

COVID-19 pandemic exposes the vulnerability of the sharing economy

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Abstract

The outbreak of COVID-19 pandemic has resulted in a global economic recession but little is known about its impact on the informal economy including peer-to-peer rental market. Against this backdrop, this study assessed the financial loss of Airbnb listings and its hosts in Sydney from January to March 2020. Findings show that the pandemic resulted in 70% income loss for Airbnb hosts with hosts suffering eight times higher than the Airbnb platform itself. However, like other gig workers and freelancers, many Airbnb hosts are not qualified to claim the financial aids from the government in Australia. Our study shows the vulnerability of the sharing economy during a time of crisis. It contributes empirical evidence to the widening public debate on the sustainability and the sharing economy but most importantly, raises concerns over the sharing economy's contribution to a resilient society and economy.

Introduction

The outbreak of COVID-19 pandemic has not only resulted in unprecedented infected cases and death across globe but also significantly impacted the global economy including job losses. While evidence has started to emerge to quantify the economic impacts of COVID-19, less is known about its impacts on the informal economy including the peer-to-peer (P2P) rental market. P2P rental, as part of the sharing economy, has enjoyed dramatic growth in the last decade, creating a new era of disruptive and alternative economic growth by using underutilized resources for a fee without owning it.

Recently media coverage has shown that the recent travel bans associate with COVID-19 across globe has significant negatives impacts on P2P rental, particularly the income loss of hosts ¹.

In Australia, the federal government has announced “a \$130 billion JobKeeper payment to help keep more Australians in jobs and support businesses affected by the significant economic impact caused by the Coronavirus. Around 6 million workers will receive a fortnightly payment of \$1,500 (before tax) through their employer” ⁶. However, unfortunately, many gig workers or freelancers, including Airbnb hosts, are not qualified to claim this financial aid. Research shows that the sharing economy including P2P rental can help to ease the unemployment problem by providing extra income⁷. However, with the ongoing pandemic, many Airbnb hosts who heavily rely on Airbnb as a vital source of income can

be placed in a difficult situation. Against this backdrop, this research quantifies the financial impacts of COVID-19 on Airbnb hosts in Sydney, Australia from which implications for government and future research directions can be gleaned.

Research Design

Three months' information of Airbnb listings in Sydney was obtained from Inside Airbnb including January, February and March 2020 (<http://insideairbnb.com/>). The initial Airbnb listings cover 41,338 (Jan), 40,434 (Feb) and 39,670 (Mar) in these three months. Listings with non-active comments were removed for each month's dataset. The final dataset only includes the active listings in each month. The data contains a variety of information of Airbnb listings including the listing's location, price per night, minimum number of nights, and reviews per month. Price of the listings per night and its reviews were used as the proxy to estimate the income of Airbnb hosts, although it can only be assessed as the lower limit of the income, as Airbnb guests can stay more nights than the minimum nights required.

The calculation of income losses includes two parts: 1) booking service charge for Airbnb platform, and 2) room service charge for Airbnb host. Airbnb usually charges between 0% and 20% of booking subtotal for booking service and we adopted 13% for Sydney following the recommendation of Cheng, et al.⁸. As such, the remaining rental income becomes the net income of Airbnb hosts. The detailed explanations are available in the work of Cheng, et al.⁸. It is important to note that on top of each listing's price, Airbnb charges an extra service fee and hosts charge a cleaning fee, thus customers usually pay more than the price shown on the website. Without paying taxes, the income is shared by Airbnb platform and hosts.

Results

Active listings

Findings in Table 1 show that Airbnb hosts have suffered significant reductions in listings with the outbreak of COVID-19 pandemic but losses varied across different room types. Overall, Active Airbnb listings in Sydney dropped to 5,298 in February compared to 8,461 in January. In March, there are only 4,979 active listings, a reduction of 41% compared to January. This decline would reflect

domestic and international border closures and cancellation of domestic travel for purposes other than essential work.

The “entire home” and “shared room” suffered the highest reduction in listings (42% and 74% respectively, Table 1). This is understandable given COVID-19 is a highly communicable virus and social distancing measures were enforced in March. A “hotel room” can be safer than other room types when considering COVID-19 transmission, and whilst listings dropped significantly by 31% in February compared to January the category witnessed a 17% growth from February to March for an overall decline of 19%. The “private room” also has a 39% decrease from January to March.

Table 1: Active Airbnb listings from January to March 2020

	January		February		March		Overall number change January to March
	Number	Average Price (AUD\$)	Number	Average Price (AUD\$)	Number	Average Price (AUD\$)	
Entire home	6321	275	3756	242	3691	219	42%
Private room	1996	79	1435	85	1214	78	39%
Hotel room	67	245	46	209	54	179	19%
Shared room	77	44	61	39	20	42	74%
SUM	8461		5298		4979		41%

In fact, in January, the Sydney Airbnb market was prosperous with a total revenue of 13 million dollars including 11 million dollars for host as estimated in this study. Six suburbs have an income more than 0.5 million dollars on average per month in January Hosts from the suburbs Pyrmont-Ultimo and Haymarket-Rocks in the inner city as well as Bondi beach have a total income of more than 0.7 million each (Figure 1). The suburbs - Bondi junction, Palm beach and Manly are popular tourist areas and/or shopping centers with a total income over 0.5 million respectively.

Table 2: Average income of platform and hosts for active listings from January to March 2020

AUD(\$) /night	Entire home/apt.		Private room		Hotel room		Shared room	
	platform	hosts	platform	hosts	platform	hosts	platform	hosts
Jan.	43.0	320.8	12.2	90.7	33.6	250.8	6.3	46.9
Feb.	39.5	294.8	13.0	97.3	28.3	211.3	5.5	41.4
Mar.	36.1	269.7	12.0	89.5	24.4	181.8	5.8	43.6

However, with the increasing positive cases in Sydney and Australia’s travel bans, Airbnb hosts’ income loss was about 8 million AUD less and 70% lower in March than that in January (Figure 2). The inner city of the Greater Sydney has been hit the hardest with a 47% decrease of hosts’ income comparing March to January. This area used to have the most concentrated active Airbnb listings as it not only has the bustling shopping centers but also many popular tourist attractions including Sydney Opera House, Sydney Harbor Bridge and China Town. Unfortunately, this area has also been reported to have the high density of Covid-19 confirmed cases (154 cases by 15 April 9). The other tourist attractions and shopping centers such as Bondi junction and beaches with the highest 177 confirmed cases also has an 80% decrease of income from January to March 2020.

Our findings further show that suburbs with high concentration of Chinese ethnic groups have also been hit hard. Hurstville, which is known as a Chinese concentrated suburb, has witnessed a 64% decrease in March compared to January. That could be a result of a decline in international students with associated friends and family when the Australian government issued a travel ban on travelers and visitors from China on 1 February 10.

Discussion And Conclusions

When compared to the loss of Airbnb platforms, Airbnb hosts’ income loss are 8 times higher than Airbnb platform itself. As Airbnb hosts are informal employee of Airbnb ¹¹, Airbnb platform transfers their risks through outsourcing room services to Airbnb hosts. When there is an economic boom, there seems to be a win-win situation, where both Airbnb platforms and Airbnb hosts are able to generate income; however, as this study shows, during the COVID 19 crisis Airbnb hosts can be burdened by a loss of income that will have implications for ongoing mortgage repayments and other debts.

In addition, compared to an employee’s average salary, the daily income of Airbnb hosts can range

from 19-144% of the wage of a full-time employer depending on room types (Australian adult's income averages 221 AUD\$ per day)¹². The income of Airbnb hosts is usually re-spent on providing for the needs for customers, and contributes to the economy and employment in many other sectors and they also flow in government's revenue in a form of goods and services taxes¹³. In addition, Airbnb hosts are required by the Australian Taxation Office to keep records of all income earned and declare it in their income tax return¹³. However, despite such financial loss and their contribution to the economy, Airbnb hosts are not part of financial support package provided by the government. Therefore, the financial impacts of the COVID-19 outbreak raise significant concerns as to how the sharing economy can contribute to sustained, inclusive economy and society. In the current climate, the P2P economy faces a significant barrier to building a resilient society and economy. As such, to build a more resilient and inclusive sharing economy mode, levying taxes for unemployment insurance and pensions needs to be considered over the internet-based firms, particularly for hosts with "entire home" who are the most vulnerable group as shown in this research and those whose vital income is from Airbnb.

Despite being short, this research provides empirical evidence to the debate of the sharing economy and sustainability during the time of crisis and we hereby invite future research to uncover the complexity of sustainability and the sharing economy.

Declarations

Competing interests: The authors declare no competing interests.

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Figures

Total income of Airbnb host (AUDS)

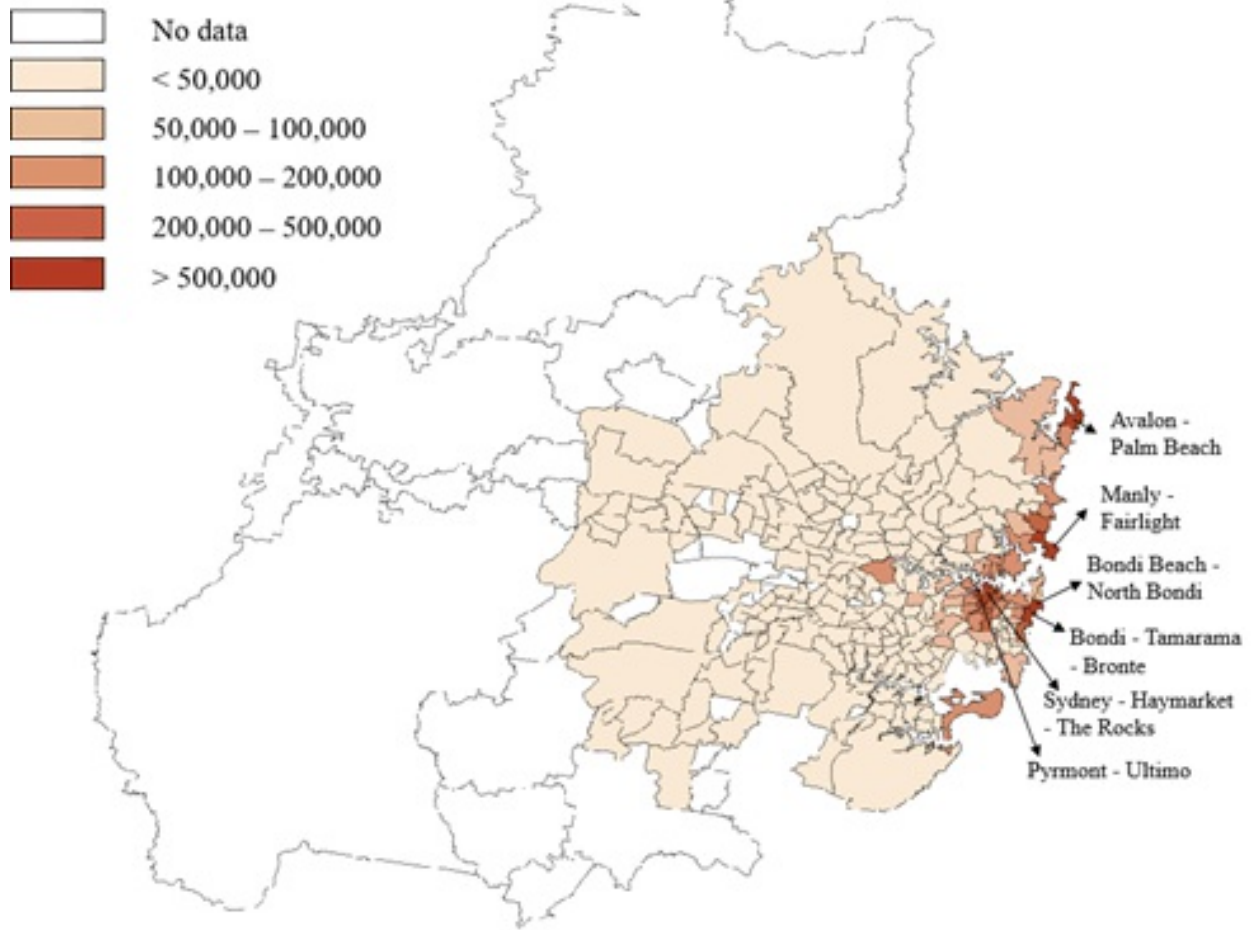


Figure 1

Income of Airbnb's host in January

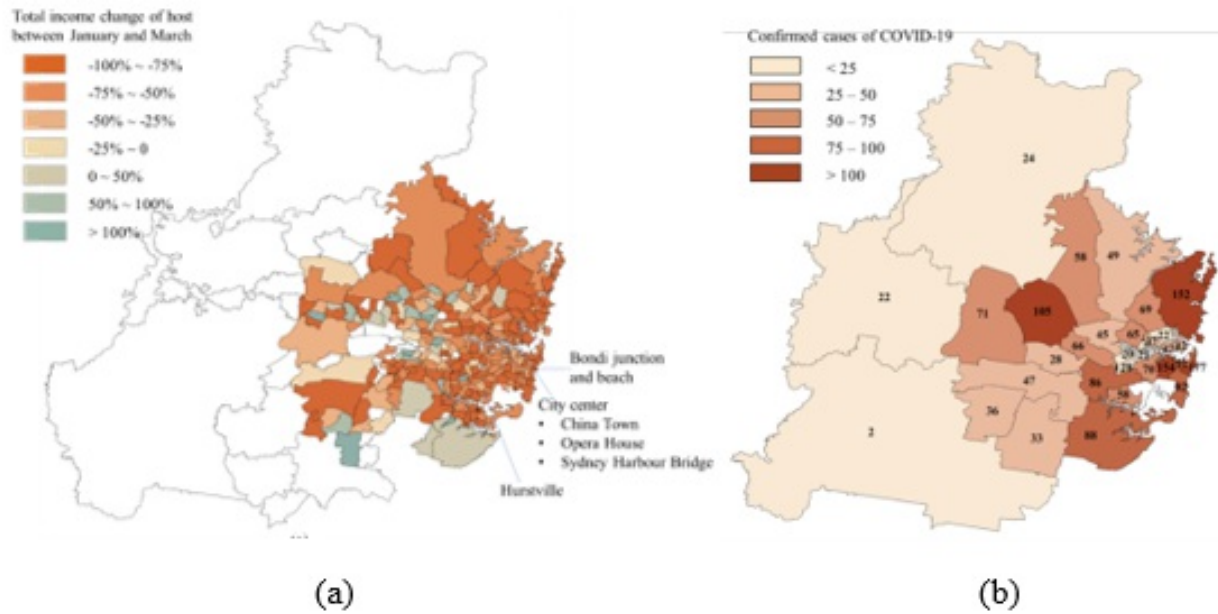


Figure 2

Spatial statistics of Airbnb's income change (a) and COVID-19 confirmed cases by 15 April 2020 (b)