

PRICE AND PREJUDICE: HOUSING RENTS REVEAL RACIAL ANIMUS

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MOTIVATION

A large literature in economics tries to estimate and model statistical and taste based **discrimination**.

- It occurs potentially in many domains (labour market, justice, education...): disparities reinforce each other working as a **system**.
- It is a weakly held preference: in the lab prejudiced agents are not willing to pay for it (Hedegaard and Tyran 2018).
- Market outcomes might not reflect it (Becker 1957, Heckman 1998).

⇒ **Very difficult to measure.**

OUR PAPER

What we do:

- Estimate the preferences of resident population towards *asylum centers* opening using hedonic pricing strategy.
- Measure *xenophobia* exploiting quasi-random allocation of asylum seekers in Swiss cantonal centers with a market equilibrium outcome.

OUR PAPER

What we do:

- Estimate the preferences of resident population towards *asylum centers* opening using hedonic pricing strategy.
- Measure *xenophobia* exploiting quasi-random allocation of asylum seekers in Swiss cantonal centers with a market equilibrium outcome.
- **Empirical Challenge (1):** Disentangling impact of asylum centers on housing rents from other confounding factors (housing characteristics or local (dis)amenities).
⇒ *Rich dataset with housing characteristics and DID strategy comparing houses at local level.*
- **Empirical Challenge (2):** Distinguish statistical and taste based discrimination.
⇒ *Control for crime propensity based on country of origin.*

MAIN FINDINGS

- The opening of a center causes a drop in housing rents of 3.8% in the nearby area.
- Heterogeneous effect of the opening according to local population characteristics: **education level** and bilateral **genetic distance**.
- The drop in rents is higher for centers with higher presence of Sub Saharan African asylum seekers even when controlling for crime propensity.
⇒ Evidence of **taste based** discrimination.
- Muslim presence in asylum centers does not have an impact on housing rents
⇒ **xenophobia** seems to be phenotypic and not religiously based.

RELATED LITERATURE

- **Refugee influx & political preferences:** Barone et al 2016 JPubE; Dustmann et al 2019 REStud; Zimmermann et Stutzer 2021 EurJPolEcon; ...
 - > Refugee presence has an impact on political preferences (↑ votes for right wing parties)
- **Refugee centers & housing:** Dröes and Koster 2023 J. Econ. Geogr.; Daams et al 2019 JHousEcon; Myohl and Stadelmann 2021;...
 - > Refugee centers opening decreases housing prices-makes local population leave.
- **Discrimination:** Goldsmith et al 2006 AER; Edelman et al 2017 AEJ; Laouéan and Rathelot 2022 AEJ; ...
 - > Discrimination of ethnic minorities from various perspectives (labor environment, judicial system, online platforms).

Introduction

Data

Empirical strategy

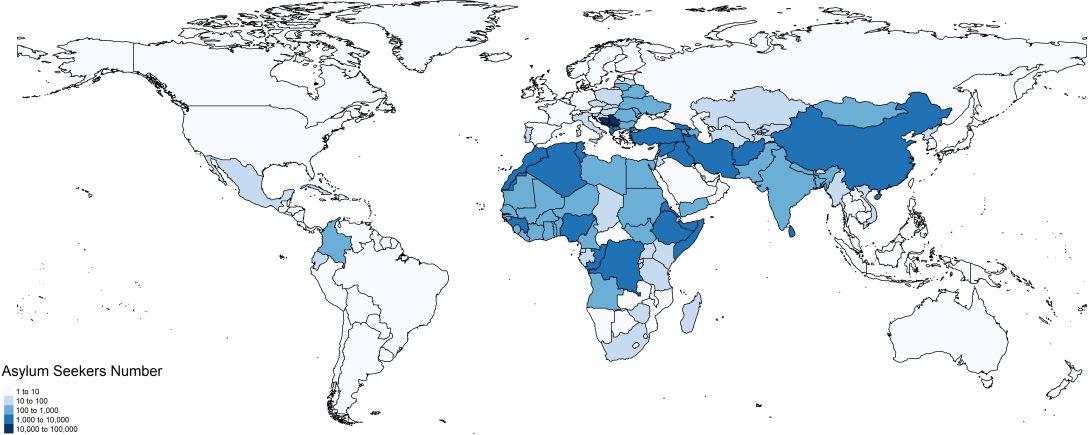
Results

Conclusion

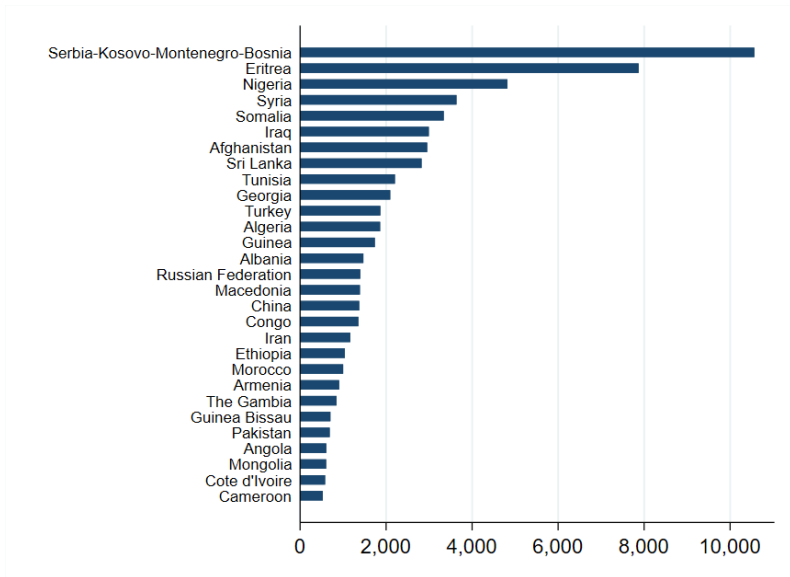
Data

- **Housing Rents and Characteristics:** Repeated cross section of internet adverts 2004-2014 (provided by meta-sys.ch).
- **Asylum Centers:** date of opening, closing and capacity (provided by Cantons).
- **Asylum Seekers Data:** Information about nationality, sex, religion, address of assignment (Federal Statistical Office).
- **Crime Data:** Data about all crimes reported by the police with information about victim, offender and type of crime (2010-2014).

NATIONALITY OF ORIGIN



NATIONALITY OF ORIGIN



Empirical strategy

ESTIMATING EQUATIONS

Model1: ▶ Est Sample

$$\begin{aligned} \text{Ln(Rent)}_{hcmt} = & \alpha + \beta_1 \text{Active}_{hct} \times \text{Prox}_{hc} + \mathbf{H}'_h \boldsymbol{\Gamma} + \delta_c \text{Prox}_{hc} + \lambda_c + \theta_c \text{Active}_{hct} \\ & + \gamma_m + \tau_{y[t]} + \varepsilon_{hcmt} \end{aligned}$$

Model 2:

$$\begin{aligned} \text{Ln(Rent)}_{hcmt} = & \beta_1 \text{Active}_{hct} \times \text{Prox}_{hc} + .. \\ & \beta_3 \text{Active}_{hct} \times \text{Prox}_{hc} \times \text{African}_{ct} + .. \\ & \delta_2 \text{Active}_{hct} \times \text{Prox}_{hc} \times \text{Crime}_{ct} + .. \\ & \varepsilon_{hcmt} \end{aligned}$$

Results

CHOICE OF RADIUS

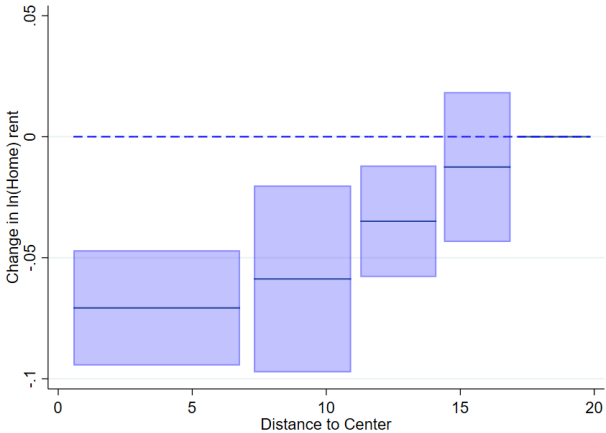


FIGURE: Radius Choice Butts (2023)

► Est Sample

MAIN RESULTS

TABLE: Main Regression Results

<i>Dep. Variable</i>	(1) ln(Rent)	(2) ln(Rent)	(3) ln(Rent)	(4) ln(Rent)
<i>Effect</i>	Base	Crime	African	African & Crime
ActiveXProx	-0.0383*** (0.0124)	-0.0314** (0.0129)	-0.0266** (0.0107)	-0.0239** (0.0108)
ActivXCrime		0.0067 (0.0045)		0.0065 (0.0051)
ActiveXProxXCrime		-0.0107* (0.0057)		-0.0058 (0.0059)
ActiveXAfrican			0.0008 (0.0084)	-0.0006 (0.0083)
ActiveXProxXAfrican			-0.0221*** (0.0049)	-0.0203*** (0.0059)
Observations	154,708	154,708	154,708	154,708
R^2	0.453	0.453	0.453	0.453

▶ Robust Stacked

▶ Robust Dummy

▶ Robust Radius1

▶ Robust Radius2

EVENT STUDY

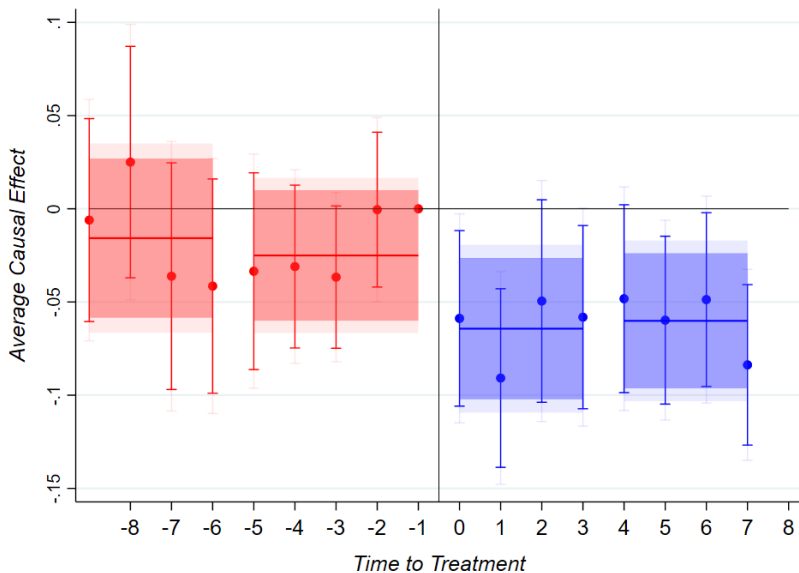


TABLE: Muslim or African

<i>Dep. Variable</i>	(1) ln(Rent)	(2) ln(Rent)	(3) ln(Rent)	(4) ln(Rent)	(5) ln(Rent)	(6) ln(Rent)	(7) ln(Rent)
<i>Effect</i>	Base	Crime	Muslim	African	African-Muslim	African-Crime	African-Crime-Muslim
ActiveXProx	-0.0383*** (0.0124)	-0.0314** (0.0129)	-0.0379*** (0.0118)	-0.0266** (0.0107)	-0.0247** (0.0106)	-0.0239** (0.0108)	-0.0217** (0.0106)
ActiveXCrime		0.0067 (0.0045)				0.0065 (0.0051)	0.0066 (0.0052)
ActiveXProxXCrime		-0.0107* (0.0057)				-0.0058 (0.0059)	-0.0063 (0.0058)
ActiveXMuslim			-0.0023 (0.0054)		-0.0024 (0.0049)		-0.0027 (0.0048)
ActiveXProxXMuslim			-0.0011 (0.0087)		-0.0040 (0.0084)		-0.0039 (0.0081)
ActiveXAfrican				0.0008 (0.0084)	0.0003 (0.0081)	-0.0006 (0.0083)	-0.0012 (0.0080)
ActiveXProxXAfrican				-0.0221*** (0.0049)	-0.0228*** (0.0053)	-0.0203*** (0.0059)	-0.0208*** (0.0063)
Observations	154708	154708	154682	154708	154682	154708	154682
R^2	0.453	0.453	0.453	0.453	0.453	0.453	0.453

LOCAL POPULATION CHARACTERISTICS

TABLE: Heterogeneity Education and Foreign Population Share

<i>Dep. Variable</i>	(1) ln(Rent)	(2) ln(Rent)	(3) ln(Rent)	(4) ln(Rent)
<i>Sample</i>	Educ H	Educ L	Gendist H	Gendist L
ActiveXProx	-0.0300** (0.0128)	-0.0519*** (0.0193)	-0.0442** (0.0179)	-0.0332 (0.0201)
Observations	79581	74866	79765	73813
R^2	0.330	0.429	0.426	0.479
T-test (p)	.345	.345	0.709	0.709

CONCLUSION

Findings:

- Analogously to other studies we find a negative effect of asylum centers opening on housing prices: asylum center opening implies a drop in housing rents by **3.8%**.
- The negative effect on housing rents seems to be **persistent** over time.
- There seems to be **taste based** discrimination against phenotypic diverse individuals. Weaker effect of **statistical discrimination**.
- **Education** of local population and **similarity** to asylum seekers hosted in centers mitigate opening impact.

Thank you!

STATISTICAL VS TASTE BASED DISCRIMINATION

Discrimination: Treating someone differently based on characteristics such as gender, race, or religion.¹

- **Taste Based Discrimination:**² reflects individual prejudice or **preferences**.
 - > Employer not hiring black workers because of the preference of working with white colleagues.
- **Statistical Discrimination:**³ based on **statistical inference**.
 - > Doctors prescribe breast cancer screening only to women.

¹Lang Spitzer 2020 JEP.

²Becker 1971.

³Phelps 1972 AER and Arrow 1972.

ESTIMATING SAMPLE

▶ backModel

▶ backRadius

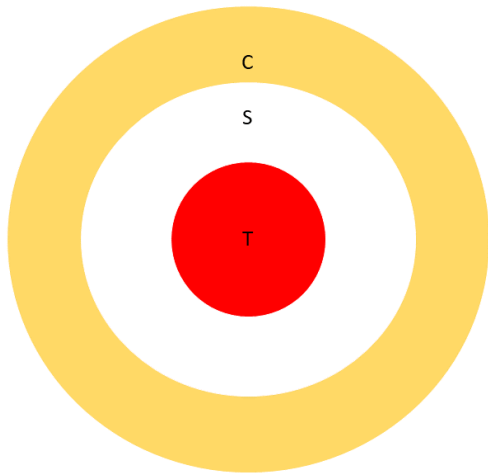


TABLE: Changing Percentile Threshold

Dep. Variable	(1)	(2)	(3)	(4)	(5)	(6)
	ln(Rent)	ln(Rent)	ln(Rent)	ln(Rent)	ln(Rent)	ln(Rent)
Effect	Perc50	Perc60	Perc75	Perc50	Perc60	Perc75
ActiveXProx	-0.0266** (0.0107)	-0.0302*** (0.0105)	-0.0313*** (0.0119)	-0.0239** (0.0108)	-0.0283*** (0.0107)	-0.0309*** (0.0113)
ActiveXAfrican50	0.0008 (0.0084)			-0.0006 (0.0083)		
ActiveXProxXAfrican50	-0.0221*** (0.0049)			-0.0203*** (0.0059)		
ActiveXAfrican60		0.0079 (0.0070)			0.0065 (0.0070)	
ActiveXProxXAfrican60		-0.0188*** (0.0054)			-0.0178** (0.0072)	
ActiveXAfrican75			0.0212 (0.0135)			0.0231 (0.0146)
ActiveXProxXAfrican75			-0.0214** (0.0103)			-0.0204* (0.0119)
ActiveXCrime50				0.0065 (0.0051)		
ActiveXProxXCrime50				-0.0058 (0.0059)		
ActiveXCrime60					0.0073 (0.0063)	
ActiveXProxXCrime60					-0.0039 (0.0067)	
ActiveXCrime75						-0.0096 (0.0063)
ActiveXProxXCrime75						-0.0015 (0.0075)
Observations	154708	154708	154708	154708	154708	154708
R ²	0.453	0.453	0.453	0.453	0.453	0.453

TABLE: Changing Radius

<i>Dep. Variable</i>	(1) ln(Rent)	(2) ln(Rent)	(3) ln(Rent)	(4) ln(Rent)
<i>Effect</i>	Base	Crime	African	African-Crime
ActiveXProx	-0.0299** (0.0115)	-0.0241* (0.0128)	-0.0211* (0.0113)	-0.0186 (0.0117)
ActiveXCrime		0.0052 (0.0053)		0.0054 (0.0060)
ActiveXProxXCrime		-0.0084 (0.0061)		-0.0051 (0.0064)
ActiveXAfrican			-0.0028 (0.0110)	-0.0040 (0.0111)
ActiveXProxXAfrican			-0.0161*** (0.0058)	-0.0144** (0.0064)
Observations	106833	106833	106833	106833
R^2	0.446	0.446	0.446	0.446

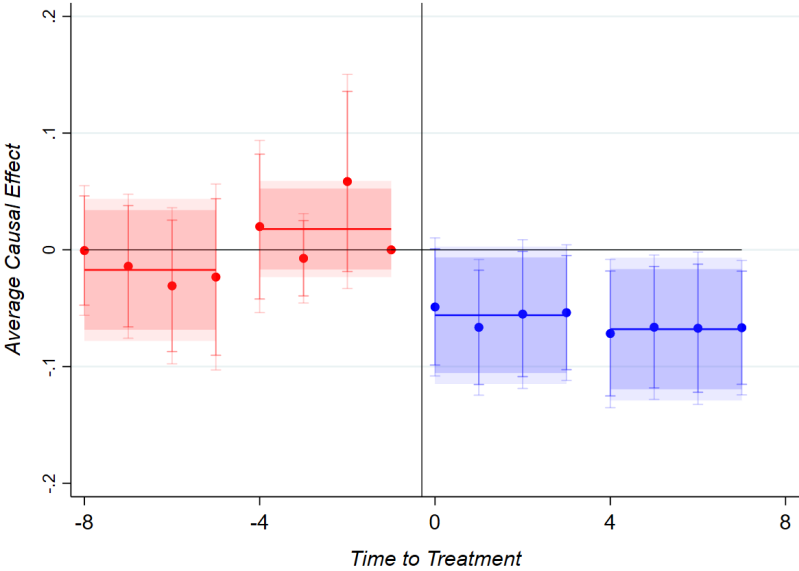
TABLE: Changing Radius Center Opening

<i>Dep. Variable</i>	(1) ln(Rent)	(2) ln(Rent)	(3) ln(Rent)	(4) ln(Rent)
<i>Sample</i>	Baseline	709-1425	500-1000	500-1500
ActiveXProx	-0.0383*** (0.0124)	-0.0299** (0.0115)	-0.0508*** (0.0174)	-0.0428** (0.0183)
Observations	154708	106833	152730	78277
R^2	0.453	0.446	0.456	0.449

TABLE: Stacked DiD

<i>Dep. Variable</i>	(1) ln(Rent)	(2) ln(Rent)	(3) ln(Rent)	(4) ln(Rent)
<i>Effect</i>	Base	Crime	African	African-Crime
ActiveXProx	-0.0409*** (0.0116)	-0.0335*** (0.0121)	-0.0282*** (0.0101)	-0.0254** (0.0102)
ActiveXCrime		0.0060 (0.0046)		0.0057 (0.0052)
ActiveXProxXCrime		-0.0115** (0.0058)		-0.0061 (0.0059)
ActiveXAfrican			0.0006 (0.0087)	-0.0006 (0.0087)
ActiveXProxXAfrican			-0.0247*** (0.0050)	-0.0227*** (0.0059)
Observations	154707	154707	154707	154707
R^2	0.453	0.453	0.453	0.453

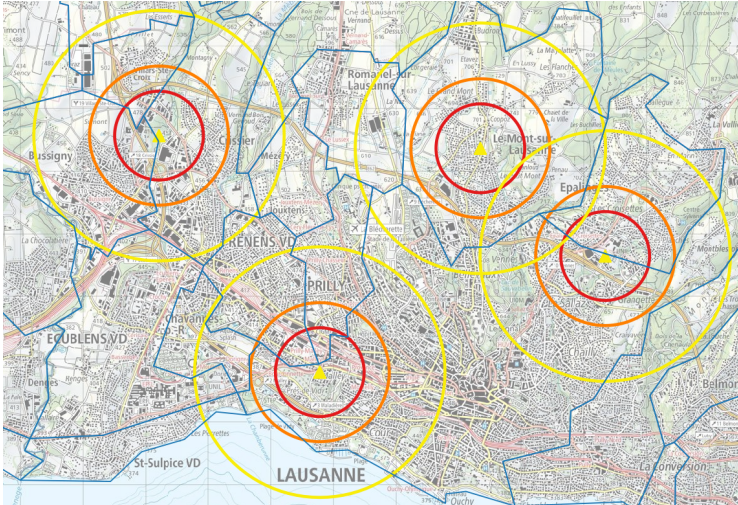
EVENT STUDY TWFEs



▶ Event Study

MAP OF ASYLUM CENTERS LAUSANNE

[▶ backData](#)



SUMMARY STATISTICS

Variable	Mean	Std. Dev.	Min.	Max.	N
<i>Panel A: Characteristics of rental postings</i>					
Yearly Rent per sqm (CHF)	279.7	94.0	15.7	2620	154,708
Surface (sqm)	80.2	37.0	11.0	1125	154,708
Standard (single-floor apartment)	0.820	0.384	0	1	154,708
Duplex	0.063	0.242	0	1	154,708
Attic	0.031	0.172	0	1	154,708
Studio	0.014	0.118	0	1	154,708
Furnished apartment	0.037	0.190	0	1	154,708
Terrace-apartment	0.002	0.046	0	1	154,708
Independent house (villa)	0.023	0.15	0	1	154,708
Row house	0.006	0.076	0	1	154,708
Semi-detached house	0.003	0.052	0	1	154,708
Farm	0.001	0.033	0	1	154,708
Other type of housing unit	0	0.022	0	1	154,708
Less than 2 rooms	0.131	0.338	0	1	154,708
2-2.5 rooms	0.211	0.408	0	1	154,708
3-3.5 rooms	0.323	0.468	0	1	154,708
4-4.5 rooms	0.245	0.430	0	1	154,708
5 rooms or more	0.090	0.286	0	1	154,708
<i>Panel B: Center-specific variables (by rental posting)</i>					
Dummy for location within 709 m of center (<i>Prox</i>)	0.246	0.431	0	1	154,708
Dummy for closest center being open (<i>Active</i>)	0.704	0.456	0	1	154,708
Share of sub-Saharan Africans in closest center (<i>African</i>)	0.277	0.168	0	1	154,708
Estimated crime propensity of population in closest center (<i>Crime</i>)	0.003	0.002	0	0.021	154,708
Average genetic distance of center population w.r.t. native Swiss population (<i>Gendist</i>)	0.019	0.007	0	0.051	154,708
Average local genetic distance between local and center populations (<i>Local Gendist</i>)	0.013	0.004	0.003	0.027	153,578
Share of Muslim asylum seekers in closest center (<i>Muslim</i>)	0.557	0.156	0	1	154,682
Average education level of local population (<i>Education</i>)	0.163	0.047	0.071	0.289	154,708
<i>Panel C: Center characteristics</i>					
Hosting capacity	95	88	30	694	91
Duration of opening (years)	14	8	4	50	91