

A First Look at Online Reputation on Airbnb, Where Every Stay is Above Average

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Abstract

Judging by the millions of reviews left by guests on the Airbnb platform, this “trusted community marketplace” is fulfilling its mission of matching travelers seeking accommodation with hosts who have room to spare remarkably well. Based on our analysis of ratings we collected for over 600,000 properties listed on Airbnb worldwide, we find that nearly 95% of Airbnb properties boast an average user-generated rating of either 4.5 or 5 stars (the maximum); virtually none have less than a 3.5 star rating. We contrast this with the ratings of approximately half a million hotels worldwide that we collected on TripAdvisor, where there is a much lower average rating of 3.8 stars, and more variance across reviews. Considering properties by accommodation type and by location, we find considerable variability in ratings, and observe that vacation rental properties on TripAdvisor have ratings most similar to ratings of Airbnb properties. Last, we consider several thousand properties that are listed on both platforms. For these cross-listed properties, we find that even though the average ratings on Airbnb and TripAdvisor are similar, proportionally more properties receive the highest ratings (4.5 stars and above) on Airbnb than on TripAdvisor. Moreover, there is only weak correlation in the ratings of individual cross-listed properties across the two platforms. Our work is a first step towards understanding and interpreting nuances of user-generated ratings in the context of the sharing economy.

1 Introduction

Online reviews are a significant driver of consumer behavior, providing a way for consumers to discover, evaluate, and compare products and services on the web. Yet, existing review platforms have been shown to generate implausible distributions of star-ratings that are

unlikely to reflect true product quality. Several empirical papers have analyzed the ratings distributions that arise on major review platforms, most arriving at a similar conclusion: ratings tend to be overwhelmingly positive, occasionally mixed with a small but noticeable number of highly negative reviews, giving rise to what has been characterized as a J-shaped distribution (Hu et al. 2009).

Considerable effort has been dedicated to understanding how these distributions arise. The abundance of positive reviews on online platforms has been linked to at least four different underlying phenomena in the literature: herding behavior, whereby prior ratings subtly bias the evaluations of subsequent reviewers (Salganik et al. 2006, Muchnik et al. 2013); under-reporting of negative reviews, where reviewers fear retaliatory negative reviews on platforms that allow and encourage two-sided reviewing (Dellarocas and Wood 2008, Bolton et al. 2013, Fradkin et al. 2014); self-selection, where consumers who are *a priori* more likely to be satisfied with a product are also more likely to purchase and review it (Li and Hitt 2008); and strategic manipulation of reviews, typically undertaken by firms who seek to artificially inflate their online reputations (Mayzlin et al. 2014, Luca and Zervas 2013). Despite these concerns, over 70% of consumers report that they trust online reviews.¹ The trust consumers place in online reviews is reflected in higher sales for businesses with better ratings, and lower sales for businesses with worse ratings (Chevalier and Mayzlin 2006, Luca 2011).

In this paper, we evaluate the reputation system at Airbnb, which, as a peer-to-peer marketplace that has now facilitated tens of millions of short-term accommodation bookings, has emerged as a centerpiece of the so-called sharing economy. Ratings and reviews are central to the Airbnb platform: not only do they build trust and facilitate trade among individuals, but they also serve to help determine how listings are ranked in response to user queries. We focus on Airbnb because it has several unique attributes. First, while most review platforms studied to date predominantly evaluate products, goods and services, and professional firms, Airbnb reviews are much more personal, and typically rate an experience in another individual’s home or apartment. Therefore, the social norms associated with these intimate Airbnb transactions may not be reflected in previously observed rating distributions or captured by previously proposed review generation models. Second, trust can be especially difficult to build in the loosely-regulated marketplaces comprising the sharing economy, where participants face information asymmetries regarding each others’ quality. Information asymmetries arise because buyers and sellers in the marketplace typically know little about each other;

¹See “Nielsen: Global Consumers’ Trust in ‘Earned’ Advertising Grows in Importance” at <http://www.nielsen.com/us/en/press-room/2012/nielsen-global-consumers-trust-in-earned-advertising-grows.html>

moreover, unlike firms with large marketing budgets, few of these individuals have an outside source of reputation, nor the means to build it, by investing in advertising or related activities. Therefore, a distinguishing feature of reviews on peer-to-peer marketplaces like Airbnb, is that for most marketplace participants, this is their *only* source of reputation.

We study Airbnb’s reputation platform using a dataset we collected, encompassing all reviews and ratings that are publicly available on the Airbnb website. Our first main finding is that property ratings on Airbnb are overwhelmingly positive. The average Airbnb property rating (as defined more precisely later) is 4.7 stars, with 94% of all properties boasting a star rating of either 4.5 stars or 5 stars (the top rating, 1-star being the lowest). While one can potentially dismiss such ratings as being highly inflated and therefore valueless, we find that the picture is more nuanced. For example, we find significant variability in rating distributions when we examine ratings by accommodation type and especially when we examine ratings across US markets.²

We then consider Airbnb ratings contrasted against those at another large travel review platform. While there are several candidate possibilities, we selected TripAdvisor, both for its worldwide scope and scale, but also due its accommodation diversity, as the TripAdvisor website contains reviews for hotels, bed & breakfasts, and vacation rentals (as opposed to *e.g.*, Expedia, which primarily covers hotels.) We find that the average TripAdvisor hotel rating is 3.8 stars, which is much lower than the average Airbnb property rating. This suggests that, while TripAdvisor ratings employ the same 5-star scale employed by Airbnb, TripAdvisor reviewers appear to have a greater willingness to use the full range of ratings than Airbnb reviewers. Interestingly, however, when we consider reviews of TripAdvisor vacation rentals in isolation, the distribution of ratings for those properties is much closer to (but still less skewed than) the distribution of ratings of all Airbnb properties. This comparison complicates the argument that Airbnb ratings are evidently more inflated than those on TripAdvisor: perhaps the texture and quality of Airbnb stays are in fact more comparable to vacation rental stays. Alternatively, perhaps sociological factors are at work, whereby individuals rate other individuals differently or more tactfully, than they rate firms such as hotels, independent of the platform.

Our final set of findings compares properties rated on *both* Airbnb and TripAdvisor, in an effort to quantify cross-platform effects while controlling for heterogeneity in the kinds of properties listed on each platform. Linking these properties is itself a technically difficult procedure, which we describe in Section 3.1, and results in linkages of several thousand

²We note that all reviews on Airbnb are solicited and published subsequent to a verified trip, so we believe that review fraud by users, a problem plaguing other review platforms, is currently a non-factor on Airbnb.

properties, most of which are classified as B&B's or vacation rentals on TripAdvisor. We find that differences in ratings persist even when we consider this restricted set of properties that appear both Airbnb and TripAdvisor. Specifically, we observe that 14% more of these cross-listed properties have a 4.5-star or higher rating on Airbnb than on TripAdvisor. To explain these differences, we first consider a theory proposed in prior work: that bilateral reviewing systems, as used in Airbnb, inflate ratings by incentivizing hosts to provide positive feedback so they are positively judged in return (Dellarocas and Wood 2008, Bolton et al. 2013). In fact, using a different methodology from ours, a recent study (Fradkin et al. 2014) reports on experiments they conducted on Airbnb to investigate determinants of reviewing bias, in which they implicate various factors, including fear of retaliation, and under-reporting of negative experiences, to varying degrees. In our work, we contrast cross-listed properties on Airbnb with TripAdvisor, which does not use a bilateral reviewing system, and provides modest corroborating evidence for bias observed in this study. We then consider the extent to which ratings of linked properties on Airbnb and TripAdvisor are correlated, and find only a weak (positive) correlation between the two sets of ratings. This suggests that TripAdvisor and Airbnb reviewers have distinctive preferences in ranking and rating accommodations.

Our observational analysis sheds more light on the reputation system used at Airbnb, and our collected datasets facilitate the further study of a root cause analysis to examine the managerial, marketing, and sociological implications of the high ratings seen in this sharing economy platform. Unlike most previous observational studies, which attempt to examine one review corpus in isolation, our linking of datasets spanning two competing platforms, one being a central part of the sharing economy and the other a central part of the established travel economy, affords new opportunity to investigate questions regarding market structure within the travel review ecosystem, as well as the future of the sharing economy more broadly.

2 The Airbnb Platform

Airbnb, founded in 2008, describes itself as a trusted community marketplace for people to list, discover, and book unique accommodations around the world. Hundreds of thousands of properties in 192 countries can now be booked through the Airbnb platform, which has quickly become the de facto worldwide standard for short term apartment and room rentals. Airbnb hosts offer their properties for rent for days, weeks, or months, and Airbnb guests can search for and book any of these properties, subject to host approval. Hosts can decline booking requests at their discretion without incurring any penalties.

Both hosts and guests have publicly viewable user profiles on the Airbnb website. User profiles contain a few basic facts such as the user's picture and location, when the user

joined Airbnb, and an optional self-description. User profiles also contain reviews that the user has received: both from guests they have hosted and from hosts they have stayed with. Host profiles additionally provide links to the user’s Airbnb properties. Each property has its own page on Airbnb, which describes it in detail, including: information on the number of people that it can accommodate, check in and check out times, the amenities it offers, prices and availability, photos, and a map showing the approximate location of the listing (roughly within a few hundred meters.) A representative Airbnb property page is depicted in Figure 6.

Airbnb uses a variety of mechanisms, beyond self-supplied information, to build trust among its users. In addition to reviews and ratings, which we describe in detail below, Airbnb encourages, and in certain cases requires, users to verify their identity. Users can do so by linking their Airbnb account with other website accounts (*e.g.*, Facebook, Google, and LinkedIn), by providing a working email address and phone number, as well as by providing a copy of their passport or driver’s license.

Airbnb’s bilateral reputation system allows hosts and guests to review and rate, on a scale from one to five stars, each other at the conclusion of every trip. Up through July 2014, Airbnb collected and published reviews upon submission, which meant that for each transaction, the user to submit a review last could take into account their counterparty’s submitted review. In July 2014, to limit strategic considerations in providing feedback (*e.g.*, to limit retaliatory reviewing), Airbnb changed its reputation system to simultaneously reveal reviews only once both parties supply a review for each other, or until 14 days had elapsed from the conclusion of the trip, whichever occurred first. After 14 days, no further reviewing of a completed trip is allowed.³

Reviews are displayed on various pages on the Airbnb website. They feature most prominently on user profile pages and the pages of individual properties, where they are listed in reverse chronological order. Unlike most other major travel review platforms, such as TripAdvisor and Expedia, Airbnb does not publicly disclose the star-ratings associated with individual reviews – only the text content of each review is displayed. But similarly to other travel review platforms, Airbnb displays summary statistics for each property’s ratings including the total number of reviews it has accumulated, and, if the property has at least three reviews, its average rating rounded to the nearest half-star. Therefore, for the remainder of this paper, our units of analysis are average property ratings rounded to the nearest half-star; we refer to these as *property ratings*.

As for individuals, only the text of reviews they have received is displayed in their user profiles; an overall average is not reported. Thus, Airbnb hosts cannot infer the quality of

³See <http://blog.airbnb.com/building-trust-new-review-system/>

potential Airbnb guests merely through summary statistics or individual ratings, but must instead read reviews and browse user-supplied information on a prospective guest’s profile page.

3 Our Datasets

In our study, we combine information that we collected from Airbnb with data we collect from the TripAdvisor accommodation website. TripAdvisor, founded in 2000, is a major travel review platform that contains more than 150 million reviews for millions of accommodations, restaurants, and attractions. TripAdvisor reached over 260 million consumers per month during 2013.

For Airbnb, we collected information on over 600,000 Airbnb properties listed worldwide at `airbnb.com`. For every property, we store its unique id, its approximate location (Airbnb does not provide an exact location, but an approximate location accurate to within a few hundred meters), the number of reviews, and the currently displayed average star rating. Since Airbnb does not display the average rating for properties with less than three reviews, we do not consider those properties in our study. Our final dataset contains 226,594 Airbnb properties with at least 3 reviews.

Similarly, we also collected information from TripAdvisor spanning over half a million hotels and B&Bs, and over 200,000 vacation rentals listed worldwide at `tripadvisor.com`. For every property we store its unique id, its location, the number of reviews, and the currently displayed average star rating. After removing properties with fewer than three reviews (to be consistent with the Airbnb properties), our dataset contains 412,223 hotels (including bed and breakfasts) and 54,008 vacation rentals. A representative TripAdvisor property page is depicted in Figure 7.

3.1 Discovering properties cross-listed on Airbnb and TripAdvisor

To discover properties listed on both sites, we undertook the following procedure. First, since properties have no identifier that is consistent across both platforms, we necessarily resorted to heuristics to perform matching. Our methods started with the approximate latitude and longitude of each TripAdvisor and Airbnb property. We then computed pairwise distances between TripAdvisor and Airbnb properties, discarding all pairs that exceeded a 500-meter distance cutoff as non-matches. After that, we applied two different heuristics to find exact matches depending on whether the TripAdvisor property is listed as being a hotel (or B&B) or a vacation rental. We note that for every hotel (or B&B) on TripAdvisor there could be

more than one Airbnb property match. This is because on Airbnb, B&B's are often listed as a collection of rooms, each with its Airbnb page.⁴

For every TripAdvisor property we retrieved the candidate matches (the closest Airbnb properties identified in the previous step.) Then, for every potential match, we compute a string similarity between the property name and description on Airbnb and on TripAdvisor (for vacation rentals we additionally use the property manager name). If there existed a unique match whose string similarity was above a high threshold, we kept this pair.⁵ This process generated 12,747 pairs of Airbnb-TripAdvisor matches between 11,466 TripAdvisor properties and 12,747 Airbnb properties. Excluding properties that have fewer than three reviews on either platform, we obtain 2,234 matches between 1,959 unique TripAdvisor properties and 2,234 unique Airbnb properties. Of the 1,959 unique TripAdvisor properties, 827 are classified as hotels or B&Bs, and 1,132 are classified as vacation rentals.

One limitation of our work is that our matching procedure relies on heuristics, and therefore can produce erroneous associations. To evaluate the quality of our matches, we manually inspected a few hundred of them and were satisfied that only in a handful of cases properties were incorrectly associated. Moreover, these errors did not appear to be systematic in any way, and therefore they should not introduce bias in our analyses. Further improving our matching heuristics is ongoing work.

4 The distribution of Airbnb property ratings

We first present some empirical facts about the distribution of ratings on Airbnb. The top panel of Figure 1 displays the distribution of Airbnb property ratings worldwide. We find that these ratings are overwhelmingly positive, with over half of all Airbnb properties boasting a top 5-star rating, and 94% of properties rated at 4.5 stars or above. Are these ratings unusually positive? To the extent that Airbnb is an accommodation platform which directly competes with hotels (Zervas et al. 2014), a comparison between Airbnb and hotel ratings can be informative. The second panel of Figure 1 shows the distribution of all hotel ratings found on TripAdvisor, the largest hotel review platform, computed using the same methodology as the Airbnb ratings. The distribution of TripAdvisor property ratings is clearly much less extreme: only 4% of hotels carry the top 5-star rating, and 26% are rated

⁴For example, the Hotel Tropica in San Francisco (<https://www.airbnb.com/users/show/3553372>) currently lists five properties on Airbnb.

⁵This procedure links each Airbnb property to at most one TripAdvisor property, but it allows for multiple Airbnb properties to be linked to the same TripAdvisor property. This is quite common, as Airbnb properties are often listed at the granularity of individual rooms, whereas TripAdvisor is listed at the granularity of the property (e.g., B&B).

4.5 stars or above. This difference is also reflected in the means of the two distributions: 4.7 stars for Airbnb and 3.8 stars for TripAdvisor.

Product heterogeneity is one potential explanation underlying these differences. To compare against a possibly more similar baseline, we exploit the fact that TripAdvisor, which is best-known as a hotel review platform, also contains reviews for B&B's, and (through its 2008 acquisition of FlipKey, a smaller Airbnb-like firm) short-term vacation rentals. The third and fourth panels of Figure 1 plot the ratings distributions of these property types on TripAdvisor, which are arguably more similar to the stock of Airbnb properties than hotels. These distributions visually and statistically yield less extreme differences: the average TripAdvisor B&B rating is 4.2 stars, while the average TripAdvisor vacation rental rating is 4.6 stars. Yet, some differences remain in the tails of these distributions, with only 56% of B&B's and 84% of vacation rentals rated at or above 4.5 stars, compared to 94% for Airbnb. A basic observation we can draw is that average ratings, even within a platform, are clearly influenced by product mix. Straightforward regressions backing these findings confirm that these differences are statistically significant.

Next, we observe that while the overall distribution of Airbnb property ratings is highly positive, the possibility remains that specific market segments have a less skewed distribution. To better understand potential heterogeneity underlying the distribution of property ratings, we segment properties by various attributes. First, in Figure 2 we plot the distribution of Airbnb ratings by accommodation type. We find evidence of limited variation in ratings: apartments and shared rooms have higher ratings than B&B's and small hotels, but in all cases, the fraction of ratings that are 4.5 stars or higher is at least 93%. Then, in Figure 3, we plot the distribution of property ratings by geographic market, for six major US cities, in an analogous manner to the worldwide comparison between Airbnb properties and TripAdvisor hotels in the top two panels of Figure 1. For Airbnb, while we find evidence of considerable variation in the relative frequency of 4.5- and 5-star Airbnb ratings across cities, the fraction of ratings at or above 4.5-stars is consistently high. Similarly, the distribution of TripAdvisor ratings by city also reveals considerable variation in TripAdvisor hotel ratings. Referring back to Figure 1, we found an overall difference of nearly 1-star between Airbnb ratings and TripAdvisor hotel ratings. Figure 3 shows that there is also considerable variation in this difference by city. For example, among the 6 cities we plot, the difference is highest in Los Angeles (1.2 stars), and considerably lower in cities like Boston and New York (.7 stars). An interesting direction for future research is to identify any systematic variation in the difference between Airbnb and hotel ratings by city.

5 Comparing properties listed on both platforms

To better understand the source of these cross-platform differences in property ratings, we next consider those cross-listed properties that we linked using the methods described in Section 3.1. Recall that use of cross-listed properties allows us to control for differences in ratings arising from property heterogeneity across the two platforms. But in addition, the study of cross-listed properties opens up other research questions that we have just begun to explore and outline here. We first provide descriptive evidence for how reviews of cross-listed properties differ across platforms, consider possible explanations, and close with our future directions.

5.1 The distribution of ratings for cross-listed properties

Our analysis thus far considered all properties listed on each platform. To the extent that differences in ratings could arise because different properties are listed on the two platforms, limiting our analysis to cross-listed properties addresses this confounding effect. We present the distributions of ratings for cross-listed properties in Figure 4. As was the case in our previous platform-wide analysis, we observe that the Airbnb ratings of cross-listed properties are higher than their TripAdvisor ratings. Specifically, the distributions of Airbnb and TripAdvisor ratings nearly mirror the distributions shown in the top and bottom panels of Figure 1, with 14% more properties rated 4.5 stars or above on Airbnb, and a 0.1-star difference in the means of the distributions. In short, even properties listed on both sites are rated more highly on Airbnb.

This comparison of cross-listed properties suggests that property heterogeneity alone is unlikely to fully explain the Airbnb-TripAdvisor ratings gap. Explanations for this gap are part of our future work, and while a variety of factors could be responsible for these cross-platform differences in ratings, we observe that a bias such as this is consistent with known platform effects. Specifically, several empirical papers (Dellarocas and Wood 2008, Cabral and Hortacsu 2010, Bolton et al. 2013) find that bilateral reputation mechanisms create strategic considerations in feedback giving, which in turn cause underreporting of negative reviews due to fears of retaliation. As Airbnb uses a bilateral review system (guests can rate hosts and hosts can rate guests), whereas on TripAdvisor, guests only rate host properties, this platform difference is operative. Indeed, in a controlled experiment on Airbnb, Fradkin et al. (2014) observed bias arising from bilateral reviewing on Airbnb, although interestingly, the size of this bias was rather small. While higher ratings on Airbnb are consistent with reciprocity bias, we should not rule out differences in ratings due to reviewer self-selection, *i.e.*, a separation of reviewers across the platforms based on their distinct tastes. Indeed,

recent theoretical work (Zhang and Sarvary 2015) has shown that in the presence of multiple review platforms, reviewers may split up according to their unique tastes. In future work, an empirical characterization of the preferences and reviewing behaviors of Airbnb and TripAdvisor users would be a valuable contribution towards better understanding the differences in satisfaction these sets of users report, both on identical properties, and in general.

5.2 How well do Airbnb ratings predict TripAdvisor ratings?

Our analysis thus far has focused on understanding differences in the distributions of ratings across TripAdvisor and Airbnb. These differences are informative to the (growing) extent that travelers consider hotels and Airbnb rooms as alternative accommodation options, and thus compare their reviews and ratings across the two platforms. At the same time, there is also considerable interest in understanding differences in the relative rankings of properties across the platforms.⁶ For example, consider two properties listed on both Airbnb and TripAdvisor. Suppose that on Airbnb, property A has a higher rating than property B. Is the same true on TripAdvisor? More broadly, to what extent do ratings on one platform predict ratings on the other?

To answer this question, we focus on cross-listed properties, and regress the Airbnb rating of each property on its TripAdvisor rating. Note that, even though TripAdvisor ratings are on average lower, they could still in principle perfectly predict Airbnb ratings (and vice versa.) For example, TripAdvisor and Airbnb users could have similar tastes but a different interpretation of the 5-star rating scale, with TripAdvisor reviewers grading on a stricter curve. Therefore, differences in the means of these distribution do not predetermine the outcome of this analysis. The results of this regression are shown in Table 1. While there exists a significant positive association between the ratings of cross-listed properties across the two platforms (with each TripAdvisor star increase roughly corresponding to a quarter-star increase on Airbnb), the adjusted R^2 of the model is relatively low (0.17), suggesting that ratings on one platform explain only a small degree of variation in ratings on the other.

One concern with this analysis is that we are comparing properties across different geographic markets and price segments. However, most travelers limit their search for accommodation to a specific location within a target budget. Therefore, while ratings are not predictive overall, they could have more explanatory power within tightly defined market segments. For instance, it could be the case that TripAdvisor users prefer higher-priced accommodations, while Airbnb users are more price-conscious. Yet, when comparing prop-

⁶Extensive work has evaluated results provided by systems and platforms that provide rank-ordered responses in response to user interest, with search engines (*e.g.* see Sun et al. (2010)) and recommendation systems (*e.g.*, see Shani and Gunawardana (2010)) being two prominent examples.

erties within each price segment, their relative preferences are the same. Motivated by this observation, we successively incorporate city and price-quantile dummy variables in the second and third columns of Table 1. We see only modest increase in the adjusted R^2 to 0.22.⁷ Overall, these results suggest that while on average, better-rated properties on Airbnb are better-rated on TripAdvisor, there is a great deal of unexplained variation in the joint distribution of ratings across the two platforms, even within tightly-defined market segments.

5.3 From ratings to rankings

We next turn our attention to analyzing the *rankings* of cross-listed properties on the two sites as opposed to their ratings. This non-parametric comparison serves as a robustness check, since consumers could interpret ratings relatively rather than absolutely, preferring a 5-star property to 4-star property, but not necessarily ascribing much meaning to the magnitude of the star-difference.

While different consumers will use different ranking heuristics, we focus on what we consider to be a reasonable, but far from universal, ranking algorithm. First, within each city, we rank properties by their star-rating. Then, to break ties among properties with the same star-rating, we use the number of reviews, which is typically a salient statistic on review platforms. This choice coincides with the intuition that a 5-star property with 100 reviews is likely a less risky choice for a consumer than a 5-star property with one review. Finally, we break ties among properties with the same rating and number of review lexicographically. This is a conservative approach as it implies that properties tied by star-ratings and number of reviews will be ranked in the same way across the two platforms. In Figure 5, for the four major cities where we observe the most substantial number of cross-listed properties, we plot each property’s Airbnb rank against its TripAdvisor rank. In each panel, we also report the Kendall rank correlation (τ). These results support our regression analysis. Overall, Airbnb and TripAdvisor reviewers exhibit little agreement. TripAdvisor and Airbnb ratings are only weakly correlated, with the relative rankings of properties varying to a significant degree across the two sites.

One limitation of our work is that the cross-listed properties we have discovered constitute a small fraction of the inventory available on either site. Having said that, any cross-listed properties that our heuristics missed will not alter the relative order of the properties we have discovered. However, the possibility remains that there is a higher correlation in the ranks and ratings of cross-listed properties we have not discovered.

⁷We use an adjusted R^2 as opposed to a plain R^2 , which we also report, because the large number of city and price controls mechanically inflate the latter quantity without explaining any additional variance in the data.

6 Conclusion

Our work serves to provide preliminary insights into user-generated ratings on a platform that exemplifies the emerging sharing economy, Airbnb. We find that ratings on Airbnb are dramatically more positive as compared with those on more established platforms, but we do find a comparable precedent, in ratings of vacation rental properties on TripAdvisor. When we link properties rated on both of these platforms, we find evidence of differences, perhaps explained in part by platform effects. That being said, the larger question of an explanation for why posted Airbnb ratings are so dramatically high, remains open.

Reflecting on Airbnb in context, research in other online marketplaces indicates that positive ratings are critical to entrepreneurial and platform success when they play such a prominent role in ranking and user selection. A recent experiment in online entry-level labor markets (Pallais 2013) demonstrates that a single detailed evaluation can substantially improve a worker’s future employment outcomes. At the platform level, another recent work (Nosko and Tadelis 2014) shows that eBay buyers draw inferences about the eBay marketplace at large based on their experiences with specific sellers, and that buyers who have a poor experience with any one seller are less likely to return to eBay. These studies suggest that attaining high ratings are likely essential to individual entrepreneurs succeeding on Airbnb, and indeed, may be central to Airbnb’s success as well. As a result, hosts may take great pains to avoid negative reviews, ranging from rejecting guests that they deem unsuitable, to preempting a suspected negative review with a positive “pre-ciprocal” review, to resetting a property’s reputation with a fresh property page when a property receives too many negative reviews. Or, maybe most hosts simply have a greater incentive to give their guests a 5-star experience than a typical hotel employee does. We look forward to exploring these and other possible explanations in our future work.

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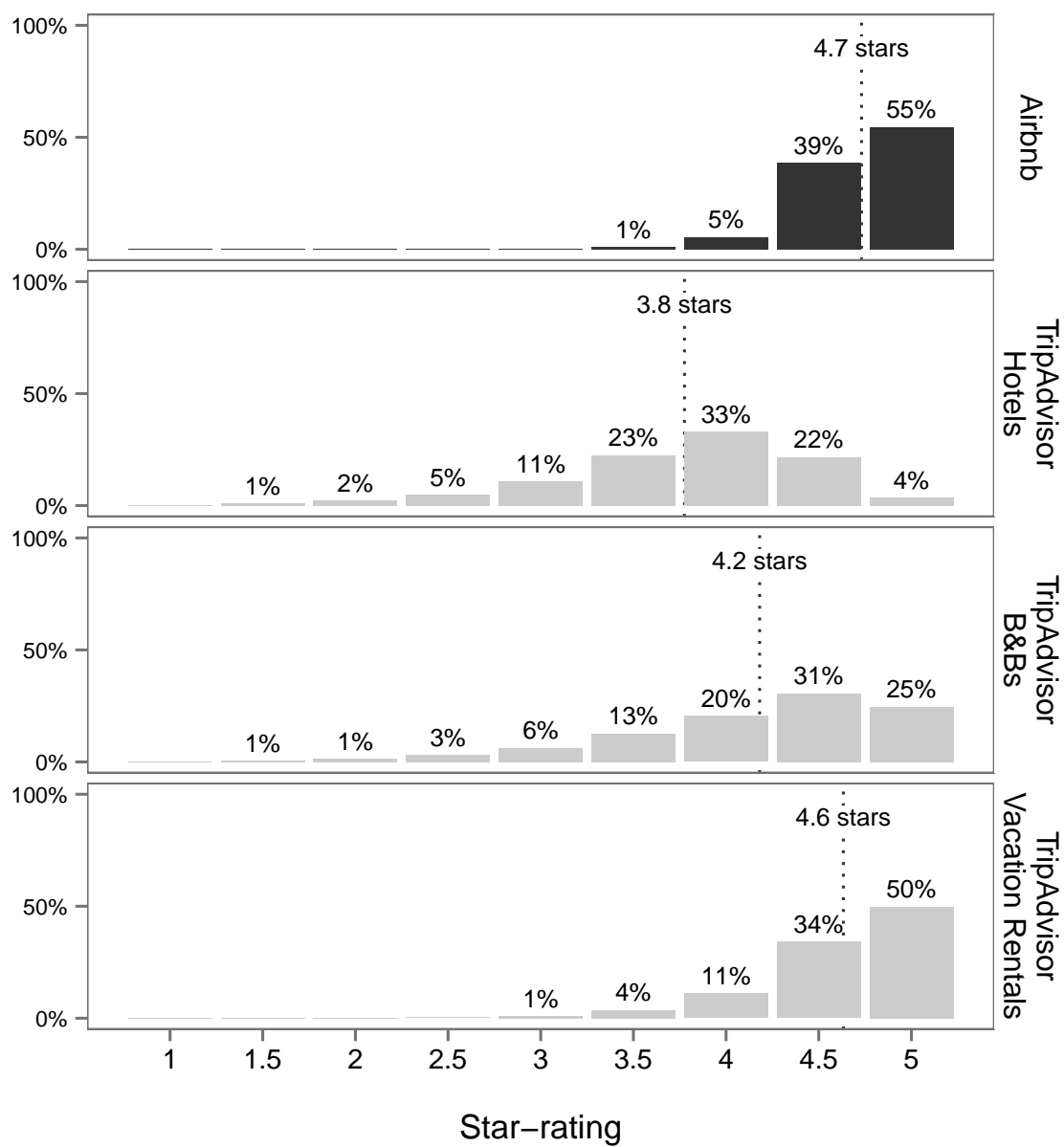


Figure 1: Distribution of property ratings on Airbnb and TripAdvisor. The dotted lines show the distribution means.

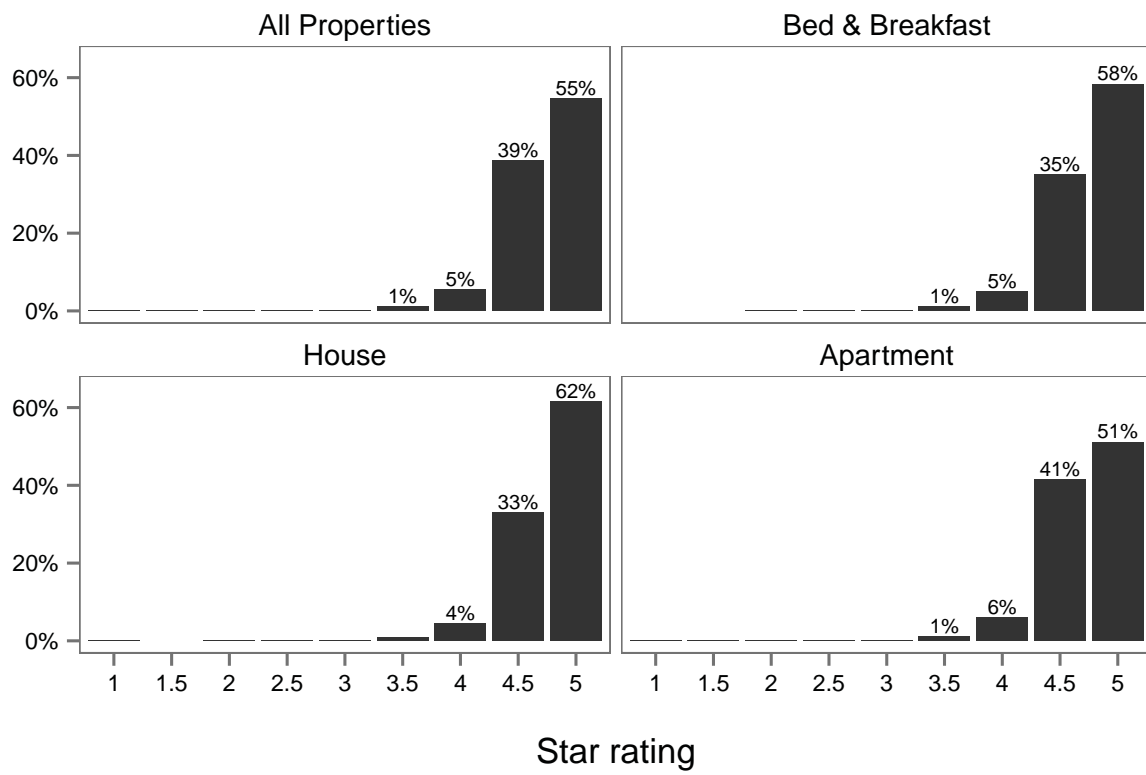


Figure 2: Distribution of Airbnb property ratings by accommodation type.

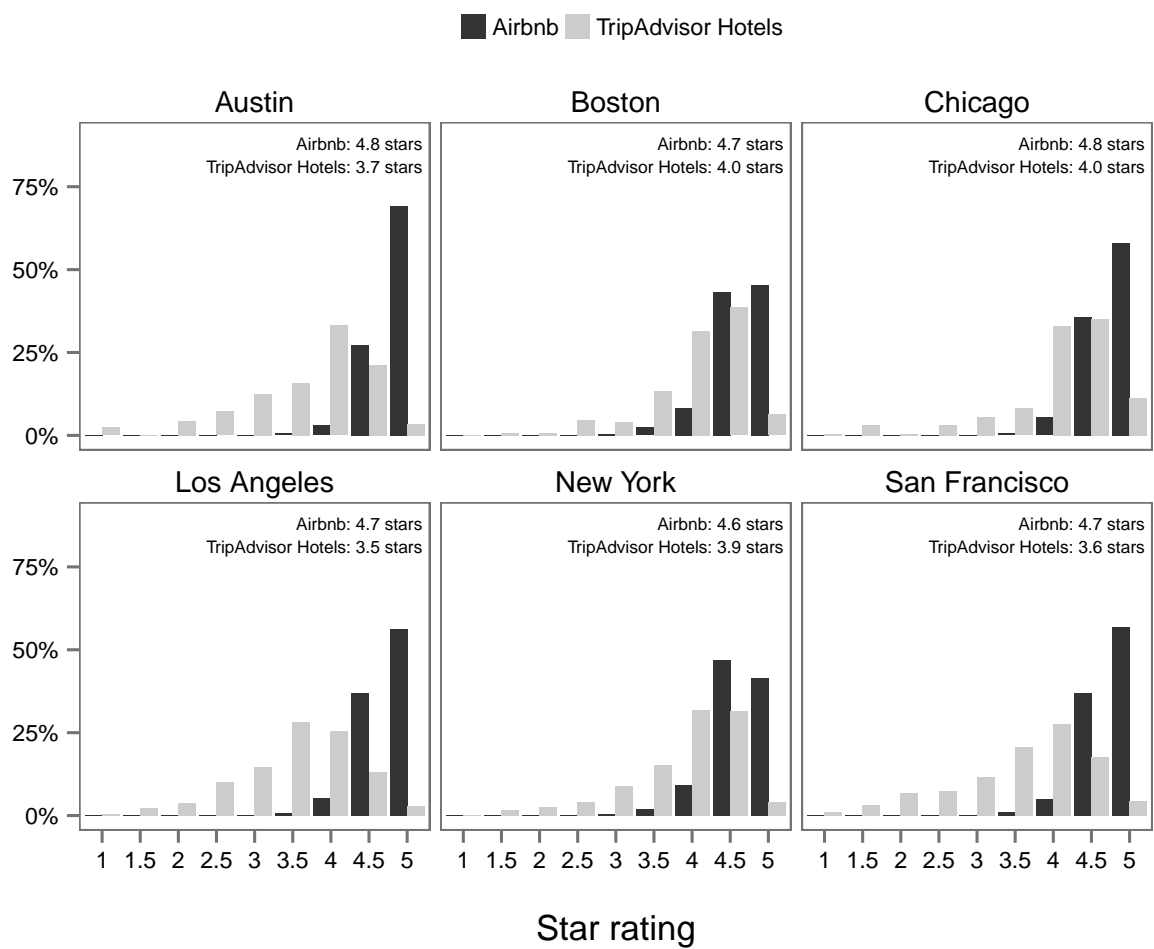


Figure 3: Distribution of Airbnb and TripAdvisor property ratings by US market.

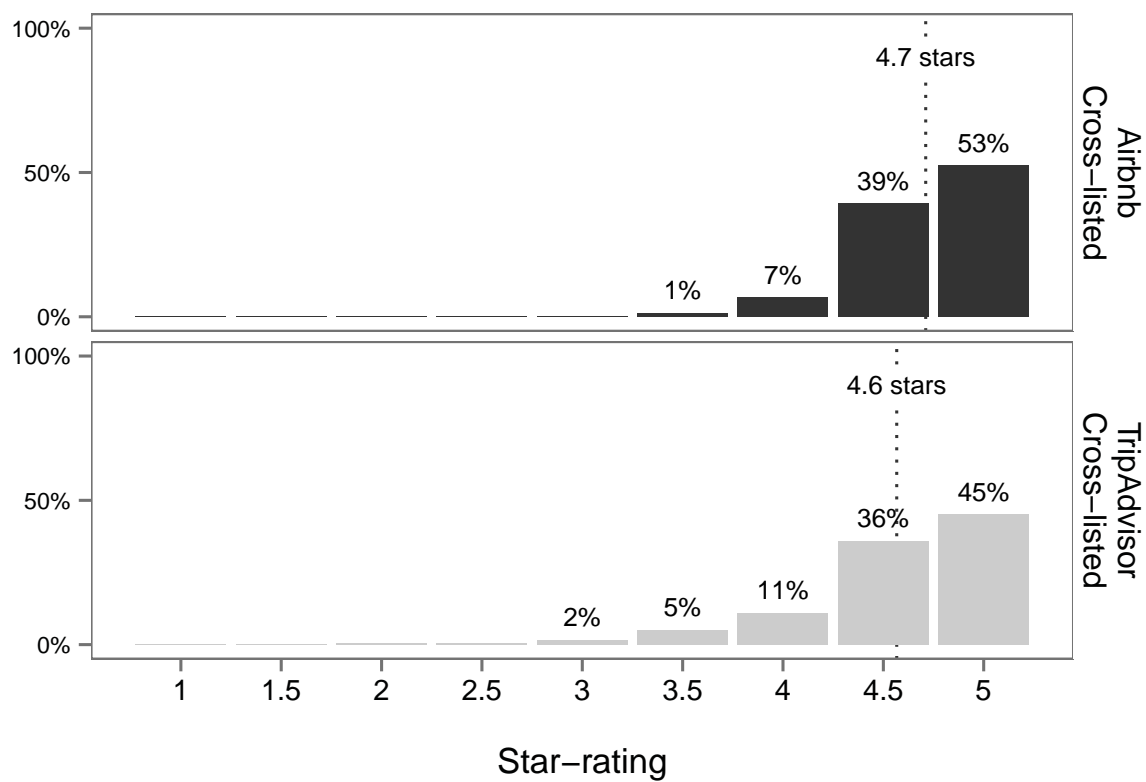


Figure 4: The distribution of ratings for properties cross-listed on both Airbnb and TripAdvisor. The dotted lines show the distribution means.

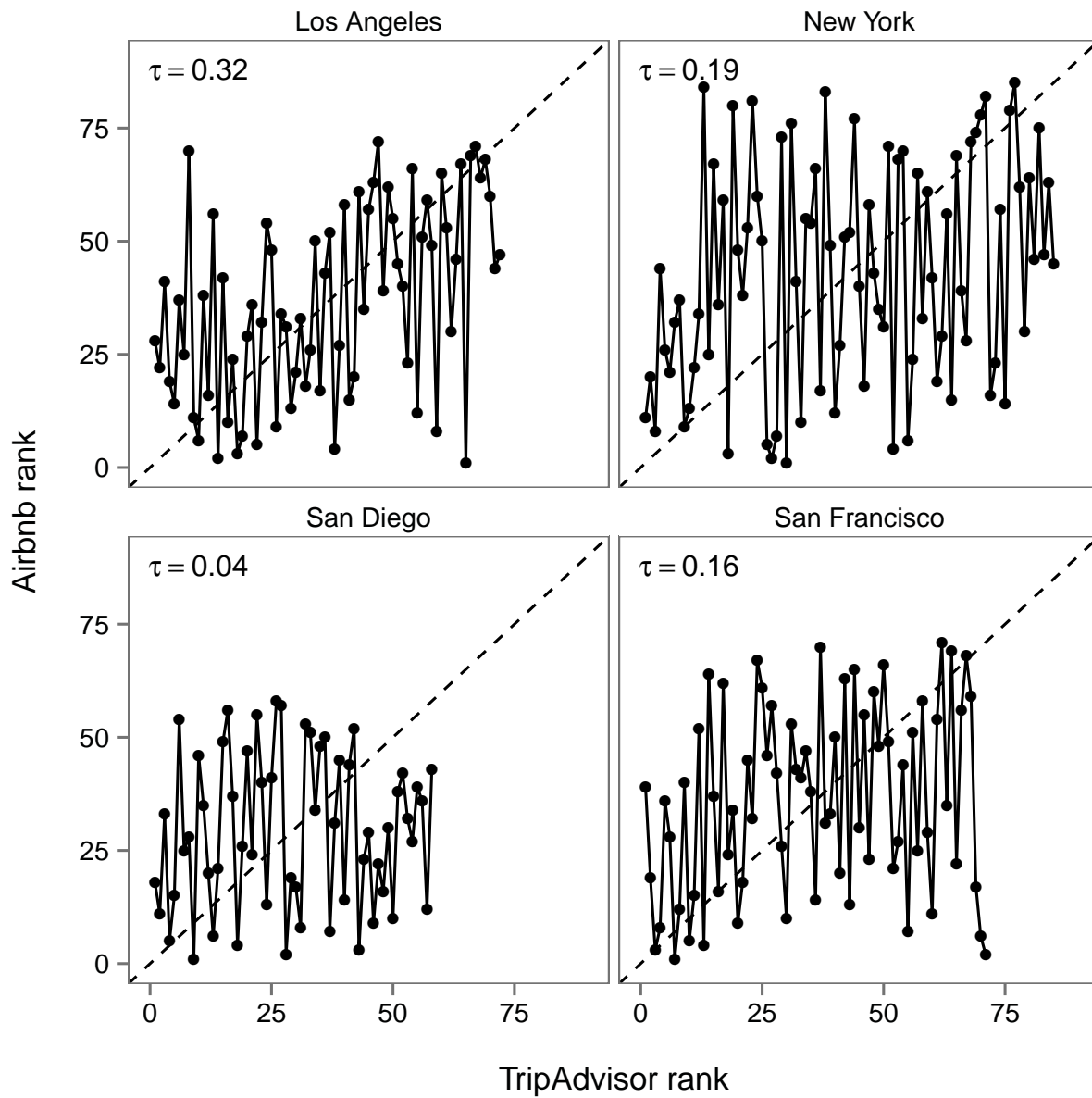



Figure 5: TripAdvisor vs. Airbnb ranks for cross-listed properties. Properties within each city are ranked first by star-rating, then by number of reviews, and remaining ties are broken lexicographically.

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Clean Room for Rent On VALENCIA St.

San Francisco, CA, United States ★★★★☆ (19)

Private Room

Private room

2 Guests

1 Bed

\$99

Per Night

Check In

Check Out

Guests

mm/dd/yyyy

mm/dd/yyyy

1

Request to Book

\$99

Per Night

Check In

Check Out

Guests

mm/dd/yyyy

mm/dd/yyyy

1

Request to Book

Save to Wish List

Share:

About This Listing

With Airbnb, you can find unique accommodations in people's homes—from houses and apartments, to tree houses and igloos. The listing details below explain what you'll find in this space. If you have any questions, you can contact the host directly.

Contact Host

19 Reviews

★★★★☆

Summary

Accuracy

Communication

Cleanliness

★★★★☆

★★★★☆

★★★★☆

Location

Check In

Value

★★★★★

★★★★★

★★★★★

A fun and colorful hotel and overall a great stay for New Year's Eve. It's cozy but it was clean and you can't beat the location. I wasn't in the room much either. My room had a private bath, a small closet, a desk, a tv, a micro fridge, and a full bed. Not bad at all

Rich

January 2015

Figure 6: Hotel Tropica page on Airbnb.

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Hotel Tropica

663 Valencia Street, San Francisco, CA 94110 [Hotel amenities](#)

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Enter dates for best prices

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and 3 more sites!

Ranked #222 of 234 Hotels in San Francisco

39 Reviews

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39 reviews from our community

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Traveler rating

Excellent	2
Very good	9
Average	3
Poor	7
Terrible	18

See reviews for

	Families	5
	Couples	8
	Solo	8
	Business	1

Rating summary

Location	4.5
Sleep Quality	4.0
Rooms	3.5
Service	4.0
Value	3.5
Cleanliness	4.0

Traveler tips help you choose the right room. Room tips (3)

39 reviews sorted by: **Date** | [Rating](#)

Season: [All months](#) | [English first](#)

ItsDerek
Los Angeles, California
1 review
1 helpful vote

"Bug bites!"

3.5 Reviewed May 26, 2014

Checking in at 5pm our room was still dirty from the previous renter. We were switched to a new room but had to wait in the hallway for 15 minutes while it was cleaned. The room was tiny to the point where you have to turn sideways to pass the other person. Small tv with the 80s. The entire place...

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Was this review helpful? [Yes](#) 1

Related hotels...

Edwardian San Francisco Hotel
4.0 249 Reviews
San Francisco, CA

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San Francisco Inn
3.5 56 Reviews
San Francisco, CA

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Days Inn San Francisco Downtown/Civic Center Area
3.0 360 Reviews
San Francisco, CA

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Map data ©2015 Google

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Figure 7: Hotel Tropica page on TripAdvisor.

Table 1: Airbnb star ratings

	(1)	(2)	(3)
TripAdvisor Rating	0.275*** (15.88)	0.244*** (13.45)	0.238*** (12.82)
City Dummies	No	Yes	Yes
Price Dummies	No	No	Yes
N	2234	2234	2234
R ²	0.18	0.55	0.55
Adj. R ²	0.17	0.22	0.22

Note: The dependent variable is the Airbnb star-rating of each linked property.

Significance levels: * p<0.1, ** p<0.05, *** p<0.01.