

# Request that you should not refuse

- PLEASE SWITCH OFF AND PUT AWAY YOUR CELL PHONES
- LAPTOPS OK IF WORK IS ACADEMIC
- REMOVE BAGS AND OTHER MATERIALS THAT CAN CAUSE DISTRACTION
- STOP HAVING SIDE CONVERSATIONS
- PARTICIPATE IN CLASS

# Class 14

Labor demand and supply together; comparative statics, Discrimination

- **Read for Monday's Class (Class 15)**

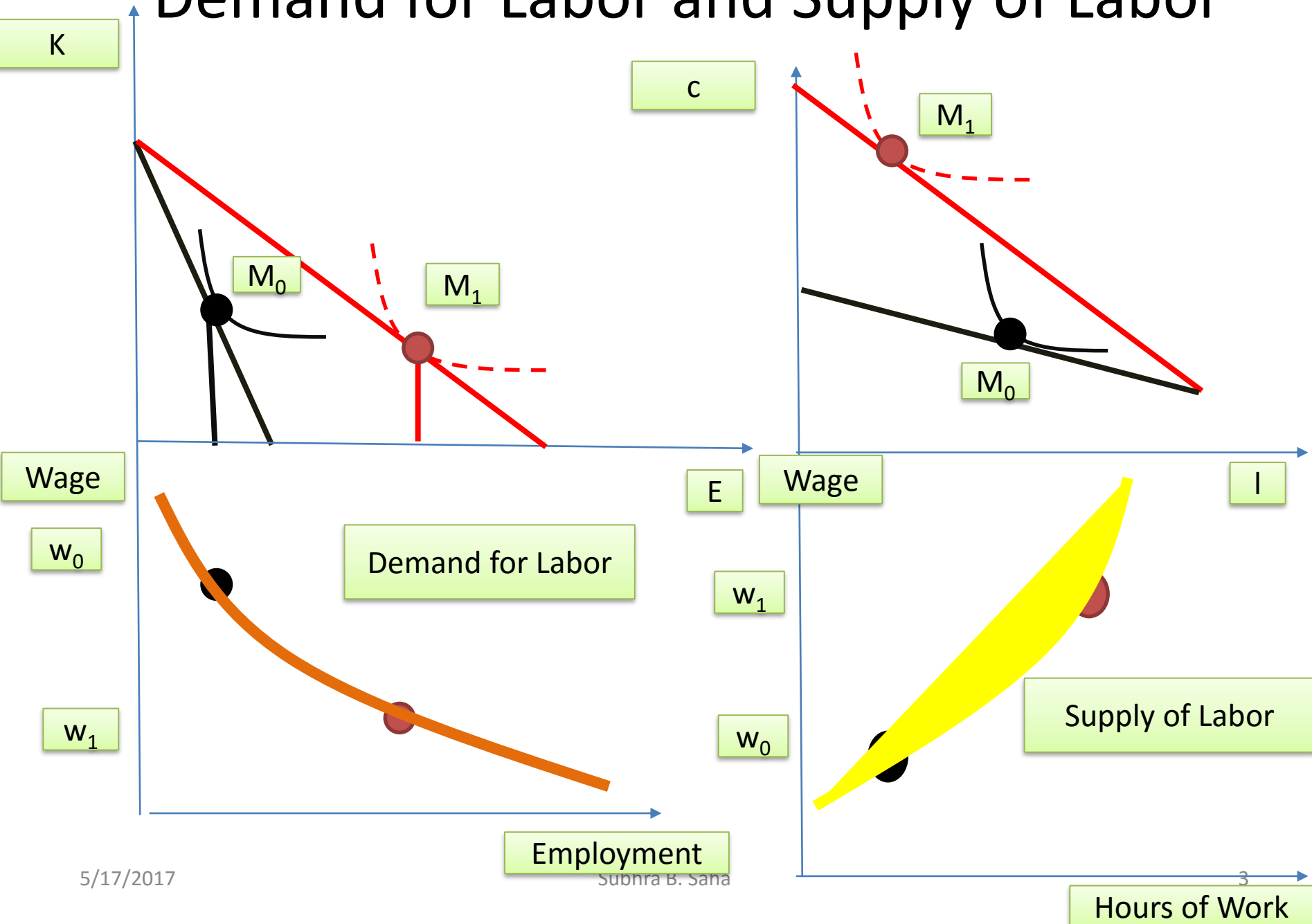
**Submit Literature for final project**

**For upcoming Weekend**

Domestic Violence Paper (only empirical part)

Work on Problem Set 2

# Demand for Labor and Supply of Labor



$$T = h + l$$

$$pc = wh + V$$

$$U = l^\alpha c^\beta$$

$$\frac{\partial U}{\partial l} = \alpha l^{(\alpha-1)} c^\beta = MU_l$$

$$\frac{\partial U}{\partial c} = \beta l^\alpha c^{(\beta-1)} = MU_c$$

$$\Gamma = U + \lambda[w(T - l) + V - pc]$$

$$\left. \begin{aligned} \frac{\partial \Gamma}{\partial l} &= MU_l - \lambda w = 0 \dots (1) \rightarrow pMU_l = \lambda w \\ \frac{\partial \Gamma}{\partial c} &= MU_c - \lambda p = 0 \dots (2) \rightarrow MU_c = \lambda p \end{aligned} \right\} \rightarrow \frac{\alpha c^*}{\beta l^*} = \frac{w}{p} \dots \dots \dots (4)$$

$$\frac{\partial \Gamma}{\partial \lambda} = 0 \Rightarrow w(T - l^*) + V - pc^* = 0 \dots \dots \dots (3)$$

$l^*$  will give Leisure Demand Function. Using 3 and 4

$$\left. \begin{aligned} pc^* &= w(T - l^*) + V \\ c^* &= \frac{\beta w}{\alpha p} l^* \end{aligned} \right\} p \frac{\beta w}{\alpha p} l^* = w(T - l^*) + V = wT + V - wl^*$$

$$l^* = \frac{(wT + V)}{w \left(1 + \frac{\beta}{\alpha}\right)} = \frac{T}{\left(1 + \frac{\beta}{\alpha}\right)} + \frac{V}{w \left(1 + \frac{\beta}{\alpha}\right)}$$

$$l^* = \frac{(wT + V)}{w\left(1 + \frac{\beta}{\alpha}\right)} = \frac{T}{\left(1 + \frac{\beta}{\alpha}\right)} + \frac{V}{w\left(1 + \frac{\beta}{\alpha}\right)}$$

$$c^* = \frac{\beta w}{\alpha p} \left[ \left( \frac{T}{1 + \frac{\beta}{\alpha}} \right) + \frac{V}{w\left(1 + \frac{\beta}{\alpha}\right)} \right]$$

$$U^* = l^{*\alpha} c^{*\beta}$$

$h^* = T - l^*$  will give Labor Supply Function.

$$h^* = T - l^* = T - \frac{(wT + V)}{w\left(1 + \frac{\beta}{\alpha}\right)} = T - \frac{T}{\left(1 + \frac{\beta}{\alpha}\right)} - \frac{V}{w\left(1 + \frac{\beta}{\alpha}\right)}$$

$$\frac{\partial h^*}{\partial w} = \frac{V}{w^2\left(1 + \frac{\beta}{\alpha}\right)} > 0$$

$$\varepsilon^s = \frac{w}{h^*} \frac{\partial h^*}{\partial w} = \frac{w}{h^*} \times \frac{V}{w^2\left(1 + \frac{\beta}{\alpha}\right)} > 0$$

$$q = E^{\alpha} K^{\beta} \quad \frac{\partial f(E, K)}{\partial E} = \alpha E^{\alpha-1} K^{\beta} = MP_E \quad \frac{\partial f(E, K)}{\partial K} = \beta E^{\alpha} K^{\beta-1} = MP_K$$

$$\Gamma = pE^{\alpha} K^{\beta} + \lambda[TC - wE - rK]$$

$$\left. \begin{aligned} \frac{\partial \Gamma}{\partial E} &= p\alpha E^{\alpha-1} K^{\beta} - \lambda w = 0 \dots (1) \rightarrow p\alpha E^{\alpha-1} K^{\beta} = \lambda w \\ \frac{\partial \Gamma}{\partial K} &= p\beta E^{\alpha} K^{\beta-1} - \lambda r = 0 \dots (2) \rightarrow p\beta E^{\alpha} K^{\beta-1} = \lambda r \end{aligned} \right\} \rightarrow \frac{\alpha K^*}{\beta E^*} = \frac{w}{r} \dots \dots \dots (4)$$

$$\frac{\partial \Gamma}{\partial \lambda} = 0 \Rightarrow TC - wE^* - rK^* = 0 \dots \dots \dots (3)$$

$E^*$  will give Demand for Labor Function. Using 3 and 4

$$\left. \begin{aligned} TC &= wE^* + rK^* \\ K^* &= \frac{\beta w}{\alpha r} E^* \end{aligned} \right\} \rightarrow TC = wE^* + r \frac{\beta}{\alpha r} wE^* \rightarrow \left| \eta^D E^* \right| = \left| \frac{w}{E^*} \frac{\partial E^*}{\partial w} \right| = 1$$

$$\rightarrow E^* = \frac{TC}{w \left( 1 + \frac{\beta}{\alpha} \right)}$$

# Demand for Labor and Supply of Labor

Wage

$w^*$

$N^*$

Employment

$$E^* = \frac{TC}{w \left( 1 + \frac{\beta}{\alpha} \right)}$$

$$h^* = T - l^* = T - \frac{(wT + V)}{w \left( 1 + \frac{\beta}{\alpha} \right)}$$

$$\exists w = w^* \ni E^* = h^* = N^*$$

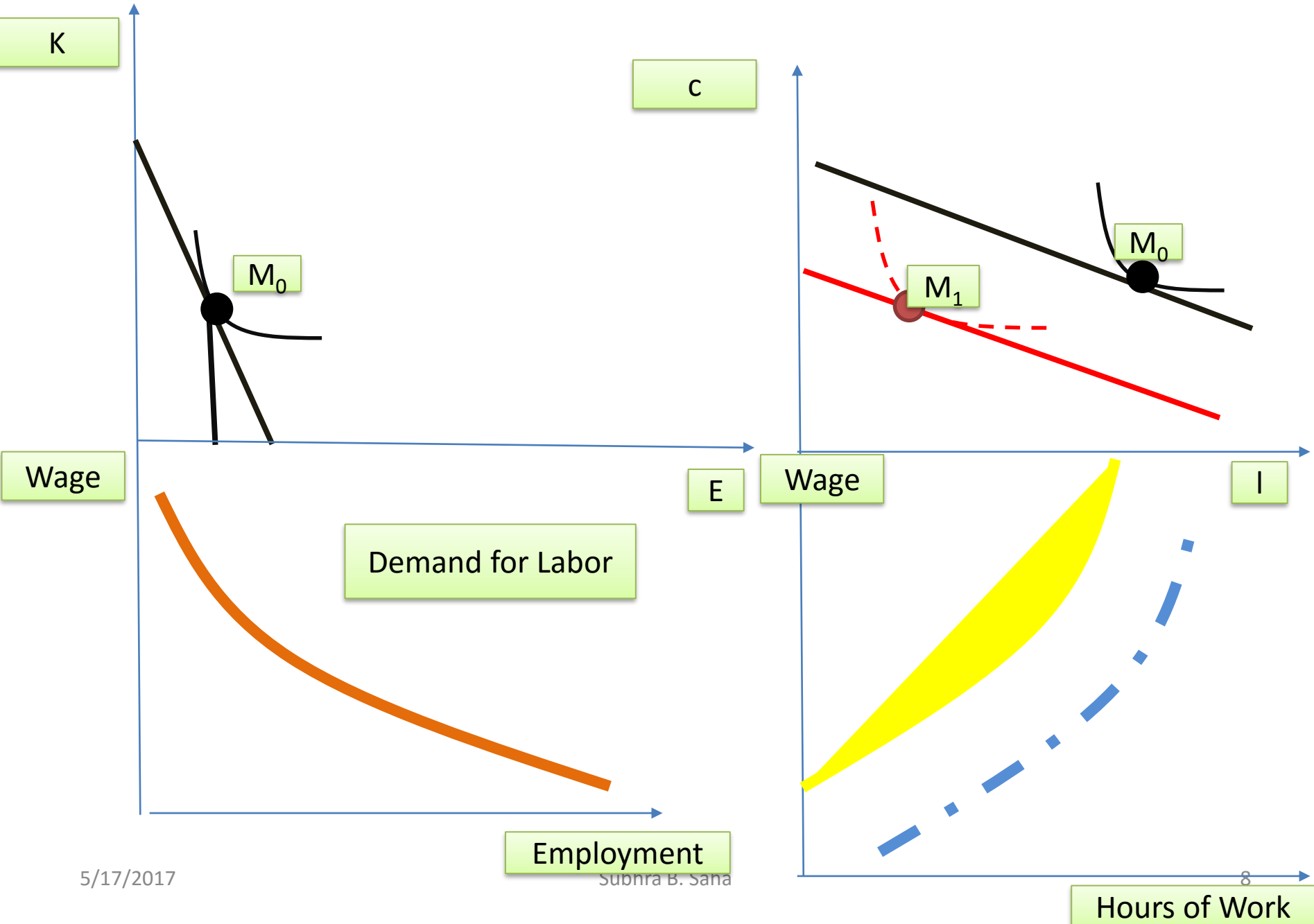
$$T - \frac{(wT + V)}{w \left( 1 + \frac{\beta}{\alpha} \right)} = \frac{TC}{w \left( 1 + \frac{\beta}{\alpha} \right)}$$

$$T = \frac{TC}{w \left( 1 + \frac{\beta}{\alpha} \right)} + \frac{(wT + V)}{w \left( 1 + \frac{\beta}{\alpha} \right)}$$

$$w^* = \frac{Z_1}{T}; \text{ where } Z_1 = \left[ \frac{TC}{\left( 1 + \frac{\beta}{\alpha} \right)} + \frac{(wT + V)}{\left( 1 + \frac{\beta}{\alpha} \right)} \right]$$

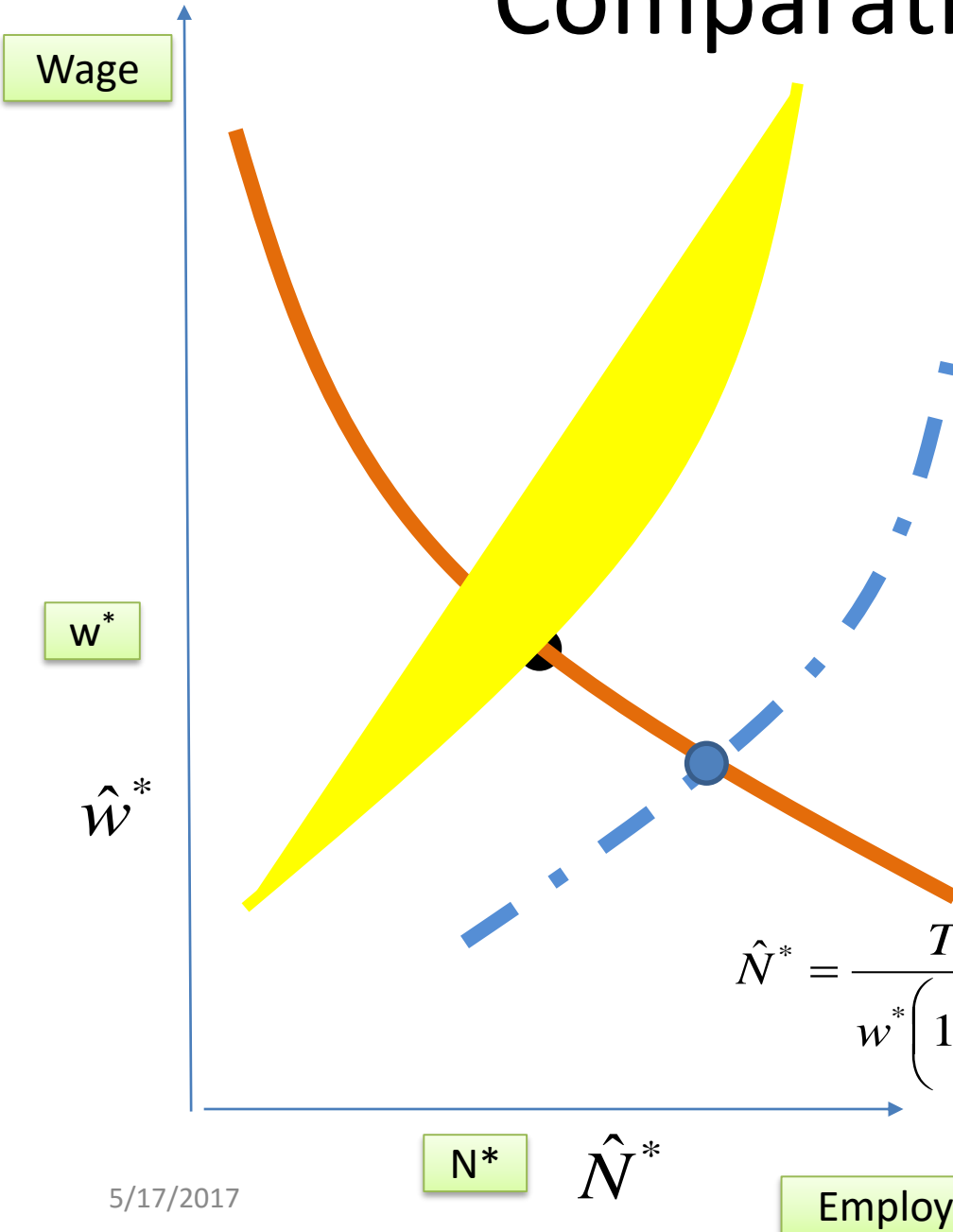
$$N^* = \frac{TC}{w^* \left( 1 + \frac{\beta}{\alpha} \right)} = \frac{Z_2}{w^*} = \frac{Z_2}{Z_1} T; \text{ where } Z_2 = \frac{TC}{\left( 1 + \frac{\beta}{\alpha} \right)}$$

# New Look at Comparative Statics: Lumpsum tax on households: PS 2





# Comparative Statics



$$E^* = \frac{TC}{w \left( 1 + \frac{\beta}{\alpha} \right)}$$

$$h^* = T - l^* = T - \frac{(wT + \hat{V})}{w \left( 1 + \frac{\beta}{\alpha} \right)}$$

$$\exists w = \hat{w}^* \ni E^* = h^* = \hat{N}^*$$

$$T - \frac{(wT + \hat{V})}{w \left( 1 + \frac{\beta}{\alpha} \right)} = \frac{TC}{w \left( 1 + \frac{\beta}{\alpha} \right)}$$

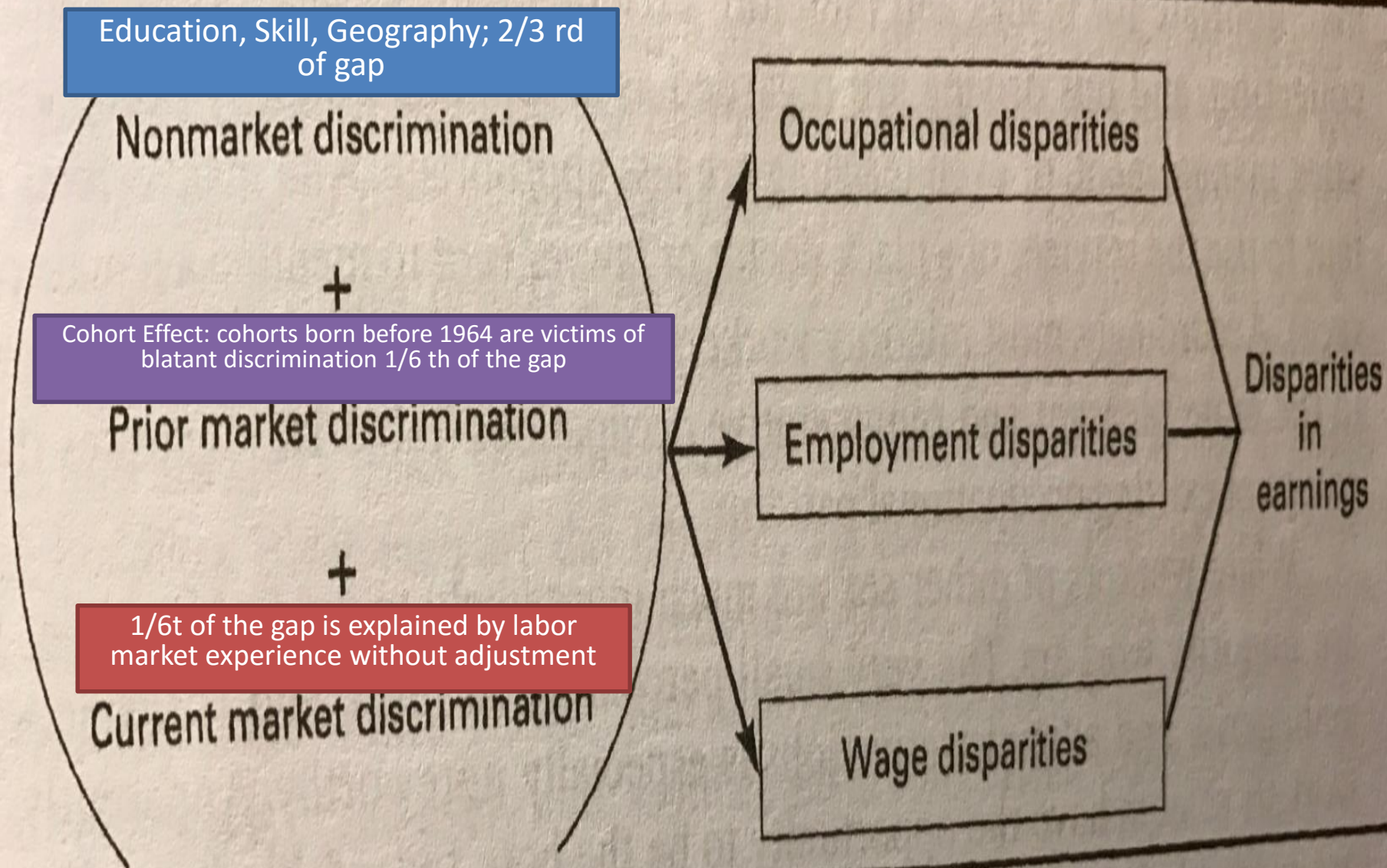
$$T = \frac{TC}{w \left( 1 + \frac{\beta}{\alpha} \right)} + \frac{(wT + \hat{V})}{w \left( 1 + \frac{\beta}{\alpha} \right)}$$

$$\hat{w}^* = \frac{\hat{Z}_1}{T}; \text{ where } Z_1 = \left[ \frac{TC}{\left( 1 + \frac{\beta}{\alpha} \right)} + \frac{(wT + \hat{V})}{\left( 1 + \frac{\beta}{\alpha} \right)} \right]$$

$$\hat{N}^* = \frac{TC}{w^* \left( 1 + \frac{\beta}{\alpha} \right)} = \frac{Z_2}{w^*} = \frac{Z_2}{\hat{Z}_1} T; \text{ where } Z_2 = \frac{TC}{\left( 1 + \frac{\beta}{\alpha} \right)}$$

**FIGURE 12.3** The Sources of Earnings Disparities

Proportions May NOT  
be fixed across time



# Who Discriminates

- Who discriminates?
- Employers: If the market is competitive what would be their incentive to discriminate?
- Employee, Consumers
- Institutions: Word of mouth
- Unions: American Federation of Labor (AFL)
- Congress of Industrial Organizations (CIO)
- Statistical Discrimination (everyone)

## Measuring Discrimination: Oaxaca Decomposition

- Difference in Average wages = Average Wages of Majority (Male) – Average Wages of Minority (Female)
- Difference in Average wages = Discrimination + Skill Difference

$$\Delta \bar{w} = \bar{w}_M - \bar{w}_F \quad \bar{w}_M = \alpha_M + \beta_M \bar{s}_M \quad \bar{w}_F = \alpha_F + \beta_F \bar{s}_F$$

$$\Delta w = \bar{w}_M - \bar{w}_F = (\alpha_M - \alpha_F) + \beta_M \bar{s}_M - \beta_F \bar{s}_F$$

$$\Delta w = (\alpha_M - \alpha_F) + \beta_M \bar{s}_M - \beta_F \bar{s}_F - \beta_M \bar{s}_F + \beta_M \bar{s}_F$$

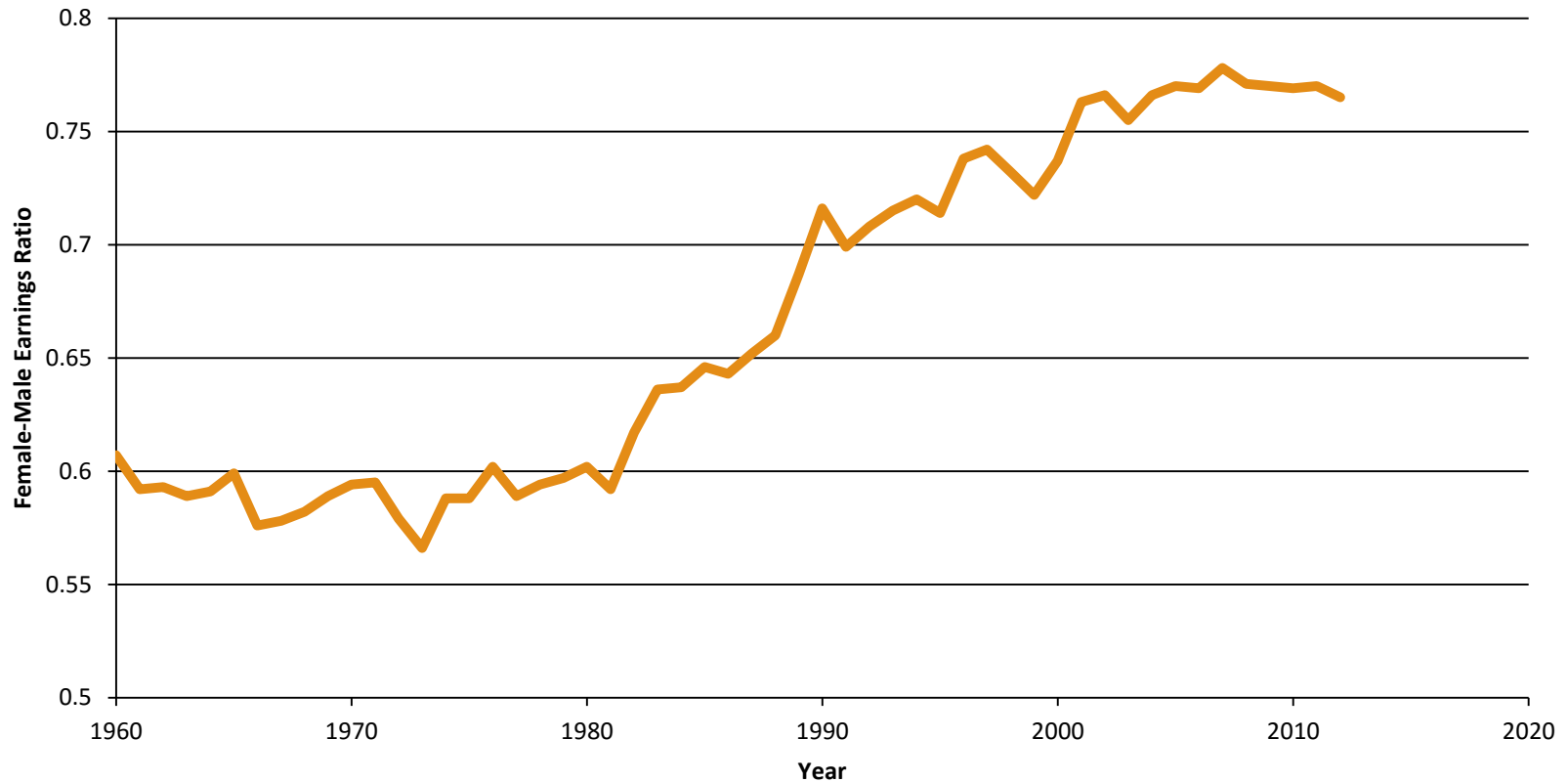
$$\Delta w = (\alpha_M - \alpha_F) + (\beta_M - \beta_F) \bar{s}_F + \beta_M (\bar{s}_M - \bar{s}_F)$$

# The Oaxaca Decomposition of the Black-White Wage Differential, 1995

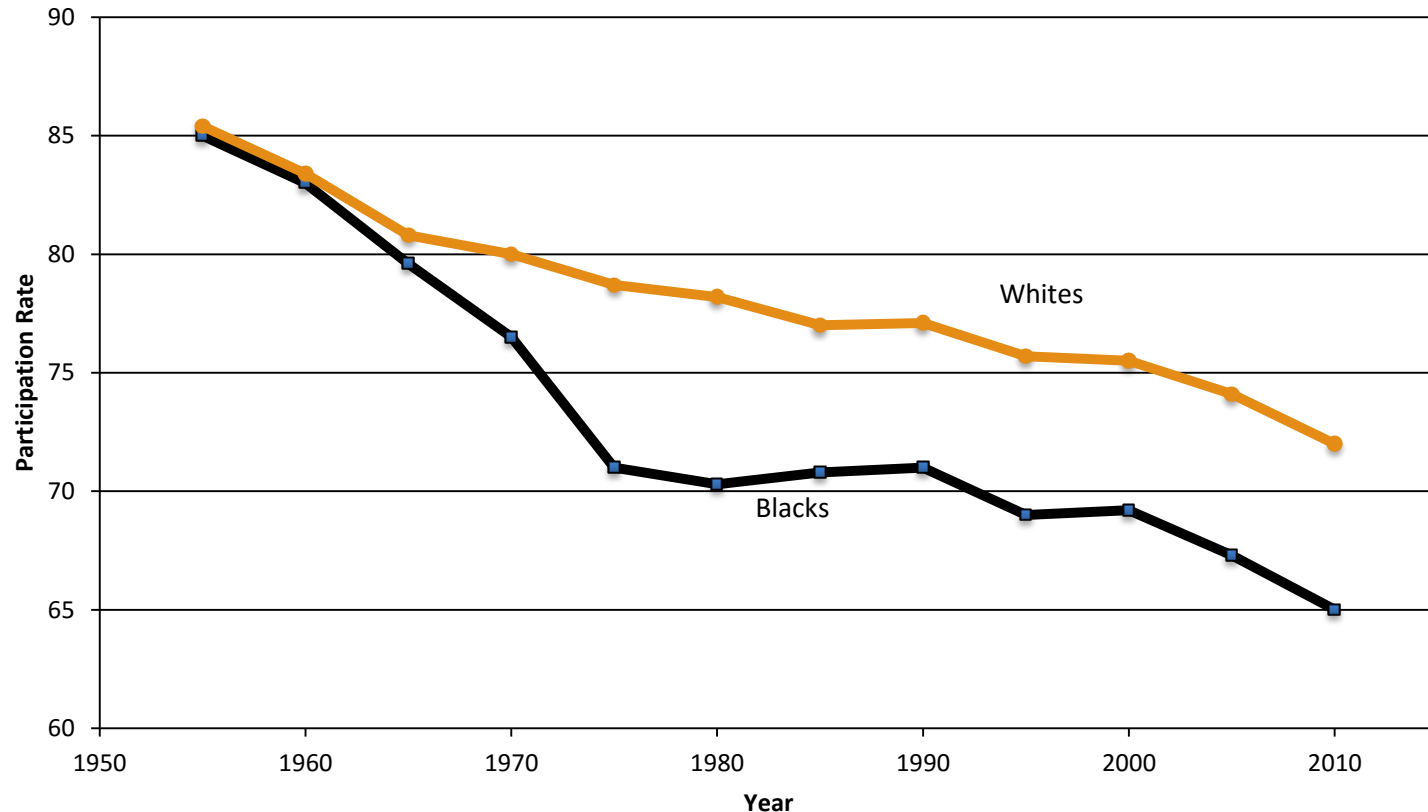
	Controls for Differences in Education, Age, Sex, and Region of Residence	Controls for Differences in Education, Age, Sex, Region, and Occupation and Industry
Raw log wage differential	-0.211	-0.211
Due to differences in skills	-0.082	-0.144
Due to discrimination	-0.134	-0.098

Source: Joseph G. Altonji and Rebecca M. Blank, "Race and Gender in the Labor Market," in Orley Ashenfelter and David Card, editors, *Handbook of Labor Economics*, vol. 3C, Amsterdam: Elsevier, 1999, Table 5. The log wage differential between any two groups can be interpreted as being approximately equal to the percentage wage differential between the groups.

# Trend in the Female-Male Earnings Ratio, 1960-2012



# Male Labor Force Participation Rates, by Race, 1955-2010



**The Decline in the Labor Force Participation of Blacks and the Average Black Wage: If the lowest productive members of African Americans drop out (increasing reservation wage because of government programs); then average wage increases automatically: no need to increase opportunity for minorities**

- **Occupational crowding** has segregated women into particular occupations where the return to education is lower. – sociology etc.
- Economics: Need specific skills in specific jobs
- Human capital is more profitable the longer the payoff period.
- Women are better off if they enter occupations in which their skills do not deteriorate during the years they spend in the household sector.
- Lawyers: male 15 years after graduation (early 1990s): \$141,000; females \$86,000 (part time work, breaks because of kids etc.)

**The Trend in the Black-White Earnings Ratio, 1967-2012: reflects increase in quality and quantity of schooling for African Americans & possibly affirmative action**

**Affirmative action: Explains employment gains, but NOT wage differences for minorities**



# Jamal and Lakeisha Vs Emily and Greg: Mullinathan, Bertrand

- Labor market outcome for African Americans lower relative to Caucasians
- One possible explanation: discrimination in labor market
- Supply side issues (fault/deficiencies of the potential employees)
- Demand side issues (discriminatory preference for particular types of workers)
- Design a field experiment

# More Background

- Screens in Audition for Symphony Orchestra
- **Audit studies:** Send one African American and one Caucasian for Job interview; see who gets the job. The two people selected are very similar.
- Problems: They are different in unobserved categories; cost of study
- Solution: Send Resumes

# What is the main question for Lakisha and Jamal Vs Greg and Emily?

Variable measuring discrimination: Call backs from HR people in different firms

Variables that can explain discrimination

# Experiment Design

- Looked up ads in local newspapers of two cities (Chicago and Boston)
- Each ad was sent 4 resumes. All of them modeled after resumes in renowned web sites
- Resumes were high quality or low quality
- The names indicate the racial aspect (some names are typically African American as opposed to some which are typically white: they did a focus group analysis to check this)
- 4 resumes were sent to each ad; randomly picked white or black applicants

# So, what is the econometric strategy?

Experiment: T tests conducted after collecting the difference/ratio of call rates between races

Probit model

Nothing fancy

TABLE 1—MEAN CALLBACK RATES BY RACIAL SOUNDINGNESS OF NAMES

	Percent callback for White names	Percent callback for African-American names	Ratio	Percent difference ( <i>p</i> -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 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.

TABLE 2—DISTRIBUTION OF CALLBACKS BY EMPLOYMENT AD

Equal Treatment:	No Callback	1W + 1B	2W + 2B
88.13 percent	83.37	3.48	1.28
[1,166]	[1,103]	[46]	[17]
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]
<i>H<sub>0</sub>: WF = BF</i>			
<i>p</i> = 0.0000			

*Notes:* This table documents the distribution of callbacks at the employment-ad level. “No Callback” is the percent of ads for which none of the fictitious applicants received a callback. “1W + 1B” is the percent of ads for which exactly one White and one African-American applicant received a callback. “2W + 2B” is the percent of ads for which exactly two White applicants and two African-American applicants received a callback. “Equal Treatment” is defined as the sum of “No Callback,” “1W + 1B,” and “2W + 2B.” “1W + 0B” is the percent of ads for which exactly one White applicant and no African-American applicant received a call back. “2W + 0B” is the percent of ads for which exactly two White applicants and no African-American applicant received a callback. “2W + 1B” is the percent of ads for which exactly two White applicants and one African-American applicant received a callback. “Whites Favored” is defined as the sum of “1W + 0B,” “2W + 0B,” and “2W + 1B.” “1B + 0W” is the percent of ads for which exactly one African-American applicant and no White applicant received a callback. “2B + 0W” is the percent of ads for which exactly two African-American applicants and no White applicant received a callback. “2B + 1W” is the percent of ads for which exactly two African-American applicants and one White applicant received a callback. “African-Americans Favored” is defined as the sum of “1B + 0W,” “2B + 0W,” and “2B + 1W.” In brackets in each cell is the number of employment ads in that cell. “*H<sub>0</sub>: WF = WB*” reports the *p*-value for a test of symmetry between the proportion of employers that favor White names and the proportion of employers that favor African-American names.

TABLE 3—RESUME CHARACTERISTICS: SUMMARY STATISTICS

Sample:	All resumes	White names	African-American	Higher quality	Lower quality
Characteristic:					
College degree	0.72	0.72	0.72	0.72	0.71
(Y = 1)	(0.45)	(0.45)	(0.45)	(0.45)	(0.45)
Years of experience	7.84	7.86	7.83	8.29	7.39
	(5.04)	(5.07)	(5.01)	(5.29)	(4.75)
Volunteering experience?	0.41	0.41	0.41	0.79	0.03
(Y = 1)	(0.49)	(0.49)	(0.49)	(0.41)	(0.16)
Military experience?	0.10	0.09	0.10	0.19	0.00
(Y = 1)	(0.30)	(0.29)	(0.30)	(0.39)	(0.06)
E-mail address?	0.48	0.48	0.48	0.92	0.03
(Y = 1)	(0.50)	(0.50)	(0.50)	(0.27)	(0.17)
Employment holes?	0.45	0.45	0.45	0.34	0.56
(Y = 1)	(0.50)	(0.50)	(0.50)	(0.47)	(0.50)
Work in school?	0.56	0.56	0.56	0.72	0.40
(Y = 1)	(0.50)	(0.50)	(0.50)	(0.45)	(0.49)
Honors?	0.05	0.05	0.05	0.07	0.03
(Y = 1)	(0.22)	(0.23)	(0.22)	(0.25)	(0.18)
Computer skills?	0.82	0.81	0.83	0.91	0.73
(Y = 1)	(0.38)	(0.39)	(0.37)	(0.29)	(0.44)
Special skills?	0.33	0.33	0.33	0.36	0.30
(Y = 1)	(0.47)	(0.47)	(0.47)	(0.48)	(0.46)
Fraction high school dropouts in applicant's zip code	0.19	0.19	0.19	0.19	0.18
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Fraction college or more in applicant's zip code	0.21	0.21	0.21	0.21	0.22
	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)
Fraction Whites in applicant's zip code	0.54	0.55	0.54	0.53	0.55
	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)
Fraction African-Americans in applicant's zip code	0.31	0.31	0.31	0.32	0.31
	(0.33)	(0.33)	(0.33)	(0.33)	(0.33)
Log(median per capital income) in applicant's zip code	9.55	9.55	9.55	9.54	9.56
	(0.56)	(0.56)	(0.55)	(0.54)	(0.57)
Sample size	4,870	2,435	2,435	2,446	2,424

Notes: The table reports means and standard deviations for the resume characteristics as listed on the left. Column 1 refers to all resumes sent; column 2 refers to resumes with White names; column 3 refers to resumes with African-American names; column 4 refers to higher-quality resumes; column 5 refers to lower-quality resumes. See text for details.



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

Panel A: Subjective Measure of Quality (Percent Callback)				
	Low	High	Ratio	Difference ( <i>p</i> -value)
White names	8.50 [1,212]	10.79 [1,223]	1.27	2.29 (0.0557)
African-American names	6.19 [1,212]	6.70 [1,223]	1.08	0.51 (0.6084)
Panel B: Predicted Measure of Quality (Percent Callback)				
	Low	High	Ratio	Difference ( <i>p</i> -value)
White names	7.18 [822]	13.60 [816]	1.89	6.42 (0.0000)
African-American names	5.37 [819]	8.60 [814]	1.60	3.23 (0.0104)

*Notes:* Panel A reports the mean callback percents for applicant with a White name (row 1) and African-American name (row 2) depending on whether the resume was subjectively qualified as a lower quality or higher quality. In brackets is the number of resumes sent for each race/quality group. The last column reports the *p*-value of a test of proportion testing the null hypothesis that the callback rates are equal across quality groups within each racial group. For Panel B, we use a third of the sample to estimate a probit regression of the callback dummy on the set of resume characteristics as displayed in Table 3. We further control for a sex dummy, a city dummy, six occupation dummies, and a vector of dummy variables for job requirements as listed in the employment ad (see Section III, subsection D, for details). We then use the estimated coefficients on the set of resume characteristics to estimate a predicted callback for the remaining resumes (two-thirds of the sample). We call “high-quality” resumes the resumes that rank above the median predicted callback and “low-quality” resumes the resumes that rank below the median predicted callback. In brackets is the number of resumes sent for each race/quality group. The last column reports the *p*-value of a test of proportion testing the null hypothesis that the callback percents are equal across quality groups within each racial group.

TABLE 3—EFFECT OF RESUME CHARACTERISTICS ON LIKELIHOOD OF CALLBACK

Dependent Variable: Callback Dummy			
Sample:	All resumes	White names	African-American names
Years of experience (*10)	0.07 (0.03)	0.13 (0.04)	0.02 (0.03)
Years of experience <sup>2</sup> (*100)	-0.02 (0.01)	-0.04 (0.01)	-0.00 (0.01)
Volunteering? (Y = 1)	-0.01 (0.01)	-0.01 (0.01)	0.01 (0.01)
Military experience? (Y = 1)	-0.00 (0.01)	0.02 (0.03)	-0.01 (0.02)
E-mail? (Y = 1)	0.02 (0.01)	0.03 (0.01)	-0.00 (0.01)
Employment holes? (Y = 1)	0.02 (0.01)	0.03 (0.02)	0.01 (0.01)
Work in school? (Y = 1)	0.01 (0.01)	0.02 (0.01)	-0.00 (0.01)
Honors? (Y = 1)	0.05 (0.02)	0.06 (0.03)	0.03 (0.02)
Computer skills? (Y = 1)	-0.02 (0.01)	-0.04 (0.02)	-0.00 (0.01)
Special skills? (Y = 1)	0.05 (0.01)	0.06 (0.02)	0.04 (0.01)
<i>Ho</i> : Resume characteristics effects are all zero ( <i>p</i> -value)	54.50 (0.0000)	57.59 (0.0000)	23.85 (0.0080)
Standard deviation of predicted callback	0.047	0.062	0.037
Sample size	4,870	2,435	2,435

*Notes:* Each column gives the results of a probit regression where the dependent variable is the callback dummy. Reported in the table are estimated marginal changes in probability for the continuous variables and estimated discrete changes for the dummy variables. Also included in each regression are a city dummy, a sex dummy, six occupation dummies, and a vector of dummy variables for job requirements as listed in the employment ad (see Section III, subsection D, for details). Sample in column 1 is the entire set of sent resumes; sample in column 2 is the set of resumes with White names; sample in column 3 is the set of resumes with African-American names. Standard errors are corrected for clustering of the observations at the employment-ad level. Reported in the second to last row are the *p*-values for a  $\chi^2$  testing that the effects on the resume characteristics are all zero. Reported in the second to last row is the standard deviation of the predicted callback rate.

TABLE 6—EFFECT OF APPLICANT'S ADDRESS ON LIKELIHOOD OF CALLBACK

Dependent Variable: Callback Dummy						
Zip code characteristic:	Fraction Whites		Fraction college or more		Log(per capital income)	
Zip code characteristic	0.020 (0.012)	0.020 (0.016)	0.054 (0.022)	0.053 (0.031)	0.018 (0.007)	0.014 (0.010)
Zip code characteristic*	—	—0.000 (0.024)	—	—0.002 (0.048)	—	0.008 (0.015)
African-American name	—	—0.031 (0.015)	—	—0.031 (0.013)	—	—0.112 (0.152)

*Notes:* Each column gives the results of a probit regression where the dependent variable is the callback dummy. Reported in the table is the estimated marginal change in probability. Also included in columns 1, 3, and 5 is a city dummy; also included in columns 2, 4, and 6 is a city dummy and a city dummy interacted with a race dummy. Standard errors are corrected for clustering of the observations at the employment-ad level.

TABLE 7—EFFECT OF JOB REQUIREMENT AND EMPLOYER CHARACTERISTICS ON RACIAL DIFFERENCES IN CALLBACKS

Job requirement:	Sample mean (standard deviation)	Marginal effect on callbacks for African-American names
Any requirement? (Y = 1)	0.79 (0.41)	0.023 (0.015)
Experience? (Y = 1)	0.44 (0.49)	0.011 (0.013)
Computer skills? (Y = 1)	0.44 (0.50)	0.000 (0.013)
Communication skills? (Y = 1)	0.12 (0.33)	−0.000 (0.015)
Organization skills? (Y = 1)	0.07 (0.26)	0.028 (0.029)
Education? (Y = 1)	0.11 (0.31)	−0.031 (0.017)
Total number of requirements	1.18 (0.93)	0.002 (0.006)
Employer characteristic:	Sample mean (standard deviation)	Marginal effect on callbacks for African-American names
Equal opportunity employer? (Y = 1)	0.29 (0.45)	−0.013 (0.012)
Federal contractor? (Y = 1) (N = 3,102)	0.11 (0.32)	−0.035 (0.016)
Log(employment) (N = 1,690)	5.74 (1.74)	−0.001 (0.005)
Ownership status: (N = 2,878)		
Privately held	0.74	0.011 (0.019)
Publicly traded	0.15	−0.025 (0.015)
Not-for-profit	0.11	0.025 (0.042)
Fraction African-Americans in employer's zip code (N = 1,918)	0.08 (0.15)	0.117 (0.062)