Consider the Slavs: Overt Discrimination and Racial Disparities in Rental Housing

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Definitions

- **Racial (ethnic) discrimination:**
  Individuals can discriminate by refusing to do business with, socialize with, or share resources with people of a certain group

- **Racial disparities:**
  Differences in economic outcomes (e.g. minority pay more than majority for the same unit)

The link between two

- **What are the causes of racial disparities in housing outcomes? Is it discrimination or something else?**
- Theoretical literature provide mixed answers (see Heckman critique (1993, 1998))
- To study discrimination one need first to reveal it, which make it difficult to study

no asia
strictly **Slavs**
offer for the **Slavs**
we take the **Slavs**
consider **Slavs only**
strictly decent **Slavs**
Russian non-smokers
married couple of **Slavs**
ideal for a **Slavic couple**
urgently consider the **Slavs**
any composition of the **Slavs**
consider all, **preferably Slavs**
consider **Slavs Jews Kazakhs**
consider any decent besides **Asia**
consider the clean and responsible **Slavs**
rent an apartment for a long time to the **Slavs**
a one-room apartment for rent for a **Slavic family**
decent and responsible **citizens of Slavic appearance**
will consider **Slavs and foreigners except the Caucasus and Asia**
rent an apartment to a young family or not violent students and **only Russians**

Rental Housing in Moscow
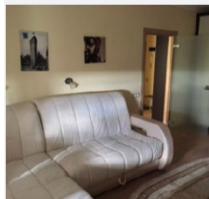
Metro station: Shchyolkovskaya
Moscow, Izmailovo,
Sirenivi Boulevard, 85

25000 rub/month   1 room   35 м2   Floor: 14/17

«Beautiful cozy apartment. Modern renovation. New furniture. Beautiful view of the forest and the pond. Address: neighbourhood «1-st of May, 35». *Will consider 1-2 slavs»*

Research Question and Approach

Does racial discrimination lead to racial (rent) differential?

$\rightarrow$ I collect unique data on overt discrimination from Russian rental housing website *cian.ru*

$\rightarrow$ I employ buildings-level fixed effects model

What is the relationship between overt and subtle discrimination?

$\rightarrow$ I run a correspondence experiment with non-Russian- and Russian-sounding names

What is the mechanism?

$\rightarrow$ I borrow the random search model from the labor literature, extend and apply it to the Moscow rental housing context

$\rightarrow$ I do heterogeneity analysis

Preview of Results

- **Discrimination generates racial rent differential**: apartment with discriminatory ad has 4% lower rent price than identical, but non-discriminating apartment in the same building

- **I find that both overt and subtle discrimination coexist in the market.** Their relative prevalence is constant, keeping the close proportion across neighbourhoods.

- I show how these results can be explained with standard random search model of discrimination. **I extend the model to explain results obtained from the heterogeneity analysis.**

Contribution

This paper contributes by bridging the gap in two major branches of evidence in economics of discrimination:

1. Regressions with racial dummies:
   - Document racial gaps in housing rents and prices
2. Audit studies:
   - Reveal discrimination in housing and labor markets

- **This paper first show how direct unambiguous discrimination leads to racial rent gap**
- I also link overt and subtle forms of discrimination and show that they complement each other

Race and Ethnicity in Russia

- Russia is multinational state: 19% of the population are not ethnic Russians, around 17% – 'non-Slavic' (2010, Census)
- Russia has a second (after the US) largest population of immigrants in the world: around 11 millions (8% of total population), according to UN data, 2019
- 'Non-slavic' ethnic groups residing in Moscow are *Tatars, Bashkir, Chuvashs, Chechens, Armenians, Avars, Mordvins, Kazakhs, Azerbaijanis, Uzbeks, Kyrgyz, Tadjiks* to name the few

Overt Discrimination in Moscow Rental Housing

- Overt discrimination is common in Moscow rental housing: **around 20% of online ads include racial preferences**
- Discrimination is illegal in Russia, but it is almost impossible to 'prove' in court
- Spatial distribution of overt discrimination change little over time
  Graph
- I also show that overt discrimination coexist with subtle discrimination in Moscow rental housing

Map of Discrimination by Buildings
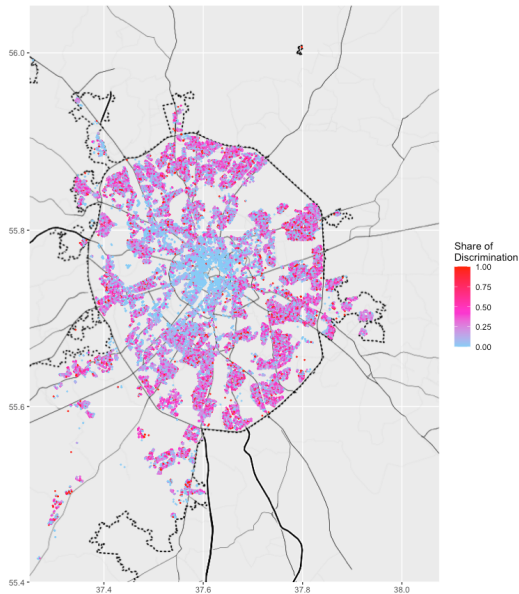
Rental Ads Data

- I daily scraped all available ads from *cian.ru* – the leading Russian real-estate website
- The observation period is about 6 month: from May 27 to November 11, 2018
- There are around 22,000 ads available daily Trend
- I labeled ads that include racial preferences

Other Data

- Demographic data on ethnicity, education, population density and age based on Census, 2010
- Data on housing selling prices from cian.ru
- Data on most popular names by Russian regions based on social network vk.com
- Electoral data from Central Election Commission of the Russian Federation

Empirical Strategy

$$log(RentPrice_{ib\tau}) = \beta_0 + \beta_1 Discrimination_{ib\tau} + X'_{ib\tau}\gamma + \sigma_b + \phi_\tau + \epsilon_i$$

- $RentPrice_{ib\tau}$: Rent price of apartment i in building b posted in day τ
- $Discrimination_{ib\tau}$: Dummy for discrimination in ad of apartment i in building b posted in day τ
- σ_b: **Building fixed effects**
- ϕ_τ: Day of posting fixed effects
- Controls:

  - Total surface area of apartment
  - Living area over total area
  - Dummies for floors

  - Number of days until the apartment is rented
  - Number of photos
  - Length of ad's text

Main result: Racial Rent Differential

	Dependent variable: Logarithm of rent price			
	(1)	(2)	(3)	(4)
Discrimination dummy	-0.0409***	-0.0638***	-0.0670***	-0.0743***
	(0.001)	(0.004)	(0.008)	(0.003)
Observations	139,965	139,965	139,965	139,965
Building FE	Yes			
Subdistrict FE		Yes		
District FE			Yes	
Day of posting FE	Yes	Yes	Yes	Yes
Controls (apartment char.)	Yes	Yes	Yes	Yes
Controls (building char.)		Yes	Yes	Yes

Note: Standard errors are clustered on the level of buildings, subdistricts and districts in specifications (1), (2) and (3) correspondingly. Standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Magnitudes

- I find 4% increase in rent price for non-discriminating apartments
- International context:
  - Racial rent differential in the US: around 1-2.5 % (Early et. al, 2019)

Heterogeneous Effects

$$log(RentPrice_{ib\tau}) = \alpha Discrim_{ib\tau} + \beta Discrim_{ib\tau} \times SurroundArea_{iu}$$
$$+ X'_{ib\tau}\gamma + \sigma_b + \phi_\tau + \epsilon_{ib\tau}$$

- $RentPrice_{ib\tau}$: Rent price of apartment i in building b posted in day τ
- $Discrim_{ib\tau}$: Dummy for discrimination in ad of apartment i in building b posted in day τ
- $SurroundArea_{iu}$: Characteristics of surrounding area
- σ_b: Building fixed effects
- ϕ_τ: Day of posting fixed effects

Interactions:

1. With surrounding discrimination Table
2. With other districts' characteristics Table

Interaction with Surrounding Discrimination

	Dependent variable: Logarithm of rent price			
	(1)	(2)	(3)	(4)
Discrimination dummy	-0.0409***	-0.0488***	-0.1009***	-0.1030***
	(0.001)	(0.002)	(0.006)	(0.007)
Discrimination dummy × *Share of discrimination in building*		0.0339***		
		(0.007)		
Discrimination dummy × *Share of discrimination in subdistrict*			0.2463***	
			(0.022)	
Discrimination dummy × *Share of discrimination in district*				0.2660***
				(0.029)
Average of interacting variable		.074	.052	.050
Maximum of interacting variable		1	.52	.33
Observations	146,684	146,684	146,684	146,684
Building FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Note: Standard errors are clustered on the level of buildings. Standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Back

Heterogeneous Effects: Results

Racial differential is **higher** in districts with:

- Lower share of discrimination in ads
- Higher share of non-Russian residents
- Higher selling prices in housing
- Higher share of residents with higher education
- Higher share of votes for presidential candidates in 'opposition' to Vladimir Putin

Table 1   Table 2   Map of effects   Map of education   Map of selling prices

Correspondence Experiment

I run correspondence experiment to explore relationship between overt and subtle forms of discrimination.

- I reply to a random subset of ads (around 500 observations), sending messages with randomly-assigned names
- Pair-matched design: 2 messages to each ad: with *non-slavic-* and *slavic-sounding* names
- I collect data from the Russian social network *vk.com* and construct the ranking of most popular non-Russian and Russian- sounding names
- I randomize order and texts of the messages

Results of Experiment

	Dependent variable: Reply rate (dummy)		
	All ads	Ads without discrimination	Ads with discrimination
	(1)	(2)	(3)
Non-Russian name	-0.5511***	-0.3596***	-0.7631***
	(0.091)	(0.130)	(0.130)
Order dummy	Y	Y	Y
Text dummy	Y	Y	Y
Price (log)	Y	Y	Y
Total area (log)	Y	Y	Y
Length of text (log)	Y	Y	Y
Ground floor	Y	Y	Y
Last floor	Y	Y	Y
Observations	874	444	430

Note: Each column gives the results of a probit regression where the dependent variable is the answer dummy. Robust standard errors in parenthesis.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Subsample: Ads without Overt Discrimination

	Dependent variable: Reply rate (dummy)		
	All districts	Less discriminating districts	More discriminating districts
	(1)	(2)	(3)
Non-Russian name	-0.3596***	-0.3079*	-0.4923**
	(0.130)	(0.168)	(0.209)
Order dummy	Y	Y	Y
Text dummy	Y	Y	Y
Price (log)	Y	Y	Y
Total area (log)	Y	Y	Y
Length of text (log)	Y	Y	Y
Ground floor	Y	Y	Y
Last floor	Y	Y	Y
Observations	444	272	172

Note: Each column gives the results of a probit regression where the dependent variable is the answer dummy. Robust standard errors in parenthesis.

*** p < 0.01, ** p < 0.05, * p < 0.1

Mechanism

- Becker's standard model would require full segregation for racial differential to emerge
- However, random search models can explain how discrimination generates persistent racial differential
- I apply Black (1995) model (originally, model of search in labor market) to the context of Moscow rental housing market
- *Intuition: non-discriminating landlords increase the rent price because they know that it is more difficult for minorities to find an apartment, therefore minorites ready to accept a less attractive offer*

Random Search Model of Discrimination

- Continuous number of tenants of two types: *slavic* and *non-slavic* with shares π and $1 - \pi$
- Two types of landlords: discriminating and non-discriminating landlords with shares θ and $1 - \theta$
- All tenants sequentially search for an apartment paying k for each period of search.
- Discriminating landlords do not accept minorities at any price
- The individual value of apartments randomly distributed with distribution function $F(\alpha)$ and density function $f(\alpha)$

Model's Results

- Racial rent differential exists in equilibrium: $p_{nd} > p_d$
- Rent differential increases with share of slavic tenants π
- Rent differential also decreases with share of discrimination θ, which contradicts my empirical findings

Model's Extension

- Consider sorting between two districts. Districts A and B are such that the share of discrimination $\theta_B > \theta_A$
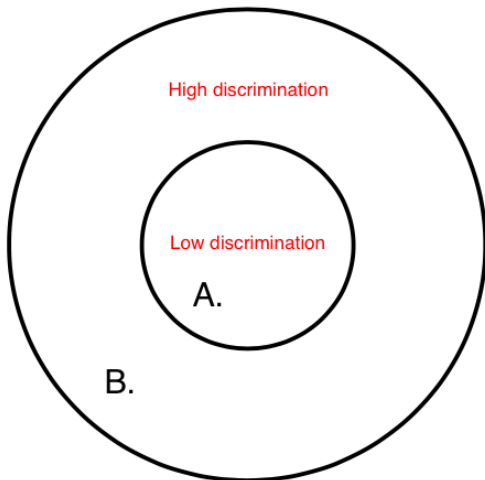
Equilibrium with Sorting
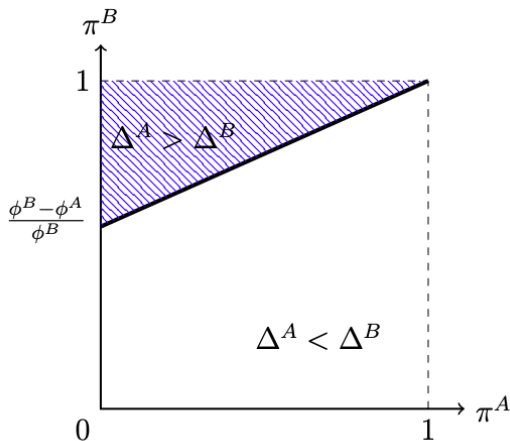
$\frac{\phi^B - \phi^A}{\phi^B}$ is defined by the shares of discrimination in the districts A and B.

Conclusion

- Racial discrimination can generate significant racial disparities in economic outcomes: I find that apartment with discriminatory ad has 4% lower rent price than identical, but non-discriminating apartment in the same building
- Overt and subtle forms of discrimination are closely related. I find that they coexist in Moscow rental housing market and that their relative prevalence is almost constant.
- I show that this findings can be explained with random search model including discriminating landlords and sorting of tenants.
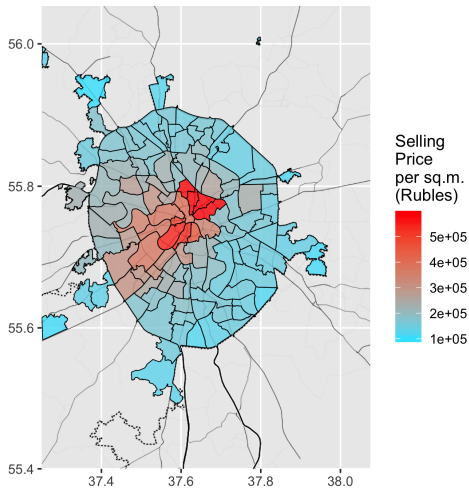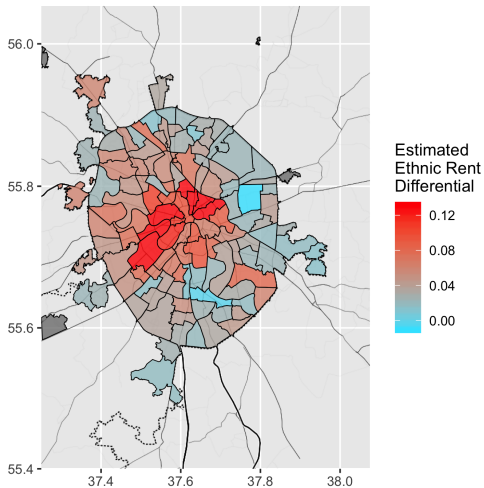
Share of Non-Russian Residents
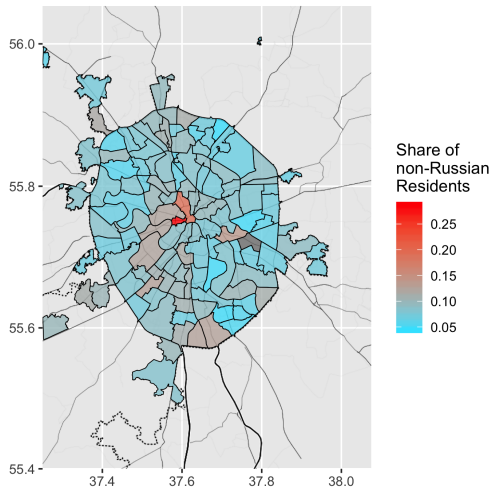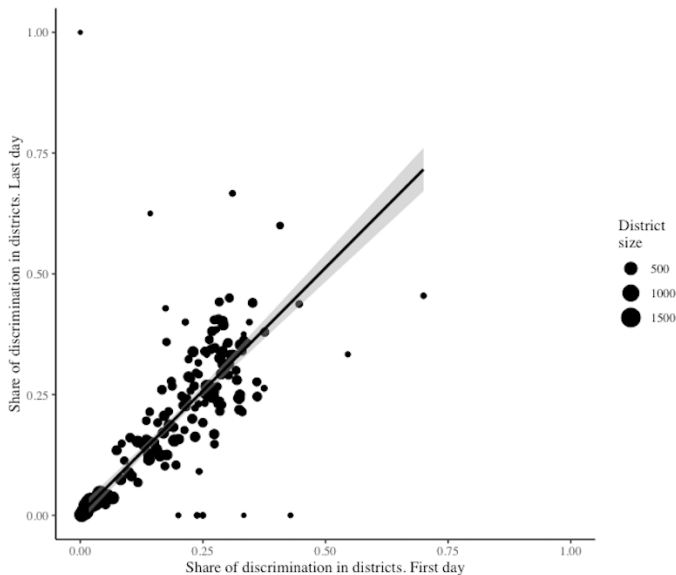
Higher Education
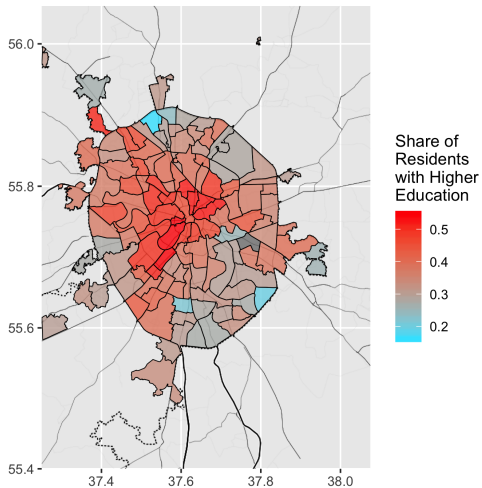
Selling Prices in Housing

Racial Rent Differential by Districts

Persistence of Discrimination Geography

From May 27 to November 11, 2018, turnover is 93% and $R^2 = 0.802$

Daily Number of Available Ads in Moscow

Interaction with Other District's Characteristics

	Dependent variable: Logarithm of rent price			
	(1)	(2)	(3)	(4)
Discrimination dummy	0.7024***	0.0214***	0.0112**	-0.0168***
	(0.061)	(0.007)	(0.005)	(0.006)
Discrimination dummy × *Housing selling price in district*	-0.0613*** (0.005)			
Discrimination dummy × *Higher education in district*		-0.1739*** (0.021)		
Discrimination dummy × *Votes for 'liberals'*			-0.5560*** (0.053)	
Discrimination dummy × *Share of 'non-Russians'*				-0.2927*** (0.069)
Observations	146,684	141,483	143,170	141,483
Building FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Note: Standard errors are clustered on the level of buildings. Standard errors in parenthesis.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Effect on 'Duration of Exposure'

	Dependent variable: # of days in exposure (log)			
	(1)	(2)	(3)	(4)
Discrimination dummy	0.1060***	0.1025***	0.0996***	0.1002***
	(0.011)	(0.014)	(0.016)	(0.012)
Observations	116,278	112,497	112,498	112,498
R-squared	0.396	0.211	0.208	0.207
Building FE	Yes			
Subdisctrict FE		Yes		
District FE			Yes	
Day of posting FE	Yes	Yes	Yes	Yes
Controls (apartment char.)	Yes	Yes	Yes	Yes
Controls (building char.)		Yes	Yes	Yes

Note: The sample consists of ads posted on the web-site during the observation period excluding ads that were available on the first and last days of the observations period. Standard errors are clustered on the level of buildings, subdistricts and districts in specifications (1), (2) and (3) correspondingly. Standard errors in parenthesis.
*** p < 0.01, ** p < 0.05, * p < 0.1

Beckers' Theory Do Not Explain These Findings

- Both landlords and tenants are price-takers.
- Two markets, discriminating and equally accessible, exists with two rents respectively: p_d and p_{nd}.
- Assume that predictions of the model goes along with an empirical findings and $p_d^* < p_{nd}^*$.
- $\Rightarrow$ full market segregation. Otherwise, majorities from discriminating market will move to another market until rents equalize.
- However, the full segregation is implausible since it means that majority constitutes only 20% of the rental housing market.