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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

Housing Segregation in the Rental Housing Market: A Field Experiment for Istanbul\*
Kiralık Konut Piyasasında Barınma Ayrımcılığı: İstanbul için Saha Deneyi Uygulaması

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Abstract This paper examines the housing discrimination towards the Syrian population living in Turkey under temporary protection status. Since the commencement of the civil war, the Syrian migration to Turkey has transformed numerous cities across the country into varying degrees of Syrian habitation. The Turkish policymakers initially designated Syrian immigrants as "guests", claiming that their settlement in Turkey was exceptional and would be transitory. However, this phenomenon has evolved into a lasting situation. Inequalities within the housing sector amplify the challenges faced by immigrants in establishing themselves and adapting to their host country. Moreover, the selection of a living locale carries significant importance, influencing the accessibility of local public services and engagement in the labor market. The paper specifically focuses on the migrants' experience of the initial housing search and the instances of bias in the rental housing market. It is founded upon empirical data derived from a field experiment conducted as part of the research project titled "From Guests to City Dwellers: The Housing Experience of Syrians in Istanbul" Following data collection, a comprehensive three-phase mixed methods research was conducted. In alignment with existing literature, the field experiment was executed employing a sample that accurately represents the rental housing market in Istanbul, the city harboring the highest population of Syrian residents. Findings reveal a stark discrepancy, with approximately 35% of housing tour requests made by Syrians for properties directly managed by landlords being declined, in contrast to a mere 2% rejection rate for the local population. This disparity not only escalates the housing costs for Syrians due to the limited access to available properties in the rental housing market but also contributes to an uneven spatial distribution of Syrians across Istanbul's districts.

Keywords: Housing Discrimination, Field Experiment, Spatial Segregation, Turkey, Syrian migrants

#### Öz

Bu çalışma, Türkiye'de geçici koruma statüsü altında yaşayan Suriyeli nüfusa yönelik barınma ayrımcılığını incelemektedir. İç savaşın başlamasından bu yana, Suriyelilerin Türkiye'ye göçü, ülke genelinde birçok şehri farklı derecelerde Suriyeli yerleşimine dönüştürmüştür. Politika yapıcıları başlangıçta Suriyeli göçmenleri "misafir" olarak tanımlamış ve Türkiye'deki yerleşimlerinin istisnai ve geçici olacağını iddia etmiştir. Ancak bu olgu kalıcı bir duruma dönüşmüştür. Konut sektöründeki eşitsizlikler, göçmenlerin kendilerini kabul ettirme ve ev sahibi ülkeye uyum sağlama konusunda karşılaştıkları zorlukları artırmaktadır. Ayrıca, yaşanacak yerin seçimi, yerel kamu hizmetlerinin erişilebilirliğini ve işgücü piyasasına katılımı etkileyerek büyük önem taşımaktadır. Bu makale özellikle göçmenlerin ilk konut arama deneyimlerine ve kiralık konut piyasasında karşılaştıkları önyargılara odaklanmaktadır. "Misafirlikten Kent Sakinliğine" başlıklı araştırma projesinin bir parçası olarak yürütülen saha deneyinden elde edilen ampirik verilere dayanmaktadır. Saha deneyi, mevcut literatür izlenerek İstanbul'u temsil eden bir örneklemle yapılmıştır.

Bulgular, Suriyelilerin doğrudan ev sahipleri tarafından kiraya verilen konutlarda için yaptıkları evi görme taleplerinin yaklaşık %35'inin reddedildiğini, buna karşılık yerel nüfus için bu oranın sadece %2 olduğunu ortaya koymaktadır. Bu eşitsizlik, kiralık konut piyasasında mevcut mülklere erişimin sınırlı olması nedeniyle Suriyeliler için konut maliyetlerini artırmanın yanı sıra, Suriyelilerin İstanbul'un ilçeleri arasında dengesiz bir mekânsal dağılım göstermesine de katkıda bulunmaktadır.

Anahtar Kelimeler: Barınma Ayrımcılığı, Mekansal Ayrışma, Türkiye, Suriyeli Sığınmacılar

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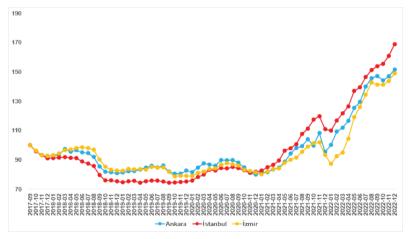
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### Introduction

The onset of the civil war in 2011 triggered a swift influx of Syrian migrants to Turkey, resulting in a notable presence of the Syrian population across various cities in the country. The process of settlement, initially conceived as a temporary or exceptional arrangement by policymakers, has over time transformed from a provisional scenario into a lasting circumstance. Consequently, the housing disparities, a pivotal facet of immigrant integration, not only escalated the costs for immigrants to establish roots in their host country but also wielded critical implications on access to local public services and participation in the labor market.

After the COVID-19 pandemic, real rents increased rapidly both in Turkey and in metropolitan areas. The graph below shows the change in real rents in three metropolitan cities. As can be seen from the graph, the real rent index, which had a flat course between 2017 and 2020, increased sharply after 2020. The highest increase was observed in Istanbul. However, when the increase in the real rent index and the timing of migration from Syria are analyzed, while migration from Syria to Turkey intensified between 2015 and 2018, the largest increase in the real rent index occurred after 2020. Based on these data, it does not seem possible to attribute the deepening of the housing crisis in Turkey solely to the increase in migrants.



**Graph 1.** Real rent index in three metropolitan cities (September 2017=100).

Source: BETAM, 2023 p: 6

This paper quantifies the extent of discrimination the Syrian migrants face in the pursuit of rental housing and scrutinizes the underlying determinants. Given the multifaceted nature of the issue, a comprehensive field experiment was conducted by established literature. The data collected through this experiment, detailed below, were meticulously amalgamated with information about property characteristics, neighborhood attributes, and district particulars. The analytical process encompassed initial descriptive statistics, a subsequent regression analysis, and hypothesis testing.

The research findings unequivocally expose the existence of discrimination within the rental housing market. Concurrently, the condition of the housing inventory in the respective district, the socio-economic fabric of the neighborhood, the concentration of immigrants therein, as well as supplementary information provided during the housing search exert discernible influences on the discrimination phenomenon.

This study enriches the discourse on housing discrimination across three distinct dimensions. First, the existing literature, focuses on Europe and the USA, often juxtaposing Muslim immigrants (typically of Arab or Turkish origin) as marginalized groups against the backdrop of a perceived white, Christian native populace. This study marks a significant departure by presenting the first field experiment on housing discrimination in Turkey, with a distinctive approach of comparing two Muslim communities.1 These neighboring groups, both predominantly Muslim and historically coexisting within a single geopolitical boundary (Ottoman Empire), invite contemplation on the explanatory potential of religious, cultural, and historical affiliations. Secondly, a noteworthy empirical discovery emerges from this study: discrimination diminishes when an oversupply scenario prevails in the rental housing sector, signifying a reduction in landlords' bargaining power. Notably, the study embraces a unique methodological proposition by integrating micro (telephone interviews, surveys, and in-depth interviews), meso (neighborhood socio-economic and political data), and macro (districtlevel) variables within the dataset and analytical framework. This holistic approach contributes substantively to comprehending both the magnitude and determinants of housing discrimination. The third contribution is realized through the assessment of the influence of neighborhood similarity on discrimination extent. The study employs shared political preferences as a metric for gauging the commonalities among residents within a neighborhood.

Following the introduction, the study's organization unfolds as follows: A comprehensive review of theoretical and empirical literature pertinent to housing discrimination within the e-housing market is presented. Subsequently, the research design is expounded upon, followed by a thorough discussion of empirical findings. The concluding segment juxtaposes the empirical insights with the theoretical literature, thereby contextualizing the research's significance.

### **Housing Discrimination**

Housing discrimination has been the subject of extensive research, representing a significant impediment to the social integration of ethnic and racial minorities (Pager and Shepherd 2008, Yinger 1998). The adverse impact of housing discrimination is multifaceted, encompassing elevated housing costs for minorities that erode their wealth. This phenomenon also perpetuates spatial disparities, diminishing access to essential public services such as education, healthcare, and municipal amenities, and further exacerbates disadvantages within the labor market (Galster 1992, 1996; Pager and Shepherd 2008; Turner and Mikelsons 2002). The pervasive nature of discrimination fosters stratification, reinforces biases, and escalates intergroup conflicts (Qullian 2014). Extensive empirical research has consistently unveiled the disadvantageous position of minorities within the rental housing market across developed nations. The trajectory of discrimination

<sup>1</sup> This comparison is made because both groups are predominantly Muslim, but there is a minority of people with different beliefs in both groups.

economics research originated by investigating discriminatory practices against African Americans in the USA. However, this focus has since broadened due to heightened crossborder population mobility, prompting investigations into discriminatory practices against not only domestic ethnic and religious groups but also immigrants and refugees. Such discrimination leads to minority groups being confined to segregated areas, enduring higher rent per square meter for subpar accommodations compared to the majority population. Notable instances include immigrant neighborhoods characterized by inferior living conditions (Ausburg et al. 2017). During the 1980s and 1990s, classical audit studies primarily involved interviewing two ethnically distinct potential tenants, matched in all other aspects, and assessing differential treatment by landlords and real estate agents. This approach entailed various forms of unequal treatment, such as withholding property showings, refraining from providing information, or failing to respond after showings – all indicative of discriminatory behavior (Yinger 1995). While these studies predominantly concentrated on black-and-white comparisons within the USA, they consistently uncovered persistent and entrenched unequal treatment (Riach and Rich 2002). Recent research has underscored pronounced discrimination against Hispanics, surpassing even that directed at black individuals (Galster 1990a; Roychoudhury and Goodman 1992; Turner and Mikelsons 1992; Yinger 1998, Hanson, and Santos 2014). Furthermore, field experiments have indicated that homeowners tend to channel minorities toward specific neighborhoods. Notably, even when equal numbers of potential tenants from minority and majority groups were presented, they were systematically steered toward disparate localities (Galster 1990b; McIntosh and Smith 1974; Turner and Mikelsons 1992). Ondrich et al. (2003) propose that real estate agents curtail marketing efforts when promoting properties in ethnically mixed or transitional areas. Pioneering experiments by Massey and Lundy (2001) in telephone applications demonstrated that discrimination persists if landlords discern tenants' ethnic origins and immigration statuses through their accents and language dominance during phone conversations. Similarly, Drydakis (2011) discovered that individuals with Albanian accents in the Greek housing market were subject to higher rental rates and more extensive inquiries about their employment and financial circumstances. As the internet and online housing platforms gained prominence, studies employing email correspondence to measure discrimination during the housing application process became more prevalent. Examination of the literature reveals 19 field experiments directly addressing housing discrimination between 2000 and 2014. Of these, 14 pertain to racial and ethnic factors, two concern disability-related discrimination, and three focus on discrimination based on sexual orientation. Among these experiments, 12 were conducted via email, and seven involved direct telephone conversations with landlords or real estate agents (Rich 2014: 34-35).

While early research predominantly spotlighted discrimination against African Americans in the USA, a recent trend has emerged focusing on discrimination against immigrants. These studies investigate the impact of religious differences (specifically discrimination against Muslims) and ethnic origins (e.g., Arab, Turkish). An investigation by Friedman et al. (2010) explored discrimination against Hispanics and blacks in Dallas and Boston. Assessing email responses as a discrimination indicator, only Dallas exhibited discrimination against Hispanics. Positive response rates indicated that both blacks and Hispanics received fewer positive responses than white Americans, with

blacks experiencing even greater disparities. Studies introducing class-related information alongside race found associations between both race and class position with discrimination. An extensive study spanning 10 cities revealed a 4-6% decline in positive responses for blacks; when upper-class status was included in emails, discrimination diminished and became statistically insignificant (Hanson & Haylew, 2011). Ewens et al. (2014) conducted a study across 34 cities with a substantial sample (14,000) and discovered that while both blacks and whites received about 9% fewer positive responses when race was the sole factor, adding positive information led to increased discrimination, particularly among whites. This counterintuitive result was attributed to valuation mechanisms.

An evident surge in European studies has been observed recently, with an initial focus on Nordic countries like Sweden, Norway, and Denmark (Flage, 2018). In Sweden, Ahmed and Hammarstedt (2008) sent emails to landlords and real estate agents concerning three prospective tenants (Swedish male, Swedish female, and Arab/Muslim male). They discovered that Arab/Muslim applicants received nearly half as many responses compared to Swedish candidates, and Swedish women were favored more. Notably, landlords exhibited greater discrimination than real estate agents. Contrary to findings indicating that providing more information in emails reduces discrimination, Ahmed et al. (2010) found that discrimination persisted even when Arab/Muslim applicants included more information while locals did not. In contrast, Bengsston et al. (2012) identified discrimination only in Stockholm suburbs in Sweden, with a more pronounced gender gap. Exploring discrimination towards Arab/Muslim applicants in Norway, Andersson et al. (2012) found that although discrimination was high against Muslims/Arabs, incorporating more positive information in applications reduced such discrimination against these groups without affecting the preference for women among local individuals. The continued presence of discrimination after providing more information hints at persistent preferential bias. Beatty and Sommervoll (2012) investigating rental housing discrimination against minorities in Norway concluded that immigrants and their offspring pay 8% more in rent than Norwegians, increasing to 14% for immigrants of African origin. Results from Öblom and Antfolk (2017), who examined discrimination against Arabs/Muslims in Finland, demonstrated that the Arab/Muslim minority is preferred over natives, with women receiving more positive responses than men. While immigrant women benefit twice as much as immigrant men, this gender gap narrows among locals.

France, characterized by its non-recognition of ethnic distinctions in its legal system, has been a focal point for discrimination studies. Acolin et al. (2016) investigated discrimination against immigrants from various backgrounds, including Arab/Muslim, Turkish, Eastern European, Hispanic, and Sub-Saharan African. The study found no discrimination against Eastern Europeans and Hispanics but identified discrimination ranging from 16% to 22% against other groups.

Bunel et al. (2016) examined discrimination against Arab/Muslim minorities in Paris and found that candidates with Arab/Muslim backgrounds were one-third less favored than those with French names. An interesting divergence from existing literature emerged when job status and income information were incorporated, leading to an increase rather than a decrease in the disparity between immigrants and locals. Le Gallo et al. (2019) conducted a study in France with a larger sample and discovered around one-third

discrimination rate, like Bunel et al. (2016), while also showing that providing more information mitigates discrimination.

In Italy, Baldini and Federici (2011) compared discrimination against Arab/Muslim and Eastern European immigrants versus the native population. They found higher discrimination against Arabs/Muslims than Eastern Europeans, but both groups faced considerable discrimination. The study indicated that adding information like income and education reduced discrimination and that the command over the Italian language (grammatical correctness of the application) did not significantly affect outcomes.

Germany has often been examined with Turkish people as the minority group facing discrimination (Auspurg et al., 2017; Mazziaotta v.d. 2015). Auspurg et al. (2017) applied to 600 houses in Munich with both German and Turkish-origin candidates, revealing that Turkish-origin individuals received 9% fewer house viewing invitations. Discrimination declined when the candidate held high-skilled jobs but increased for low-skilled jobs. Higher discrimination occurred in houses rented directly by landlords and in neighborhoods with a concentrated Turkish population, supporting the tipping point hypothesis over the increased contact hypothesis. Analysis based on price levels demonstrated statistical discrimination in higher-priced housing and preference-based discrimination in lower-priced housing. Notably, German studies showed that language proficiency plays a pivotal role. In Horr et al. (2018), conducted via phone calls, discrimination was found against individuals of Turkish origin, particularly those with accents. This underscores the significance of language education in migration policies and efforts to enhance integration and diminish discrimination. Cross-country studies present a complex interplay of factors influencing discrimination patterns, revealing both shared trends and unique nuances across different contexts.

An alternative approach to categorizing discrimination surveys, conducted through both email and telephone, revolves around the extent of information disclosed to landlords. This strategy aims to counteract statistical discrimination encountered by landlords due to asymmetrical information while gauging potential instances of optional discrimination. In emails, information is provided, specifying that all attributes of prospective tenants are identical, barring their names. When examining the impact of disclosing more personal details - such as marital status, occupation, number of children, education level, etc. - in email applications, the objective is to mitigate the influence of statistical discrimination. It is observed that this augmentation of information heightens the favorable response rate for immigrants; however, it does not entirely eradicate discrimination (Ahmed et al., 2010; Bosch et al., 2010). Explorations conducted via email or telephone have unveiled subtle forms of discrimination that may not be immediately apparent. For instance, Hanson et al. (2011) discovered that real estate agents in the United States exhibit swifter responses, compose lengthier emails, and employ more positive language in correspondence with white clients.

# **Field Experiment Design**

The design of field experiments within the housing market fundamentally centers on quantifying disparities in application volumes for rental or sale property listings. These discrepancies manifest when requests to view properties are made in written form or via phone calls, particularly in terms of the invitations extended to immigrants and residents. While advancements in technology have shifted housing market advertising to online platforms, studies employing email inquiries still suffer from reduced response rates compared to requests for property viewings facilitated through direct interaction with landlords or real estate agents. However, email-based inquiries offer the advantage of streamlined data collection, circumventing variables like attire and physical appearance that could influence responses. In this study, the choice of employing phone calls as the primary method is grounded in the prevalent reliance on phone-based interactions within Turkey's rental housing market. Additionally, most advertisements posted by property owners do not include email addresses for contact, unlike the broader literature which often includes advertisements from real estate agencies or developers. This exclusion of agency-related advertisements aims to eliminate ambiguity in attributing discrimination to either real estate agents or property owners. This strategic decision does result in a notable reduction in the study's sample size due to omitted observations. However, the study's focus on host behavior justifies this trade-off, despite its impact on narrowing the study's target audience. The selection of property owners aims for a sample size that duly represents the entire market. Consequently, in pursuit of an unbiased sample, the following formula was employed to calculate a sample size with a ±3 margin of error within 95% confidence.

$$n = \frac{N t^2 p q}{d^2 (N-1) + t^2 p q}$$

The formula provided employs various parameters to determine the sample size for the study. In this context, 'n' denotes the sample size, 'N' stands for the population size (which is 10,000, representing the number of rental houses listed on the sahibinden.com website for Istanbul<sup>2</sup>), 'p' indicates the probability of being selected for the sample (0.5), 'q' represents the probability of not being included in the sample (0.5), 't' signifies the critical value corresponding to a  $\pm 3$  margin of error at 95% confidence level (1.96), and 'd' represents the margin of error ( $\pm 3$ ). When these values are substituted into the formula, a sample size of 964 is derived.

In the process of sample determination, the initial step involved assessing the number of rental houses listed on the sahibinden.com website for each district of Istanbul as of September 1, 2019. Subsequently, 964 questionnaires were distributed across the districts. Following a district-level stratification, a random sampling method was employed to ensure equitable representation, granting each advertisement an equal opportunity for selection.

Regarding the selection of houses to be included in the sample, a random number was generated, corresponding to the number of properties within each district. This number was drawn from the set of house numbers in that district, with each number selected only once. These generated numbers were used to identify rental housing advertisements, with the most recent listings given precedence. Recognizing the periodic fluctuations in the number of rental houses, an alternate list was formulated for districts where the

<sup>2</sup> Istanbul was chosen as the study area because it is the largest city in the rental housing market and attracts the highest number of migrants.

initially chosen numbers were omitted. This adjustment considered scenarios where the chosen number exceeded the total available rental housing at that time or when contact information in the advertisement was inaccessible. Thus, a reserve list of 964 numbers was created to account for such contingencies.

In cases where the initially selected advertisement couldn't be reached, subsequent attempts were made using the advertisement linked to the corresponding number on the list.

The experimental procedure followed the protocol outlined by Bosch et al. (2014). The study involved assessing four potential tenants for each advertisement, representing Syrian Female, Syrian Male, Turkish Female, and Turkish Male applicants. A logistical challenge emerged when deciding whether the property owners should be contacted on the same day or separate days. To mitigate the perceived inconvenience for landlords and minimize disruption from four prospective tenant calls in a single day, a rental inquiry was placed for an apartment occupied by a member of the project team, within the specified time frame.

Over three days, the study resulted in 11 inquiries on the first day, 14 on the second, and 9 on the third, from individuals expressing interest in viewing the rental property. This information underscored that homeowners are receptive to receiving multiple calls in a single day, thus confirming the feasibility of making four calls during a day. An observation made during pilot applications, where the search was conducted over two days (alternating between Syrian and local tenants), indicated that certain listings were removed by the second day. This suggested that owners often quickly withdraw their advertisements from the rental market in Istanbul. Considering this insight, the decision was made to conclude searches within the same day.

Additionally, the sequence of calls was considered during the experimental phase. There was a concern that landlords might favor the first caller due to the promise of potential tenancy, potentially leading to subsequent callers receiving more rejections. To address this potential bias, it was planned for the four tenant candidates to contact properties in the sample in a balanced manner. Notably, these four candidates-initiated calls with around 239 to 241 individuals.

Another noteworthy aspect was the response pattern of homeowners who were hesitant about showcasing their properties to Syrian candidates. Rather than outright rejection, they tended to claim that the property was either rented or promised to someone else. This posed challenges in accurately interpreting results, as it was difficult to ascertain whether houses were genuinely rented or if avoidance tactics were employed. To overcome this ambiguity, when the initial Syrian tenant candidate was informed that the property had been removed from the listing, a Turkish candidate was designated to conduct the final inquiry for that advertisement. This approach aimed to differentiate cases where genuine rental changes occurred from instances of polite avoidance. Consequently, if the final call confirmed the removal of the property, it was excluded from the sample, and a replacement advertisement was sought from the reserve list.

Tenant candidates' characteristics, encompassing gender, immigrant status, and native identity, were deliberately selected to closely resemble each other. This strategy involved

the first caller recording their interaction with the landlord and subsequently sharing this information with the three other callers. Minor differentiations were incorporated, such as income, family size, and occupation. For instance, family size remained constant, whether it was portrayed as a family of four with parents and two children or a single parent with a child and grandparent. Likewise, when providing occupational details, vocations unsuitable for Syrians in Turkey, like civil servants, lawyers, and pharmacists, were omitted from the local tenant candidates' profiles. As a result, all potential tenants were "employed" in the private sector, nullifying any potential landlord preference for public sector employment, since it offers higher job security vis a vis the private sector, and therefore signals potentially higher stability in terms of rent payment.

The Syrian tenant candidates were proficient in Turkish and had no trouble understanding their surroundings, though their accents revealed their immigrant status. In field experiments involving direct contact, a key critique pertains to uncontrolled variables (e.g., accent, appearance) beyond the target variable (Bertrand and Duflo, 2017, p.11). Accents and names can hint at socioeconomic class or geographic location, while profile photos on phone apps can introduce bias. Countermeasures were implemented to address these concerns. Local names such as Zeynep and Mustafa, neutral in terms of political or geographical connotations, were chosen alongside common Syrian names like Mohammed (male) and Iman (female). Tenant candidates underwent training through pilot studies, standardizing phone conversations by adhering to interview protocols.

To mitigate the potential impact of the prospective tenants' physical attributes on landlords, profile photo features of the tenants in relevant applications were disabled during the field experiment. To prevent the possibility of post-experiment harassment of the tenant candidates by landlords, dedicated phone lines were procured for the study, which was subsequently terminated after the interviews.

The absence of double-blind protocols is one of the critical weaknesses in direct communication-based field experiments. During the training, all members of the research team were briefed on the goals, method, and potential methodological weaknesses of the study. Bernard and Duflo (2017) maintain that this process may lead the callers in the research team to, consciously or otherwise, gather data concurrent with the theoretical assumptions of the study at hand. Therefore, team members, excluding the project leads conducting calls on behalf of Turkish men, were informed about the research's objectives and general framework. To counter potential bias stemming from race, ethnicity, or discrimination perceptions, clear instructions were given to the three tenant candidates. Their task was to assess whether the observations made during the training, derived from online rental housing advertisements, could be extrapolated more broadly. To uphold data quality, rather than adhering to predefined targets for daily calls, calls were terminated when prospective tenants exhibited signs of fatigue or waning motivation.

To minimize harm to both landlords and prospective tenants, the project team proactively devised measures. Verbal agreements were consciously avoided during calls to prevent binding agreements that might hinder landlords from considering other tenants. Furthermore, precautions were taken to shield Syrian tenant candidates from the potential impact of intense discrimination over a short period. In cases where hosts persisted in scheduling house viewings, house viewings were canceled via text messages.

The data obtained from the field experiment in this study was meticulously coded to ensure relevance and appropriateness. Homeowners' gender was the sole information recorded from the phone interviews. Once coded, additional details such as house size, number of rooms, and neighborhood-specific attributes, including square meter rental prices and location, were extracted from the advertisements. This data was then combined with socio-economic information regarding the neighborhood and district where each house was situated. Neighborhood characteristics were sourced from the "My Neighborhood Istanbul" (Mahallem İstanbul) project database, while data about the number of Syrians and foreigners at the district level were obtained from the TUBITAK-supported POT-A project. An application was made to the Istanbul University Ethics Committee for this study, and as a result of the review, it was unanimously decided that there was no ethical problem in this study.

# **Data Analysis**

In the process of data analysis, the initial step involved the descriptive evaluation of the extent of discrimination during the housing search, and identifying factors that influenced this discrimination. Subsequently, the reasons why landlords declined house visits by prospective tenants of Syrian origin were investigated. Following the descriptive analysis, a logit model was established to delve into the factors that influenced discrimination.

Discriminatory tendencies towards Syrian tenant candidates manifest, first, during the application process to the public, open call rental listings. Among the 3,856 interviews, derived from four distinct calls each for 964 rental houses in the field experiment, house viewing requests were declined 718 times (18.6%), while acceptance was granted in 3,146 instances (81.4%). Among these rejected requests, 677 were from Syrian candidates and 41 were from local candidates. This indicates that 94 percent of refusals were directed toward Syrians, with the remaining 6 percent toward local candidates. Examining each group independently highlights a stark contrast in rejection rates. Merely 2 percent of house viewing requests from local candidates were rejected, whereas this figure rose to approximately 35 percent for Syrian candidates. The chi-square test statistic indicates a statistically significant difference between the two groups, underlining the considerably higher tendency of landlords to reject Syrian tenants.

Table 1
Responses to House Viewing Requests (Broken Down by Nationality)

Responses to House Viewing Requests		Tenant Candidate		
		Turkish	Syrian	Total
No	N	41	677	718
	%	2,1	35,0	18,6
Yes	N	1891	1255	3146
	%	97,9	64,5	81,4

Pearson chi2(1) = 691.9396 Pr = 0.000

Analyzing refusal and acceptance responses based on gender, men were denied house viewings 374 times and women 344 times. Although this appears to favor women, there's no statistically significant difference (Pearson chi-squared: 0.125). Dissecting refusal rates by ethnicity and gender reveals that 49 percent of rejections were aimed at Syrian male tenant candidates and 45 percent at Syrian female tenant candidates. Local candidates

of both genders faced rejection in 3 percent of their search attempts. No statistically significant gender-based difference exists within the ethnic groups.

### Landlord Gender

Further examination according to landlord gender reveals that among the 3,864 calls made, 21.4 percent were received by female hosts and 78.6 percent by male hosts. Female hosts rejected 19 percent of calls, while male hosts rejected 18.5 percent. However, this difference isn't statistically significant according to the chi-square test (p-value: 0.737). Evaluating the correlation between racial discrimination in calls and host gender, the rejection rate of Syrian calls, both by male and female hosts, was higher than the average. Female hosts turned down 36.7 percent of answered Syrian calls, while male hosts rejected 34.6 percent. Nonetheless, this relationship doesn't exhibit statistical significance according to the chi-square test (p-value: 0.421).

# **House Rents and Physical Features of Houses**

Table 2 displays the distribution of average rents, categorized by rejection and acceptance. The hypothesis tested through group averages is that landlords charging higher rents are more likely to respond positively to both Syrians and Turkish residents due to a smaller pool of potential tenants. Across the entire sample, the average rent for the 966 houses surveyed in this study is 1724 TL. The average rent for houses to which candidates received rejection responses is 1556 TL, whereas the average rent for those in which the candidates were offered a house visit is 1763 TL. This indicates a rent difference of 207 TL between the groups. The distinction between these two groups is statistically significant. When specifically considering the subset of houses where Syrians were rejected, the average rent is 1554 TL, whereas the average rent for houses where they were accepted is 1817 TL. This signifies a rent difference of 263 TL, which is 56 TL higher compared to the entire sample. The disparity in average rent between homes where Syrians were rejected for a house visit and those where they were accepted also presents a statistically significant difference. Turning our attention to Turkish candidates, the average rent for the 41 houses where they were rejected a house visit is 1593 TL, while the average rent for the 1891 houses where they were invited to view the property is 1726 TL. The rent difference of 133 TL between houses that received rejection-acceptance responses from Turkish candidates is not statistically significant. Upon examining the responses from female candidates, the average rent for houses where female candidates were rejected is 1578 TL, and for houses where they were accepted, it is 1760 TL. The 182 TL difference between these two groups is statistically significant. For male candidates, the average rent for houses where they received rejection responses is 1532 TL, while for houses where they were accepted, it is 1777 TL. The 245 TL difference between these two groups is statistically significant. Upon reviewing both Table 9 and Table 10 in their entirety, a noteworthy observation is that homeowners charging lower rents appear more hesitant to show their homes, particularly to Syrian tenants. While no notable rent-based differences exist between women and men, a clear distinction emerges between local and Syrian tenants.

Table 2
Average Rejection Responses Based on Rent and Caller

Group	House Visit	Number of Observa- tions (N)	Average Rent (μ)	P value H <sub>o</sub> : μ <sub>b</sub> - μ <sub>e &lt; 0</sub>
Whole Commis	No	718	1556,4	- 0,000***
Whole Sample	Yes	3146	1763,4	0,000
Syrian	No	677	1554,0	0,000***
	Yes	1255	1817,4	
Turkish	No	41	1596,3	
	Yes	1891	1727,6	0,276

The p-value indicates the results of the t-test: \* signifies significance at 90%, \*\* at 95%, and \*\*\*\* indicates significance at 99%.

#### **House Sizes**

Conversely, as average rents increase, there seems to be less emphasis on the local-immigrant distinction. This suggests that landlords may be exercising greater caution and risk aversion for houses with lower average rents. Alternatively, viewed from another perspective, this could indicate selectivity, assuming a higher demand for such properties. Referring to Table 3, which explores the link between house size and acceptance-rejection rates, it becomes evident that the average size of the 718 houses that the candidates were rejected for house viewings is 106 square meters. In contrast, the average size of the 3,146 houses that received acceptance is 112 square meters. Among the 41 houses where rejection responses were directed solely at Turkish candidates, the average size decreased to 95 square meters. For all other groups (the whole sample, male-female, Syrian-Turkish), the average size of houses with rejection responses ranges from 106 to 108 square meters, while the average size of houses with acceptance responses ranges from 112 to 114 square meters. Therefore, one might posit that as the house size increases, landlords become more inclined to allow house viewings for Syrian tenants.

Table 3
Relationship between House Sizes and Rejection-Acceptance Responses

Group	House Visit	Number of Observa- tions (N)	Average m2 (μ)	Standard Deviation	P	
WHOLE SAMPLE	No	718	106	33,9	0.000***	
WHOLE SAMPLE	Yes	3146	112	38,4	0,000***	
Syrian	No	677	108	34,4	0,000***	
	Yes	1255	114	39,2		
Turkish	No	41	95	22,5		
	Yes	1891	112	37,9	0,002***	
	Yes	611	114	39,1		

The p-value indicates the results of the t-test: \* signifies significance at 90%, \*\* at 95%, and \*\*\*\* indicates significance at 99%.

700 out of 3864 calls conducted during the study were for houses located in housing estates. According to Graph 8, which presents information on the acceptance-rejection rate of these 700 calls, 98 calls (14%) were rejected by the hosts. Examining the distribution

of houses within a housing complex based on racial breakdown, 94 out of the 98 rejected calls were made by Syrians. Among the 350 calls made by Syrians to houses within a housing complex, 256 (73.1%) were not rejected by the landlords; their requests to view the houses were met positively. Syrian tenant candidates were less likely to face rejection when searching for houses within a housing complex compared to houses out of a complex. This relationship is also statistically significant according to the chi-square test (p-value: 0.000).

# **Neighborhood Dynamics**

An essential indicator of a neighborhood's desirability for living is the rental prices per square meter. Higher prices in a neighborhood suggest greater preference for that area compared to neighborhoods with lower prices. Therefore, the study initially explored the relationship between rent per square meter of a given neighborhood and the responses received during the field experiment. Such information was already available on the website sahibinden.com. Prices per square meter ranged from 6 to 35. These prices were categorized as follows: Values from 6 to 10 were coded as 1, 11 to 15 as 2, 16 to 20 as 3, 21 to 25 as 4, 26 to 30 as 5, and 31 and higher as 6. Rejection rates are higher in the first three real estate index categories. The lowest rejection rate is observed in the sixth property index category. Rejection rates in the first three categories hover around 19-20%, compared to 16.2% in the fourth category, 10.3% in the fifth category, and 7.5% in the sixth category. This indicates a lower inclination to reject house viewings in regions with higher average rents. In areas with lower rental values, landlords reject Syrian tenants more frequently. Two distinct dynamics may be influencing this phenomenon. First and foremost, Syrian immigrants are concentrated in areas with lower rental values, as evidenced by their settlement preferences. This concentration may be the result of more intense competition for rental housing among the local urban poor in Istanbul. Additionally, landlords might have had potentially negative experiences with Syrian tenants, following the migration wave after 2015, when multiple families often inhabited the same house. When assessing the distribution of average housing rents per square meter in neighborhoods by groups, it is evident that the average rent is higher in the neighborhoods where Syrian applicants received a house visit offer. On the other hand, in the unlikely cases in which Turkish applicants were refused a house visit, neighborhoods tend to have higher average rents. In conjunction with the house rent data, this suggests that as both house rents and the average rent of the neighborhood increase, landlords' tendency to discriminate decreases.

Table 4
Average Rejection-Acceptance Responses Based on Neighborhood Square Meter Rental Price and Caller

Group	House Visit	Number of Observations	Average rent	P value
		(N)	(μ)	$H_o: \mu_b - \mu_{e \le 0}$
Whole Sample	No	718	13,49	0,0072***
	Yes	3146	14,03	0,0072
Syrian	No	677	13,47	0,002***
	Yes	1255	14,19	
Turkish	No	41	14,02	0,542
	Yes	1891	13,93	0,342

The p-value indicates the results of the t-test: \* represents significance at 90%, \*\* at 95%, and \*\*\*\* indicates significance at 99%.

#### **Education and Socioeconomic Indicators**

The education level of a neighborhood's residents stands as a crucial socioeconomic indicator. Neighborhoods boasting a higher proportion of university graduates per thousand individuals tend to exhibit a superior socioeconomic status. This correlation suggests that elevated education levels contribute to heightened average incomes and increased social capital. Hence, the study explores the interplay between the number of university graduates per thousand individuals and the acceptance-rejection dynamics. Categorically classifying the variable of university graduates, we observe higher rejection rates in the first two categories compared to others. Notably, the rejection rate in the fifth category, featuring the highest number of university graduates per thousand people, is 8.1%. Interestingly, as the number of university graduates surpasses 200 per thousand individuals, the rejection rate diminishes. This trend also demonstrates statistical significance according to the chi-square test. Delving into the Syrian perspective, rejection rates for the first and second categories (19.7% and 20.2%) rose to 37.2% and 37.9%, respectively. In the top category, originally at 8.1%, the rejection rate increased to 13.5% for Syrian applicants. This relationship remains significant according to the chisquare test (Pearson Chi2: 22976, p-value: 0.000).

# **Housing Market Dynamics**

The housing discrimination discourse frequently underscores the unmeasured influence of supply and demand conditions within the rental housing market on discrimination patterns. In localities where domestic demand is robust, homeowners enjoy the liberty to exclude immigrants, minorities, or disadvantaged groups while having a high demand for their properties. Conversely, areas with an ample rental housing supply may witness reduced landlord discrimination, given their lessened bargaining power vis a vis the prospective tenant. Our study provides empirical support to these assumptions. The table furnishes insight into the impact of surplus supply in the housing market on rejection and acceptance responses during our field experiment. The surplus supply districts were identified by comparing a district's share of Istanbul's population with its share in the rental housing market. A district qualifies as having a surplus supply if its ratio of advertised rental properties to the total market supply exceeds its population ratio to Istanbul's population. Accordingly, Istanbul's surplus supply districts during the field experiment encompassed Adalar, Arnavutköy, Ataşehir, Avcılar, Beykoz, Beşiktaş, Fatih, Kadıköy, Kartal, Pendik, Sancaktepe, Sarıyer, Şişli, Tuzla, Çekmeköy, Ümraniye, Üsküdar, and Sile. Upon analyzing the data, districts with surplus supply showcase a higher acceptance rate for tenant candidates across all breakdowns. Syrians received a negative response in 29% of their calls in surplus supply regions, contrasting with a 44% rejection rate in regions without surplus supply. The discrepancy between districts with and without surplus housing supply is evident for both Syrian men and women, with rejection rates at 30% and 47%, respectively, in non-surplus regions. The data robustly suggests that higher rental housing volume in a district mitigates discriminatory tendencies due to weakened bargaining power, whereas lower housing supply exacerbates such tendencies. This underscores the potential of housing supply regulation as a positive measure in reducing discrimination.

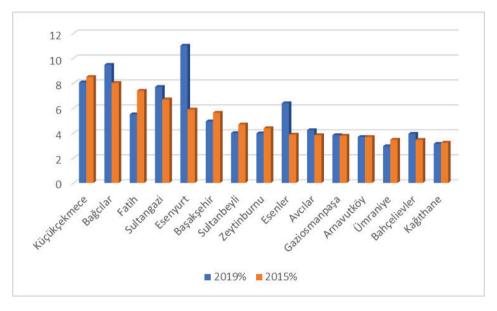
Table 5
Housing Market Structure and its Association with Discrimination

		R		
	Surplus Supply	Rejection	Acceptance	p
Whole Sample	No	343	1097	Pr = 0.000***
	Yes	375	2049	
Syrian	No	319	401	Pr = 0.000***
	Yes	358	854	
Turkish	No	24	696	Pr = 0.004***
	Yes	17	1195	

The p-value indicates the results of the t-test: \* represents significance at 90%, \*\* at 95%, and \*\*\*\* indicates significance at 99%.

# **Migrant Density**

In addition to exploring issues such as housing discrimination and settlement preferences, it is crucial to analyze the phenomenon of migrant density by juxtaposing it with the telephone experiment. This analysis involves assessing whether specific districts within Istanbul have witnessed a notable concentration of Syrian migrants. The subsequent chart displays the distribution of Syrians across Istanbul's districts for the years 2015 and 2019, using data from the comprehensive POT-A research initiative. In 2015, a significant proportion of the Syrian population in Istanbul, approximately 77 percent, resided within the initial 15 districts listed. However, by 2019, this percentage had risen to 82 percent. Over the interceding years, the registered Syrian populace in Istanbul experienced a notable 58 percent increase, growing from 338,619 in 2015 to 537,420 in 2019. As these districts' contributions to Istanbul's overall demographic landscape amplified, certain regions emerged as focal points of migrant density. Notably, Esenyurt, Sultangazi, Bağcılar, Küçükçekmece, and Fatih stood out as zones where Syrian migrants clustered. A noteworthy observation about these districts is the decline in the proportion of Syrians residing in Fatih. Specifically, this proportion decreased from 7.4 percent to 5.5 percent within the given timeframe. This trend could potentially be attributed to the fact that Fatih often serves as the initial destination for newly arrived Syrian migrants in Istanbul, as underscored by our research findings. Subsequently, as migrants acclimate to the city and seek out employment opportunities, they might opt to relocate to areas in closer proximity to job markets and featuring more affordable rental options. However, an additional consideration arises in assessing this trend. The scarcity of rental housing stock within Fatih, being an established district, may pose challenges in accommodating the burgeoning Syrian population. This dearth of suitable housing could potentially contribute to the observed migration of Syrians from Fatih to other districts over time.



*Graph 2.* Geographical Distribution of Syrians Residing in Istanbul by Districts - Top 15 Districts (Percentage).

The diagram above also underscores the presence of spatial clustering or concentration among Syrians living in Istanbul. Certain districts exhibit a significant concentration of the Syrian population. Notably, districts such as Esenyurt, Kücükcekmece, Bağcılar, and Bahcelievler stand out as locations where undeclared work is prevalent, thereby providing increased job opportunities for Syrians. A distinguishing characteristic of these districts is their position in the periphery of the city. These districts, known for housing Istanbul's lower socioeconomic strata, are experiencing rapid expansion due to new construction initiatives. While indications of socio-spatial concentration within the urban distribution of the Syrian population are discernible, it's imperative to note that an analysis at the neighborhood level, rather than the district level, is required to ascertain the existence of ghettoization. This consideration should account for Istanbul's district sizes, which vary considerably. Unfortunately, the absence of such granular data precludes its utilization from existing sources. However, relying on both macro-level data and on-the-ground observations, it is feasible to assert the emergence of distinct "Syrian districts" within Istanbul. Two distinct inquiries guided our examination of this district-level data in conjunction with the telephone experiment data. The initial inquiry seeks to juxtapose the 15 districts with the highest Syrian population within Istanbul against other districts in 2015. This analysis involves districts encompassing a minimum of 3 percent of the city's total Syrian population. The objective of this comparison is to assess the contact hypothesis, which posits that increased interaction between immigrants and natives leads to reduced prejudice and subsequently diminished discrimination.

Within our telephone experiment encompassing 964 calls, a noteworthy distinction emerged based on the districts in which the calls were placed, taking into consideration our assumption of lower Syrian presence and thus limited landlord contact versus districts with substantial Syrian presence. Among the total calls, 619 were in districts with presumed

lesser Syrian occupancy and, consequently, reduced interaction with landlords. In contrast, 325 calls were directed to properties within districts characterized by concentrated Syrian populations. An intriguing pattern materialized in rejection rates. Districts with limited contact demonstrated an approximate 16 percent rejection rate across the entire sample. Conversely, areas featuring intensified contact exhibited a higher rejection rate of around 22 percent. This distinction also held when analyzing landlord reluctance to showcase their properties to Syrian tenant candidates. In districts with minimal contact, this reluctance reached 31 percent, while in districts with heightened contact, the figure escalated to 42 percent. Further delineation of the data revealed that these tendencies were consistent for both genders within the Syrian population. Specifically, reluctance to exhibit properties to Syrian women was documented at 31 percent in low-contact districts and 39 percent in high-contact districts. Similarly, reluctance percentages for Syrian men stood at 32 percent in low-contact districts and surged to 45 percent in high-contact districts. Across all categorizations in the tabulated results, a compelling trend emerged – the propensity to withhold property showings from Syrian tenants was markedly amplified in districts characterized by intense contact. This disparity between the two groups proved to be statistically significant across all analytical categories. An especially notable finding centers on the variance in landlord responses toward Syrian male tenants. In districts of heightened contact, the tendency to decline property showings to Syrian men surpassed that of less-contact districts by approximately 13 percent. This outcome suggests that perceptions of Syrian male tenant candidates among landlords are adversely influenced by factors such as single/shared housing and the historical memory of these arrangements, which emerged during the initial migration phase.

Table 6
Correlation between Syrian Population Density and Discriminatory Behavior

		RESPONSE (N)		
	Syrian Density	Rejection	Acceptance	p
Syrian	No	387	851	Pr = 0.000***
	Yes	290	404	Pr = 0.000 · · ·
Syrian Woman	No	187	432	Pr = 0.006***
	Yes	135	212	
Syrian Man	No	200	419	Pr = 0.000***
	Yes	155	192	Pr = 0.000***

The p-value indicates the results of the t-test: \* represents significance at 90%, \*\* at 95%, and \*\*\*\* indicates significance at 99%.

The subsequent aspect we aim to explore, leveraging insights from spatial concentration data, involves an intuitive investigation of the flooding point hypothesis. To this end, we juxtapose the districts currently hosting concentrated Syrian populations with other districts that did not serve as initial migration destinations. Among the top 15 districts exhibiting Syrian population concentration between 2015 and 2019, the majority remain consistent, albeit with shifting rankings: Esenyurt, Bağcılar, Küçükçekmece, Sultangazi, Esenler, Fatih, Başakşehir, Avcılar, Sultanbeyli, Zeytinburnu, Bahçelievler, Gaziosmanpaşa, Arnavutköy, and Kağıthane. Upon scrutinizing the table, which delves into the correlation between Syrian density and instances of discrimination, a recurrent pattern emerges. Landlords in regions where the Syrian population is concentrated display a lower willingness to exhibit properties to Syrian tenant candidates compared to counterparts in

other districts. This trend holds across all analytical levels. Notably, the discrepancy in this regard is less pronounced for Syrian women compared to men. The contrasts drawn between these district groups exhibit statistical significance across all breakdowns. These findings collectively suggest that, as of 2019, the districts accommodating 82 percent of Istanbul's Syrian population are converging toward the flooding point. Following the data collection phase, the subsequent analytical methodology employed was logistic regression analysis. This method is employed to model dependencies on one or more explanatory variables when the dependent variable possesses a binary response of either 1 or 0. The independent variables within the logistic regression model can span both continuous and categorical attributes. The logit function, constituting the natural logarithm (ln) of the dependent variable's probabilities, is foundational to the logistic regression model (Bewick et al., 2005). The mathematical expression capturing this scenario is encapsulated in the subsequent equation:

Equation 1 
$$logit(p) = ln(\frac{p}{1-p})$$

In this equation, the symbol "p" represents the probability of observing a value of 1 in the dependent variable. The application of logistic regression analysis is pertinent to this study due to its appropriateness for models involving dependent variables with a binary response format, encompassing values of 1 and 0. In the model derived from the dataset collected during the study, the dependent variable centers on the act of rejection, where "1" denotes instances where the interview request is accepted by the host, and "0" signifies cases where the interview request is declined by the host. Meanwhile, the independent variables encompass several factors: the individual being of Syrian descent, the presence of the property within a housing complex (site), the gender of the landlord, and the availability of surplus housing within the district where the sought-after property is situated. (All independent variables are categorized as binary and categorical. "1" signifies a positive response, while "0" signifies a negative response to the respective question.)

Table 7

Model Results

Rejection-Acceptance	Odds Ratio	SE
Syrian	0,038*	0,0063
Surplus Supply	1,932*	0,1818
Housing Estate	1,601*	0,2068
Landlord Gender	1,011	0,1139
Constant	29,633*	5,5119
N	3864	
LR Chi2	874,92	
Prob>chi2	0,00	
Pseudo R2	0,235	
Hosmer Lemeshow Test	0,5568	
*0,01		

The table above presents the outcomes of the established model, encompassing a total of 3864 observations. The model, overall, demonstrates a meaningful fit. The results from the Hosmer Lemeshow model compatibility test affirm the model's congruence with the data, thereby establishing its statistical reliability within our study. According to the findings derived from the model analysis, hosts exhibit a higher likelihood of accepting Turkish individuals compared to Syrians. This trend aligns with existing literature on housing discrimination, particularly studies conducted in the United States that compared discrimination between ethnic groups. Such research revealed that minority groups, such as blacks and immigrant Latinos, encountered more challenges in securing housing. These instances of discrimination often led to spatial concentrations of these groups in specific areas. Considering this, the observation that Syrians face a higher likelihood of rejection during housing search compared to Turkish individuals resonates with broader trends documented in the literature. Notably, areas characterized by excess housing supply are approximately 1.9 times more likely to receive inquiries than regions without surplus housing. Considering the discrimination prevalent in the housing market against immigrants, the likelihood of finding accommodation in areas with surplus housing becomes more pronounced. Homeowners are inclined to rent to immigrants rather than endure the economic loss associated with vacant properties. This trend is particularly evident in districts like Esenyurt, which have witnessed considerable housing development in recent years. However, it's important to acknowledge that the choice to live in such districts is influenced by various factors beyond just housing supply, including proximity to industrial areas and socio-spatial dynamics like ghettoization. Another key insight gleaned from the analysis pertains to housing complexes. Properties located within housing complexes are more likely to be offered house visits, compared to those outside of complexes. This pattern can be attributed to the fact that rental costs within complexes are generally higher, attracting residents from higher economic strata. Consequently, an improved economic standing tends to mitigate the likelihood of facing discrimination. Surprisingly, the gender of the property owner emerges as statistically insignificant in our analysis. This implies that, regardless of gender, landlords exhibit similar attitudes towards immigrants within Istanbul's housing market. This uniformity suggests that gender does not significantly impact landlord behavior in this context.

#### Conclusion

Results of the study show that Syrians living in Istanbul are at a disadvantage in accessing the rental housing market compared to locals. More than one-third of the rental properties advertised are not shown to Syrians by landlords. This not only limits the number of houses that Syrians can access but also affects their participation in the labor market and utilization of local public services. The high tendency not to show houses to Syrians and the fact that it is not very sensitive to income points to discrimination based on preference, one of the two types of discrimination defined by the economics of discrimination literature. Another striking result of the study is that the tendency not to show a house is affected by both the supply level of rental housing in the market and the rent of the houses. As rents rise, the tendency not to show a house decreases, while the tendency not to show a house intensifies in areas where there is a high scarcity in the rental housing market. The findings of both descriptive and inferential data analysis suggest

that as the bargaining power of landlords increases, they are more likely to discriminate/exclude Syrians. In high-rent houses, the bargaining power of the landlord decreases due to the decrease in demand as the rents increase depending on the income level. In houses with relatively low rents, the landlord is in a stronger position to select tenants as the number of potential tenants increases.

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