Discrimination at the Extensive and Intensive Margin

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Introduction

Discrimination is extremely costly to society:

- WWII, Rawandan Genocide, Rohingya Muslims in Myanmar.
- Lower wages, worker dis-satisfaction, feeling of being unfairly treated.

Long-standing interest in understanding the prevalence and causes of discrimination (Becker, 1957):

- out-group/minority - gender, caste, religion, ethnicity.
- taste based - pure distaste or dis-preference for the out-group.
- statistical - signal extraction problem.

Literature

Excellent reviews on both the prevalence and sources of discrimination:

- Correspondence studies - Bertrand and Duflo, 2016.
- Lab experiments - Lane, 2016.

Mostly focuses on discrimination at the extensive margin/looking for a job.

Extensive vs. intensive margin differences in secondary data can be attributed to selection.

Prevalence and sources of discrimination using a unique lab-in-the-field experiment:

- Extensive and Intensive margin.
- Taste vs. statistical discrimination.
- Comparing extensive vs. intensive.

We do so using a sample of high school students.

Play a modified coordination game where the payoff matrix is fixed.

These findings are key for formulating anti-discriminatory policies.

Context

Our goal is to study discrimination towards Roma, the largest minority in Europe.

In EU member states 85% of Italians and 66% of French hold an unfavorable view of Roma.

60% of Slovak pupils reported an objection when asked to share the same desk with a Roma (Slovikova, 2012).

EU has spent 7 billion dollars towards anti-discriminatory interventions and policies.

Experimental Protocol

Each session in a school is randomly assigned to receive the extensive design or intensive design.

Each session is further randomized into treatments 1-4 under the extensive design or treatments 1-3 under the intensive design.

The experiment was conducted in Eastern Slovakia, during June and September 2017.

Our sample includes 721 adolescents (aged 15-18) from the majority population, Slovaks.

Each session lasted around 45 minutes.

Each subject received a fixed show up fee of 2 Euros in addition to payments from the experiment.

Average payouts were approximately 6 Euros.

As most of the subjects were not adults, subjects received their rewards in the form of a generic gift card (https://www.up-slovensko.sk/gift-coupon/)

Extensive Margin Design Protocol

The goal of this experiment is to elicit subjects underlying preferences (taste or statistical) for working with employees of certain characteristics (ethnicity and or type).

Employees (Roma, Slovak, and Hungarians) decide on effort level

▸ Table EE

58 Employees fill background questionnaire ▸ Table 1

Employers (Slovaks) first choose between list A and list B

▸ Table 2

Employers (Slovaks) next decide on whether to make a high wage offer or a low wage offer. ▸ Table 4

Panel A: Treatment 1 – Total discrimination

List A	List B
Roma	Slovak
Hungarian	Hungarian
Hungarian	Hungarian
Roma	Slovak

Panel B: Treatment 2 – Taste-based discrimination – No Cost to the Discriminator

List A	List B
Roma – high type	Slovak – high type
Hungarian – high type	Hungarian – high type
Roma – high type	Roma – high type
Slovak – high type	Slovak – high type

Panel C: Treatment 3 – Taste-based discrimination – Costly to the Discriminator

List A	List B
Roma – high type	Slovak – low type
Hungarian – high type	Hungarian – high type
Hungarian – high type	Hungarian – high type
Roma – high type	Slovak – low type

The goal of this experiment is to elicit on-the-job discriminatory behavior.

Employers first choose between list A and list B   ▸ Table 3

Employers are matched with an employee.

Employers next decide on whether to make a high wage offer or a low wage offer.   ▸ Table 4

Extensive and Intensive Margin: Hypothesis

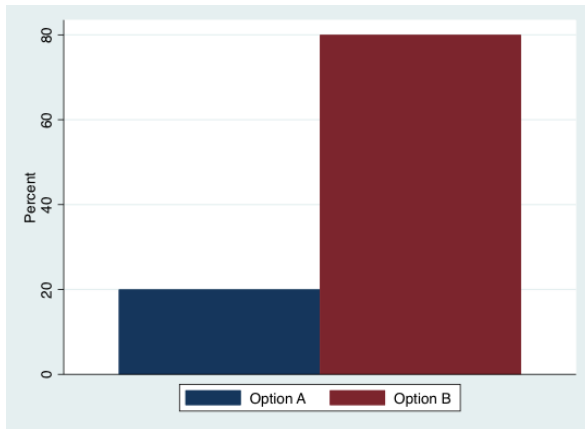| Treatments	Extensive Margin (1)	Intensive Margin (2)
Any discrimination	H_{10E}: R-H-H-R = S-H-H-S H_{1AE}: R-H-H-R < S-H-H-S	H_{10I}: WR = WS H_{1AI}: WR < WS
Taste-based discrimination with no cost to the discriminator	H_{20E}: R_H-H_H-R_H-S_H = S_H-H_H-R_H-S_H H_{2AE}: R_H-H_H-R_H-S_H < S_H-H_H-R_H-S_H	H_{20I}: WR_H = WS_H H_{2AI}: WR_H < WS_H
Taste-based discrimination with cost to the discriminator	H_{30E}: R_H-H_H-H_H-R_H = S_L-H_H-H_H-S_L H_{3AE}: R_H-H_H-H_H-R_H < S_L-H_H-H_H-S_L	H_{30I}: WR_H = WS_L H_{3AI}: WR_H < WS_L
Statistical discrimination with no cost to the discriminator	H_{50E}: (R-H-H-R - S-H-H-S) − (R_H-H_H-R_H-S_H - S_H-H_H-R_H-S_H) = 0 H_{5AE}: (R-H-H-R - S-H-H-S) − (R_H-H_H-R_H-S_H - S_H-H_H-R_H-S_H) ≠ 0	H_{50I}: (WR − WS) - (WR_H - WS_H) = 0 H_{5AI}: (WR − WS) - (WR_H - WS_H) ≠ 0

Extensive Margin: Any discrimination
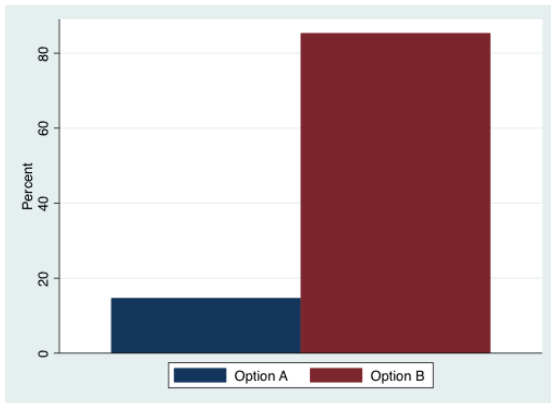
Option A: R-H-H-R
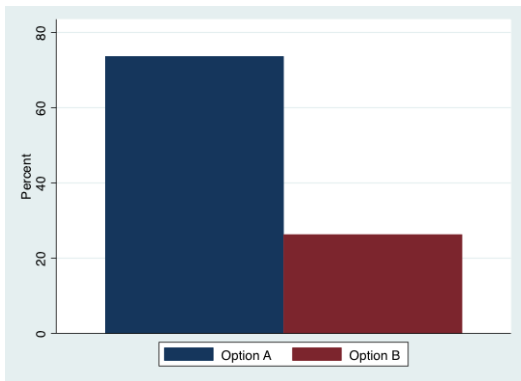
Option B: S-H-H-S

Extensive Margin: Taste-based discrimination without cost

Option A: R-H-R-S (all high type)

Option B: S-H-R-S (all high type)

Extensive Margin: Taste-based discrimination made costly

Option A: R-H-H-R (all high type)

Option B: S-H-H-S (only S low type)

Extensive and Intensive Margin: Results

Treatments	Extensive Margin Difference [p-value] (1)	Intensive Margin Difference [p-value] (2)
Any discrimination	-0.70 [<0.01]	-0.17 [0.03]
Taste-based discrimination with no cost to the discriminator	-0.60 [<0.01]	-0.14 [0.052]
Taste-based discrimination with cost to the discriminator	0.47 [>0.10]	0.54 [>0.10]
Statistical discrimination with no cost to the discriminator	-0.10 [>0.10]	-0.03 [>0.10]

Discussion

Discrimination is prevalent at both the intensive and extensive margin, though much larger at the extensive margin (70%) than intensive margin (17%).

When there is no cost to the discriminator, taste based discrimination is large and significantly different from zero (extensive: 60%, intensive: 14%).

As we make taste-based discrimination costly, it completely disappears.

Statistical discrimination exists, but is small in magnitude and not statistically significant.

Anti-discriminatory policies that make discrimination costly can have an important role in eliminiating prejudice in society.

	Question	Response
1	What is your height?	☐ 0-100 cm ☐ 101-200 cm
2	Is summer one of your favorite seasons?	☐ Yes ☐ No
3	What is your ethnicity?	☐ Roma ☐ Slovak ☐ Hungarian
4	What language do your parents speak at home?	☐ Roma ☐ Slovak ☐ Hungarian
5	Have you ever been to Iceland?	☐ Yes ☐ No

1 MIDVINTERNATTENS KOLD AR HARD,

⟶

2 STJARNORNA GNISTRA OCH GLIMMA.

⟶

3 ALLA SOVA I ENSLIG GARD DJUPT

⟶

4 UNDER MIDNATTSTIMMA.

⟶

5 MANEN VANDRAR SIN TYSTA BAN,

⟶

6 SNON LYSER VIT PA FUR OCH GRAN,

Panel A: Treatment 1

List A	List B
Roma	Roma
Hungarian	Hungarian
Slovak	Slovak

Panel B: Treatment 2

List A	List B
Roma – Low type	Roma – Low type
Hungarian – Low type	Hungarian – Low type
Slovak – Low type	Slovak – Low type

Panel C: Treatment 3

List A	List B
Roma – High type	Roma – High type
Hungarian – High type	Hungarian – High type
Slovak – High type	Slovak – High type

Coordination Game

		Other Participant (Employee)	
		High Effort (completed the task)	Low Effort (did not complete the task)
YOU	Action A/High wage?	6 , 6	0, 4
	Action B/Low wage?	4 , 0	4 , 4

Panel D: Treatment 4 – Productivity differences

List A	List B
Slovak – high type	Slovak – low type
Hungarian – high type	Hungarian – low type
Roma – high type	Roma – low type
Slovak – high type	Slovak – low type