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Mohammed vs. Håvard in the Norwegian housing rental market. A field experiment *

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Abstract

We conducted an experiment on discrimination in the Norwegian housing rental market by using three fictitious male profiles to apply for housing on an online platform. One profile with an Arabic name (Mohammed), was cast as a warehouse worker; a second profile with a Norwegian name (Håvard), was also cast as a warehouse worker, and a third profile with the same Norwegian name, was cast as unemployed. We find that the applicant with an Arabic name obtained a substantially lower response rate than the similarly cast applicant with a Norwegian name. Moreover, we find that the applicant with the Arabic name has the same probability of obtaining a positive response from landlords as the unemployed applicant with a Norwegian name. This type of discrimination in the rental market appears to have been stable over the last decade.

Keywords: Field Experiment, Housing rental market, Discrimination

JEL Codes: C93, J15, R21

*The authors are grateful to Emira Sopi and Marthe Linnestad Storo for help in collecting data. The study was financed by the Ministry of Local Government and Regional Development, and a previous report in Norwegian presents some of these results to a wider audience. Before we started data collection, we filed a pre-analysis plan (an anonymous version is found in Appendix A).

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1 Introduction

Discrimination is destructive to the people who experience it and destructive to the economy since it is discouraging, demotivating, and debilitating on an individual level and represent an under-utilization of society's resources on an aggregate level. While observational studies can uncover patterns, establishing proof of discrimination requires strict methodological set-ups. This article uses a field experiment in which we construct identical profiles for individuals seeking rental units, but we vary the name of the applicant. We ask one simple question: Do applicants that are otherwise identical, but have different names, experience different responses to their rental unit inquiries?

We document that there is a substantial difference in response rates between identical profiles that only differ in the names used or employment status. We construct our data from a field experiment in the Norwegian rental market to assess the extent of ethnic discrimination. The experiment involved applications to rental properties, in which we used three fictional male profiles: one with an Arabic name working in a warehouse, one with a Norwegian name also working in a warehouse, and one with a Norwegian name who is unemployed. A similar study was conducted in Andersson et al. (2012), and our field experiment is designed to allow comparison with the early experiment in order to facilitate an assessment of changes in discrimination over time.

The time period of our field experiment was February 2023 - June 2023. The set-up involved 2,853 applications to housing units across the three profiles. The first profile is Håvard who is employed at a warehouse, the second profile is Mohammed who is also employed at a warehouse, and the third profile is Håvard who is unemployed. There were 1,915 positive responses and 938 missing or negative responses. Thus, the overall positive response rate is 67.1 percent. While Håvard as employed received a positive response for 77.8 percent of the 956 applications, Håvard as unemployed received a positive response for 61.9 percent of the 954 applications. Mohammed, who is cast as employed, received a positive response for 61.5 percent of the 943 applications. Our main finding is the difference of 15.9 percentage points

in positive response rate between two otherwise identical applications, but with different names.

The institutional set-up in Norway is favorable to a field experiment such as ours since an increased demand for housing in urban centers lately, combined with a slower supply side response, has led to excess demand, which implies that landlords can afford to be relatively selective. This means that they are in a position to ignore some applicants. Had the situation been reversed, i.e. that there was excess supply, it could have implied that landlords would respond to all applicants.

The rental market differs from the market for owner-occupied homes in that the landlord and tenant enter into a contract and a relationship of trust, which lasts over a longer period of time. Therefore, characteristics of tenants may have a greater influence over outcomes, i.e. which applicants are successful, in addition to the terms of the contract such as rent and tenure duration. This opens up for selective behavior and discrimination in the rental market as Norwegians trust people with Norwegian names more than individuals with Arabic names (Finseraas et al., 2019).

Just over 7 out of 10 tenants in Norway rent from a private individual, with nearly half of them residing in a part of the landlord's home (e.g. a basement apartment). Only 1 in 10 rents from a professional private landlord. The remaining tenants rent from private individuals through rental brokers, employers, etc., or from municipal housing. In Norway, tenants primarily find rental housing units through two channels: the online platform Finn.no (47 percent) and acquaintances/family (36 percent). The latter is more common in rural areas. For individuals without, or with smaller, networks in Norway, entering the rental market can be challenging, see Benedictow et al. (2023). Our field experiment does not include professional landlords.

In a survey among tenants, the Norwegian Consumer Council finds that the most common perceived cause of discrimination in the rental market is having a low income or having a guarantee from the Norwegian Labor and Welfare Administration (44 percent of respon-

dents), see NCC (2021). One in three respondents feels discriminated against based on appearance/ethnicity. Among people with a non-European background, 48 percent state that discrimination is based on appearance/ethnicity.

Surveys, such as the one mentioned above, provide information about respondents' perceived discrimination (subjective perception). It is, however, difficult to assess to what extent the perceived discrimination is indicative of discriminatory behavior. Thus, a field experiment is useful since it can uncover discriminatory behavior. This is a key point since we seek to isolate one effect from other potential effects. The one effect we are interested in is the effect generated by the name difference. In order to achieve that, we make sure that the profiles are otherwise identical. For example, we avoid saying anything about income sources and/or public support.

Field experiments have been conducted internationally, including notable correspondence analyses in the US (Riach and Rich, 2002; Hanson et al., 2016; Hanson and Hawley, 2023; Chan and Fan, 2023) and Europe (Ahmed and Hammarstedt, 2008; Ahmed et al., 2010; Gusciute et al., 2022), providing evidence of systemic biases against ethnic minorities. In Norway, various studies highlight similar issues, with recent findings indicating discrimination based on ethnic names and affiliation with Islam in the labor market (Larsen and Midtbøen, 2024; Midtbøen and Orupabo, 2024). The Norwegian housing rental market also shows a pattern of discrimination where tenants receiving public support or with foreign backgrounds tend to pay higher rents (Benedictow et al., 2022). Additionally, immigrants are found to face higher mortgage rates largely due to their weaker negotiation capabilities (Benedictow et al., 2024). The closest study to ours is Andersson et al. (2012), finding ethnic bias against applicants with Arabic names in 2012.

Our paper makes several contributions to the literature. First of all, since it was designed similarly to Andersson et al. (2012), we can say that ethnic discrimination on the platform has not decreased since 2012. Our large sample size further makes our experiment better powered, which in turn enables us to conduct several novel analyses. For instance, we

find that there is less discrimination from landlords with foreign(-sounding) names and in more tight rental markets. We further shed some light on the possible motivations behind discrimination and we find indications that the discrimination is statistical and likely based on beliefs about payment security. This is so since we find that employed Mohammed gets as many positive responses as unemployed Håvard, because these two profiles' callback rates drop in more competitive markets, and since voter preferences for the immigration restrictive Progressive Party in different municipalities do not correlate with the degree of discrimination.

2 Experimental design

We created three profiles on the online platform Finn.no¹, and all three had unique email addresses for correspondence. All three are men, two have the Norwegian name Håvard Jørgensen and one has the Arabic name Mohammed Rashid. Only the applicant's name (Håvard versus Mohammed) and employment status (employed versus unemployed) vary in the applications; the text is otherwise identical, names appear in both the username on Finn.no and in the email address, and all profiles have the same email provider. We made sure that our design of the experiment was suited to allow for a comparison of some key results with Andersson et al. (2012). The purpose of this similarity was to allow an assessment of whether there have been changes over time.

With this setup, we can compare the likelihood that the employed Håvard receives a positive response to his inquiries with the likelihood that the employed Mohammed receives a positive response. Both these profiles were also used in the previous study. Furthermore, we can see if the employed Håvard is treated differently from the unemployed Håvard. We can also compare the response rate for the employed Mohammed with the unemployed Håvard, and thus test which matters the most; ethnicity or employment status.

To ensure that we do not tailor the applicant to the listing, i.e. adjust which profile

¹Finn.no allowed the experiment to be performed.

applies to which properties; we randomized profiles and applications.² We aimed for around 1,000 observations in each treatment condition, hence around 3,000 in total.

The applications were sent as messages via Finn.no to the contact listed in the advertisement. Since professional landlords advertise multiple units, sending the same message, albeit for different units, would entail the risk that some professional landlords would have seen through our scheme. Thus, we excluded professional landlords. The message text is largely similar to the text used in the previous study of discrimination in the Norwegian rental market by Andersson et al. (2012):

Hi,
I am Mohammed/Håvard, and I am 35 years old. I am interested in renting the advertised property. I work in a warehouse where I have been employed steadily for eight years/I am currently unemployed. I am single, a non-smoker, and have no children. I have no payment remarks. I can provide good references if needed.
Best regards,
Mohammed Rashid/Håvard Jørgensen.

We have not imposed any geographical restrictions on the searches. However, there are geographical differences in where rental properties are advertised and how many are available. This is further discussed in the analysis of the results in Section 3.

For each rental property we have applied to, we have recorded characteristics of the property (type, size, location, rent, etc.), and a categorization of the landlord's gender and background based on profile names and/or names provided in the landlord's response (female/male name and Norwegian/foreign name). Landlords without specified names are excluded from this categorization. Categorizations of the properties are based on standard

²The randomization was done by creating a list from 1 to N (number of applications). For each row, we used a random number generator to select one number out of the list of 1, 2, and 3; such that each of the three numbers corresponded to one profile. This algorithm also ensured that we did not send more than one application to each advertisement.

information provided in the advertisements.

We have recorded the date the application was submitted. Upon receiving a response to the inquiry, we have noted the date of the received response and the type of response. As a general rule, we have registered all responses (answers to the inquiry) as positive responses, also in the cases where the landlord responded with follow-up questions. In a few cases, the landlord provided a direct rejection of the inquiry (usually stating that "the property is already rented", without giving the applicant an opportunity to attend a viewing). These instances are recorded as negative responses. However, the overall pattern is that landlords' responses are either positive or non-existent. Lack of response to the inquiry at the time the experiment ends, is recorded as a negative response.

In cases where the landlord has responded, we have within a few days expressed our thanks for the response and explained that another option appeared – and was chosen – thereby closing the dialogue with the landlord.

The purpose of such field experiments is to examine whether there is systematic differential treatment of individuals based on gender, ethnicity, religion, etc. A prerequisite for investigating this in practice is that landlords (in our case) are unaware that their practices for allocating housing are being observed. A central objection to the use of field experiments is that it assumes a deliberate breach of the principle of informed consent, see e.g. Grzyb (2017).

Freely informed consent is considered one of the central requirements in research involving people, where data registration is part of the research. In principle, research on individuals or groups should not be conducted without explicit permission from those being researched. Informed consent means that those being researched give consent based on knowledge of the research to be conducted. At the same time, this type of research can provide valuable insights into issues that will never be uncovered if all conditions and aspects are known to study participants.

The field study was initially carried out on behalf of the Norwegian Ministry of Local

Government and Regional Development, and the judgment was made that the societal benefit (uncovering potential discrimination in the rental market) of conducting the field experiment substantially outweighs the research-ethical concerns (lack of consent from landlords). The dialogue with landlords has been deleted continuously as the dialogue is concluded, and only anonymized information is recorded in our data. We have only retained information about the characteristics of the property and our assessment of the landlord's gender and background. Inquiries to landlords that were not answered were deleted at the end of the experiment to minimize privacy risks.

Furthermore, we have ensured that the costs for participants (landlords) are minimal: we have terminated the experiment early in the application process by responding very shortly after their response that the property is no longer relevant. In this way, we have disturbed landlords and the rental market only to a very small extent. Dialogue with, and consent from Finn.no, has further ensured their trust that the platform is not being misused.

3 Data

The field experiment was conducted from February 2023 to June 2023.³ In total, using the constructed profiles, we applied for a total of 2,853 housing units. There were 1,915 positive responses and 938 missing/negative responses, resulting in an overall positive response rate of 67.1 percent. Håvard (employed) received a positive response in 77.8 percent of the 956 applications, Håvard (unemployed) received a positive response in 61.9 percent of the 954 applications and Mohammed (employed) received a positive response in 61.9 percent of the 943 applications.⁴

³The last registration of responses was made at the beginning of August 2023. Inquiries without a response as of the beginning of August are registered as a negative response.

⁴The randomization of profiles and applicable units resulted in a slightly different number of applications per profile. Furthermore, we had to delete some observations, in which it turned out that the advertisement did not fit our profiles (e.g. "only female tenants are wanted", etc.).

4 Empirical specification

Our main specification follows the pre-analysis plan that was uploaded before the data collection started. An anonymous version of the plan is found in Appendix A.

Our main hypothesis is that being named Mohammed results in fewer callbacks when applying for rental apartments in Norway. To test this hypothesis we estimate the following model:

$$Callback_i = \alpha + \beta Mohammed_i + \gamma H\ddot{a}vard\ Unemployed_i + \epsilon_i, \quad (1)$$

in which i indexes individuals. $Callback_i$ is a dummy variable equal to 1 if there is any response other than outright rejection (accept or follow up questions) and zero otherwise (reject or no answer). $Mohammed_i$ and $H\ddot{a}vard\ Unemployed_i$ are dummy variables for the different profiles and $H\ddot{a}vard\ Employed_i$ is the excluded category. As such, β measures the effect of being named Mohammed instead of H\ddot{a}vard, all else equal. The null hypothesis of no differential treatment based on ethnicity implies a β equal to zero. Negative differential treatment based on ethnicity implies a negative β . γ measures the effect of being unemployed for two otherwise identical profiles named H\ddot{a}vard. Hence, the same specification can be used to test the secondary hypothesis that H\ddot{a}vard gets fewer positive responses if he is unemployed ($\gamma < 0$). We use heteroscedasticity robust standard errors in all estimations unless otherwise stated.

We will also let Mohammed be in the reference category and test whether there is a difference between employed Mohammed and unemployed H\ddot{a}vard, i.e. estimating:

$$Callback_i = \alpha + \beta H\ddot{a}vard\ Employed_i + \gamma H\ddot{a}vard\ Unemployed_i + \epsilon_i \quad (2)$$

This test is instructive for discussing mechanisms as the presence of statistical discrimination would lead us to expect that the difference between the profile Mohammed (who is employed) and unemployed H\ddot{a}vard should be smaller. If, on the other hand, differential

treatment is completely taste based, we would expect large differences between Mohammed and unemployed Håvard as well.

In order to further explore mechanisms we conduct a series of additional analyses. In particular, we will add interaction terms for various municipality and landlord characteristics. Whenever we include municipality level characteristics we also cluster the standard errors at the municipality level.

5 Results

5.1 Main results

We show the results from estimating equations 1 and 2 in Table 1. In Column 1, we present our main finding. Mohammed receives 16.3 percentage points fewer callbacks than the profile Håvard employed (the excluded category). Andersson et al. (2012) found that the difference between the employed Håvard and Mohammed, on the same platform in Norway using an identical application text in 2011, was 12.4 percentage points. This could indicate an increase in differential treatment. However, measured in per cent, the difference is 20.9 and 22.2 percent, respectively, pointing somewhat in the opposite direction. Our estimate is not statistically different from 0.124 ($p=0.02$). Thus, we cannot reject the null hypothesis of no change in discrimination against tenants with Arabic names over the 10-year period that has passed since the previous field experiment.

In Column 2 we see that there is no difference between Mohammed (the now excluded category) and Håvard unemployed which indicates that the discrimination is perhaps not completely taste based.

In the following section we explore heterogeneous treatment effects by interacting various characteristics of the landlords as well as the municipalities with the different profiles.

Table 1: Main results

	(1)	(2)
	Callback	Callback
Mohammed	-0.17*** (0.021)	
Håvard Unemployed	-0.16*** (0.021)	0.014 (0.022)
Håvard Employed		0.17*** (0.021)
Control mean	0.77	0.60
N	2854	2854
R-squared	0.03	0.03
Excluded group	Håvard Employed	Mohammed

Notes: Robust standard errors in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^*$.

5.2 Additional exploratory tests of mechanisms

In this section we explore heterogeneous treatment effects by interacting various characteristics of the landlords as well as the municipalities with the different profiles, as shown in Table 2.

First, the marginal effect on callback rates for Mohammed and Håvard unemployed is not significantly affected by the introduction of controls.

However, we do find that when the landlord has a foreign name, Mohammed’s callback rate is significantly higher than when the landlord has a Norwegian name (Column 2). In fact, for landlords with foreign names, the difference in callback rates between Håvard (employed) and Mohammed is not statistically significant. Figure 1 (Panel A) indicates that landlords with foreign names seem to prefer Mohammed somewhat to Håvard unemployed and that landlords with Norwegian names seem to prefer Håvard unemployed to Mohammed, although these differences are not statistically significant.

We used data from Statistics Norway on the support for political parties in Norwegian municipalities. This makes it possible to see whether discrimination is more extensive in municipalities with a relatively high proportion of people who vote for the immigration-restrictive Progressive Party (defined as above the median vote share for the party). If not, that could indicate that discrimination is not all taste based. As shown in Table 2 (Column 1) and Figure 1 (Panel B), the callback rate is generally higher in municipalities where a large share of the population supports the Progress Party⁵, but there is no statistically significant difference in the treatment of Mohammed and Håvard unemployed. The difference between Håvard employed and the two other profiles is similar in both areas, measured in per cent as well as in percentage points. Our interpretation of this finding is that there is not more discrimination in the municipalities with high support for the Progress Party.

Panels C and D in Figure 1 indicate a negative correlation between callback rates and market competitiveness across municipalities and over time in Oslo, respectively, and Mohammed and Håvard unemployed are particularly (and similarly) affected in tight markets. This is consistent with landlords exhibiting greater discrimination in places and periods of high demand.

Column 4 in Table 2 displays a somewhat lower callback rate in municipalities with a high share of immigrants (this variable is the standardized share of foreign born or Norwegian born with two foreign born parents), but we find no significant effects in favor of neither Mohammed nor Håvard unemployed. Column 3 shows no significant effects of controlling for the rental price.

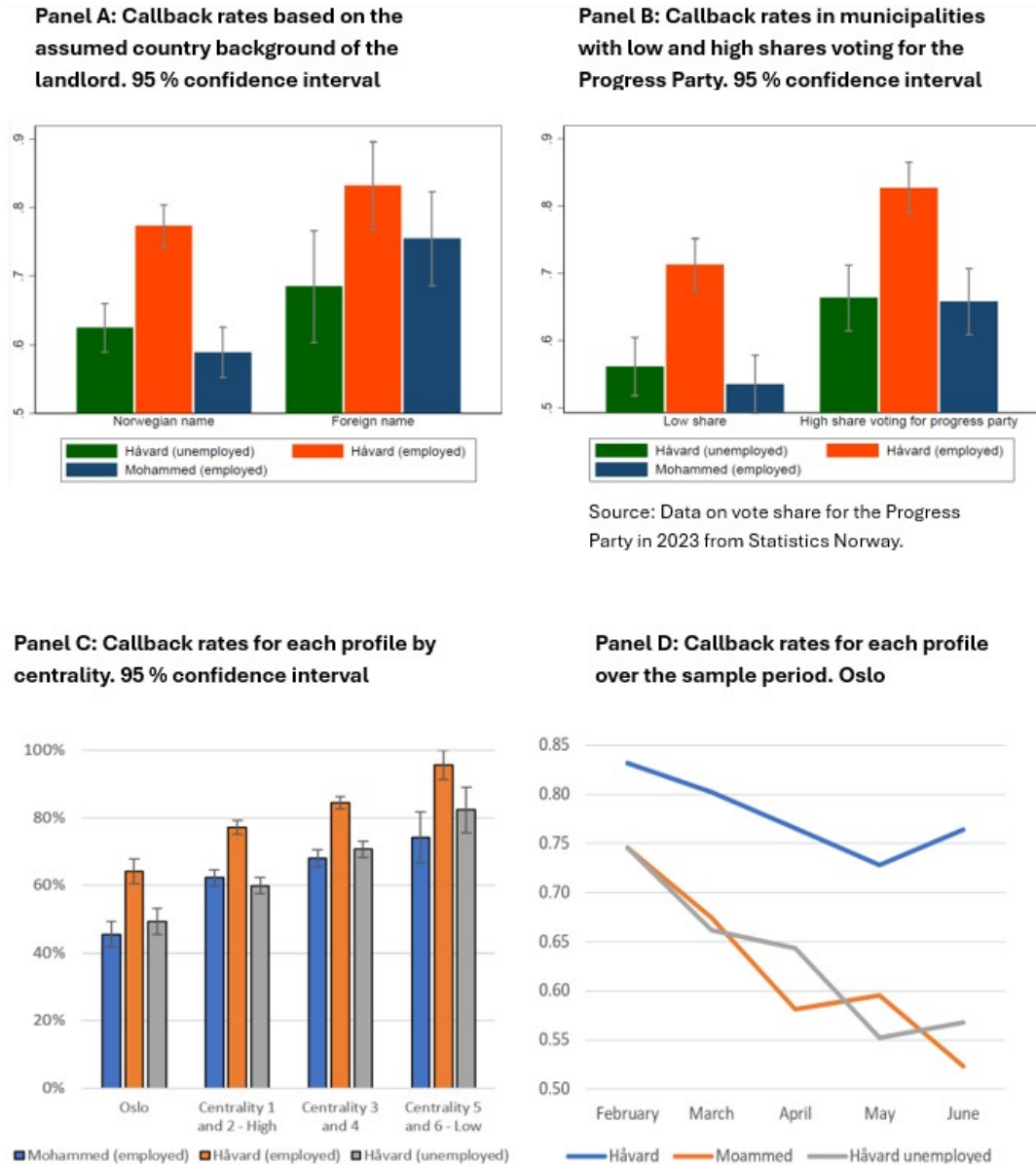
⁵The Progress Party may be characterized as being restrictive towards immigration.

Table 2: Heterogeneous effects

	(1)	(2)	(3)	(4)
	Callback	Callback	Callback	Callback
Mohammed	-0.18*** (0.030)	-0.18*** (0.024)	-0.17*** (0.021)	-0.18*** (0.021)
Håvard Unemployed	-0.15*** (0.030)	-0.15*** (0.024)	-0.16*** (0.021)	-0.16*** (0.021)
Mohammed*PP	0.0081 (0.043)			
Mohammed*foreign ll		0.11** (0.054)		
Mohammed*rental price			-0.0045 (0.021)	
Mohammed*share immig.				-0.015 (0.021)
Håvard U*PP	-0.012 (0.043)			
Håvard U*foreign ll		0.00082 (0.058)		
Håvard U*rental price			0.017 (0.021)	
Håvard U*share immig.				-0.0055 (0.021)
High share Progress party (PP)	0.11*** (0.028)			
Foreign landlord		0.059 (0.036)		
Rental price (std)			-0.012 (0.013)	
Share of immigrants (std)				-0.054*** (0.014)
Control mean	0.76	0.78	0.77	0.77
N	2636	2522	2853	2790
R-squared	0.04	0.03	0.03	0.04

Notes: Håvard Employed is the excluded profile in all regressions. PP = Progress Party, and foreign ll = landlord has a foreign name. Robust standard errors in parentheses in columns 2 and 3, clustered at the municipality level in columns 1 and 4. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^*$.

Figure 1: Callback rates by landlords' country background, voter preferences and market tightness



Source: Data on vote share for the Progress Party in 2023 from Statistics Norway.

Note: Oslo belongs to centrality group 1. This figure displays Centrality 1 and 2 excluding Oslo.
Source: Statistics Norway and own calculations.

6 Discussion

Andersson et al. (2012) investigate discrimination in the Norwegian rental market across three dimensions: 1) gender, 2) ethnicity, and 3) class (type of job). Our paper focuses on discrimination by ethnicity and employment status, allowing for comparisons over time. Additionally, we account for the landlord’s country background, as well as market competitiveness and voter preferences at the municipal level. However, we do not address the gender dimension.

In line with Andersson et al. (2012), we find evidence of discrimination based on ethnicity and job market status. Additionally, we find that the country background of the landlord matters, that the callback rate depends on market competitiveness, both over time and across municipalities. Moreover, the level of support for the immigration restrictive Progress Party in a municipality does not appear to influence the level of discrimination. Finally, we find no evidence to suggest that the degree of discrimination has changed over the period between these two studies.

The lack of difference between Mohammed and Håvard unemployed suggests that differential treatment may not be entirely taste-based, at least not only with respect to ethnicity but may also be linked to landlords making inferences about payment or moving probabilities. Other supporting evidence against taste-based discrimination is that the callback rates of Mohammed and Håvard unemployed also drop correspondingly in more competitive markets (and more than Håvard), and that there is not more discrimination in areas where voters tend to support the Progress Party, which is known for its restrictive stance on immigration.

A weakness of the field experiment is that we have not been able to apply for properties listed outside of those advertised on Finn.no. Therefore, through the field experiment, we cannot assess the extent of discrimination in less formal channels of housing advertisement. From other analyses of the rental market, we know that tenants in rural municipalities are more likely to find rental properties through family/friends compared to more central municipalities, see Benedictow et al. (2023). This could explain the relatively low number

of observations we have in our field experiment in these municipalities, which, in turn, may affect our results.

Another weakness is that we have not been able to apply for a sufficiently large number of properties rented out by major professional landlords. With increasing pressure in the rental market, the role and significance of professional landlords have gained attention. However, our analytical design is not suitable for assessing the extent of discrimination among these landlords, as discussed in Section 2.

Landlords typically select tenants in multiple stages. A typical process can be divided into three phases: 1) the landlord responds to the applicant's inquiry with some follow-up questions, which the applicant answers, 2) the landlord invites the applicant for a viewing, and 3) a final offer is made. It is relatively easy for a landlord to filter out many applicants in the first and partly in the second phase.

In our field experiment, we only studied differential treatment in the initial phase of the allocation of rental properties. We did not provide additional information about the applicants when requested by the landlord, and we were unable to attend property viewings when invited. Therefore, we do not know whether the differential treatment increases later in the process. If this is the case, we may be underestimating the actual discrimination in our analysis.⁶

Another challenge in field experiments that signal ethnicity through names, is that findings may not necessarily generalize to individuals of the same ethnicity but with different names, see Andersson et al. (2012).

7 Concluding remarks

We report results from a field experiment in the Norwegian rental market to assess the extent of ethnic discrimination. A similar study was conducted just over ten years ago, and our

⁶Another form of field experiment is to send actors, for example, to viewings. However, this type of experiment is associated with various uncertainties and is significantly more resource-intensive than a correspondence analysis, which has been our approach.

field experiment is designed in line with the previous one in order to enable us to assess and comment on the development of discrimination over time.

We applied to advertised rental properties on the online rental market Finn.no with three fictional male profiles: one profile with an Arabic name working in a warehouse, another profile with a Norwegian name working in a warehouse, and a third profile with a Norwegian name who is unemployed. This set-up allows us to study differences in the proportion of positive responses from landlords among the three profiles.

We find that the applicant with an Arabic name is treated differently in the Norwegian rental market, receiving fewer callbacks from landlords, and we find no signs that this different treatment is less prevalent now than ten years ago. This finding aligns with other studies on ethnic discrimination in hiring processes, which also do not show signs of changes in the extent of discrimination over time, see e.g. a recent review by Quillian and Midtbøen (2021).

Furthermore, we find that the applicant with an Arabic name has an equal likelihood of receiving a positive response to his inquiries to landlords as the unemployed applicant with a Norwegian name. We also find that Mohammed's callback rate is significantly higher when the landlord has a foreign name compared to when the landlord has a Norwegian name.

To prevent landlords from discovering that the applicants are fictional, we were unable to apply to a sufficiently large number of properties rented out by large professional landlords to conclude on the extent of discrimination in this part of the rental market. The extent of discrimination among professional landlords should be explored further. More knowledge about discrimination among professional landlords is particularly important in light of their ability to alleviate pressure in the rental market through an increased supply of properties.

Finally, we find that there is a higher degree of discrimination in tighter and more central housing markets, especially in Oslo. Relatively high demand for rental properties gives landlords greater opportunity to be selective. Thus, measures to counteract pressure in the housing market may also reduce the extent of discrimination.

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Appendix A



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Is there still racial discrimination on the Norwegian housing rental market? (#118850)

Created: 01/16/2023 07:04 AM (PT)

This is an anonymized copy (without author names) of the pre-registration. It was created by the author(s) to use during peer-review. A non-anonymized version (containing author names) should be made available by the authors when the work it supports is made public.

1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?

Being named Mohammed results in fewer callbacks when applying for rental apartments in Norway

3) Describe the key dependent variable(s) specifying how they will be measured.

Callback=1 if there is any response other than outright rejection (accept, follow up questions, etc) and zero otherwise (reject or no answer).

4) How many and which conditions will participants be assigned to?

Two main conditions: Name is either Mohammed Rashid or -Håvard Jørgensen.

A third condition is added where Håvard Jørgensen is unemployed.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

The main specification tests whether the coefficient for Mohammed is negative and statistically significant in the following linear OLS regressions with robust standard errors:

Callback=Mohammed+Håvard_U+e

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

Main sample excludes professional landlords (that have many separate listings).

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

We aim to have around 1000 observations in each treatment condition, hence around 3000 in total. When we have 3000 observations we will stop the data collection and we intend to continue until we have 3000.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

The same specification is used to test the secondary hypothesis that Håvard get fewer positive responses if he is unemployed. We will also let Mohammed be in the reference category and test whether there is a difference between employed Mohammed and unemployed Håvard.

We will further include control variables and interaction terms with e.g. rental price to explore heterogeneity.

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The logo for Oslo Metropolitan University, consisting of the word "OSLOMET" in a bold, black, sans-serif font, rotated 45 degrees counter-clockwise.

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