

## *The Silent Treatment: LGBT Discrimination in the Sharing Economy*

*Rishi Ahuja\* and Ronan C. Lyons \*\**

### *Abstract:*

Online marketplaces were built with the implicit promise of reducing discrimination. Over time, though, online marketplaces have increasingly been designed to reduce anonymity as an exercise in trust building. While the reduction of anonymity can build trust, such design choices can also facilitate discrimination. This study is the first to examine whether there is discrimination against those in same-sex relationships (SSRs) in the sharing economy. Specifically, we examine whether SSRs face discrimination on the Airbnb platform in Dublin, Ireland, through a field experiment. We find that guests in implied male SSRs are approximately 20-30 percent less likely to be accepted than identical guests in implied opposite-sex relationships (OSRs) and in female SSRs. This difference is driven by non-responses from hosts, not outright rejection, and persists regardless of a variety of host and location characteristics, although male hosts and those with many listings are less likely to discriminate. Discrimination against male SSRs was observed least in the most desirable locations. The findings are not consistent with taste-based discrimination but, with little evidence for statistical discrimination, they raise something of a puzzle about the underlying source of discrimination against those in SSRs.

Keywords: discrimination; sharing economy; field experiment; Airbnb

JEL codes: J16, R3

\* Rishi Ahuja, Department of Economics, Trinity College Dublin; [ahujar@tcd.ie](mailto:ahujar@tcd.ie)

\*\* Ronan C. Lyons, Department of Economics, Trinity College Dublin; Spatial Economics Research Centre, London School of Economics

## *1. Introduction*

Online marketplaces are proliferating in the global economy. From Amazon to Zibbet, digital markets have eased major frictions for consumers and created tremendous value. Online market sales increased more than 20 percent in 2014 to almost \$840 billion.<sup>1</sup> Though the first online marketplaces merely facilitated transactions, digital markets are increasingly designed to encourage personal information sharing. This transformation serves the dual purpose of increasing trust and the flow of valuable data to the platform creators. Those data then play a crucial role in algorithm design and the eventual direction of the product (Fradkin, 2015). The unintended consequence of this shift is that information sharing can also facilitate discrimination between market participants. While online marketplaces have the potential to create fairer and more equitable transactions, design choices can compromise that goal.

This paper is the first to examine discrimination on the basis of sexual orientation in the online ‘sharing economy’ and finds clear evidence of such discrimination. We run a field experiment to measure the potential existence and scope of discrimination against same-sex relationships (SSRs) on Airbnb in Dublin, Ireland. Ireland is an interesting case to explore because it was the first country to legalize same-sex marriage by popular vote, with Dublin demonstrating the highest support of same-sex marriage.<sup>2</sup> To conduct this analysis, guest accounts were created on Airbnb. These were identical apart from two dimensions: there were both male and female guests and, through the use of common first names, it was implied that the guests were in either a SSR or opposite-sex relationship (OSR). We find that SSRs are approximately 12-13 percent less likely to be accepted than identical guests in OSRs, an effect

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<sup>1</sup> [https://www.atkearney.com/consumer-products-retail/e-commerce-index/full-report/-/asset\\_publisher/87xbENNHPZ3D/content/global-retail-e-commerce-keeps-on-clicking/10192](https://www.atkearney.com/consumer-products-retail/e-commerce-index/full-report/-/asset_publisher/87xbENNHPZ3D/content/global-retail-e-commerce-keeps-on-clicking/10192)

<sup>2</sup> <https://www.theguardian.com/world/2015/may/23/gay-marriage-ireland-yes-vote>

that is robust to a wide set of controls. The effect is entirely driven by male SSRs, who are 20-30 percent less likely to be accepted than the three other groups (male OSRs, female SSRs and female OSRs). We also find that hosts primarily discriminate by simply not responding to SSRs, with male hosts and hosts in more expensive locations less likely to discriminate.

As noted by Pavlou and Gefen: “trust is a crucial enabling factor in relations where there is uncertainty, interdependence, and fear of opportunism.” (Pavlou and Gefen, 2004). Airbnb represents an extreme case of this dynamic. The platform allows individuals to rent out either a part of or the entirety of their homes or owned property to potential guests for short or long-term rentals. Guests are able to request rentals either through the Airbnb website or mobile application. Airbnb is a pioneer of what is now called the ‘sharing economy’, loosely defined as the emergence of markets that focus on extracting more value from existing capital (homes, cars, etc.) through rentals or various other market arrangements. Since launching, Airbnb has grown almost 1,000-fold, from 3,000 in 2009 to an estimated 2.3 million in 2016.<sup>3</sup>

In a TED Talk in 2016, Airbnb founder Joe Gebbia explained, “We bet our whole company on the hope that, with the right design, people would be willing to overcome the stranger danger bias.”<sup>4</sup> To accomplish this goal, Airbnb organized their platform to include a variety of ways for guests and hosts to share interpersonal information through profile pictures, written descriptions of themselves, and interconnections with other social media platforms (Facebook, Twitter, LinkedIn, etc.). These factors separate Airbnb from other rental alternatives such as a hotel due to the fact that hotels simply require a credit or debit card. Though the inclusion of information can facilitate trust, it can also enable discrimination. Pictures and other information sharing

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<sup>3</sup> <http://www.bizjournals.com/sanfrancisco/blog/2016/05/airbnbs-growth-overcomes-hotels-rooms.html>

<sup>4</sup> [https://www.ted.com/talks/joe\\_gebbia\\_how\\_airbnb\\_designs\\_for\\_trust?language=en](https://www.ted.com/talks/joe_gebbia_how_airbnb_designs_for_trust?language=en)

processes reveal, either implicitly or explicitly, information about race, ethnicity, gender, age, and other protected classes that have historically been used to discriminate.

In both academic research and everyday life, the potential for discrimination on Airbnb has been noted. Edelman, Luca, and Svirsky (2016) found that guests with distinctively African-American names were 8 percentage points (roughly 16 percent) less likely to be accepted by hosts in 5 major metropolitan cities in the United States. Furthermore, the hash-tag #AirbnbWhileBlack has garnered significant attention online, with guests and hosts describing their painful experiences with discrimination on the platform.<sup>5</sup> Airbnb has subsequently recognized the importance of this problem, with Brian Chesky (co-founder of Airbnb) stating that discrimination is one of the biggest challenges that Airbnb faces today.<sup>6</sup> Though recognition is an important first step, a robust set of policy changes have yet to be enacted to combat the potential for discrimination on Airbnb. While racial discrimination has dominated the discourse, other forms of discrimination might also be possible on Airbnb given the current design of the platform.

This study highlights the pervasive problem of digital discrimination on the Airbnb platform in Ireland and raises several key policy questions for Airbnb and policymakers across the globe. While Ireland was the first country to successfully legalize same-sex marriage by popular vote, this study indicates the need for further efforts to ensure widespread acceptance of SSRs in the country. The rest of this paper is structured as follows. The next section outlines the related literature, while Section 3 describes the data. Section 4 presents the experimental design, while Section 5 discusses the results. The final section concludes.

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<sup>5</sup> <http://www.npr.org/2016/04/26/475623339/-airbnbwhileblack-how-hidden-bias-shapes-the-sharing-economy>

<sup>6</sup> <http://www.businessinsider.com/r-discrimination-is-biggest-challenge-for-airbnb-ceo-says-2016-7?>

## 2. *Literature*

Two types of discrimination can occur in online market transactions: taste-based discrimination and statistical discrimination (Edelman, Luca, and Svirsky, 2016). Taste-based discrimination refers to a situation where an individual expresses an inclination towards an option based on pure user preference (Becker, 1957). In the context of Airbnb, this would refer to a host that simply prefers not to interact with SSRs and would choose to deny hosting services based on that preference. If taste-based discrimination were at play, hosts with shared properties would hypothetically be more likely to discriminate versus hosts that rent out the entirety of a property. This is due to the fact that shared properties would hypothetically increase interpersonal interaction.

Conversely, statistical discrimination refers to a situation where an individual expresses an inclination towards an option based on inferences developed from the information available. For example, a host could believe that SSRs are more likely to cause damage to their property and choose to discriminate accordingly. While completely distinguishing between these two types of discrimination is impossible given the design of this study, this paper will provide commentary on the potential mechanisms illustrated in the data.

The experiment conducted in this paper stems from a substantial literature that uses field experiments to reveal bias on observed traits. Sociologists Jowell and Prescott-Clarke (1970) are credited with the original ‘audit study’ using written job applications to uncover racial discrimination. Audit studies have subsequently honed in on examining racial and sexual discrimination in various employment and geographical contexts. In the study ‘Are Emily and Brendan More Employable than Lakisha and Jamal?’ Bertrand and Mullainathan used a field experiment to measure the extent of race-based discrimination in the U.S. labor market. In the

paper, the researchers sent identical fictitious resumes to job postings and manipulated the perception of race via the name of the applicant in order to measure discrimination by the employer (Bertrand and Mullainathan, 2004). Carlsson and Rooth (2006) employed similar methodologies to explore the Swedish labor market and discrimination against “Arab sounding” names. Over time, audit studies have expanded to various aspects of market activity, with recent work by Deming *et. al.* (2014) assessing the degree to which employers discriminate between for-profit and non –profit college degrees. As detailed by Riach and Rich, field studies to measure and analyze discrimination in a variety of marketplaces have a 35-year-old history, providing “...a substantial body of literature, which demonstrates discrimination in labour, housing, and product markets on the basis of sex and race” (Riach and Rich, 2002).

While audit studies have been commonly carried out in physical marketplaces, digital markets have produced a new frontier for the exploration of discrimination. Edelman, Luca, and Svirsky (2016) use Airbnb as a platform to measure discrimination on the basis of race. In the study the researchers sent out requests to approximately 6,400 Airbnb listings across 5 American cities using distinctively African-American and White names while keeping all other elements of the guest’s profile constant. The study illustrated that guests with African-American names were 8 percentage points (roughly 16 percent) less likely to be accepted versus guests with white names, raising significant concerns regarding how the inclusion of profile pictures and other personal information might enhance the potential for discrimination (*ibid.*).

This analysis differs from previous studies of discrimination in several key ways. First, we explore the degree to which SSRs are discriminated against. This potential category of discrimination is generally hard to measure due to the fact that sexual orientation is rarely if ever discussed in hiring processes or in most aspects of consumer life. Nevertheless, there is robust

survey evidence that point towards widespread discrimination against LGBT individuals in the workplace (Badgett, 2007). Airbnb provides a unique opportunity to assess the degree to which hosts are comfortable with SSRs as reflected by their willingness to host them in their house or other properties. While Irish citizens were willing to protect the legal rights of SSRs in their country, this paper explores the degree to which that sentiment has carried over into the private sphere.

### 3. *Data*

Airbnb allows property owners to rent out available spaces to guests interested in short to long-term accommodations. Listings can range from either a shared room with the host to an entire property. Guests seeking accommodation can create a profile on the platform and search for available listings utilizing several filters. Guests can search by location, date availability, and the number of guests in their party. Guests can further narrow their search by price, location, room type, the size of the posting, amenities, policies (such as cancellation processes), and host language. The panels of Figure A.1 illustrate the initial search page, further search characteristics possible on the platform, a specific listing and an individual host's profile. For every Airbnb listing, there are two types of acceptance processes. 'Instant Book' listings are, instantaneous transactions where the host automatically accepts any requests on the days that the listing is available. All other enquiries can be responded to at the host's discretion.

The source of the dataset is Inside Airbnb, a website by Murray Cox which scrapes the Airbnb site regularly.<sup>7</sup> Our own scrape corroborated the data collected by Inside Airbnb. The scraped data displays a series of links to Airbnb accounts in Dublin as well as a detailed set of characteristics regarding each listing. For each Airbnb listing, the data contains information on

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<sup>7</sup> <http://insideairbnb.com/>

the listing experience (romantic, social, or business), host name, the host’s experience on the platform, host response and acceptance rates, whether or not the host is a ‘Superhost’ (as deemed by Airbnb), the total number of listings for the host, presence of social media accounts attached to the posting, the profile picture of the host, room characteristics and amenities, price, and an overall rating and specific review scores (accuracy of the posting, cleanliness of the posting, check-in process, host communication, posting location, and the overall value of the posting).

Table 1 provides summary statistics for the data.

**Table 1: Summary statistics**

Variables	Obs	Mean	Std. Dev.	Min	Max
Host is Female	743	0.55	0.50	0	1
Host is Male	743	0.45	0.50	0	1
Price (€)	794	€100.69	€74.52	€18.00	€650.00
Number of Bedrooms	794	1.40	0.78	0	6.00
Number of Bathrooms	789	1.30	0.58	0	5.50
Number of Reviews	794	21.65	29.34	0	212.00
Host has Multiple Listings	794	0.34	0.47	0	1
Location Scores	699	9.27	0.72	6.00	10.00

#### 4. *Experimental Design*

The data consists of 794 Airbnb listings, present on the site in January 2016. The dataset is considerably smaller than the full set of Dublin listings on the same date (3,773).<sup>8</sup> However, some hosts have multiple properties and each host was only contacted one, as part of the experimental design, with the property for such hosts chosen at random. A further restriction stems from the requirement to host two (or more) guests.

<sup>8</sup> Data and Stata code can be found here: <https://github.com/rahuja360/airbnbtrinityresearch>



Each host was assigned one of four potential treatments. Treatment 1 (n=245) consists of a SSR of two males requesting a booking. Treatment 2 (n=170) consists of an OSR of a male and female with the male individual requesting the booking. Treatment 3 (n=172) consists of a SSR of two females requesting a booking. Treatment 4 (n=207) consists of an OSR of one female and male with the female requesting the booking. The total size of the sample was n=794. Names chosen for the profiles were based on the most popular Irish baby names in 2015.<sup>9</sup> To indicate if a couple was in a SSR or OSR, requests were made in the following format:

*“Hello! My name is (male/female name) and my (boyfriend/girlfriend) and I are interested in renting your place for a few days. Do you have any availability? Thanks!”*

All Airbnb accounts used were identical in every aspect besides the gender of the account and the relationship status established in the request. To avoid confounding elements no pictures were used to represent the presumed guests.<sup>10</sup> All requests were made for 2-6 nights, primarily over a weekend (from Friday-Monday), for openings in the third and fourth quarters of 2016. The analysis was limited to hosts that had availability over the time-span. This differs from Edelman, Luca, and Svirsky (2016), in which requests were sent for a set number of days over a specific period, due to the more limited nature of the dataset of Dublin listings. 794 requests were sent out during June and July, 2016. When a host responded multiple times to a request, a non-committal answer was given about the guest’s plans, with advice not to hold the property, in order to minimize their potential for lost revenue.<sup>11</sup>

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<sup>9</sup> <http://www.independent.ie/life/family/mothers-babies/so-what-were-the-mostpopular-baby-names-in-ireland-last-year-30894974.html>

<sup>10</sup> An image of a silhouette that mirrors the stock image that Airbnb utilizes when the user does not upload a picture was added for the profiles to enable message sending.

<sup>11</sup> The Research Ethics Committee of the Faculty of Arts, Humanities, and Social Sciences at Trinity College Dublin gave prior approval before the project was undertaken.

## 5. Results

This section outlines the analysis taken of the host responses, starting with a baseline model, where no distinctions are made for the gender of the SSR. Subsequent analysis breaks the results down by gender, as well as allowing for property and host characteristics, such as whether the property is shared, the host's gender and whether they have multiple listings/reviews. Lastly, the analysis is extended to include location characteristics.

Host responses are grouped into four categories: yes, no, more information requested, and no response. The analysis below focuses on the percentage chance that a host responded with a "Yes." As discussed below, the same pattern of results is found (albeit with the inverse sign) if the "No Response" outcome is used as the dependent variable. This was not the case for either "No" or "More Information", implying that the vehicle of discrimination is a lack of response to the inquiry.

A summary of the responses generated in this analysis can be seen in Figure 1. For three of the treatment groups, both OSR categories and female SSRs, the acceptance rate is close to 50%, but for male SSRs, the rate is just 29%. For all four groups, the rate of "No" responses is similar (between 15 and 20%). There is some difference between male SSRs and other groups in receiving "More Information" (MI) responses. Lastly, the rate of non-response was similar (20%) for three of the four groups, but for male SSRs, the rate was over twice this (46%). The remainder of this section examines whether this difference is, as would be implied by the randomized nature of the experiment, robust to the inclusion of other factors.

**Figure 1. Response by treatment group**

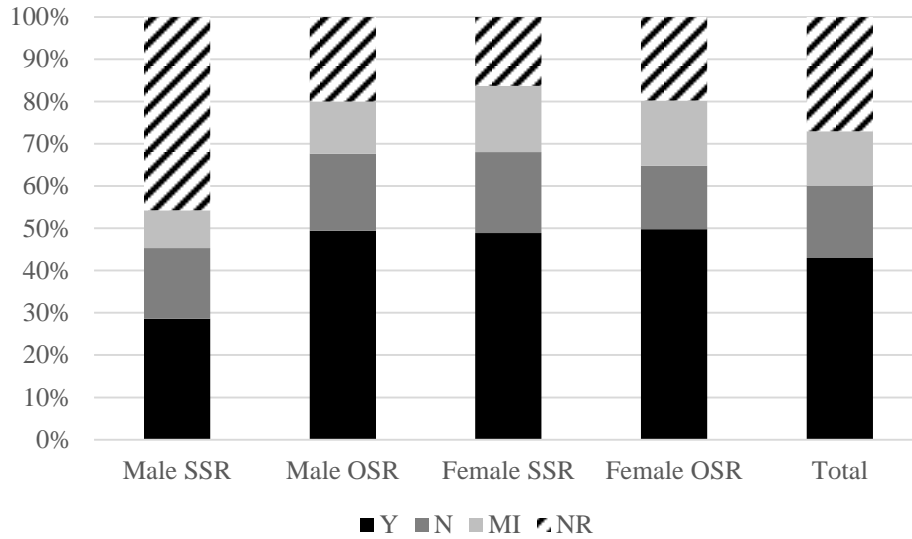


Table 2 outlines the marginal effects of SSR status, and other factors, on acceptance by an Airbnb host.<sup>12</sup> When no distinction is made about the gender of the SSR guest, the marginal effect is -12% and statistically significant at all conventional levels (the first two columns). Breaking this down by the gender of the SSR guest, it is clear that this is driven by male SSRs (-21%), with no effect for female SSRs. Male hosts are more likely to accept in general, as are hosts with multiple listings and hosts with cheaper properties. Hosts with more than ten reviews, however, were no more or less likely to accept guests in this study, while hosts who are sharing their property are also less likely to accept across the board. As these are guests without verified identities, most of these results accord with intuition – although it is not obvious why there is such a large effect for male hosts.

<sup>12</sup> The regression results underpinning these marginal effects are given in Table A.1.

**Table 1: Marginal effects of SSR status on acceptance**

	<i>Dependent Variable: 1 (Host Accepts)</i>						
Guest is in Same-Sex Relationship	-0.125***	-0.123***					
	[0.034]	[0.035]					
Guest is in Male Same-Sex Relationship			-0.209***	-0.212***	-0.204***	-0.214***	
			[0.036]	[0.038]	[0.04]	[0.039]	
Guest is in Female Same-Sex Relationship			0.074*	-0.007	-0.005	-0.002	
			[0.042]	[0.044]	[0.045]	[0.044]	
Host is Male		0.0956***			0.099***	0.094***	
		[0.035]			[0.035]	[0.035]	
Host has Multiple Listings		0.108***				0.107***	
		[0.037]				[0.037]	
Shared Property		-0.134***				-0.145***	
		[0.051]				[0.05]	
Host has 10+ Reviews		0.021				0.014	
		[0.036]				[0.035]	
ln(Price)		-0.122***				-0.137***	
		[0.044]				[0.043]	
Observations	794	743	794	794	794	743	743

\* p < .10. \*\* p < .05. \*\*\* p < .01.

It is possible to examine more closely whether particular host or property attributes interact with the guest's SSR status. These results are shown in Table 2, as marginal effects. The overall results are not affected: there is a substantial negative coefficient on male SSR guests, compared to the three other groups, including female SSR guests. Most of the new interacted variables are not statistically significant, although there are two results with marginal significance. Firstly, hosts with multiple listings are less unlikely to accept male SSRs: the positive effect is small enough (15%) to not fully offset the core underlying (-27%) marginal effect. And secondly, where the host is male, the host is again less unlikely to accept male SSRs – while a similar effect is present for female SSRs. Indeed, the core effect for female SSRs in this specification suggests that female hosts are less likely to accept both male and female SSR guests.

**Table 2: Marginal effects of host characteristics (by gender)**

	<i>Dependent Variable: 1 (Host Accepts)</i>			
Guest is in Male Same-Sex Relationship	-0.251***	-0.273***	-0.186***	-0.274***
	[0.059]	[0.048]	[0.056]	[0.055]
Guest is in Female Same-Sex Relationship	0.041	-0.031	-0.003	-0.103*
	[0.065]	[0.054]	[0.064]	[0.061]
Shared Property	-0.022			
	[0.049]			
Shared Property * Guest is in Male Same-Sex Relationship	0.072			
	[0.081]			
Shared Property * Guest is in Female Same-Sex Relationship	-0.088			
	[0.088]			
Host has Multiple Listing		0.058		
		[0.053]		
Host has Multiple Listings * Guest is in Male Same-Sex Relationship		0.150*		
		[0.084]		
Host has Multiple Listings * Guest is in Female Same-Sex Relationship		0.053		
		[0.091]		
Host has 10+ Reviews			0.054	
			[0.049]	
Host has 10+ Reviews * Guest is in Male Same-Sex Relationship			-0.046	
			[0.081]	
Host has 10+ Reviews * Guest is in Female Same-Sex Relationship			-0.008	
			[0.088]	
Host is Male				0.007
				[0.05]
Host is Male * Guest is in Male Same-Sex Relationship				0.153*
				[0.083]
Host is Male * Guest is in Female Same-Sex Relationship				0.214**
				[0.089]
Observations	794	794	794	743

\* p < .10. \*\* p < .05. \*\*\* p < .01.

The last finding worth noting from Table 2 is the lack of evidence for taste-based discrimination, as established by Becker (1957) and discussed earlier. Table 2 shows the marginal effect on the acceptance rate of whether the host and guest share a property. This serves as a proxy for the amount of interaction between the host and guest. Male SSRs are discriminated against in the same range as identified previously, while female SSRs face no statistically significant reduction in acceptance rates. While the addition of this extra level of detail adds some color to the results, the overall core finding remains. Though the specific rate fluctuates, discrimination against male same-sex couples by Airbnb hosts was persistent across the controls introduced. Further analysis reveals that this discrimination is robust to the inclusion of location characteristics, as shown in Table 3. Table 3 shows the marginal effects on the acceptance rate of SSR status by gender and two sets of location controls: where the price is greater than the median prices; and where the location score is greater than median score. These location scores are a proxy for the attractiveness of the neighborhood for potential guests. There does not appear to be any relationship between higher prices and acceptance rates, for any of the four groups.

Consistent with intuition regarding the strength of demand, we find that higher location scores result in a generally lower chance of acceptance across the board. However, we find that hosts with better locations are more likely to accept SSRs. This holds when the gender of the SSR is separated, with higher location score hosts being more likely to accept male SSRs. This finding is something of an anomaly: while better-scored locations were generally more likely to reject a request, they were specifically more likely to accept requests by SSRs. Again, the core finding – that male (and not female) SSR guests were less likely to be accepted is clear from this empirical specification.

**Table 3: Marginal effects of location characteristics (by gender)**

	<i>Dependent Variable: 1 (Host Accepts)</i>	
Guest is in Male Same-Sex Relationship	-0.153*** [0.055]	-0.268*** [0.052]
Guest is in Female Same-Sex Relationship	0.019 [0.062]	-0.054 [0.058]
Price > Median	0.008 [0.049]	
Price > Median * Guest is in Male Same-Sex Relationship	-0.13 [0.081]	
Price > Median * Guest is in Female Same-Sex Relationship	-0.052 [0.088]	
Location Scores		-0.106*** [0.031]
Location Scores * Guest is in Male Same-Sex Relationship		0.158* [0.083]
Location Scores * Guest is in Female Same-Sex Relationship		0.127 [0.085]
Observations	794	699

\* p < .10. \*\* p < .05. \*\*\* p < .01.

## 6. Discussion

While online markets have the potential to eliminate discrimination by facilitating seamless transactions, the push towards sharing personal information threatens that ideal. The rise of information exchange as a trust building exercise in the sharing economy also has the potential to facilitate discrimination (Edelman, Luca, and Svirsky, 2016). This paper provides further evidence to support that hypothesis, indicating the potential for discrimination against SSRs on the Airbnb platform. As Airbnb continues to become a larger force in the rental space, the

potential for discrimination across a host of protected classes should not be ignored. This paper also indicates that further steps need to be taken in Ireland to reduce same-sex discrimination despite the landmark vote in 2015 to legalize gay marriage. This section discusses some key lessons for both policymakers and platforms such as Airbnb.

Airbnb provides a rare opportunity to hone in on the specific dynamics of taste-based versus statistical discrimination. Aligning with Edelman, Luca, and Svirsky (2016), we find that the straightforward case of taste-based discrimination is not supported in the data. If OSRs or individuals simply prefer to not be around SSRs, the degree of interaction would have a statistically significant impact on the probability that a host approves a SSR. SSRs, though, were accepted at the same rate regardless of whether the property was shared with the host or whether the entire property was rented out. An avenue for future research is to explore the impact of homophily (in-group bias), although the informational barriers for such a study are high, as hosts do not consistently report their relationship preferences on the platform.

Nonetheless, while the findings are not consistent with taste-based discrimination, it is not obvious that the result is due to statistical discrimination. This is in contrast to some of the findings of Edelman, Luca, and Svirsky (2016). They found that both black and male guests were discriminated against, which is consistent with crime rates by race and gender in the United States. However, they also found that black females were less likely to be accepted compared to white males, which is inconsistent with crime data (*ibid.*). Crime rates by sexual orientation do not exist, although there is little evidence to suggest that a perception of higher property damage might arise from hosting a SSR. A suggestion for future research is to establish the tangible negative traits a SSR could potentially embody that would render them less desirable as guests.



While litigation is currently being pursued against Airbnb for racial discrimination, such maneuvers are operating in an opaque area of the law.<sup>13</sup> Clear protections exist for consumers who face discrimination in other public accommodations, but the legal rules governing the sharing economy tend to place the burden on the end users. While hosts are clearly liable for following civil rights laws in the various countries that Airbnb operates, the company's liability is undetermined. For example, while the Civil Rights Act of 1964 would apply to hosts in the United States, identifying the specific hosts that are discriminatory might be impossible. As demonstrated in this study, the primary mechanism of discrimination might simply be a lack of a response, which is far from a clear indication of bias or illegal discrimination. Thus, policy change is likely to be driven by public and political pressure (Edelman and Luca, 2014).

This research also has several policy implications for Airbnb internally. Ultimately, all technology companies have the ability to design digital markets that minimize the potential for discrimination. As recommended by Edelman, Luca, and Svirsky, Airbnb can simply conceal names. A further refinement of this recommendation is that guest names could be concealed up until the transaction is finished. Afterwards, guests and hosts could exchange names and further information to build the relationship and trust necessary to produce a positive visiting and hosting experience. Another possible step discussed by Edelman, Luca, and Svirsky is to expand the 'Instant Book' function on the platform so that fewer hosts can engage in discriminatory behavior. Only 14 percent of listings in Dublin had the 'Instant Book' option available. Design choices in the onboarding process for new hosts could potentially nudge participants towards this more societally optimal setup.

Lastly, Ireland must be vigilant in avoiding moral self-licensing. As described by Merritt, Effron, and Monin: "Past good deeds can liberate individuals to engage in behaviors that are

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<sup>13</sup> <http://money.cnn.com/2016/05/18/technology/airbnb-lawsuit-discrimination/>

immoral, unethical, or otherwise problematic...” (Merritt, Efron, and Monin, 2010). While the popular vote to legalize same-sex marriage was a significant step towards a more equal society for the LGBT community in Ireland, this paper suggests that further educational initiatives and steps must be taken to engender true equality throughout all aspects of society.

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# Appendix

Figure A.1: Airbnb landing page, search filters, sample listing and host

The image is a composite of four screenshots from the Airbnb website. The top-left screenshot shows the landing page with the 'LIVE THERE' banner and search filters for Dublin, Ireland. The top-right screenshot shows the search filters in detail, including dates, room type, price range, size, options, neighborhoods, amenities, cancellation policy, property type, and host language. The bottom-left screenshot shows a sample listing for a 'Stunning flat with Irish sea view' by Stefan, including the price per night, check-in/out dates, and a 'Request to Book' button. The bottom-right screenshot shows the host profile for Stefan, including his name, location, member since date, and a list of verified ID details and wish lists.

**Search Filters:**

- Location: Dublin, Ireland
- Dates: Check In, Check Out, 2 Guests
- Room Type: Entire home/apt, Private room, Shared room
- Price Range: \$10 to \$1000+ (Average: \$112)
- Size: Bedrooms, Bathrooms, Beds
- Options: Instant Book, Superhost
- Neighborhoods: City Centre, Old City, Docklands
- Amenities: Wireless Internet, Pool, Kitchen
- Cancellation Policy: Flexible, Moderate, Strict
- Property Type: Apartment, House, Bed & Breakfast
- Host Language: English, Español, Français

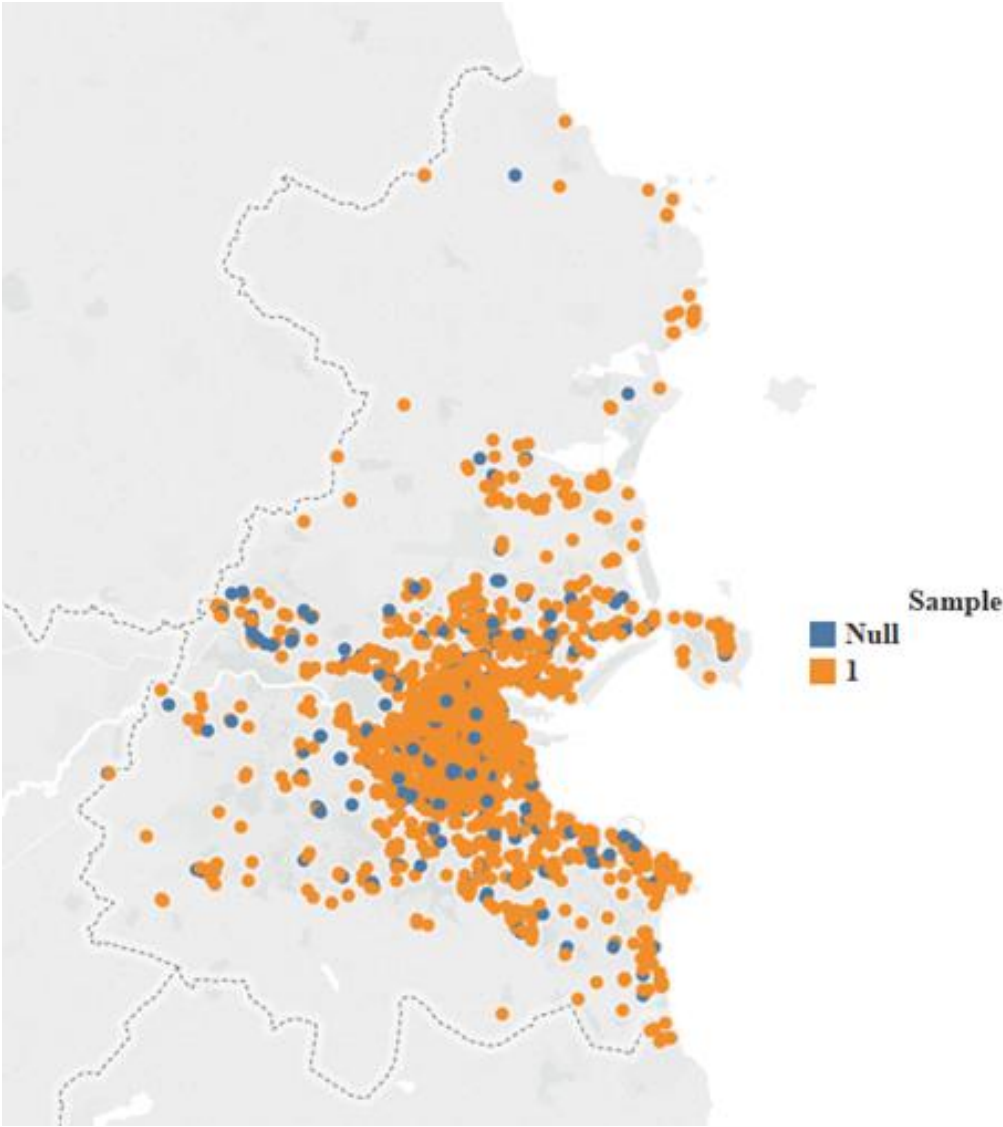
**Sample Listing:**

- Price: \$58 Per Night
- Title: Stunning flat with Irish sea view
- Location: Dublin, Dublin, Ireland
- Reviews: 18 reviews
- Host: Stefan
- Room Type: Private room
- Capacity: 2 Guests, 1 Bed
- Buttons: Save to Wish List, Request to Book

**Host Profile:**

- Name: Hey, I'm Stefan!
- Location: Dublin, Ireland
- Member since: November 2014
- Reviews: 23 Reviews, Verified
- Verified ID: Email address, Phone number, Reviewed, Offline ID, Driver License
- Wish Lists (3): Dubai (1 Listing), Prague (16 Listings), Amsterdam (15 Listings)

Figure A.2: Map of Airbnb listings in Dublin (sample)



**Table A.1. The impact of SSR status on acceptance**

		<i>Dependent Variable: 1 (Host Accepts)</i>			
Guest is in SSR	-0.324*** [0.09]	-0.325*** [0.094]			
Guest is in Male SSR			-0.556*** [0.107]	-0.540*** [0.111]	-0.578*** [0.112]
Guest is in Female SSR			-0.019 [0.115]	-0.012 [0.118]	-0.006 [0.12]
Host is Male		0.253*** [0.095]		0.261*** [0.094]	0.255*** [0.096]
Host has Multiple Listings		0.287*** [0.100]			0.289*** [0.101]
Shared Property		-0.355** [0.138]			-0.393*** [0.138]
Host has 10+ Reviews		0.054 [0.094]			0.039 [0.095]
ln(Price)		-0.323*** [0.119]			-0.370*** [0.118]
Constant	-0.01 [0.065]	1.368** [0.588]	-0.01 [0.065]	-0.138* [0.08]	1.601*** [0.586]
Observations	794	743	794	743	743
Adjusted R <sup>2</sup>	0.012	0.036	0.028	0.035	0.054

\* p < .10. \*\* p < .05. \*\*\* p < .01.

**Table A.2. Are effects driven by host characteristics and guest gender?**

<i>Dependent Variable: 1 (Host Accepts)</i>				
Guest is in Male SSR	-0.661***	-0.726***	-0.489***	-0.730***
	[0.16]	[0.136]	[0.15]	[0.153]
Guest is in Female SSR	0.107	-0.082	-0.008	-0.274*
	[0.171]	[0.144]	[0.17]	[0.163]
Shared Property	-0.059			
	[0.13]			
Shared Property * Guest is in Male SSR	0.191			
	[0.215]			
Shared Property * Guest is in Female SSR	-0.231			
	[0.232]			
Host has Multiple Listing		0.156		
		[0.14]		
Host has Multiple Listings * Guest is in Male SSR		0.398*		
		[0.225]		
Host has Multiple Listings * Guest is in Female SSR		0.141		
		[0.243]		
Host has 10+ Reviews		0.142		
		[0.13]		
Host has 10+ Reviews * Guest is in Male SSR		-0.121		
		[0.214]		
Host has 10+ Reviews * Guest is in Female SSR		-0.021		
		[0.232]		
Host is Male				0.019
				[0.134]
Host is Male * Guest is in Male SSR				0.409*
				[0.223]
Host is Male * Guest is in Female SSR				0.569**
				[0.24]
Constant	0.022	-0.057	-0.087	-0.026
	[0.095]	[0.078]	[0.095]	[0.091]
Observations	794	794	794	743
Adjusted R <sup>2</sup>	0.031	0.041	0.03	0.041

\* p < .10. \*\* p < .05. \*\*\* p < .01.

**Table A.3. Are effects driven by location characteristics?**

	<i>Dependent Variable: 1 (Host Accepts)</i>	
Guest is in Male SSR	-0.403***	-0.709***
	[0.146]	[0.145]
Guest is in Female SSR	0.049	-0.142
	[0.164]	[0.153]
Price > Median	0.02	
	[0.129]	
Price > Median * Guest is in Male SSR	-0.342	
	[0.216]	
Price > Median * Guest is in Female SSR	-0.137	
	[0.231]	
Location Scores		-0.282***
		[0.085]
Location Scores * Guest is in Male SSR		0.417*
		[0.221]
Location Scores * Guest is in Female SSR		0.335
		[0.227]
Constant	-0.02	2.602***
	[0.092]	[0.79]
Observations	794	699
Adjusted R <sup>2</sup>	0.032	0.036

\* p < .10. \*\* p < .05. \*\*\* p < .01.