in some parts of the city, the compensation requirement is doubled. The penalty for unauthorised change of use is up to €50 000 per dwelling, and €10 000 per square metre per day of unauthorised use.

Letting rooms in a secondary home while the proprietor is in occupation is also a change of use, and must be declared to the municipal government and comply with the requirements for "guest rooms" under the *Tourism Code* (Article 324-1).

Restrictions on short-term lets in secondary homes date from at least 1978 (while some reports trace the restrictions back to 1948, these were not enforced for much of the subsequent period).[13] The provision for compensation dates from at least 2005.[14] From 2005, responsibility for enforcement shifted from the police to the City of Paris, and enforcement activity stepped up. From January 2017, the City of Paris also increased the surcharge on secondary homes, as a further measure to encourage the use of premises for principal residence housing.

Airbnb has now begun reminding Parisian hosts when their letting periods are approaching the four-month threshold. It has also arranged to collect visitor taxes imposed by municipalities.

4.5. Sydney

In Sydney, use of a private dwelling for short-term letting may or may not involve a change in use; where it is a change of use, the proprietor is required to seek development consent from the local council. There is, however, no clearly defined threshold for determining a change of use, nor a category of use that is clearly defined and consistently used across Sydney's local government areas that captures short-term letting.

In 2016 a New South Wales Parliamentary committee conducted an inquiry into the adequacy of short-term holiday letting regulation (NSW Legislative Assembly Committee on Environment and Planning 2016). It recommended that "short-term rental accommodation" be a specifically defined use in planning instruments, and be allowed without development consent (i.e. as exempt development) in the following circumstances:

- where the premises are the host's principal place of residence; or
- where the host remains in occupation (i.e. letting rooms, not the entire dwelling); or
- where the use is below a certain "impact threshold", to be determined by the local council.

Where the use would exceed the impact threshold, the Committee recommended that it be dealt with as complying development–that is, the use would be allowed provided the proprietor can certify that they have complied with relevant standards set out in planning instruments. The NSW government subsequently released an options paper, and is reviewing public submissions.

4.6. Regulation at private law

In all five cities short-term letting is also regulated as a matter of private law; in particular, through rules and obligations that come with ownership or occupation of properties in multiple dwelling buildings, and through tenancy agreements between landlords and tenants (Table 2).

Tenancy agreements may also restrict premises from use other than for residential purposes, and from being sub-let without the landlord's consent. In some cities–but not, apparently, the global cities

Table 2. Building-level private regulation of short-term letting.

City	Regulatory instrument	Effect
Hong Kong	Deed of Mutual Covenant	May prohibit use other than as a private residence
London	(Proprietary) lease	May prohibit use other than as a private residence
New York	Co-op by-laws and proprietary leases Condominium by-laws	Co-op leases specify permitted occupants, prohibit sub-letting without co-op's consent (except "room-mates") and other uses Condominium by-laws may prohibit use other than as private residence
Paris	Condominium rules	May prohibit use other than as a private residence
Sydney	Strata scheme by-laws	Prohibit unlawful uses, but otherwise must not restrict dealings with lots

considered here–Airbnb has attempted to influence this level of regulation through its "Friendly Buildings Program". This involves building owners entering an agreement with Airbnb to allow tenants to sublet through Airbnb, in return for Airbnb providing information about listings in the building and a share of the income generated by hosts to the owners.

In summary, this regulatory review reminds us that short-term letting for tourism purposes, though given new prominence and scale by Airbnb, is an old practice that has previously been regulated and restricted. It also indicates that common elements of regulatory regimes–in particular, thresholds as to permissible use–can easily be incorporated into Airbnb's own systems to ensure the platform is used primarily for house sharing. This prompts the next question: how well do the different regulatory regimes outlined here align with the ways in which Airbnb is actually being used in these cities (Quattrone *et al*. 2016, Barron *et al*. 2017)? The next section analyses quantitative data on Airbnb use, to offer an empirical assessment of how and where the platform is being used in these global cities.

5. What does the data tell us about Airbnb as a sharing platform?

Airbnb has tightly controlled access to data on the use and reach of its platform. A well-known activist organisation, Inside Airbnb, has undertaken web scraping to capture listing, booking, and price data from Airbnb's website. This data is freely available online, and has been used in various analyses (e.g. Minifie 2016, Gurran and Phibbs 2017). This data has limitations, however, relating to the way in which booking information is captured. In 2014 Airbnb redesigned their platform so that "booked days" (days booked by guests) and "blocked days" (days blocked by the host) were indistinguishable. This makes it impossible to determine the length of time for which dwellings are actually available, or have been booked by visitors. InsideAirbnb has instead inferred occupancy rates–and thereby identified "highly available" dwellings–through an analysis of review data left by visitors.[15]

Another web-scraped data-set is also available to researchers, produced by the for-profit company AirDNA. Unlike Inside Airbnb, AirDNA has developed an algorithm to distinguish between booked and blocked days. The algorithm makes use of data scraped prior to Airbnb's website redesign, which contained specific information on booked and blocked days, to assess whether properties shown as unavailable now are likely to be blocked or booked. Because of this added layer of information, we have used AirDNA data for our analysis. The AirDNA data used here shows active listings as of September 2016. AirDNA data has also been used in a number of related analyses (Stulberg 2016, Wachsmuth *et al*. 2018).

The aim of this analysis is to distinguish between two different short-term Airbnb uses:

- occupied properties being shared (which we label "house sharing"). This includes dwellings for which part of the house is advertised (i.e. private or shared rooms) and dwellings which are only available for a short period of the year (up to 90 days[16]), suggesting that the property is otherwise meeting someone's housing needs.
- properties that are permanently offered on Airbnb for short-term rental accommodation, thus precluding use as long-term housing (which we label "traditional holiday lets"). This category of use has been identified in two ways: by determining which properties are made available and/or booked for a total of more than 90 days per year; and by identifying properties where the host has multiple properties listed on Airbnb (including multiple room listings as well as multiple entire property listings).[17]

Through this categorisation process, it is possible to get a clearer sense of whether Airbnb was being used to share spare housing capacity, or to monetise housing in a way that reduces the availability of long-term rental accommodation. This in turn will allow a clearer assessment of how many Airbnb listings actually reflect the concept of "sharing", which is regularly used to promote the platform. Of course, some room share options could also represent long-term accommodation options if not advertised on Airbnb. House shares are an increasingly common form of permanent residential accommodation, particularly in tight housing markets. This means our categorisation system may be viewed as under-estimating the number of Airbnb properties that could otherwise provide permanent accommodation. Overcoming these remaining limitations would require access to Airbnb's full data set, which is not currently publicly available.

5.1. Holiday let or house share?

To begin, it is helpful to first show how Airbnb's own categories of use are distributed across the five cities considered here. Table 3 shows the breakdown of listing types (entire properties, private rooms and shared rooms). It shows the dominant share of listings in each city are entire properties, not private or shared rooms, with this figure being highest in Paris.

Turning now to our analysis, Table 4 shows the share of listings in each city that we categorise as traditional holiday lets or house sharing. The former category includes a substantial share of listings in each city, especially in Paris.

Table 5 shows properties where hosts had multiple listings, suggesting that they were not simply sharing excess capacity, but using Airbnb as a business strategy. Most hosts with multiple listings had only two listings, some of which may be two separate rooms in the same dwelling. However, an analysis of the proximity of each listing based on latitude and longitude showed almost all listings were too far apart to be in the same dwelling. In any case, hosts offering multiple rooms might best be viewed as being able to provide long term house sharing options, given the excess housing capacity available.

Table 3. Listing type as a share of total listings.

	Hong Kong		London		New York		Paris		Sydney	
Listing type	Listings	% of Total	Listings	% of Total	Listings	% of Total	Listings	% of Total	Listings	% of Total
Entire home/apt	3240	51	26,250	53	21,393	52	49,705	88	12,718	60
Private room	2824	44	22,653	46	18,110	44	6051	11	7962	38
Shared room	322	5	671	1	1289	3	490	1	364	2
Total	6386	100	49,574	100	40,792	100	56,246	100	21,044	100

Table 4. Traditional holiday lets compared with house sharing.

	Hong Kong		London		New York		Paris		Sydney	
	Listings	% of Total	Listings	% of Total	Listings	% of Total	Listings	% of Total	Listings	% of Total
Traditional holiday let	1796	28	13,872	28	10,552	26	27,341	49	5084	24
House sharing	4590	72	35,702	72	30,240	74	28,905	51	15,960	76
Total	6386	100	49,574	100	40,792	100	56,246	100	21,044	100

Table 5. Listings where hosts have multiple listings

	Hong Kong		London		New York		Paris		Sydney	
Multiple Listings	Listings	% of Total	Listings	% of Total	Listings	% of Total	Listings	% of Total	Listings	% of Total
Yes	3957	62	20,936	42	11,247	28	35,650	63	6485	31
No	2429	38	28,638	58	29,545	72	20,596	37	14,559	69
Total	6386	100	49,574	100	40,792	100	56,246	100	21,044	100

These tables offer some interesting insights into how well actual Airbnb use aligned with the sharing economy narrative, as opposed to being best categorised as "traditional holiday letting".[18] Table 4 identifies at least a quarter of listings in these cities as commercial short-term rentals, a use no more aligned with "sharing" than a traditional hotel. Instead, almost 60,000 properties across these five cities are now being used as permanent Airbnb rentals, which may have previously been available to longer-term residential tenants. Similarly, Table 5 identifies almost 80,000 properties where the hosts advertise multiple listings. While not all these properties may be suitable for long-term rental, and not all the hosts are necessarily property owners, these figures do raise the prospect that Airbnb enables people already relatively rich in housing to extend their position, and over-consume property that might otherwise be put into circulation in the long-term housing market. Overall, the data suggests that a significant portion of Airbnb use involves activities that are not new "sharing economy" uses at all. Instead, in direct contrast to Airbnb's sharing-focused narrative, these are traditional letting uses that have long been subject to government regulation in most global city contexts.

What is not clear from the aggregated data, however, is the geography of these different uses. The next section focuses on Sydney, providing maps to visualise how different uses impact different parts of this city.

5.2. How are these categories of use distributed spatially? Exploring the case of Sydney

To give an indication of the spatial distribution of different categories of use, the Sydney data from Table 4 above has been mapped (see Figures 1 and 2). As these maps show, Airbnb listings were highly clustered, with "traditional holiday lets" primarily located in areas around the central business district and in popular tourist areas like Bondi Beach and Manly Beach. For "house share" listings there were similar concentrations in central and tourist areas, but also a greater dispersal across the city.

That listings in both categories align with tourist zones is no surprise, as this is where most Airbnb users will want to stay. However, it might also be expected that Airbnb would enable short-term

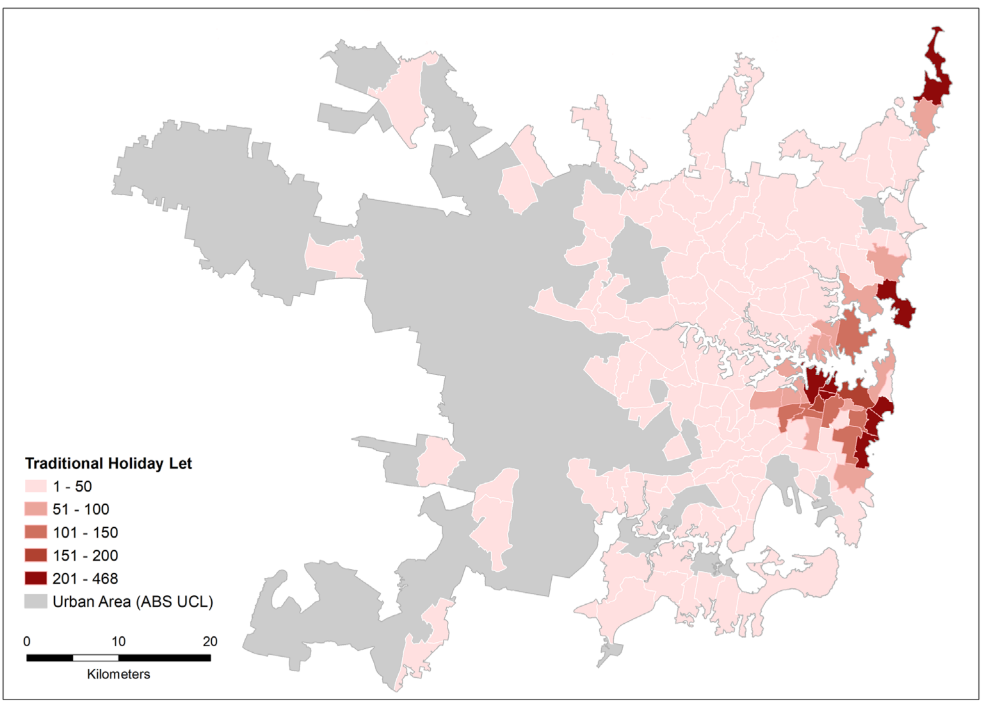

Figure 1. Location of holiday rentals in Sydney by Australian Bureau of Statistics Statistical Area Level 2 boundaries (SA2).

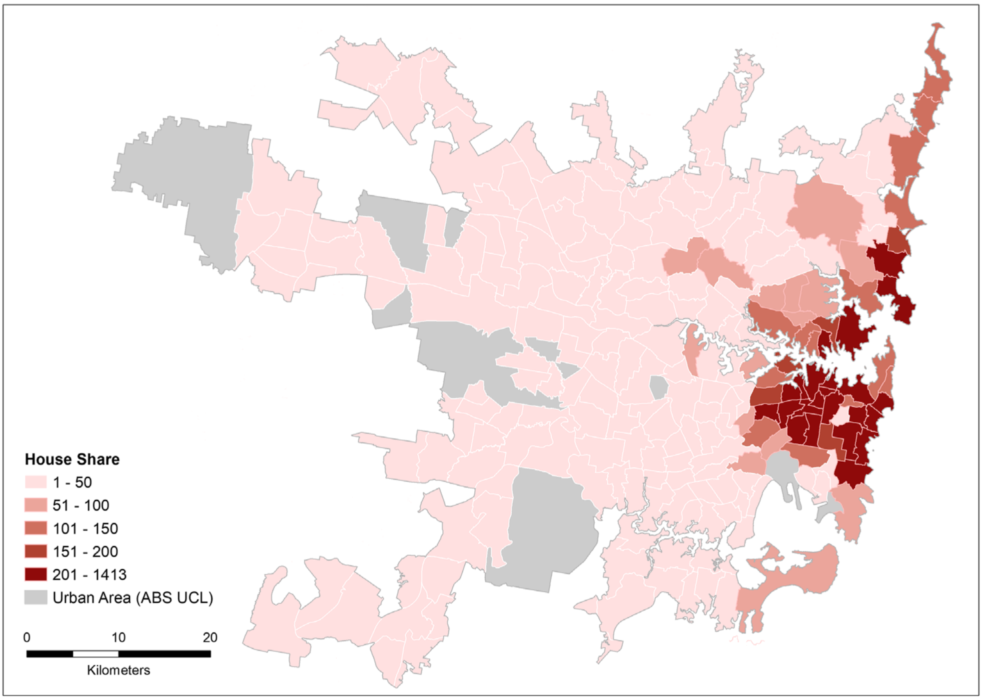

Figure 2. Location of house shares in Sydney by SA2.

accommodation to be offered across a wider geography, spreading the economic benefits to new areas "hidden" from the traditional tourist market. At the time of this analysis, however, this spatial expansion was limited. Airbnb use in Sydney was primarily occurring in inner city and coastal neighbourhoods that have undergone significant gentrification over the past two decades, causing the displacement of poorer residents (Atkinson *et al*. 2011, Randolph and Tice 2014, 2017). This concentrated spatial pattern is particularly evident for holiday rentals, which pose the greatest threat to housing affordability, given that they involve "sharing" only amongst visitors. As such, there is good reason for concern that Airbnb is contributing to processes of spatial polarization in Sydney.

By contrast, actual house sharing in Sydney is somewhat more spatially dispersed. Of particular note is the evidence of house sharing occurring across almost the entire Sydney metropolitan area, including throughout the western suburbs, which are not generally considered tourism hotspots. While still at low levels, this evidence suggests that as well as being more closely aligned with the claimed benefits of the sharing economy, this Airbnb use is beginning to spread the benefits of the visitor economy to parts of Sydney that may not have traditionally reaped these rewards.

6. Conclusion

The data analysis in this paper indicates that in these global cities in 2016, between a quarter and a half of all Airbnb listings were best viewed as traditional holiday let businesses, rather than examples of the sharing economy. In other words, a significant proportion of Airbnb listings in these cities were fulfilling an economic activity that was already widespread–and generally regulated as such–long before Airbnb existed. Furthermore, a closer examination of Airbnb's impact on Sydney shows that while traditional holiday lets were a minority of listings, they were overwhelmingly spatially concentrated. It is well known that urban property markets have distinctive and often polarised geographies (Randolph and Tice 2013, Pawson and Herath 2015), suggesting that micro changes can have localised impacts on housing markets. These localised impacts are the subject of ongoing research by the authors (see also Gurran and Phibbs 2017), which will provide further insights into the residents and neighbourhoods most affected by Airbnb's dramatic proliferation.

At the same time, however, the majority of listings in these global cities could be classified as house sharing, either by time or space. This indicates that many people are using Airbnb in a way that fits the sharing economy narrative, and aligns with how the platform is promoted. House sharing is also not a new practice, of course, with Bed and Breakfasts, lodging and share houses already prevalent before Airbnb's arrival. But Airbnb has enabled an unprecedented shift in the scale of this activity, which is sufficient to justify viewing this as a substantively new phenomenon. Thanks to new platform technologies, house sharing is now global in reach, and perceived as acceptable for users across the socio-economic spectrum. This is a dramatic enough change to justify regulatory reconsideration.

So what should this regulatory reconsideration entail? This analysis supports a few conclusions. The first is the need for more nuanced public debate over Airbnb, which recognises and distinguishes between different forms of use and different spatial impacts. In many cities, debate has become highly polarised, creating a risk that political expediency will side-track efforts to develop a robust and effective regulatory regime. On one hand, it is clear that Airbnb is popular, making enforcement of overly strict limitations challenging. On the other hand, some uses of Airbnb are more problematic than others, and targeted regulation should focus on these more antisocial forms of use.

The second conclusion is that well targeted regulatory responses need to be underpinned by careful conceptual and empirical analysis of Airbnb's impact, and that this requires access to data that is not currently available. While the scale of Airbnb presents a challenge for regulators, the visibility of it–all recorded in data–also presents an opportunity for more effective regulation. This is particularly true for compliance with use thresholds, which Airbnb has demonstrated can be incorporated into its listing systems in London. If Airbnb is genuinely committed to the ideal of "sharing", as it regularly claims, it should share its data with regulators, even if it is not made publicly available. Airbnb's unwillingness to do so (to date) indicates its sharing rhetoric is more of a sales pitch than a guiding philosophy.

In the meantime, it is fortunate that a growing body of academic and activist work can now support more informed assessments of the sharing economy. This work is essential if we are to redirect the public debate into a less polarised, more productive discussion. Such a discussion is, in turn, essential if we want the sharing economy to match its stated ideals, and to play a part in ensuring the transition from industrial to digital economies does not further exacerbate urban inequality.

Notes

1. The innovation of these review systems is that they trade information for control (Benkler 2004), and rely on the views of many proving more reliable than oversight by one regulator. In doing so, however, they arguably remove responsibility for ensuring minimum standards are met, transferring this risk from business to customer.
2. Recent analysis estimates that in 2017 25% of all leisure stays, and 23% of business stays will have used Airbnb (Molla 2017).
3. This was the phrase an Airbnb representative used at a University of Sydney event on 5 April 2017.
4. *Hotel and Guesthouse Accommodation Ordinance* 1991.
5. *Deregulation Act* 2015, section 44.
6. *Greater London Council (General Powers) Act* 1973.
7. The wording of section 25 suggests that short-term letting of part of premises while the occupier is in occupation may also have been caught.
8. The Act, however, also allows the government to reapply the previous restriction to certain properties or in certain areas (section 45), though it has not done so.
9. See sections 8(a)(1)(A) and 8(a)(1)(B), respectively.
10. *City of New York v 330 Continental LLC* (2009) 60 A.D.3d 226, 873 N.Y.S.2d 9.
11. Article 2 of the *Act of 6 July 1989*, modified by the *Act of 24 March 2014.*
12. Article L631-7 of the *Code of Construction and Housing.*
13. Article L631-7 of the *Code of Construction and Housing* took effect in 1978. References to the earlier regulations point to the Act 48–1360 of 1 September 1948.

14. See reference in amendments to the *Code of Construction and Housing* made by Ordinance 2005-655 of 6 June 2005.
15. Details of Inside Airbnb's occupancy assumptions can be found at: http://insideairbnb.com/about.html.
16. A 90-day threshold reflects the regulatory approach of a number of cities (including London; see also Byron Shire Council in Australia). It assumes that people renting out their primary residence for short periods, while on holidays for example, are unlikely to do so for more than 90 days in a year.
17. Each listing on Airbnb is attached to a unique host identifier. By aggregating bookings by host, we can identify Airbnb users who appear to be engaged in short-term holiday letting, rather than sharing their primary dwelling.
18. While beyond the scope of this work, further research would be valuable to determine whether/how this balance between holiday letting and house sharing has shifted over time, particularly relative to key regulatory events.

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No potential conflict of interest was reported by the authors.

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