

## Are Emily and Greg More Employable than Lakisha and Jamal?

Bertrand and Mullainathan

1

## Persistence racial difference in socioeconomic outcomes

- Large difference in outcomes between similarly defined blacks and whites
- Blacks on average have lower
  - Wages
  - Earnings
  - Employment rates
  - Wealth
  - Education, etc.

2

## Median Annual Earnings, 2007 Full time/full year workers

	Males	Females
Whites	\$48,000	\$33,000
Blacks	\$35,000	\$30,000
Ratio: Black/white	0.729	0.909

3

## Median Hourly Wage, 2007 Full time/full year workers

	Males	Females
Whites	\$20.46	\$15.71
Blacks	\$15.73	\$13.94
Ratio: Black/white	0.769	0.887

4

## Unemployment Rate, December 2007

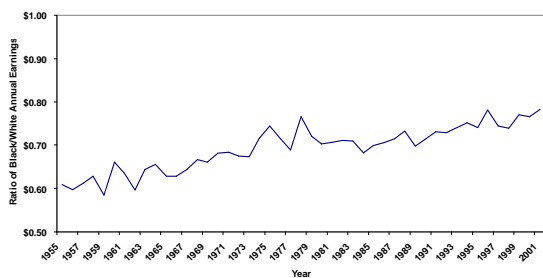
	Males	Females
Whites	3.9%	4.0%
Blacks	8.4%	7.0%
Ratio: Black/white	2.15	1.75

5

- Gap in median earnings by race over time
- Males and females, full time, full year workers
- March Current Population Surveys – which ask people about their earnings in the previous year

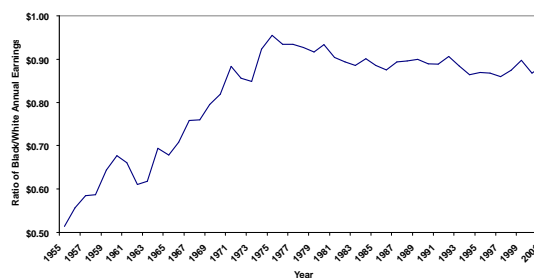
6

Black/White Earnings Gap, Males



7

Black/White Earnings Gap, Females



8

## Why the difference?

- Differences in skill level. Whites on average tend to have
  - More education
  - Higher job tenure
- Differences in types of jobs. Whites and blacks may be segregated in jobs that differ by
  - Occupation
  - Industry
  - Low vs. high wage sector
  - Low vs. high wage areas
  - Union status

9

- Pre-market conditions. Blacks on average
  - Come from poorer quality schools
  - Have parents with fewer years of education
  - Have home lives (e.g., live with single mother, etc) that predict lower educational outcomes and lower human capital accumulation
- How much do these factors matter?

10

## How much of the gap is explained by observed characteristics? (2005-07)

- Male, black and white, non hispanic, full time, full year workers
- Male Black/white wage gap: -28.4%
- Control for educ. and age: -16.1%
- Control for industry: -14.4%
- Control for occupation - 8.3%

11

## What could cause the remaining gap?

- Unmeasured characteristics such as school quality?
- Many interpret the 'residual' wage gap as "discrimination"
- What is the shortcoming of the residual analysis?

12

## Neal and Johnson, JPE, 1996

TABLE 1  
LOG WAGE REGRESSIONS BY SEX

	MEN (N = 1,593)			WOMEN (N = 1,446)		
	(1)	(2)	(3)	(4)	(5)	(6)
Black	-.244 (.026)	-.196 (.025)	-.072 (.027)	-.185 (.029)	-.155 (.027)	.035 (.031)
Hispanic	-.113 (.030)	-.045 (.029)	.005 (.030)	-.028 (.033)	.057 (.031)	.145 (.032)
Age	.048 (.014)	.046 (.013)	.040 (.013)	.010 (.015)	.009 (.014)	.023 (.015)
AFQT	...	...	.172 (.012)	...	...	.228 (.015)
AFQT <sup>2</sup>	...	...	-.013 (.011)	...	...	.013 (.013)
High grade by 1991	...	.061 (.005)	...	...	.088 (.005)	...
R <sup>2</sup>	.059	.155	.168	.029	.191	.165

Table 3  
Regressions for Log Wages for SEDF and NWECD Workers

	NWECD Workers				
	(6)	(7)	(8)	(9)	(10)
Female	-.375 (.001)	-.362 (.001)	-.364 (.001)	-.230 (.001)	-.234 (.001)
Age	.060 (.0003)	.074 (.0005)	.046 (.0003)	.058 (.0004)	.058 (.0004)
Age <sup>2</sup> /100	-.059 (.0004)	-.071 (.001)	-.043 (.0004)	-.055 (.001)	-.053 (.001)
Black	-.091 (.002)	-.094 (.002)	-.051 (.002)	-.053 (.002)	-.053 (.002)
Currently married	.076 (.001)	.066 (.001)	.049 (.001)	.042 (.001)	.042 (.001)
High school degree	.163 (.002)	.162 (.002)	.107 (.002)	.108 (.002)	.108 (.002)
Some college	.264 (.002)	.260 (.002)	.157 (.002)	.156 (.002)	.156 (.002)
Associate's degree	.410 (.002)	.405 (.002)	.209 (.002)	.206 (.002)	.206 (.002)
Bachelor's degree	.555 (.002)	.548 (.002)	.342 (.002)	.338 (.002)	.338 (.002)
Advanced degree	.681 (.002)	.674 (.002)	.498 (.002)	.495 (.002)	.495 (.002)
Metropolitan statistical area	.162 (.001)	.160 (.001)	.125 (.001)	.124 (.001)	.124 (.001)
Female × age	...	-.027 (.001)	...	-.024 (.001)	-.024 (.001)
Female × (age <sup>2</sup> /100)	...	.023 (.001)	...	.022 (.001)	.022 (.001)
Industry and occupation controls	No	No	No	Yes	Yes
R <sup>2</sup>	.121	.400	.407	.533	.537

14

## Bayard, et al. Journal of Labor Economics, 2003

Table 6  
Estimated Log Wage Differentials by Sex, with Fixed Occupation, Industry, Establishment, and Job Cell Effects

	(1)	(2)	(3)
A. No controls:			
Number of occupations	13	72	.491
Estimated coefficient of female dummy variable	-.235 (.002)	-.196 (.003)	-.180 (.003)
Relative contribution to wage gap Estimate relative to specification using percent female variables	.628	.524	.481
B. Basic controls:			
Estimated coefficient of female dummy variable	-.205 (.001)	-.176 (.002)	-.162 (.002)
Relative contribution to wage gap Estimate relative to specification using percent female variables	.548	.469	.433
	1.06	1.07	1.07

15

## Types of discrimination

- Taste based
- Statistical discrimination

16

## Audit Studies

- Place comparable minority and white subjects in actual settings and observe outcome
- Example: bank lending
  - you send a black and white couple into a bank –
  - Give them identical characteristics
  - Have them apply for a mortgage
  - Observe whether they receive the loan

17

- Benefits
- Shortcoming

18

## A real world experiment: orchestras

- Auditions are use to assign seats
- Used to be that judges knew identify of musicians
- Now – auditions are blind – performed behind a a screen
- Women and Asians had a higher success rate after movement to blind auditions – indicating these groups were discriminated against

19

## This study

- Respond to help-wanted adds in Boston and Chicago papers with fictitious resumes
- Measure the number of callbacks each resume received
- Resumes are similar except names are randomly assigned
- Authors exploit the fact that some names are exclusively used by African Americans
- The name is a signal of race

20

## What makes the study go

- Tremendous overlap in names given to children of different races
- Most popular boy name for B and W families in 1990?
- But some names are almost exclusively used by one race

21

## Girl names

- |               |               |
|---------------|---------------|
| • “Whitest”   | • “Blackest”  |
| • 1. Molly    | • 1. Imani    |
| • 2. Amy      | • 2. Ebony    |
| • 3. Claire   | • 3. Shanice  |
| • 4. Emily    | • 4. Ailiya   |
| • 5. Katie    | • 5. Precious |
| • 6. Madeline | • Nia         |
| • 7. Katelyn  | • Deja        |

22

## Boy names

- |             |              |
|-------------|--------------|
| • “Whitest” | • “Blackest” |
| • 1. Jake   | • 1. DeShawn |
| • 2. Connor | • 2. DeAndre |
| • 3. Tanner | • 3. Marquis |
| • 4. Wyatt  | • 4. Darnell |
| • 5. Cody   | • 5. Terrell |
| • 6. Dustin | • 6. Malik   |
| • 7. Luke   | • 7. Trevon  |

23

## Racial Concentration of Some Names

- Names where >98% of the children were white
  - Connor, Cody, Jake, Molly, Emily, Abigail, Caitlin
  - Most extreme is Molly. 2328 girls named Molly, 99.91% were white

24

White female		
Name	L(W)/L(B)	Perception White
Allison	$\infty$	0.926
Anne	$\infty$	0.962
Carrie	$\infty$	0.923
Emily	$\infty$	0.925
Jill	$\infty$	0.889
Laurie	$\infty$	0.963
Kristen	$\infty$	0.963
Meredith	$\infty$	0.926
Sarah	$\infty$	0.852

25

African-American female		
Name	L(B)/L(W)	Perception Black
Aisha	209	0.97
Ebony	$\infty$	0.9
Keisha	116	0.93
Kenya	$\infty$	0.967
Lakisha	$\infty$	0.967
Latonya	$\infty$	1
Latoya	$\infty$	1
Tamika	284	1
Tanisha	$\infty$	1

26

White male		
Name	L(W)/L(B)	Perception White
Brad	$\infty$	1
Brendan	$\infty$	0.667
Geoffrey	$\infty$	0.731
Greg	$\infty$	1
Brett	$\infty$	0.923
Jay	$\infty$	0.926
Matthew	$\infty$	0.888
Neil	$\infty$	0.654
Todd	$\infty$	0.926

27

African-American male		
Name	L(B)/L(W)	Perception Black
Darnell	$\infty$	0.967
Hakim	$\infty$	0.933
Jamal	257	0.967
Jermaine	90.5	1
Kareem	$\infty$	0.967
Leroy	44.5	0.933
Rasheed	$\infty$	0.931
Tremayne	$\infty$	0.897
Tyrone	62.5	0.900

28

## Constructing a bank of resumes

- Pulled samples from web pages
- Restricted to
  - people from Boston or Chicago
  - People applying for 4 positions
    - Sales
    - Administration support
    - Clerical services
    - Customer service
- Change the name and contact information on the resume

29

- Pick distinctly AA names using Massachusetts birth records.
- Assign resumes to race/sex/city/resume quality cell (16 cells)
- Set up generic vmail and email accounts for each 'cell'

30

## Responding to adds

- Responded to adds placed 7/1/2001 to 1/31/2002
- 4 resumes were sent
  - One high and low quality for each AA and white name
- Measure email and vmail contacts for interviews

31

TABLE 1—MEAN CALLBACK RATES BY RACIAL SOUNDINGNESS OF NAMES

	Percent callback for White names	Percent callback for African-American names	Ratio	Percent difference (p-value)
Sample:				
All sent resumes	9.65 [2,435]	6.45 [2,435]	1.50	3.20 (0.0000)
Chicago	8.06 [1,352]	5.40 [1,352]	1.49	2.66 (0.0057)
Boston	11.63 [1,083]	7.76 [1,083]	1.50	4.05 (0.0023)
Females	9.89 [1,860]	6.63 [1,886]	1.49	3.26 (0.0003)
Females in administrative jobs	10.46 [1,358]	6.55 [1,359]	1.60	3.91 (0.0003)
Females in sales jobs	8.37 [502]	6.83 [527]	1.22	1.54 (0.3523)
Males	8.87 [575]	5.83 [549]	1.52	3.04 (0.0513)

*Notes:* The table reports, for the entire sample and different subsamples of sent resumes, the callback rates for applicants with a White-sounding name (column 1) an African-American-sounding name (column 2), as well as the ratio (column 3) and difference (column 4) of these callback rates. In brackets in each cell is the number of resumes sent in that cell. Column 4 also reports the p-value for a test of proportion testing the null hypothesis that the callback rates are equal across racial groups.

32

TABLE 2—DISTRIBUTION OF CALLBACKS BY EMPLOYMENT AD

	No Callback	1W + 1B	2W + 2B
Equal Treatment:	83.37	3.48	1.28
88.13 percent	[1,103]	[46]	[17]
[1,166]			
Whites Favored (WF):	1W + 0B	2W + 0B	2W + 1B
8.39 percent	5.59	1.44	1.36
[111]	[74]	[19]	[18]
African-Americans Favored (BF):	1B + 0W	2B + 0W	2B + 1W
3.48 percent	2.49	0.45	0.53
[46]	[33]	[6]	[7]

$H_0: WF = BF$   
 $p = 0.0000$

TABLE 4—AVERAGE CALLBACK RATES BY RACIAL SOUNDINGNESS OF NAMES AND RESUME QUALITY

	Panel A: Subjective Measure of Quality (Percent Callback)			Difference ( <i>p</i> -value)
	Low	High	Ratio	
White names	8.50	10.79	1.27	2.29
	[1,212]	[1,223]		(0.0557)
African-American names	6.19	6.70	1.08	0.51
	[1,212]	[1,223]		(0.6084)

	Panel B: Predicted Measure of Quality (Percent Callback)			Difference ( <i>p</i> -value)
	Low	High	Ratio	
White names	7.18	13.60	1.89	6.42
	[822]	[816]		(0.0000)
African-American names	5.37	8.60	1.60	3.23
	[819]	[814]		(0.0104)

TABLE 8—CALLBACK RATE AND MOTHER'S EDUCATION BY FIRST NAME

Name	White female		African-American female	
	Percent callback	Mother education	Percent callback	Mother education
Emily	7.9	96.6	Aisha	2.2
Anne	8.3	93.1	Keisha	3.8
Jill	8.4	92.3	Tamika	5.5
Allison	9.5	95.7	Lakisha	5.5
Laurie	9.7	93.4	Tanisha	5.8
Sarah	9.8	97.9	Latoya	8.4
Meredith	10.2	81.8	Kenya	8.7
Carnie	13.1	80.7	Latonya	9.1
Kristen	13.1	93.4	Ebony	9.6
Average		91.7	Average	
Overall		83.9	Overall	
Correlation	-0.318	( <i>p</i> = 0.404)	Correlation	-0.383
				( <i>p</i> = 0.309)

What would Levitt/Dubner argue is the problem with the experimental design?

## Weaknesses of study

- Outcome is limited
  - Would prefer more meaningful economic outcome that call-back
  - Whether received a job? Starting wage?
- Paper does not identify racial discrimination but rather, discrimination against AA names

37

- Measuring discrimination in a limited channel of the job search process
  - Informal networks very important
  - If Blacks use informal networks to overcome discrimination, then results overstate discrimination
  - If Blacks do not have access to social networks, could understate discrimination

38