

Data Shop

Data Shop, a department of Cityscape, presents short articles or notes on the uses of data in housing and urban research. Through this department, the Office of Policy Development and Research introduces readers to new and overlooked data sources and to improved techniques in using well-known data. The emphasis is on sources and methods that analysts can use in their own work. Researchers often run into knotty data problems involving data interpretation or manipulation that must be solved before a project can proceed, but they seldom get to focus in detail on the solutions to such problems. If you have an idea for an applied, data-centric note of no more than 3,000 words, please send a one-paragraph abstract to chalita.d.brandly@hud.gov for consideration.

Move-In Fees as a Residential Sorting Mechanism Within Online Rental Markets

Remy Stewart
Cornell University

Chris Hess
Kennesaw State University

Ian Kennedy
Rice University

Kyle Crowder
University of Washington

Abstract

An increasing number of American renters within major metropolitan housing markets rely on online platforms such as Craigslist to find rental units. Landlords that advertise rentals on these websites have been found to tailor the language used in their listings in reference to surrounding neighborhood demographics to influence prospective tenants' rental searches. This work investigates the underexplored subject of move-in fees, referring to upfront costs to secure a lease, such as security deposits, application charges, and advanced rent payments that can affect whether a prospective renter can afford an advertised unit. This study advances a framework for how housing researchers can assess variations in

Abstract (continued)

landlord discourse within online housing marketplaces using text analysis methods and web scraping. It then illustrates how the resulting measures about move-in fees have distinct variations in prevalence along sociodemographic, spatial, and policy measures through a series of descriptive analyses, with subsequent conclusions toward policy implications designed to assist low-income renters with overcoming financial barriers in securing rental housing.

Introduction

As more residents in large American metropolitan housing markets rent instead of owning homes, more households are conducting rental searches through online marketplaces such as Craigslist, Zillow, and Apartments.com (U.S. Census Bureau, 2019). These platforms connect renters to available units through landlords' advertisements that specify relevant features, such as cost, unit location, and leasing requirements.

The growing importance of these novel marketplaces toward rental searches and macro-level residential sorting trends has promoted scholarship that explores large datasets of online rental advertisements through text analysis methods. Research has identified that landlords vary in the language they use and provide disparate information about rental units, depending on the racial, ethnic, and socioeconomic composition of the neighborhood in which a unit is located (Adu and Delmelle, 2022; Besbris, Schachter, and Kuk, 2021; Kennedy et al., 2021). This variation implies intentionality behind what landlords decide to specify in their listing advertisements. To the extent that it corresponds with neighborhood conditions, this inconsistency in information may exacerbate residential stratification by shaping perceptions of—and limiting opportunities to obtain rentals within—specific neighborhoods (Krysan and Crowder, 2017).

Whereas both the home purchasing and rental markets are influenced by the behavior of brokers that attempt to sort prospective residents, rentals are generally vetted by a smaller number of actors compared with the range of individuals involved with home purchases, such as real estate agents and loan providers (Korver-Glenn, 2018). Screening is commonly spearheaded by landlords, who are incentivized to shape the applicant pool for their listing from the initial public advertisement of their unit.

Qualitative research into landlords' motivations for shaping their tenant application pools emphasizes how landlords attempt to secure tenants they perceive as likely to demonstrate desired behaviors, such as consistently paying rent on time (Desmond, 2016; Rosen, 2014). This process is additionally contextualized by ongoing discrimination toward particular rental groups based on stereotypes of lower-income renters or renters of color as unreliable and disruptive tenants (Rosen, Garboden, and Cossyleon, 2021). Those biases are also implicated within discrimination toward renters participating in the Housing Choice Voucher (HCV) program. Source of income (SOI) laws aim to prevent landlord discrimination against voucher holders, which prior scholarship has found

to be present in online Craigslist rental advertisements (Besbris et al., 2022; Hangen and O'Brien, 2022; Tighe, Hatch, and Mead, 2017).

Beyond its substantive importance, analyzing how landlords on platforms such as Craigslist, a leading online rental marketplace, attempt to shape the rental search process of prospective tenants is also a research subject well served by novel data collection techniques and methodologies. Gathering large datasets of nationally distributed rental ads provides a comprehensive sample of advertisement text that can then be processed through text analysis methods that identify patterns of language variation with implications for residential sorting. However, this combined data collection and methodological strategy presents challenges regarding acquiring data effectively and then processing large amounts of text. Language-based data depend more on subjective contexts than classic structured data types, such as continuous variables (Grimmer, Roberts, and Stewart, 2022). This work therefore advances a computational text-processing methodological approach by analyzing 1.3 million nationally distributed Craigslist rental advertisements grounded within emergent best practices regarding robustly identifying patterns and insights within text data.

The present study considers the underexplored topic of specified move-in fees by Craigslist landlords. The total price to secure a rental lease can include both the monthly rent obligation and additional upfront costs such as security deposits, the first or last month's rent (or both) paid in advance, and various fees levied for the rental application, credit score verification, and other administrative processes. These move-in fees often require large sums of money to be paid at once, which imposes significant financial burdens on many renting households and limits renters' prospective choice of potential units (Duke-Lucio, Peck, and Segal, 2010; Messing et al., 2021; Orians, 2016).

Specifying move-in fees within a rental listing is theoretically grounded in two distinct goals for landlords when coordinating rental transactions. Move-in fees can exclude prospective applicants by increasing the upfront cost of securing a lease, thereby discouraging applications from lower-income renters. Alternatively, move-in fees may be mentioned in a market deal, such as advertising a discounted security deposit to obtain a tenant for a unit that may otherwise remain vacant due to neglected unit maintenance or an unfavorable location. Both scenarios indicate how a landlord's decision to specify a move-in fee requirement within an advertisement can influence rental market dynamics, with subsequent impact on the housing searches of lower-income renters.

Interest in policy initiatives has been growing within metropolitan rental markets in states such as New York, Utah, and Washington to either limit additional move-in fees—most commonly security deposit costs—or require landlords to specify all associated leasing costs explicitly, given the financial burdens these fees impose on renters (Judkins, 2020; Stewart-Cousins, 2019). Although SOI legislation offers protections towards one rental market vetting mechanism against low-income renters, landlords can employ move-in fees to position units as financially untenable for HCV recipients because regional HCV programs often do not assist with move-in fees (Metzger et al., 2019). This study therefore investigates how concurrent policy environments that adopt either or both SOI anti-discrimination legislation and security deposit cost limits potentially influence landlords' specification of move-in fees in listing advertisements.

An additional relevant question is regarding how landlords may vary in their tendency to specify move-in fees in their advertisements based on their rental units' immediate and surrounding neighborhoods. Consistent with research about place stratification in the housing search process, landlords may be more likely to deliberately include move-in fee requirements in neighborhoods with either higher neighborhood poverty levels or higher proportions of residents of color. Poverty levels in adjacent neighborhoods and racial composition proximate to the immediate census tract of a unit may also influence landlords' tendencies to include move-in fee requirements. This hypothesis draws from the established influence of adjacent tract characteristics on housing market dynamics and residential sorting, which is a comparatively underexplored subject in the context of online rental market platforms (Logan and Zhang, 2010; Ramiller, 2022).

The results of this study highlight how landlords mention move-in fee requirements in Craigslist rental advertisements at a significantly lower rate than their estimated prevalence in rental markets, indicating potential intentionality regarding when move-in fees are specified. One important dimension of this dynamic is that landlords are more likely to specify security deposit requirements in metropolitan regions that have adopted SOI anti-discrimination legislation. Regression models employing metropolitan-level fixed effects demonstrate that the most prominent predictor of a landlord specifying a security deposit requirement is proximity to other census tracts with higher poverty levels, whereas, for application fees and first or last month's rent, both immediate and proximate higher poverty are predictive of a higher mention likelihood. Overall, these results illustrate how move-in fee requirements may serve as a sorting mechanism among landlords operating in lower-cost rental markets affected by regional regulatory contexts regarding housing assistance. The article concludes by considering the implications of these results for policy initiatives aiming to assist low-income renters with securing rental housing.

Data and Methods

This study uses a unique database of Craigslist housing advertisements collected from July through August of 2019 using the Helena web automation programming language.¹ These data cover the largest 100 metropolitan areas in the United States by population size and include each of the submarkets that may exist for a given core-based statistical area as defined by the Office of the Management and Budget (e.g., the Los Angeles-Long Beach-Santa Ana CBSA covers Craigslist's "Los Angeles" and "Orange County" locations). Duplicate listings in the raw data are removed based on uniquely observed listing texts, leaving a total sample of 1.3 million listings covering 41,620 tracts. Units may be represented multiple times in the sample when landlords change their advertisement language slightly, such as by posting a different security deposit price. These listings are included within the dataset to preserve the representativeness of landlords' use of Craigslist rental advertisements, assuming that they constitute a minority of the sample. These data and methods have been used in prior research about rental housing platforms (Costa et al., 2021; Hess et al., 2019), and additional information about the data collection and processing is available in a recent article assessing Craigslist's representation of different neighborhoods (Hess et al., 2021).

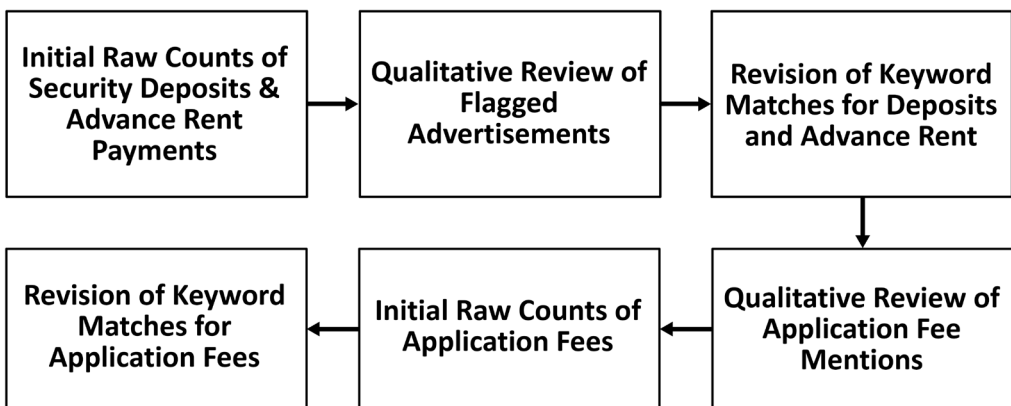
¹ Helena is a programming-by-demonstration language for web automation focused on web data, even in cases in which the data of interest are distributed across a number of pages or are constantly being generated over time. Readers interested in reproducing the system used for the present study should consult a recent article describing how to develop and scale such a system using Helena in combination with other open-source software (Hess and Chasins, 2022).

Following data collection, text analysis methods were used to robustly identify when landlords specify move-in fees in rental advertisements. This work builds from an established approach that combines both computationally provided insights regarding word and phrase frequencies with close readings of the advertisement listings to better understand the subjective context behind discovered trends in text data (Nelson, 2020). Natural language processing attempts to quantify the unique language characteristics of a population of interest and, therefore, must contend with the inevitable nuances of text related to divergent contexts and language irregularities. Close readings were therefore conducted to understand how landlords construct rental advertisements that specify move-in fee requirements, which additionally identified surprising themes and insights within the text used to further refine the computational analysis methodology.

Exhibit 1 delineates the final text analysis workflow. The stringr text data manipulation package within the R statistical computing programming language was used to generate indicator variables for the mention of a move-in fee requirement in a landlord’s listing description. The listing’s text was preprocessed by removing nonalphanumeric characters and then used to generate baseline counts of “deposits,” “first month,” and “last month” mentions. A subsequent review of the descriptions that were indicated as either mentioning or not specifying one of these move-in fee requirements highlighted two additional factors in the listing text that needed to be accounted for. First was the prevalence of “pet deposits” as a separate requirement regarding allowing pets in a unit distinct from this study’s research interests, which prompted the removal of those mentions from subsequent listings’ texts. Second was different written formats to specify a “1st month” or “last month” rent requirement. The most common alternative text specifications of these move-in fees were reviewed in the dataset, and their syntax was added to the scope of the text-matching parameters. This final iteration on the keywords was therefore used to complete the identification of mentioned deposits, first month rent, and last month rent requirements as tailored to the unique characteristics of the Craigslist advertisement text.

Exhibit 1

Workflow for Refining Text Analysis of Move-in Fee Mentions in Craigslist Rental Advertisements



Source: Authors’ identified methodological approach

The analysis proceeded by flagging “application,” “screening,” “processing,” “verification,” and “credit check” fee mentions, following a similar qualitative content review of these fee specifications throughout the dataset. Mentions of “broker fees” were intentionally left unmatched because this charge is disproportionately driven by the New York-Newark-Jersey City metropolitan area rental market and is, therefore, not representative of national trends. Direct specifications of “fees” and “charges” were captured rather than any mention of an application within the advertisement that did not specify an associated fee. Although many requested applications likely require a processing fee payment, these ambiguous mentions were not included due to missing information and because the intentional specification of a fee is the most relevant behavior for this study’s research interests.

The analytic strategy for assessing the prevalence of move-in fee mentions in online rental ads consists of three parts. First, descriptive statistics about the rate of mention and example texts are used to illustrate differences in how landlords mention the three focal types of fees. Then, a figure illustrates rates of mention based on whether a listing falls within a jurisdiction with either (a) SOI protections or (b) deposit limit laws to consider how landlords change their tendencies across markets with different regulatory environments. Finally, an additional figure illustrates the average marginal effects of different neighborhood and listing characteristics on the likelihood of a rental ad mentioning a given type of move-in fee.

Linear probability models (LPM) were estimated to generate these average marginal effects, with listing-level measures of rent asked (in \$100s) and square footage (in 100s) combined with a variety of census tract-level measures derived from the 2015–2019 American Community Survey 5-year estimates.² The first of these tract measures concern housing unit mix and turnover, with measures specifically capturing median gross rent (in \$100s), the share of housing units that are in single-family detached buildings (hereafter: Share Single Family Homes), the share of housing units (HU) that are in structures with 20+ units (Share HU in 20+ Bldgs), the share of HU that is renter occupied (Share Renter Occupied), and the share of persons who lived in the same home during the past year (Share Same Home Last Year). Next, another set of measures captures the sociodemographic composition of the tract where a listing is located, with a set of categories denoting tract racial/ethnic composition (Multiethnic, Predominantly Asian/PI [Pacific Islander], Predominantly Black, Predominantly Latino, and Predominantly White) and a dummy variable indicating whether the tract has poverty prevalence of 20 percent or more (High Poverty). Finally, the role of surrounding neighborhoods in shaping landlord discourse online is considered with a set of spatially lagged measures for sociodemographic composition in tracts adjacent to the one where a given listing is located. The measure for adjacency to high poverty takes a value of 1 if any neighboring tracts are high poverty (Adjacent to High Poverty), whereas the other measures of adjacent ethnoracial composition can be interpreted as the proportion of a tract’s edges that are neighborhoods of a particular racial or ethnic composition (Adjacent to Multiethnic, Adjacent to Predominantly Asian/PI, etc.).

² No substantive differences in coefficient significance were found when estimating logistic regression models with similar covariate specifications. As such, the LPM results for the coefficients are presented for greater ease of interpretation on the metric of probability.

All models include metropolitan fixed effects to adjust for time-invariant differences in mention rates between different metropolitan areas. Standard errors clustered by metropolitan area were used to account for heteroskedasticity and the nonindependence of errors in a given metropolitan region. Finally, although focal results from these models are presented in terms of the average marginal effects that reach statistical significance at the $p < .05$ significance level, the full model tables for the LPMs and logistic regression models are included in the appendix.

Results

The frequency of move-in fee mentions identified via the text analysis indicates that all types of move-in fee requirements are specified by landlords posting on Craigslist markedly less often than their expected prevalence within metropolitan housing markets, as highlighted in exhibit 2. The found specification rate of security deposit requirements in about 21 percent of the collected advertisements starkly contrast with Zillow Group’s Consumer Housing Trends annual report for 2021 estimation that 88 percent of renters pay a security deposit when signing a new lease (Garcia and Berchick, 2021). Whereas various application fees and first or last month’s rent do not have empirical estimates of their prevalence across U.S. rental markets, the low percentages of identified mentions suggest a lesser specification rate in advertisements than their actual pervasiveness within rental markets. This low overall occurrence of move-in fee specification raises the question regarding when landlords intentionally choose to specify said requirements, given the low tendency to delineate move-in fees overall.

Exhibit 2

Move-in Fee Prevalence and Text Representation Examples

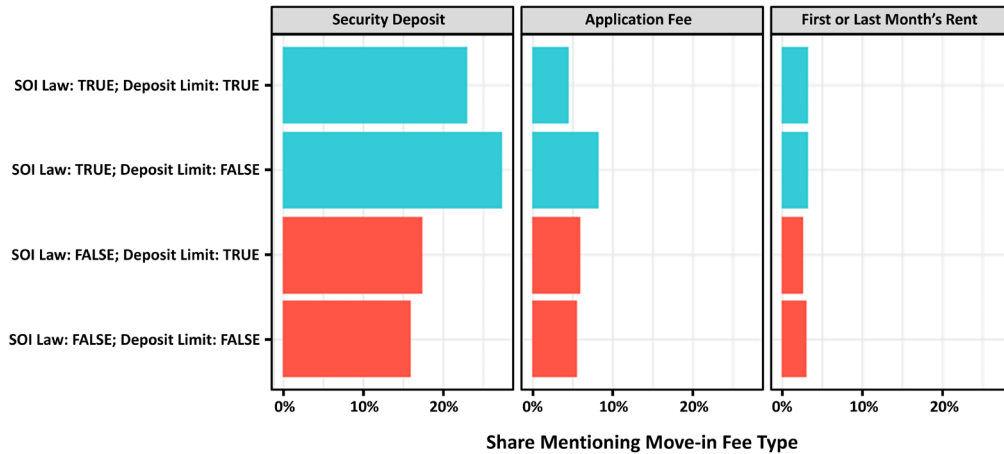
Move-in Fee	Proportion	Text Examples
Security Deposits	21%	<ul style="list-style-type: none"> • “Security deposit requested upon signing.” • “\$100 off deposit this week only!”
Application Fee	6%	<ul style="list-style-type: none"> • “Pay application fee online (non-refundable).” • “Verification fee charged with credit check.”
First and/or Last Month’s Rent	3%	<ul style="list-style-type: none"> • “1st & last month rent required to secure unit.” • “First mo rent + deposit will be paid via check.”

Source: Authors’ calculations based on data scraped from Craigslist

Accordingly, whether location within a jurisdiction with SOI protections, presence in a state that regulates requestable security deposit amounts, or the combination of both policies is associated with differences in Craigslist advertisement move-in fee mention rates was examined. Exhibit 3 displays the distribution of mention rates by move-in fee category delineated by the applicability of either policy for each advertisement. The findings highlight that the presence of SOI protections is coupled with a greater security deposit specification rate within Craigslist rental advertisements, particularly among metropolitan regions that do not concurrently enforce deposit amount limits. These results indicate a similar association regarding application fee mentions but do not suggest a difference in mention rates for regions without SOI anti-discrimination policies.

Exhibit 3

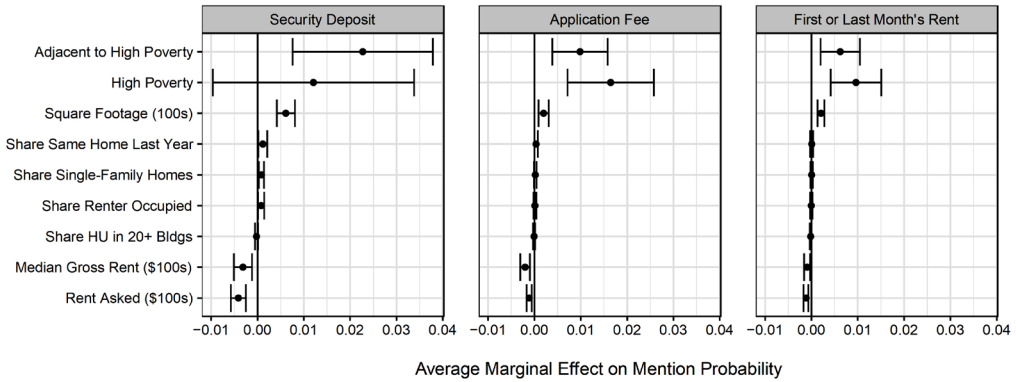
Move-in Fee Mention Rates by Presence of Source-of-Income (SOI) Protections and State Laws Limiting Security Deposits



Source: Authors' calculations based on data scraped from Craigslist

The findings imply a notable trend regarding the presence of policies designed to inhibit SOI discrimination by landlords as linked to a greater prevalence of security deposit specifications within rental advertisements. Given the discovered context of landlords specifying move-in fees in Craigslist advertisements at a lower rate than their expected prevalence within rental markets, these results demonstrate a potential response from landlords to SOI regulations of intentionally specifying security deposit requirements as a substitute mechanism for discouraging renters with HCV vouchers from applying for a rental. Because housing assistance programs often do not assist with move-in fees such as security deposits, the increased move-in fee mention rates in advertisements in regions with SOI protections may serve as an alternative strategy to influence the housing search behavior of low-income renters in metropolitan areas that attempt to restrict SOI discrimination.

Finally, building from these initial insights regarding move-in fee mention prevalence and the potential influence of regional contexts on move-in fee mentions, this study considered how neighborhood demographic characteristics within both immediate and proximate census tracts are associated with variation in fee specification rates. Exhibit 4 illustrates the average marginal effects of neighborhood and listing characteristics following fitting LPM models for each type of move-in fee.

Exhibit 4**Average Marginal Effects of Neighborhood and Listing Characteristics on Probability of Mentioning Different Types of Move-in Fees**

HU = housing unit.

Source: Authors' calculations based on data scraped from Craigslist and ACS 5-Year Public Use Microdata Sample

The core finding from these models is the distinctive influence of either immediate poverty levels or adjacent poverty on the increased likelihood of landlords specifying a move-in fee requirement in the Craigslist advertisements. Proximity to a high-poverty census tract is the leading predictor of a security deposit requirement being mentioned in a listing, whereas both immediate and proximate poverty are associated with significant increases in the probability of an application fee or advance rent payment being requested. Exhibit 4 demonstrates that although listing characteristics such as greater square footage and higher rents are also predictive of move-in fee mentions, the effect size for these terms is notably smaller than for immediate and adjacent poverty levels.

An important finding is that no observed relationship exists between either immediate or adjacent neighborhood racial and ethnic composition on landlords' move-in fee specification rates. These findings support the original prediction of the influence of either immediate or proximate poverty on move-in fee mentions, but they contradict the accompanying expectation of the dual importance of racial and ethnic neighborhood composition. Although these results demonstrate a more complicated dynamic related to move-in fee mention rates than originally predicted, these results are likely linked with each because of the close relationship between household income and racial and ethnic demographics within U.S. metropolitan regions. This inference is also implicated with the identified tendency to specify move-in fee requirements in regions with SOI protections because HCV recipients are often more racially and ethnically diverse than the total renter populations in a given region (U.S. Department of Housing and Urban Development, 2022). The significant influence of both immediate and proximate poverty levels on landlords' specifications of move-in fees, therefore, implies ramifications for rental market dynamics being relevant to socioeconomic, racial, and ethnic differences simultaneously.

Discussion

In addition to demonstrating the general utility of data scraped from online rental advertisements, this investigation of the prevalence rates and regional dynamics of move-in fees specified within Craigslist rental advertisements highlights distinctive trends regarding this underexplored component of rental market sorting. The delineated text analysis methodology identified that move-in fees are mentioned by landlords at a lower frequency than their estimated occurrence rate in rental transactions. These findings were further contextualized with additional analyses demonstrating the influence of regional SOI policy protections and immediate and proximate neighborhood poverty levels on higher move-in fee mention rates. The findings therefore provide evidence of landlords employing move-in fees as a sorting mechanism early during rental transactions to shape market dynamics as primarily applicable to lower-income tenants, including those receiving housing choice vouchers.

Move-in fees can significantly influence the financial feasibility of a rental for lower-income households; these results, therefore, support policy initiatives that assist with meeting these costs to mitigate stratification associated with this particular residential sorting mechanism. This issue is a timely policy topic relevant to recent guidance from HUD's Office of Public and Indian Housing supporting public housing authorities toward allocating administrative fees to assist HCV recipients in paying move-in fee expenses (HUD PIH, 2022). Said findings testify to the importance of this emergent policy direction in support of overarching goals of fostering more socioeconomically diverse neighborhoods and deconcentrating residential poverty levels.

This research note advances a brief exploration of move-in fees in Craigslist rental advertisements with a dataset gathered over a short 2-month timeframe. The introduced research topic and the methodological approach are ideal candidates for future research exploring additional dynamics, such as longitudinal changes in mention rates and how this study's findings translate to other online housing marketplaces, such as Apartments.com or Zillow. This work is therefore intended to serve as a topical and methodological introduction regarding move-in fees as a residential sorting mechanism in online rental marketplaces. The authors thereby support future scholarship employing text analysis methods on large datasets to explore novel research questions relevant to housing policy and residential stratification.

Acknowledgments

Partial support for this research came from a Eunice Kennedy Shriver National Institute of Child Health and Human Development research infrastructure grant, P2C HD042828, to the Center for Studies in Demography & Ecology at the University of Washington, as well as from the National Science Foundation Graduate Research Fellowship Program under Grant No. 1650441.

Authors

Remy Stewart is a PhD candidate in the Department of Sociology at Cornell University. Chris Hess is an assistant professor in the Department of Sociology and Criminal Justice at Kennesaw State University. Ian Kennedy is a postdoctoral fellow in the Department of Sociology at Rice University. Kyle Crowder is a professor in the Department of Sociology at the University of Washington.

Appendix

Appendix Exhibit 1

Linear Probability Models of Move-In Fee Mentions Within Craigslist Ads

	Security Deposits	Application Fee	First or Last Month's Rent
Intercept	-0.093 (0.044)*	-0.017 (0.024)	0.002 (0.022)
Rent Asked (100s)	-0.004 (0.001)***	-0.001 (0.000)***	-0.001 (0.000)***
Square Footage (100s)	0.006 (0.001)***	0.002 (0.001)***	0.002 (0.000)***
Median Gross Rent (100s)	-0.003 (0.001)**	-0.002 (0.001)***	-0.001 (0.000)**
Share Single-Family Homes	0.001 (0.000)**	0.000 (0.000)	0.000 (0.000)
Share HU in 20+ Bldgs	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)*
Share Renter Occupied	0.001 (0.000)*	0.000 (0.000)	-0.000 (0.000)
Share Same Home Last Year	0.001 (0.000)*	0.000 (0.000)	0.000 (0.000)
Multiethnic	-0.017 (0.010)	-0.004 (0.005)	-0.005 (0.003)
Predominantly Asian/PI	0.034 (0.040)	0.013 (0.018)	-0.007 (0.009)
Predominantly Black	-0.031 (0.023)	-0.006 (0.010)	-0.003 (0.007)
Predominantly Latino	-0.032 (0.021)	-0.012 (0.007)	-0.005 (0.005)
Adjacent to Predominantly Black	0.030 (0.030)	0.024 (0.015)	0.021 (0.012)
Adjacent to Predominantly Latino	-0.019 (0.022)	-0.009 (0.008)	-0.011 (0.006)
Adjacent to Predominantly Asian/PI	-0.054 (0.067)	-0.036 (0.043)	-0.001 (0.010)
Adjacent to Multiethnic	-0.022 (0.017)	-0.010 (0.007)	-0.006 (0.006)
Adjacent to High Poverty	0.023 (0.008)**	0.010 (0.003)**	0.006 (0.002)**
High Poverty	0.012 (0.011)	0.016 (0.005)***	0.010 (0.003)***
Includes Metro Fixed Effects?	Yes	Yes	Yes
Num. obs.	1,285,094	1,285,094	1,285,094

HU = housing unit. PI = Pacific Islander.

*** $p < 0.001$. ** $p < 0.01$. * $p < 0.05$.

Note: Standard errors clustered by metropolitan area in parentheses.

Source: Authors' calculations based on data scraped from Craigslist and ACS 5-Year Public Use Microdata Sample

Appendix Exhibit 2

Logistic Regression Models of Move-in Fee Mentions Within Craigslist Ads

	Security Deposits	Application Fee	First or Last Month's Rent
Intercept	-3.465 (0.272)***	-4.192 (0.446)***	-4.680 (0.716)***
Rent Asked (100s)	-0.025 (0.005)***	-0.020 (0.004)***	-0.029 (0.008)***
Square Footage (100s)	0.037 (0.006)**	0.033 (0.007)***	0.049 (0.008)***
Median Gross Rent (100s)	-0.020 (0.006)**	-0.041 (0.009)***	-0.028 (0.011)**
Share Single-Family Homes	0.006 (0.002)**	0.003 (0.003)	0.002 (0.004)
Share HU in 20+ Bldgs	-0.001 (0.001)	-0.002 (0.002)	-0.007 (0.003)*
Share Renter Occupied	0.005 (0.002)*	0.001 (0.003)	-0.001 (0.004)
Share Same Home Last Year	0.007 (0.003)*	0.006 (0.003)	0.004 (0.006)
Multiethnic	-0.102 (0.062)	-0.061 (0.095)	-0.170 (0.099)
Predominantly Asian/PI	0.190 (0.213)	0.230 (0.342)	-0.268 (0.314)
Predominantly Black	-0.193 (0.173)	-0.113 (0.171)	-0.122 (0.219)
Predominantly Latino	-0.201 (0.138)	-0.188 (0.138)	-0.114 (0.177)
Adjacent to Predominantly Black	0.263 (0.224)	0.464 (0.243)	0.526 (0.326)
Adjacent to Predominantly Latino	-0.132 (0.148)	-0.125 (0.183)	-0.316 (0.237)
Adjacent to Predominantly Asian/PI	-0.291 (0.334)	-0.641 (0.713)	0.037 (0.343)
Adjacent to Multiethnic	-0.147 (0.116)	-0.217 (0.137)	-0.219 (0.207)
Adjacent to High Poverty	0.150 (0.048)**	0.178 (0.052)***	0.223 (0.073)**
High Poverty	0.074 (0.075)	0.271 (0.090)**	0.315 (0.093)***
Includes Metro Fixed Effects?	Yes	Yes	Yes
Num. obs.	1,285,094	1,285,094	1,285,094

HU = housing unit. PI = Pacific Islander.

*** $p < 0.001$. ** $p < 0.01$. * $p < 0.05$.

Note: Standard errors clustered by metropolitan area in parentheses.

Source: Authors' calculations based on data scraped from Craigslist and ACS 5-Year Public Use Microdata Sample

References

Adu, Providence, and Elizabeth C. Delmelle. 2022. "Spatial Variations in Exclusionary Criteria from Online Rental Advertisements," *The Professional Geographer*: 1–11.

Besbris, Max, John Kuk, Ann Owens, and Ariela Schachter. 2022. "Predatory Inclusion in the Market for Rental Housing: A Multicity Empirical Test," *Socius* 8: 1–16.

Besbris, Max, Ariela Schachter, and John Kuk. 2021. "The Unequal Availability of Rental Housing Information Across Neighborhoods," *Demography* 58 (4): 1197–1221.

Costa, Ana, Victoria Sass, Ian Kennedy, Roshni Roy, Rebecca J. Walter, Arthur Acolin, Kyle Crowder, Chris Hess, Alex Ramiller, and Sarah Chasins. 2021. "Toward a Cross-Platform Framework: Assessing the Comprehensiveness of Online Rental Listings," *Cityscape* 23 (2): 327–340.

Desmond, Matthew. 2016. *Evicted: Poverty and Profit in the American City*. New York: Crown Books.

Duke-Lucio, Joanna, Laura R. Peck, and Elizabeth A. Segal. 2010. "The Latent and Sequential Costs of Being Poor: An Exploration of Housing," *Poverty & Public Policy* 2 (2): 83-102.

Garcia, Manny, and Edward Berchick. 2021. *Renters: Results From the Zillow Consumer Housing Trends Report 2021*. Zillow Group Population Science. <https://www.zillow.com/research/renters-consumer-housing-trends-report-2021-29863/>.

Grimmer, Justin, Margaret E. Roberts, and Brandon M. Stewart. 2022. *Text as Data: A New Framework for Machine Learning and the Social Sciences*. Princeton, NJ: Princeton University Press.

Hangen, Forrest, and Daniel T. O'Brien. 2022. "The Choice to Discriminate: How Source of Income Discrimination Constrains Opportunity for Housing Choice Voucher Holders," *Urban Affairs Review* 1–25. <https://doi.org/10.1177/10780874221109591>.

Hess, Chris, Arthur Acolin, Rebecca Walter, Ian Kennedy, Sarah Chasins, and Kyle Crowder. 2021. "Searching for Housing in the Digital Age: Neighborhood Representation on Internet Rental Housing Platforms Across Space, Platform, and Metropolitan Segregation," *Environment and Planning A: Economy and Space* 53 (8): 2012–2032.

Hess, Chris, and Sarah E. Chasins. 2022. "Informing Housing Policy Through Web Automation: Lessons for Designing Programming Tools for Domain Experts," *CHI Conference on Human Factors in Computing Systems Extended Abstracts* 32:1–19.

Hess, Christian, Rebecca J. Walter, Arthur Acolin, and Sarah Chasins. 2019. "Comparing Small Area Fair Market Rents with Other Rental Measures Across Diverse Housing Markets," *Cityscape* 21 (3): 159.

Judkins, Marsha. 2020. "H.B. 211 Renter Expenses Disclosure Agreement." Utah State Legislature. <https://le.utah.gov/~2020/bills/static/HB0211.html>.

Kennedy, Ian, Chris Hess, Amandalynne Paullada, and Sarah Chasins. 2021. "Racialized Discourse in Seattle Rental Ad Text," *Social Forces* 99 (4): 1432–1456.

Korver-Glenn, Elizabeth. 2018. "Compounding Inequalities: How Racial Stereotypes and Discrimination Accumulate Across the Stages of Housing Exchange," *American Sociological Review* 83 (4): 627–56.

Krysan, Maria, and Kyle Crowder. 2017. *Cycles of Segregation: Social Processes and Residential Stratification*. New York: Russell Sage Foundation.

Logan, John R., and Charles Zhang. 2010. "Global Neighborhoods: New Pathways to Diversity and Separation," *American Journal of Sociology* 115 (4): 1069–1109.

Messing, Jill Theresa, Kristie A. Thomas, Allison Ward-Lasher, and Jessye Johnson. 2021. "Survivors Achieving Stable Housing: Implementation, Challenges, and Lessons Learned," *Social Work* 66 (1): 49–58.

Metzger, Molly W., Annah Bender, Alana Flowers, Vithya Murugan, and Divya Ravindranath. 2019. "Step by Step: Tenant Accounts of Securing and Maintaining Quality Housing with a Housing Choice Voucher," *Journal of Community Practice* 27 (1): 31–44.

Nelson, Laura. 2020. "Computational Grounded Theory: A Methodological Framework," *Sociological Methods & Research* 49 (1): 3–42.

Orians, Kelly Elizabeth. 2016. "'I'll Say I'm Home, I Won't Say I'm Free': Persistent Barriers to Housing, Employment, and Financial Security for Formerly Incarcerated People in Low-Income Communities of Color," *National Black Law Journal* 25 (1): 23–58.

Ramiller, Alex. 2022. "Displacement Through Development? Property Turnover and Eviction Risk in Seattle," *Urban Studies* 59 (6): 1148–1166.

Rosen, Eva. 2014. "Rigging the Rules of the Game: How Landlords Geographically Sort Low-Income Renters," *City & Community* 13 (4): 310–340.

Rosen, Eva, Philip M.E. Garboden, and Jennifer E. Cossyleon. 2021. "Racial Discrimination in Housing: How Landlords Use Algorithms and Home Visits to Screen Tenants," *American Sociological Review* 86 (5): 787–822.

Stewart-Cousins, Andrea. 2019. "Housing Stability and Tenant Protection Act of 2019." New York State Senate. <https://www.nysenate.gov/legislation/bills/2019/S6458>.

Tighe, J. Rosie, Megan E. Hatch, and Joseph Mead. 2017. "Source of Income Discrimination and Fair Housing Policy," *Journal of Planning Literature* 32 (1): 3–15.

U.S. Census Bureau. 2019. *American Housing Survey 2019 Public Use Files*. <https://www.census.gov/programs-surveys/ahs/data/2019/ahs-2019-public-use-file--puf-/ahs-2019-national-public-use-file--puf.html>.

U.S. Department of Housing and Urban Development. 2022. "Resident Characteristics Report (RCR)." https://www.hud.gov/program_offices/public_indian_housing/systems/pic/50058/rcr.

U.S. Department of Housing and Urban Development Office of Public and Indian Housing (HUD-PIH). 2022. "Notice PIH 2022-18 (HA): Use of Housing Choice Voucher (HCV) and Mainstream Voucher Administrative Fees for Other Expenses to Assist Families to Lease Units." <https://www.hud.gov/sites/dfiles/PIH/documents/PIH2022-18.pdf>.