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Published in:
Journal of Behavioral and Experimental Economics

DOI:
10.1016/j.socec.2023.102079

Published: 01/12/2023

Document Version
Publisher's PDF, also known as Version of record

Journal of Behavioral and Experimental Economics 107 (2023) 102079

Contents lists available at ScienceDirect

Journal of Behavioral and Experimental Economics

journal homepage: www.elsevier.com/locate/jbee

Ethnic discrimination during wartime: Evidence from a field experiment in the Finnish housing market

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ARTICLE INFO

JEL classification:
C93
J15
J16
R31

Keywords:
Discrimination
Field experiments
Rental housing market
Internet

ABSTRACT

This paper presents a field experiment studying possible discrimination against Russians in the rental housing market in Finland. We study the effect of discriminatory behaviour by the landlords during the Russian war of aggression in Ukraine, an event that has shaped ideas, attitudes, and behaviour. We let three fictitious individuals, one Finnish, one Russian and one British, apply for vacant rental apartments advertised by landlords on the internet. We then investigated whether there were differences between the individuals in the number of callbacks received and positive invitations to further contact. Linear probability models revealed strong evidence of differential treatment of Russians by Finnish landlords. The discriminatory behaviour is mainly driven by male, private landlords. The present study extends the literature on discrimination in the rental housing market and provides insights into its mechanisms.

1. Introduction

Discrimination based on ethnicity is a pervasive issue that can manifest in various forms, from hiring biases to differential treatment in the housing market. It can arise from a range of factors, such as stereotypes and prejudice, historical and cultural differences, and social and economic power imbalances (Becker, 1971). This paper studies whether there are such disparities of treatment, by ethnic origin, in access to the Finnish rental housing market. In particular, we investigate differences in access to rental apartments between natives (i.e., Finnish) and non-natives (i.e., Russians) coming from a neighbouring country that triggered a war conflict.[1] We have also decided to include a British applicant in our experiment to evaluate whether Finnish landlords might exhibit a broader tendency to discriminate against immigrants, thus expanding the scope of our study.

The availability of accommodation is a key and important measurement of quality of life, and its lack is one of the main causes of social exclusion and inequalities. For immigrants, decent housing is also an essential prerequisite for the possibility of family reunification with relatives abroad and is important for opportunities to obtain employment and to access services such as education and healthcare. That is, knowledge on potential discrimination in the rental housing market is of substantial policy importance.

In general, a form of discrimination can be found when a person or a group of persons is treated differently from others because they fall in certain categories, without any other objective justification. Landlords might simultaneously disfavour ethnic-minority groups due to distastes and uncertainties regarding their country background (Ghekiere & Verhaeghe, 2022). This study suggests that the level of uncertainty regarding apartment inquiries against an ethnic-minority group should be higher for Russian than for Finnish applicants. Although potential communication, personality, cultural and educational differences might strongly affect a landlord's choice, non-native ethnic-minority groups like Russian immigrants in Finland should not suffer different levels of limitations in the housing rental market (Ben-Shahar & Golan, 2014). Similarly, the level of landlords' non-response behaviour might be higher for non-natives than for Finnish applicants due to potential higher xenophobic and hostile attitudes against the former.

We conducted a correspondence test to evaluate the abovementioned relationships. While we did not observe a different treatment of Finnish versus British applicants, our findings suggest that male Russian applicants in the housing market face discrimination, as they have to search

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[1] Finland shares more than 1,340 km of border with Russia.

https://doi.org/10.1016/j.socec.2023.102079
Received 19 March 2023; Received in revised form 22 July 2023; Accepted 16 August 2023
Available online 19 August 2023

more extensively than native applicants for equivalent housing. Moreover, our study reveals that discriminatory treatment of these homeseekers is particularly pronounced when dealing with male private landlords. In addition, if discrimination restricts Russians to certain parts of the housing market, a Russian applicant must pay more than a Finnish one for housing of similar quality. Interestingly, the assigned rent penalty against Russians achieves its highest value when the monthly rent is over the 3rd quartile (Q3) of the rent distribution.[2]

Following Bertrand and Mullainathan (2004) our field experiment relying on the correspondence test, generally, involves sending a set of fictitious applicants in response to advertised rental apartments listed by private landlords or housing companies. The only difference between the pseudoseekers is a characteristic that signals membership of a group, such as a name common to a particular ethnic group (Drydakis, 2011, 2017). A crucial benefit of the correspondence test is that it offered an opportunity to examine an important aspect of housing market discrimination that has been largely inaccessible to social scientists.

During recent decades, several field experiments have been used to detect discrimination behaviour in the housing markets in several countries. Most of them focused on discrimination against ethnic minorities, and it is well documented today that ethnic discrimination exists in the housing rental market in different countries, including Germany, Italy, Spain, Sweden, and the U.S. (see Yinger, 1986; Page, 1995; Roychoudhury & Goodman, 1996; Ondrich et al., 1998, 1999; Ondrich et al., 2003; Ahmed & Hammarstedt, 2008; Drydakis, 2012 and Auspurg et al., 2017). In Sweden and the U.S., the discriminatory behaviour appears to be the result of a hostile attitude towards immigrants, while in Spain and Italy evidence has been found of a discriminatory component also due to the lack of correct information about the applicant. In Finland, a study conducted by Öblom and Antfolk (2017) provided evidence on discriminatory behaviour against Arab males by Finnish landlords, with a particular focus on the three metropolitan areas of Helsinki, Turku, and Tampere.

Landlords' behaviour is subject to exogenous shocks, such as natural disasters or terrorist attacks, which can affect the housing market (Fekrazad, 2019). However, no study has addressed discrimination against an ethnic minority group during a major war period, in which this nation is responsible for starting the conflict.[3] We aim to contribute to filling this gap in the literature, and observe a significant discrimination in the rental housing market against an ethnic group coming from a country that recently triggered a war of aggression. While there are reasons to believe that the war indeed contributed to the observed different treatment of Russians in the Finnish housing market, we cannot distinguish between the influence of the war and other potential reasons for the discrimination, unfortunately.

The Russian invasion of Ukraine has been a huge shock to Finns. Finland has a fairly large Russian minority, which means that there are Russian-language services and communities in Finland helping people arriving from Russia and Ukraine. According to Statistics Finland, there were 87,552 Russian-speaking people in 2021, which accounts for approximately 1.3% of the total population (Statistics Finland, 2021). Russians are the most sizeable immigrant group in Finland.[4]

While the war of aggression started in February 2022, our field experiment was carried out in September 2022, seven months after the beginning of the war conflict, to capture more long-standing aspects of discriminatory behaviour by Finnish landlords. Moreover, within our experimental period, the Finnish government announced it is closing its borders to Russians with European tourist visas effective at midnight on September 29th, after thousands of Russian citizens streamed over their shared border with Finland. Since the announcement of Russian President Vladimir Putin that he was seeking to mobilize 300,000 reservists for the war in Ukraine, nations, like Finland, sharing borders with Russia saw thousands of Russian citizens entering their countries.

Given the increasing importance of properly integrating these ethnic groups into the host country and tackling ethnic discrimination wherever observed, we believe our findings should be of importance to social planners. In the following sections, we present the theoretical background, our experiment design, results from the experiment, discussion of the findings, and conclusions.

2. Discrimination and rental housing markets

2.1. Theory and related literature

Our starting point for investigating discriminatory behaviour in markets is Becker's (1971) Economics of Discrimination and his arguments that actors have exogenous preferences (tastes) concerning the kind of people they want to interact with, which is referred to as taste-based discrimination. Becker's key point is that the individual who discriminates must pay some costs for this kind of behaviour. In the rental housing market, the taste for discrimination appears in missed gains for landlords if they prefer to keep the apartment unrented, rather than renting it out to a person they do not like. According to Becker's model, profit-orientated housing companies and agents in a competitive market should be more sensitive to the costs of taste-based discrimination than private landlords who can more easily afford to bear such costs. Moreover, as investment companies have diversified portfolio vs. small-scale investors do not, much of the risk of individual tenant can be diversified away so that the uncertainty should have a smaller role for these large-scale professional investors.

Another major theory in economics of discriminatory behaviour, introduced by Phelps (1972) and Arrow (1973), argues that discrimination may rely on imperfect information. The key feature of these statistical discrimination models is that decision-makers do not have complete information about their applicants and therefore base their choices on the average characteristics of some salient group of which an applicant is part. If such average characteristics are disliked by the decision-makers, they may engage in discriminatory behaviour and choices. Both theories have been tested through field experiments outside of the typical labour-market context, with various degrees of success.

The literature on discrimination is extensive, and papers can be distinguished according to the method by which data are collected (surveys, audit tests, correspondence tests). There is ample evidence for the existence of discriminatory behaviour in rental housing markets in the U.S. based on many studies (Yinger, 1986,1998; Ross & Turner, 2005 and Pager & Shepherd, 2008). More recently, similar research revealing discrimination patterns, has been conducted in several European markets as well (Ahmed & Hammarstedt, 2008; Ahmed et al. 2010; Baldini & Federici, 2011; Andersson et al., 2012; Beatty & Sommervoll, 2012; Auspurg et al., 2017 and Gouveia et al., 2020).

Field experiments measuring discriminatory behaviour in various markets and distinguishing its causes have been used in previous years.[5] The primary field studies on housing and goods market discrimination were traditionally conducted using a personal approach in which couples of testers, differing only in gender or ethnic characteristics, were trained to make inquires for apartments or jobs holding similar conversations with the counterparts (for example see Riach & Rich, 2002).

[2] The third quartile (Q3, or the upper quartile) is the 75th percentile, meaning that 75% of the data falls below this.

[3] There is already compelling evidence that war events can have a profound impact on employment conditions, often resulting in a significant deterioration during wartime Naidenova et al. (2020).

[4] https://www.stat.fi/tup/maahanmuutto/maahanmuuttajat-vaestossa/ulkomaalaistaustaiset_en.html

[5] In fact, as noted by Heath and Di Stasio (2019), "field experiments have become the gold standard research method for establishing risks of discrimination ".

Next, a direct contact followed, by phone or in person. This experimental method was quite expensive in terms of both time-consumption and direct costs and presented several weaknesses (see Heckman & Siegelman, 1993 and Heckman, 1998).

A new approach has thus emerged in recent years that takes advantage of the increasing prevalence of internet tools. Correspondence tests include an application written and sent by email. In this way, equal conditions can be created, differing only in the variables of interest. In our case this is ethnic origin, signalled only by the applicants' names. Hence, landlords or housing agents receive e-mail inquiries from fictional applicants who differ in their migration background. Discrimination is measured based on the response rates to different applicants. The use of this method enables a maximum level of standardisation (Harrison & List, 2004).

While avoiding many of the limitations of field experiments, internet-based experiments have other problems that must be acknowledged. For example, they inevitably miss any discrimination arising with face-to-face contact. Moreover, correspondence tests have been criticised as a method, mainly in terms of ethics. However, as Zschirnt (2019) argues, it would in fact be unethical to stop researching discrimination using research methods that have proven efficient in measuring discriminatory practices during the recruitment process. The present study is based on a careful plan and experimental design and as discussed in the following section, strict principles have been followed.

This approach was used in the rental housing market for the first time by Carpusor and Loges (2006), followed by several other studies that reported clear evidence of ethnic discrimination (Baldini & Federici, 2011; Beatty & Sommervoll, 2012; Ewens et al. 2014 and Auspurg et al. 2017), sexual discrimination (Ahmed et al. 2008; Ahmed & Hammarstedt, 2009; Koehler et al. 2018 and Gouveia et al. 2020) and gender discrimination (Ahmed & Hammarstedt, 2008 and Flage, 2018).

Our paper is the first field experiment conducted using the internet to measure ethnic discrimination in the Finnish rental housing market. Unlike the studies cited above, we also include an additional applicant, a British one, to test whether Finnish landlords tend to discriminate against immigrants in general. Moreover, given the time in which our experiment was conducted, we argue that discrimination may exist and is more intense for the ethnic minority whose country of origin triggered a war. While acknowledging that we cannot provide actual causal evidence, this issue is of particular interest because we give evidence for a more dynamic shape of discrimination, which may be increased or triggered by an exogenous shock such as a war.

2.2. Advantages of the Finnish setting

Finland was always a country with a small influx of immigrants until the EU enlargement in 2004. Since 2004, the inflow of migrants has remained relatively low in comparison to other EU countries (Eurostat 2020) despite the increasing trend of migration inflows, and immigrants are more or less evenly distributed across Finland as shown in Fig. 1a (see also Fig. A in Appendix). Given the increasing migrant inflows and that Finland has a profile of highly extensive welfare country, with a highly educated population and compressed wage distribution, factors which play a key role in shaping natives' attitudes towards immigration can formulate a general discriminatory behaviour against immigrants and be an obstacle in their integration process (Sarvimaki 2011 and Koivukangas 2003).

Compared to other Western European countries, the history of Finland's immigration policy is relatively short, starting in the 1990s (Kaiser, 1995). The first major wave of Russian immigrants occurred in 1991 after the collapse of the Soviet Union. The second wave came after 2000, following the 2004 EU enlargement (Lonsky, 2021). Finland's higher standard of living and proximity to Russia made it an attractive destination for Russian migrants. Today, the Russian population represents a significant ethnic minority in Finland's largest cities. However, there has been no sudden, mass influx of Russian immigrants in recent years compared to other migration groups (Maystadt & Verwimp, 2014). The adaptation of Russian immigrants to Finnish society has been changing steadily over the past two decades, with Russian becoming the third most commonly spoken native language in Finland[6] (Renvik et al., 2020).

Fig. 1b illustrates the shares of Russian and British immigrants in the total immigrant inflows in Finland. We observe that over the last 20 years migration levels follow the same patterns, with no indication of a sudden, mass influx of either Russians or British immigrants. Given the aforementioned circumstances, we hypothesize that any discernible disparity in discriminatory behaviour within the rental housing market, favouring Russians over British applicants, would likely stem from the shape of general attitudes of Finns towards Russians. It is plausible that these attitudes may be partially influenced by the war that unfolded in the early 2022. Consequently, our expectation is that discrimination will predominantly emerge from male, private landlords.

3. Experimental design

The main aim of our research is to explore whether we observe different treatment of ethnic groups in accessing the Finnish rental market. Further, we wish to investigate whether there is behaviour reflecting discrimination towards Russian origin individuals, in particular, rather than immigrants in general. We thus constructed three fictitious applicants: one from Finland, one from Russia and one from the U.K. To investigate possible taste-discrimination by landlords, we focused on male pseudoseekers, different only as to their country of origin. We then designed our experimental strategy based on Ahmed and Hammerstedt (2008a,b).

Our study was based on email correspondence tests to advertisements for vacant apartments and houses for rent. Using the internet gave us the advantage of being able to use written applications rather than personal approaches, thereby avoiding the potential problems that may arise from personal appearances (see Heckman, 1998). With written applications, we controlled for all possible nuisances that may bias the experiment and only changed the variable we were interested in studying: country of origin. The emails implied the applicant's country of origin through their name. We used the most common names for Finland, Russia and the U.K. Thus, our applicant names were: Matti Korhonen (Finnish), Sergey Ivanov (Russian) and James Smith (British).[7] The email was written in Finnish, consisting of simple words and phrases, raising the connotation that the Russian and British applicants had arrived in Finland during the last months of the war.[8]

The email account provider we chose for creating the fictitious applicants' emails was Gmail, since it does not require information on geographic origin. All addresses were created according to the following pattern: namesurname@gmail.com.[9] All e-mails have the same

[6] In the end of 2017, there were almost 80 000 people speaking Russian as their mother tongue (Statistics Finland 2017a).

[7] We used a two-stage process to select names for our study. Firstly, we obtained suggestions for first and last names from Forebears.io, a genealogy portal that provides a dictionary of names along with information on their usage frequency and geographic distribution. In the second stage, we followed the methodology proposed by Weichselbaumer (2020) and tested these names with a sample of 112 business and economics students. We asked them to identify the nationality associated with each name. Our findings showed that the names we selected were valid representations of the nationalities they were intended to represent. Specifically, all the respondents identified the name Matti Korhonen as Finnish. The name Sergey Ivanov was identified as Russian by 99% of the respondents. Additionally, 86% of the respondents identified the name James Smith as British, while only 11% associated it with the United States.

[8] Usually, when EU immigrants arrive to Finland, the unemployment agency (KELA) offers basic preparatory language courses for adults.

[9] Where the desired email address was unavailable, we added a number after the surname.

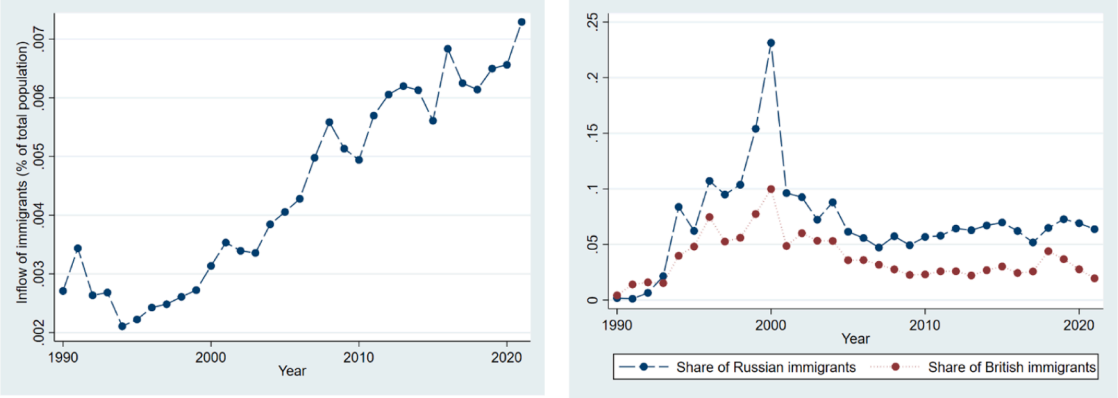

Fig. 1. Left panel (1a) shows the annual immigration inflow as a share of population. Right panel (1b) shows the share of immigrants from Russia and Great Britain of total immigrant inflows in Finland.
Notes: Data drawn from Statistics Finland's StatFin database. Yearly migrant figures, recorded at the onset of each calendar year.

structure: they begin with a greeting and an introductory statement containing the applicant's name, continue with a statement of interest in the apartment and a request to rent the apartment. For both Finnish and foreign names, we used the same correct syntax, to preserve equality of conditions and as an implicit sign of integration. Here we show a sample text, translated into British:

Hello,

My name is Sergey Ivanov, and I am writing in response to your house rental ad with case number 7,677,654. If it is still available, I would be interested in renting the apartment/house.

Hoping in an answer from you and thanks for your time,

Sergey Ivanov

In each city we applied only for vacant rental apartments with at least one bedroom, one bathroom and 20 m^2. Further, in the biggest cities we dropped from the sample housing units with monthly rents below the 10th or above the 95th percentile of each city's rent distribution. These percentiles were computed using all the ads present on the website on the first day of the experiment. This aimed to exclude from the analysis those apartments that are either very luxurious or of very low quality and to avoid misplaced housing postings. Ads containing no information about the rent and requiring contact only by phone or in person were excluded, as were those requiring only a particular gender or nationality. Ruling out these cases should reinforce our findings because we concentrate only on non-explicit discrimination.

The experiment was carried out between September 5 and October 5, 2022. This period is considered as the third phase of the war in Ukraine. The Russian invasion of Ukraine began on 24th of February, so when our experiment took place (after almost 7 months), it allowed us to examine a longer-term discriminatory behaviour against Russian house applicants in Finland. During this period, we downloaded apartment rental advertisements from vuokraovi.com. This is one of the largest rental housing sites in Finland, serving as an online mediator platform that gathers rental ads from all over Finland. Housing companies and private landlords post vacant apartments, and it is free of cost to respond to any of the ads. Without any further restrictions, we applied as a Finnish, Russian and British[10] applicant to all available apartments during that period.

Following Carpusor and Loges (2006) and Ahmed et al. (2010), we used a random assignment procedure to submit the requests. Each landlord was approached by only one of the applicants. To avoid sending multiple e-mails to the same address in the same city, we checked the phone number, address, and photos of the ad. We did this only for a few very small cities so as to reach the required number of applications, but always guaranteeing that no more than two e-mails were sent to the same agency, after an interval of some days, and by different applicants from different ethnic groups.

The alternative procedure used in previous experiments, known as matched application, consists of sending at least two emails by different nationalities for the same apartment within a short period of time. We felt that this method could put applications at risk of not being seriously considered if the emails were perceived to be too similar. This risk could be particularly serious in the Finnish rental market, where many rental housing ads on the web are apparently posted by private persons but are actually managed by real estate agencies. The frequent presence of many ads posted by the same private name would reinforce this suspicion. In practice, we assigned each candidate a number from 1 to 3 and followed this order cyclically, making them apply to all vacant rental apartments meeting our criteria, from the ad most recently posted to the oldest, until we reached the desired number of contacts for each city in order for our sample to be representative of the Finnish housing rental market.

We are aware that the cyclical order followed in sending the applications with different names may introduce some time-related nonrandomness (Baldini & Federici, 2011). To check for this, we always included in the estimated regressions a whole set of dummy variables for the week of the year and for the day of the week in which each email was sent. Further, we also verified, with a Kolmogorov–Smirnov test, that the distributions of the days of the week and of the weeks of the year when the ads were sent are similar across the three different nationalities. Finally, we also computed the correlation coefficients between the identities and the observable variables and found that none of them is significant at the 5% level.

The data gathered during the experimental process contain for each unit the following information: the city in which it is located, the number of rooms, the size (m^2), whether the landlord's phone number is provided in the ad, as well as the dates of sending our application and of receiving a response, together with the respondent's gender. We also constructed the variables of (1) type of landlord (private or housing companies), (2) (log of) rent per square metre, and (3) (log of) total rental price level. Moreover, following Auspurg et al. (2017), we estimated a hedonic model for the rental prices. We used the predicted prices from this hedonic model – in which the unit rent is explained by the unit's detailed characteristics – to construct a relative rental price variable. Further, we calculated the difference between observed and predicted rents to build a grouping variable of the relative rental price level across the three terciles of the distribution (low, medium, high).

[10] By taking into consideration the Finnish neutral attitudes towards British immigrants, it seems that an British applicant is appropriate for a robustness check, rather than an applicant from Sweden or Norway (Lonsky, 2021).

Lastly, we classified email responses into several categories following the strategy by Baldini and Federici (2011). Firstly, the basic distinction was between no landlord reply and a positive reply.[11] Secondly, we distinguished positive responses into implicitly positive, responses in which other requirements were indicated, responses asking for more information regarding the applicant, positive responses containing some discouraging element,[12] and finally responses that are positive but only if particular conditions are fulfilled (e.g. the apartment is technically available, but an application has already been submitted and the unit will only be available if this application falls through). Other possible reactions were automatic responses and those raising the amount of the rent, which we politely declined.

On average, the time interval between sending the e-mail and the reply was 1.4 days. In 99.98% of cases, the reply (if any) arrived within 20 days. None of the following results are affected by the 11 responses we received 20 or more days after the application was mailed.

Before turning to our results, it is important to note that the internet is only one of several channels that can be used to search for a rental property. Other common channels are newspaper ads and social networks, which we did not include in our study. The results may also have been affected if landlords who advertise on the internet discriminate either more or less than landlords who use other channels to advertise rental properties.

Related to the previous problem, we must also confront an issue concerning how representative our data are. In this study, we considered both privately-owned apartments and apartments owned by housing investment companies. Nevertheless, a considerable number of rental dwellings in Finland are owned by public sector housing companies (non-profit organisations owned by local authorities), known as ARAVA dwellings that comprise the subsidized rental housing market in the country. We do not consider such units in our study but focus on rental housing in the nonsubsidized market.

4. Empirical data and model

The overall number of observations gathered in our experiment is 1513 and for each of the email inquiries we recorded whether any response was received, and, if so, the date of response, the respondent's gender, and the level of response (only in the case of a positive reply). Table 1 shows some descriptive statistics for the observations in our data. Of the units included in the sample, 51.2% are rented out by private landlords and 36.7% by female landlords, and 81.6% of landlords provided their phone number as a way of communication in the ad. Our sample consists, on average, of 58 m^2, two-bedroom apartments, mostly in the urban areas of Finland (67.4%) with an average rent of approximately 12.7 euros per m^2.

Table 1
Sample Characteristics.

Variable	Mean	SD	Min	Max	N
landlord characteristics					
Private landlord	0.512	0.500	0	1	1513
Female	0.367	0.482	0	1	1513
Provides phone number	0.816	0.387	0	1	1513
apartment characteristics					
Number of bedrooms	2.116	1.096	1	6	1513
Apartment size (m^2)	58.155	30.57	20	256	1513
Located in urban area	0.674	0.468	0	1	1513
Rent per square metre (€)	12.735	5.495	2.16	50.15	1513

Source: Authors' calculations. Data drawn from vuokraovi.com.

Inquiries from the Russian name received in general fewer responses compared to inquiries from the Finnish name. A Russian and Finnish applicants had a positive reply rate of 48% and 63%, respectively, with the difference of 15%-points being statistically significant at 1% level (p-value < 0.001). The positive reply rate for the British applicant was found to be 61%, which did not exhibit a statistically significant difference when compared to the Finnish applicant. However, in relation to the Russian applicant, the positive reply rate for the British applicant was also found to be significantly higher at a significance level of 1% (p-value < 0.001).

We used a straightforward regression approach, as explained below, to describe the extent of the discriminatory behaviour against Russian applicants in relation to the Finnish ones. We also included a British applicant to demonstrate that landlords' discrimination relates to Russian applicants rather than being directed towards all migrants in general. A linear probability model was estimated to examine the probability of a positive callback in each case:

$$Y_{i(response=1)} = \alpha + \beta_1 R_{1i} + \beta_2 R_{2i} + \beta_3 X_i + \delta_c + \gamma_d + e_i \quad (1)$$

where Y is the latent variable reflecting the probability of a fictitious applicant receiving a positive answer, and α is a constant. R_1 is a dummy categorical variable indicating whether the applicant is Russian (takes value 1 for Russian, zero otherwise). Similarly, R_2 is a dummy variable for a British applicant. However, some estimated models only include either R_1 or R_2, whereas in some reported specifications both R_1 and R_2 are included. β_3 is a vector of coefficients for the variables included in X_i where X includes the apartment-specific characteristics (i.e., whether the owner is a private landlord or a housing investment company, whether the unit is in a rural or urban area, the apartment size in m^2, the number of bedrooms, the gender of the owner and logarithmic value of the monthly rent). We also control for the date that we sent the email inquiries by embedding in the model γ_d which includes the day effects. Lastly, δ_c is the city fixed effects and e is the idiosyncratic error term. The control variables X_i, δ_c and γ_d are included in (1) to avoid potential omitted variable bias in the regression. β_1 is our main (estimated) coefficient of interest, providing an estimate for the discrimination against Russian applicants.

5. Estimations

5.1. Baseline results

Table 2 presents the results of three regression models examining the prevalence of discrimination. The first model, which includes only Finnish and Russian applicants without any control variables, shows a significant 13.9 percentage point reduction in the probability of a positive response for the Russian applicant. In specification [2], we add British applicants in the model. While the coefficient for the British applicant is negative, it is not statistically significant, and the point estimate is close to zero.

Controlling for the landlord characteristics (specification [3]) and for the full set of control variables including apartment characteristics (specification [4]) leads to somewhat smaller negative, but still highly significant, coefficients for the Russian applicant. When all controls are included, the results indicate that Russian applicants have, on average, a 10.3 percentage point lower probability of receiving a positive reply compared to Finnish applicants. For the British applicant, the coefficient estimate is still close to zero and highly insignificant and, importantly, statistically significantly smaller than that for the Russian applicant.

Overall, the findings reported in Table 2 suggest that discriminatory behaviour against Russian applicants is present and robust in terms of significance and magnitude. Since the analysis does not provide evidence of discriminatory behaviour against the British applicant, the

[11] We did not further distinguish negative replies because their number was too small.

[12] For example, when the apartment is available, but the landlord does not attempt to promote further contact or interaction.

Table 2
Probability of a Callback (Linear probability model).

	[1]	[2]	[3]	[4]
Russian applicant	−0.139***	−0.142***	−0.099***	−0.103***
	(0.031)	(0.031)	(0.028)	(0.028)
British applicant		−0.010	−0.019	−0.003
		(0.032)	(0.028)	(0.029)
landlord characteristics				
Private landlord			−0.166***	−0.157***
			(0.023)	(0.022)
Female			0.409***	0.397***
			(0.022)	(0.022)
Provides phone number			0.171***	0.174***
			(0.030)	(0.030)
apartment characteristics				
Number of bedrooms				−0.021*
				(0.014)
Apartment size (m^2)				0.001
				(0.001)
Urban area				0.127***
				(0.025)
Rent per square metre (€)				−0.004*
				(0.002)
R^2	0.042	0.037	0.234	0.251
F-Stat	3.95	3.47	38.67	36.67
Observations	1008	1510	1510	1510

Source: Authors' calculations. Data drawn from vuokraovi.com.
Notes: The dependant variable is the probability of a Russian or a British applicant to receive a positive response. The reference group for private landlords is professional housing investment companies and for apartments located in urban areas the reference group is apartments located in rural areas. The specifications control for the application sending day of the apartment enquiry email and the apartment's city fixed effects. Robust standard errors in parentheses.
Statistical Significance:
*** $p<0.01$.
** $p<0.05$.
* $p<0.10$.

results indicate that there is no general discrimination in the market towards applicants with foreign names. Indeed, the regressions clearly suggest that Russian applicants face discrimination even when compared to British applicants.[13]

Additionally, our analysis reveals that, on average, private landlords have a 16.6 percentage point lower probability of responding positively compared to agents from professional housing investment companies. Moreover, female landlords are 41 percentage points more likely to give positive feedback than male landlords.

This aligns with our theoretical framework and ex ante expectations for several reasons. Firstly, professional housing investment companies typically operate within a structured and regulated environment, emphasizing efficient communication and customer service. As a result, their agents are more inclined to promptly respond to inquiries, leading to a higher positive feedback rate than private landlords (Carpusor et al. 2006).

Regarding the gender difference, our findings are consistent with existing research highlighting potential variations in communication styles and decision-making processes between male and female landlords. The higher positive feedback rate from female landlords could be attributed to factors such as greater empathy, responsiveness, or a more accommodating approach in their interactions with potential tenants (Colella et al. 2017).

Our attention now turns to examining the variation in rental prices regarding this discriminatory behaviour towards Russian applicants. Fig. 2 illustrates that the higher is the monthly rent, the lower is the probability of an applicant receiving a positive reply. At all rental price levels, the probability is lower for the Russian applicant, and the difference between Russian and Finnish applicants is similar regardless of the rental price level. This would imply that the discrimination is not greater at the higher-priced end of rental apartment distribution.

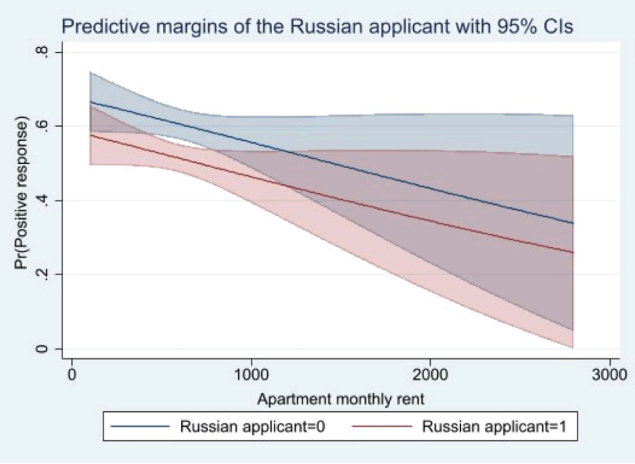

Fig. 2. Positive response by monthly house rent and nationality.

However, to make stronger conclusions we need to control for the other factors. Therefore, Table 3 includes the average marginal effects for the Russian applicant against the Finnish one, by having the apartments grouped in low, medium, and high absolute monthly rents and relative monthly rents (i.e., differences between observed and predicted values of rent per square metre were used).[14] While relative prices refer

[13] The effects remain consistent when logistic regression is used. Table A in the Appendix presents the Average Marginal Effects (AMEs) where the probability of receiving a response to the email inquiry is the primary dependent variable (Pr = 1/X) in a series of logistic regression models.

[14] We divided rents into three categories based on their quantile values (Q1: Low, Q2,Q3: Medium, Q4: High).

Table 3
Probability of response (Linear probability model) by absolute and relative apartment monthly rents.

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
	Absolute rents								
	Low			Medium			High		
Russian applicant	−0.085	0.021	0.013	−0.101**	−0.059	−0.068	−0.302***	−0.252***	−0.261***
	(0.070)	(0.065)	(0.064)	(0.049)	(0.043)	(0.044)	(0.064)	(0.063)	(0.063)
R^2	0.074	0.283	0.322	0.049	0.290	0.299	0.091	0.249	0.272
F-Stat	2.62	6.61	7.38	2.20	16.61	15.55	3.31	11.53	11.06
Observations	264	264	264	494	494	494	249	249	249
Relative rents									
	Low			Medium			High		
Russian applicant	−0.041	0.033	0.038	−0.129***	−0.077*	−0.090**	−0.319***	−0.258***	−0.279***
	(0.068)	(0.061)	(0.062)	(0.048)	(0.043)	(0.044)	(0.063)	(0.061)	(0.060)
R^2	0.071	0.283	0.319	0.062	0.296	0.306	0.160	0.293	0.336
F-Stat	2.22	5.94	6.56	2.59	15.96	15.37	3.44	8.51	10.88
Observations	259	259	259	489	489	489	260	260	260
Landlord controls		✓	✓		✓	✓		✓	✓
Apartment controls			✓			✓			✓

Source: Authors' calculations. Data drawn from vuokraovi.com.
Notes: The dependant variable refers to whether the applicant, who is of Russian nationality, receives a positive response or not when applying for an apartment. The specifications control for the sending day and month of the apartment enquiry email and the apartment's city fixed effects. Landlord controls include landlord's type, gender and whether landlord provided a phone number or not. Apartment controls include the number of bedrooms, the size, location area (i.e., urban, or rural). Robust standard errors in parentheses.
Statistical Significance:
*** $p<0.01$.
** $p<0.05$.
* $p<0.10$.

Table 4
Probability of positive response (Linear probability model). Interaction Effects.

	[1]	[2]	[3]	[4]	[5]	[6]
Russian applicant	−0.096***	−0.002	−0.037	−0.108**	0.109	0.072
	(0.028)	(0.040)	(0.045)	(0.052)	(0.073)	(0.072)
Private landlords		−0.114***			−0.116***	−0.112***
		(0.038)			(0.042)	(0.040)
Male landlord			0.113**		0.111***	0.117***
			(0.038)		(0.039)	(0.038)
Urban area				0.195***	0.223***	0.206***
				(0.045)	(0.046)	(0.044)
Russian applicant*Private landlords		−0.170***			−0.149**	−0.154**
		(0.056)			(0.063)	(0.062)
Russian applicant*Male landlord			−0.187***		−0.166***	−0.148**
			(0.059)		(0.061)	(0.060)
Russian applicant*Urban area				−0.032	−0.087*	−0.064
				(0.063)	(0.064)	(0.063)
Landlord controls	✓	✓	✓	✓	✓	✓
Apartment controls	✓	✓	✓	✓		✓
R^2	0.171	0.178	0.158	0.150	0.134	0.164
F-Stat	29.67	29.52	11.05	9.43	8.03	10.16
Observations	1008	1008	1008	1008	1008	1008

Source: Authors' calculations. Data drawn from vuokraovi.com.
Notes: The dependant variable is the probability of a Russian applicant receiving a positive response regarding an apartment. The specifications control for the sending day and month of the apartment enquiry email and the apartment's city fixed effects. Landlord controls include landlord's type, gender, and whether landlord provided a phone number or not in each case. Apartment controls include the number of bedrooms, the size, the rent per square metre and the location area (i.e., urban, or rural) in each case. Robust standard errors in parentheses. Statistical Significance:.
*** $p<0.01$.
** $p<0.05$.
* $p<0.10$.

to price discrimination (controlling for the quality of the apartment), absolute prices refer to the signalled purchasing power of applicants (Auspurg et al. 2017). Initially, we see support of discrimination behaviour, but only for specific segments of the rental housing market.

In groups with medium and high relative and absolute rental prices, we see evidence that a Russian name is discriminated against. Especially for expensive rental apartments, we find strong evidence of discriminatory behaviour. A Russian applicant has up to 32%-points lower probability of receiving positive feedback for renting an expensive apartment than a Finnish applicant with similar characteristics. The results, of absolute and relative rental price levels are quite similar.[15]

5.2. Reasons for unequal treatment

In this study, we also tested a set of hypotheses concerning the reasons for unequal treatment. Hence, to facilitate a more focused analysis, we have made the decision to exclude the British applicants from further consideration and concentrate on comparing the Finnish and Russian applicants instead. Previous research has offered evidence for preference-based discrimination amongst private landlords, with a tendency to discriminate primarily based on personal preferences. This discrimination is often directed towards members of ethnic minorities, regardless of their social status (Auspurg et al. 2017). On the other hand, housing investment companies have a stronger incentive to avoid taste-based discrimination, as the costs of such discrimination could negatively impact their profits. In contrast, private landlords may be more willing to bear these costs, as they often have fewer properties and a smaller portfolio. Investment companies, with their diversified portfolios, may also be less sensitive to the risks associated with individual tenants. This is because the risk can be spread across multiple properties, reducing the overall uncertainty for these large-scale investors (Becker, 1971).

Furthermore, research on discrimination against minorities has shown that, in general, males tend to discriminate more than females. For example, a study by Pager and Shepherd (2008) found that male landlords in the United States were more likely to discriminate against black renters than female landlords. Ahmed and Hammarstedt (2008), in turn, found evidence of gender differences in discrimination against immigrants in Sweden, with male employers showing higher levels of discrimination than female employers. However, it is worth noting that the factors that contribute to discrimination are complex and can vary depending on the specific context. In our experimental context, it is expected that male landlords will discriminate more against Russian applicants than female landlords, based on similar experimental research.

We could also hypothesize that discrimination against migrants is more prevalent in rural areas. One reason, why discrimination against migrants may be more prevalent in rural areas, is due to the lower levels of diversity and higher levels of social distance between migrants and non-migrants. In rural areas, the population may be more homogeneous, with a stronger sense of social identity and less exposure to people from different cultural backgrounds. This can lead to perceptions of migrants as outsiders and make it more difficult for them to access housing. In addition, in rural areas, there may be fewer rental properties available and a limited supply of affordable housing (Bengtsson et al. 2012). This can result in higher levels of competition for housing, which may lead landlords to discriminate against certain groups, such as migrants, to protect their investment and maximize profits. Finally, rural areas may also have less established anti-discrimination policies and organizations than urban areas, making it easier for landlords to engage in discriminatory practices without consequences (Lauster & Easterbrook, 2011).

To test these hypotheses, in Table 4 we extended the linear probability model to cover not only the full set of control variables (see column (1)) but also the interaction of several control variables with the variable "Russian applicant". In these estimations, we excluded the British applicant and focused on investigating the heterogeneous effects of discriminatory behaviour by landlords on Russian applicants in comparison to the Finnish ones.To determine whether the effect of the landlord's type, gender, and apartment location on positive response is the same for both groups, we have added the following interaction terms to our regression. In Column (2), we have included the interaction term for landlord's type. Column (3) adds interaction effects for landlord's gender, Column (4) for apartment location, and Column (5) presents the fully interacted model with remaining landlord controls. In Column (6), we have also added the remaining apartment controls to present the fully interacted model.

It is worth noting that the coefficients for the Russian applicant have changed significantly and cannot be interpreted in the same way as before. The coefficient now shows the effect of the variable when the other variable in the interaction is zero. The variable "Russian applicant" shows the difference between Russian and Finnish applicants for housing investment companies (Column 2), female landlords (Column 3), and apartments in rural areas (Column 4). The coefficients for "private," "male," and "urban" show the differences only amongst Finnish applicants. To enable comparison, we have also included the main effect in Column (1).

Regarding the coefficients of the interaction terms, Column (2) presents the key interaction effect that tests whether private landlords exhibit a higher level of discrimination towards Russian applicants in comparison to housing companies. The results indicate that private landlords, on average, display a greater level of discriminatory behaviour compared to housing companies. Moreover, private landlords' discrimination is found to be economically and statistically significantly stronger against Russian applicants: the positive response rate for Russian applicant is 28.4 percentage points lower (−0.114–0.170) than in the case of housing companies. This supports our hypothesis and accords with findings from studies arguing that private landlords discriminate against a disliked group based mainly on their personal preferences (Auspurg et al. 2017).

The hypothesis that male landlords discriminate more against the Russian applicants than females do was also confirmed, as shown in Column (3). The positive response rate of males for the Russian applicant is 7.4 percentage points lower (0.113–0.187) than that of female landlords. This finding may link to the literature of gender norms and gender discrimination (Ahmed & Hammarstedt, 2008 and Bengtsson

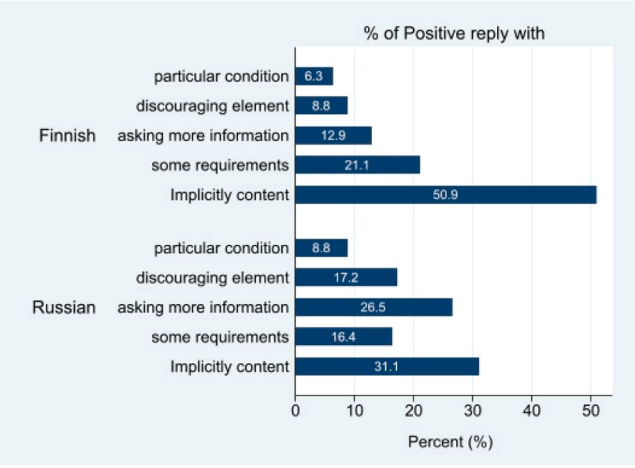

Fig. 3. Percentage of positive response levels by nationality.

[15] While it was observed that housing investment companies responded slightly more positively to the Russian applicant by offering higher rent on average, compared to the Finnish applicant, the difference was found to be statistically insignificant. Conversely, private landlords exhibited opposite behaviour.

Table 5
Ordered logit model: Average marginal effects for positive response levels.

dependant variable: positive response	p(low) [1]	p(below average) [2]	p(average) [3]	p(above average) [4]	p(high) [5]
Russian applicant	0.055***	0.082***	0.080***	0.003	−0.221***
	(0.012)	(0.017)	(0.017)	(0.007)	(0.040)
Landlord controls	✓	✓	✓	✓	✓
Apartment controls	✓	✓	✓	✓	✓
Pseudo R^2	0.058				
Wald chi^2	95.55				
Observations	553				

Source: Authors' calculations. Data drawn from vuokraovi.com.
Notes: The table reports the marginal effects. dependant variable: Positive response levels. Partial effects are estimated using an ordered logit model, where explanatory variables are set to their mean values. The specifications control for landlord and apartment characteristics and the sending day and month of the apartment enquiry email and the apartment's city fixed effects. Landlord controls include landlord's type, gender and whether landlord provided a phone number or not. Apartment controls include the number of bedrooms, the size, the rent per square metre and the location area (i.e., urban, or rural). Ordinal Logit standard errors in parentheses.
Statistical significance:.
*** $p<0.01$.
** $p<0.05$.
*$p<0.10$.

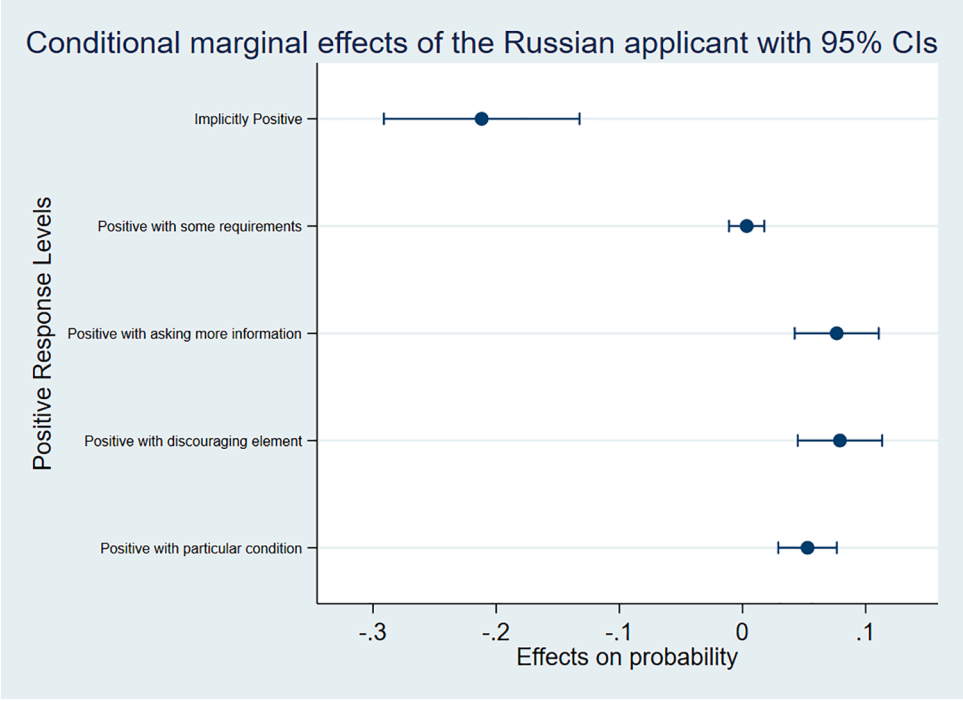

Fig. 4. Probabilities of positive response levels for the Russian applicant.

et al. 2012).[16]

Lastly, no effects were found concerning apartment's location. This finding suggests that there is no significant difference in discriminatory behaviour by landlords towards Russian applicants based on whether the unit is located in an urban or rural area. We hence reject the hypothesis that landlords are more likely to discriminate against Russian applicants for apartments located in rural areas than in urban areas.

5.3. Exploring positive reactions

Lastly, we go deeper into the discrimination behaviour mechanism, by analysing the positive responses. We grouped positive email texts into five levels of positiveness, signalling if a landlord has inhibitions against an applicant, even if replying positively. Our five categories vary from a low positive level, containing responses with particular conditions to be fulfilled, to a high positive level, containing responses with implicitly positive text. Fig. 3 depicts the positive response levels by applicant nationality. It is noteworthy that only 31%-points of the positive responses received by the Russian applicant had implicitly positive feedback. In the case of the Finnish applicant this share was almost 51%-points.

Table 5 reports the marginal effects where covariates are evaluated at their mean values (see also Fig. 4). High positive feedback is negatively correlated with the Russian applicant. As expected, the lower the positivity level, the higher the probability for a Russian applicant to receive such replies by landlords. These findings point out that even in the case of positive responses, the analysis reveals evidence of discriminatory behaviour. For this reason, we argue that discriminatory behaviour in the rental housing market has various dimensions and is a highly complex issue, and indeed appears to be deeper that indicated

[16] Women on average report higher rates of discrimination behaviour in several aspects of the workplace (e.g. earning lower wages, promoting less etc.)

using a simple indicator variable in a logit or linear probability regression, at least in the Finnish case.

6. Discussion

The aim of this study was to investigate the existence of discrimination towards Russians in the rental housing market in Finland. The conducted experiment is particularly interesting given the recently initiated war of aggression by Russia – an event that has shaped ideas, attitudes, and behaviour, and especially so likely in Finland that shares a long border with Russia. Our empirical analyses used a rich dataset containing the results of correspondence tests for Finnish, Russian and British applicants on more than 1500 rental apartments in Finland. In contrast to many other experiments, the study used additional information on the rental apartments to test the prevalence of ethnic discrimination in relation to several landlord and apartment characteristics (male vs. female landlords, private landlords vs. housing investment companies, urban vs. rural apartments). Moreover, we tested discrimination by absolute and relative rental price levels of the apartments. Lastly, our analysis goes in depth in the positive replies and analyses the probabilities of an applicant receiving different levels of feedback. The most important results and implications are as follows:

Firstly, our field experiment clearly revealed discriminating behaviour: The Russian applicant faced both economically and statistically significant lower positive response probability compared to a Finnish applicant. That is, Russian applicants had a significantly lower chance of access to the rental housing market compared to Finnish ones. We did not observe similar discrimination in case of a British applicant.

Secondly, discrimination against the Russian applicant increased as absolute and relative rental price levels increased. Mainly, in the absolutely and relatively 'high price' market segments, statistical discrimination seemed to exist and be robust. We know that applications for high-priced apartments might signal high purchasing power (Baldini & Federici, 2011). Previous research has shown that this preference-based discrimination regarding relative price levels can be overwritten by applicant status only for apartments with relatively high rents (Auspurg et al. 2017). In our case, we did not have the opportunity to test that by varying Russian, Finnish, and British applicants' status, as it would have increased the complexity of our experimental design.

Thirdly, there is clear evidence that characteristics such as the landlords' gender and status affect the results. The patterns show a clear discriminatory behaviour by male, private landlords. This finding is consistent with previous studies showing that private male landlords display significant statistical discrimination against a disliked group based on their preferences (Auspurg et al. 2017 and Flage, 2018). Such behaviour was not observed by female landlords.

Lastly, our findings show evidence of discrimination against Russians in this market even in the case of a positive response. We reveal statistically significant differences in almost all positive response levels. For example, positive feedback from landlords with implicitly positive content was received by only 31% of Russian applicants and almost 51% of Finnish applicants. This indicates that the discriminatory behaviour is even stronger than implied by the typical analyses – such as our baseline regressions – that do not distinguish between different qualities of "positive" responses.

It is clear from our study that the rental housing market is affected by different types of discrimination. Considering that our experiment was conducted during the third phase of the Russian war of aggression in Ukraine and almost seven months after the Russian invasion, we believe that there is a connection between our discovery of the strength of discrimination and the war. In line with this, we showed that Finns do not discriminate in general against immigrants in the rental housing market. Moreover, by investigating the immigrant inflows over time, we did not find evidence of a peak inflow for Russian immigrants that could justify a more hostile and negative attitude towards Russians by the Finnish population.

7. Research limitations

As we discuss above, we believe that the Russian war of aggression plays a role in the reported discrimination. However, we would like to highlight that the variables we used in the analysis cannot indicate 'causality' or causal effects from the war. Also, in contrast to the experimentally varied treatment effects, our group variables may be affected by omitted variables –such as integration and adaptation procedures that may have taken place in recent years, several problems connected to the status of the Russian-speaking population etc. That is, there may well be other factors besides the war that contribute to the discrimination against Russians in Finland. All our results refer to a rough, but nonetheless informative, group comparison. This paper underlines that discrimination in the rental housing market has various dimensions and is a complex issue. We hope that our results will trigger further research in this direction since additional knowledge in this area is certainly needed.

The current field experiment was effective in distinguishing determinants of discriminatory behaviour by landlords at the initial stage of the apartment selection process as well as in measuring the results of this process. Nevertheless, discrimination may be higher or lower under other circumstances and at different stages of a housing transaction: for obvious reasons, we cannot confirm whether the applicant would have received the apartment or not. That is, we observe the behaviour in this stage, but we do not know what the actual result of the last phase of the rental procedure would have been and whether the positive response though email would have turned into an actual rental contract. It is of course impossible to test a landlord's truthfulness, but we believe that potential discrimination could be even higher during the final stage of the rental procedure.

Moreover, this study cannot determine how much discrimination takes place in sections of the rental housing market not served by landlords, such as immigrant networks. Experimental field research assumes a particular search mechanism and thus it cannot provide causal evidence on how minority seekers adjust their search behaviour due to discrimination. Results might also have varied if the pseudoseekers of apartments also varied in terms of gender. In our study, we focused only on male applicants to avoid complexity in our experimental design and the results might thus be also affected by gender discrimination on rental housing markets.

8. Conclusions

This is the first study, where a correspondence test field experiment is conducted to examine whether discrimination takes place against an ethnic minority – in our case Russian – whose country of origin is responsible for starting a war of aggression. Our results conclude that in the Finnish rental market housing availability is lower for Russians than for Finns. Interestingly, the discriminatory behaviour comes mainly from male private landlords. Moreover, the higher the rental price is, the more Russian applicants are discriminated against. We did not find evidence of discrimination against British applicants, suggesting that the observed discrimination faced by Russians is not something that all immigrants or ethnic groups face. Our findings indicate that the prevalence of isolated housing might be attributed to the adverse societal perceptions held by Finnish citizens towards Russians, coupled with the significant influence exerted by private landlords who apply social pressure when renting apartments to Russian citizens, particularly in the context of the wartime event. Although our findings are strictly applicable only to the time and place from which the sample was drawn, this study has implications for understanding some of the enduring patterns of Russian discrimination in the Finnish rental housing market. Our findings suggest that further research is needed in social science, focusing, also, on ethnic discrimination in different market contexts.

Declaration of Competing Interest

The authors declare that they have no conflict of interest.

Data availability

Data will be made available on request.

Acknowledgments

We are grateful to the editor and two anonymous reviewers for helpful comments. We also wish to thank Peppi Papadopoulou and Haris Mourelatos for research assistance. This work was supported by the Strategic Research Council at the Academy of Finland (decision numbers 352450 and 352451) and the West-Finland Housing Association of Public Utility.

Appendix

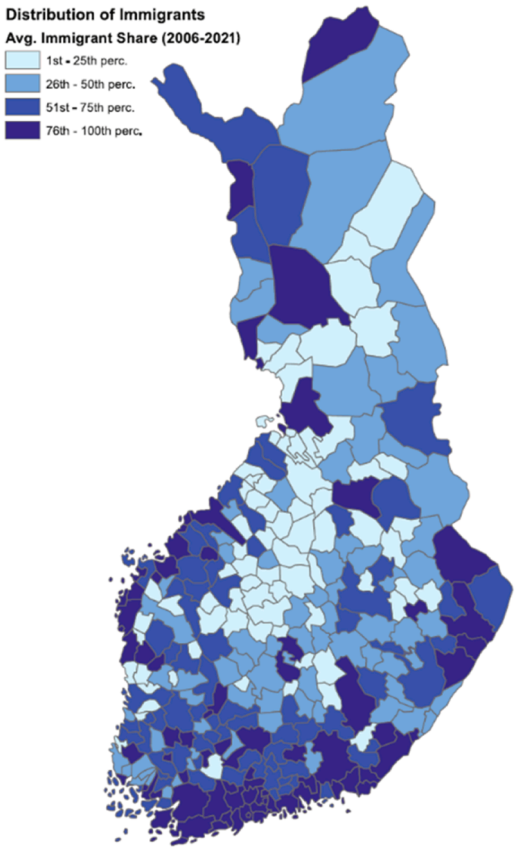

Fig. A. Distribution of Migrants in Finnish Municipalities: 2006–2021.
Notes: Data drawn from Statistics Finland's StatFin database.

Table A
Logit estimates of the probability of receiving a positive reply, average marginal effects.

	[1]	[2]	[3]	[4]
Russian applicant	−0.147***	−0.143***	−0.120***	−0.127***
	(0.033)	(0.031)	(0.036)	(0.038)
British applicant		−0.010	−0.019	−0.006
		(0.032)	(0.037)	(0.039)
landlord characteristics				
Private landlord			−0.206***	−0.199***
			(0.028)	(0.028)
Female			0.435***	0.433***
			(0.023)	(0.022)
Provides phone number			0.209***	0.215***
			(0.039)	(0.039)
apartment characteristics				
Number of bedrooms				−0.028*
				(0.018)

(*continued on next page*)

Table A (*continued*)

	[1]	[2]	[3]	[4]
Apartment size (m^2)				0.001
				(0.001)
Urban area				0.163***
				(0.031)
Rent per square metre (€)				−0.005*
				(0.003)
Pseudo R^2	0.033	0.031	0.192	0.208
Wald chi^2	43.65	40.02	374.84	381.27
Observations	1008	1510	1510	1510

Source: Authors' calculations. Data drawn from vuokraovi.com.
Notes: The dependant variable is the probability of a Russian or a British applicant to receive a positive response. The reference group for private landlords is professional housing investment companies and for apartments located in urban areas the reference group is apartments located in rural areas. The specifications control for the application sending day of the apartment enquiry email and the apartment's city fixed effects. Logit standard errors in parentheses.
Statistical Significance:
*** $p<0.01$.
** $p<0.05$.
* $p<0.10$.

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