

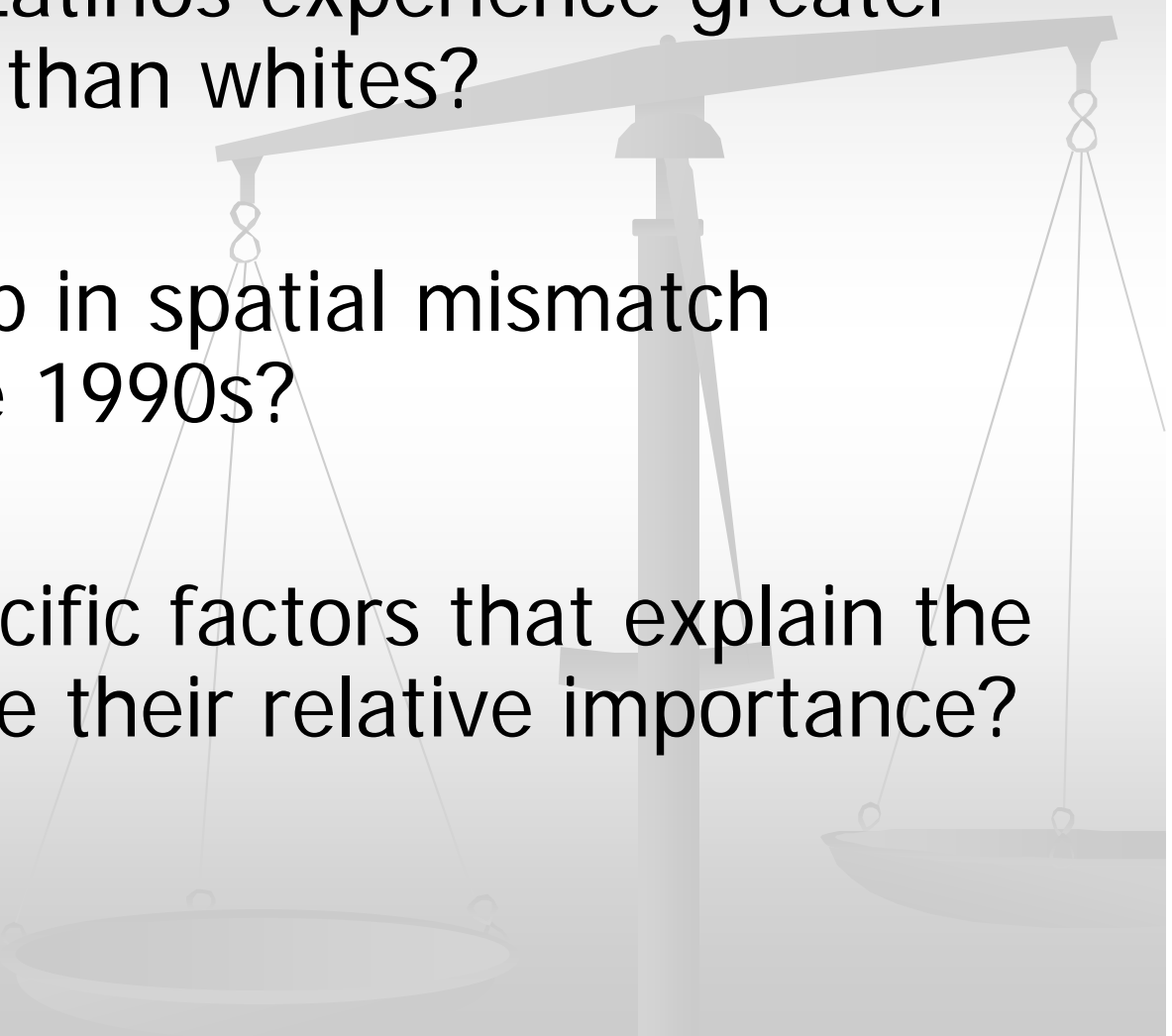
Racial Segregation and Gaps in Metropolitan Job Isolation: Spatial mismatch



by

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Main Research Questions:

- Why blacks and Latinos experience greater spatial mismatch than whites?
 - Has the racial gap in spatial mismatch changed over the 1990s?
 - What are the specific factors that explain the gap, and what are their relative importance?
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Relevant Literature

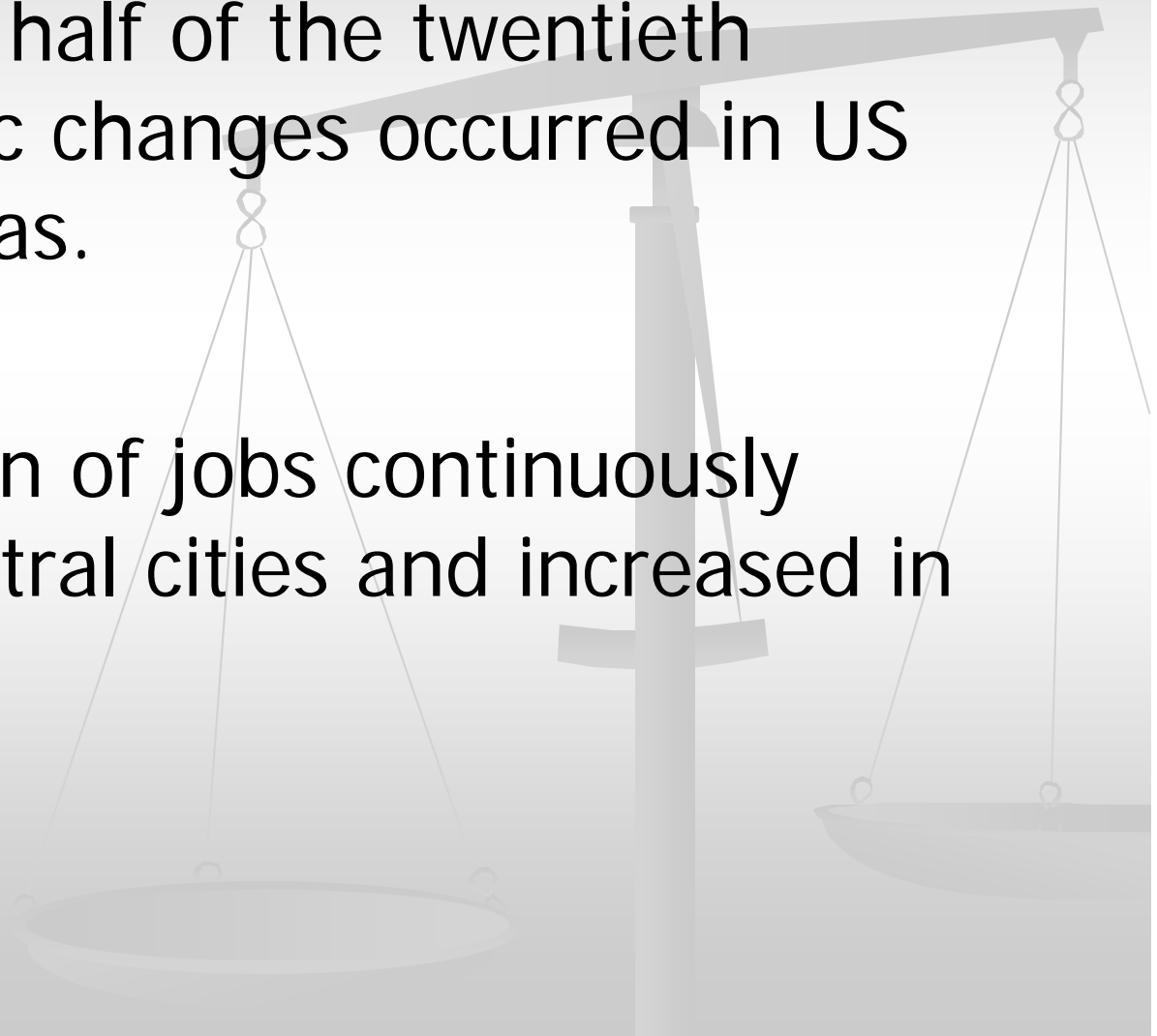
- Spatial Mismatch Hypothesis
John Kain – Originator
- What has it taught us about access to jobs in the U.S.?
- What remains to be learned?

SMH

- “Spatial mismatch hypothesis”.
- Kain (1968): residing in urban segregated areas distant from and poorly connected to major centres of employment growth, black workers face strong geographic barriers to finding and keeping well-paid jobs.
- **Distance to jobs** is the main cause of high unemployment rates.

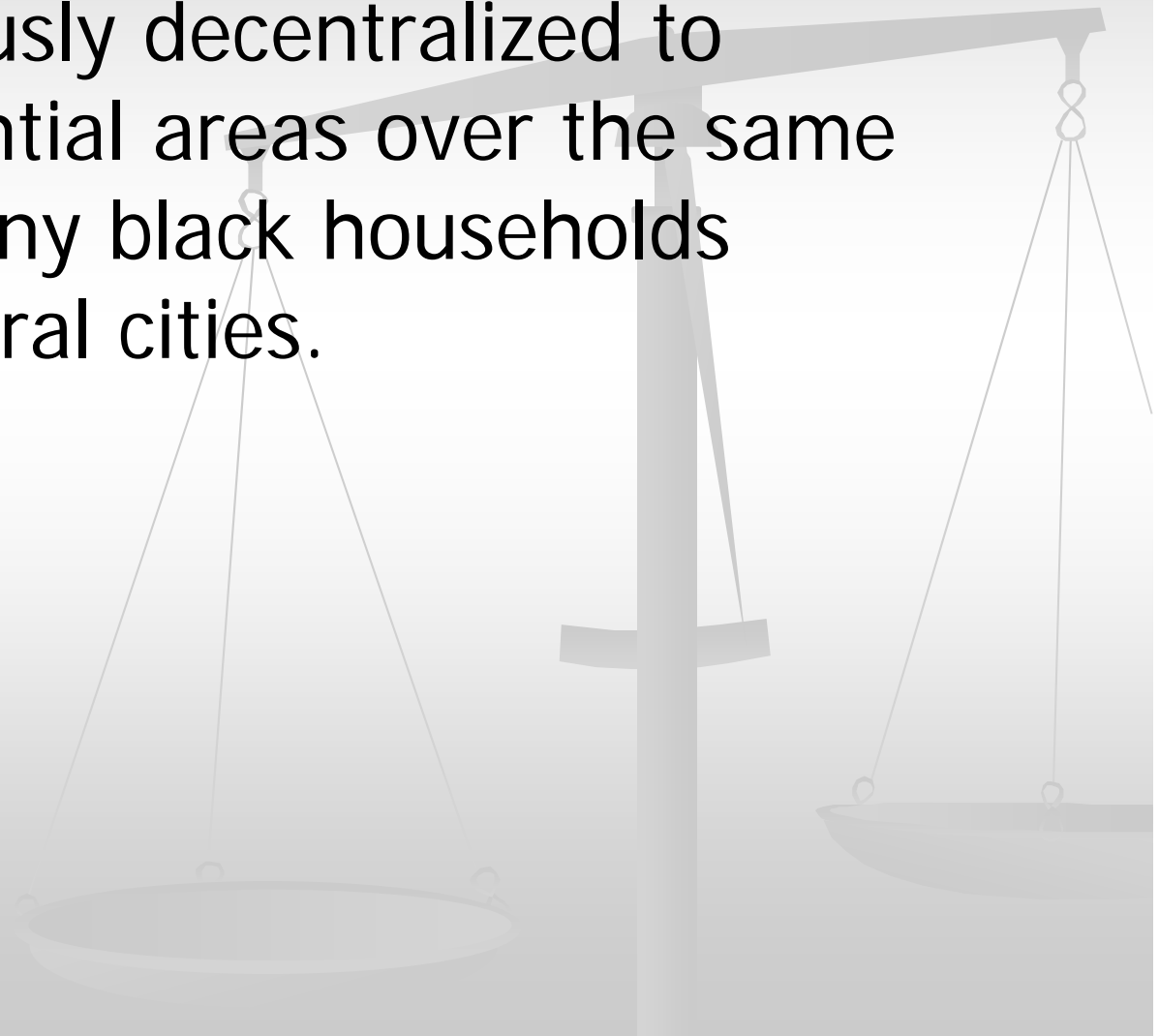
SMH

- Over the second half of the twentieth century, dramatic changes occurred in US metropolitan areas.
- The concentration of jobs continuously decreased in central cities and increased in the suburbs.



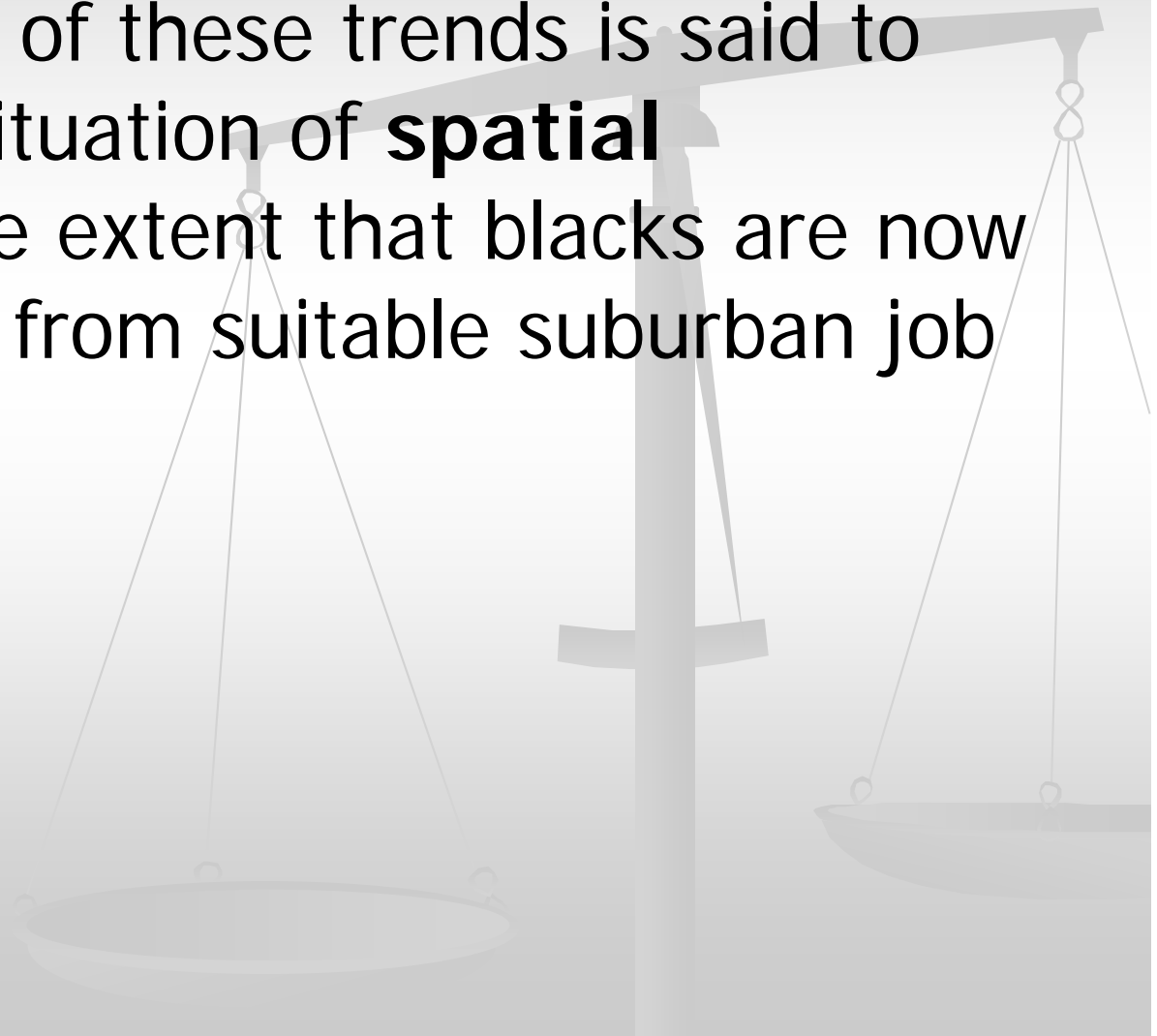
SMH

- Whites continuously decentralized to suburban residential areas over the same period, while many black households remained in central cities.



SMH

- The combination of these trends is said to have created a situation of **spatial mismatch** to the extent that blacks are now located far away from suitable suburban job opportunities.

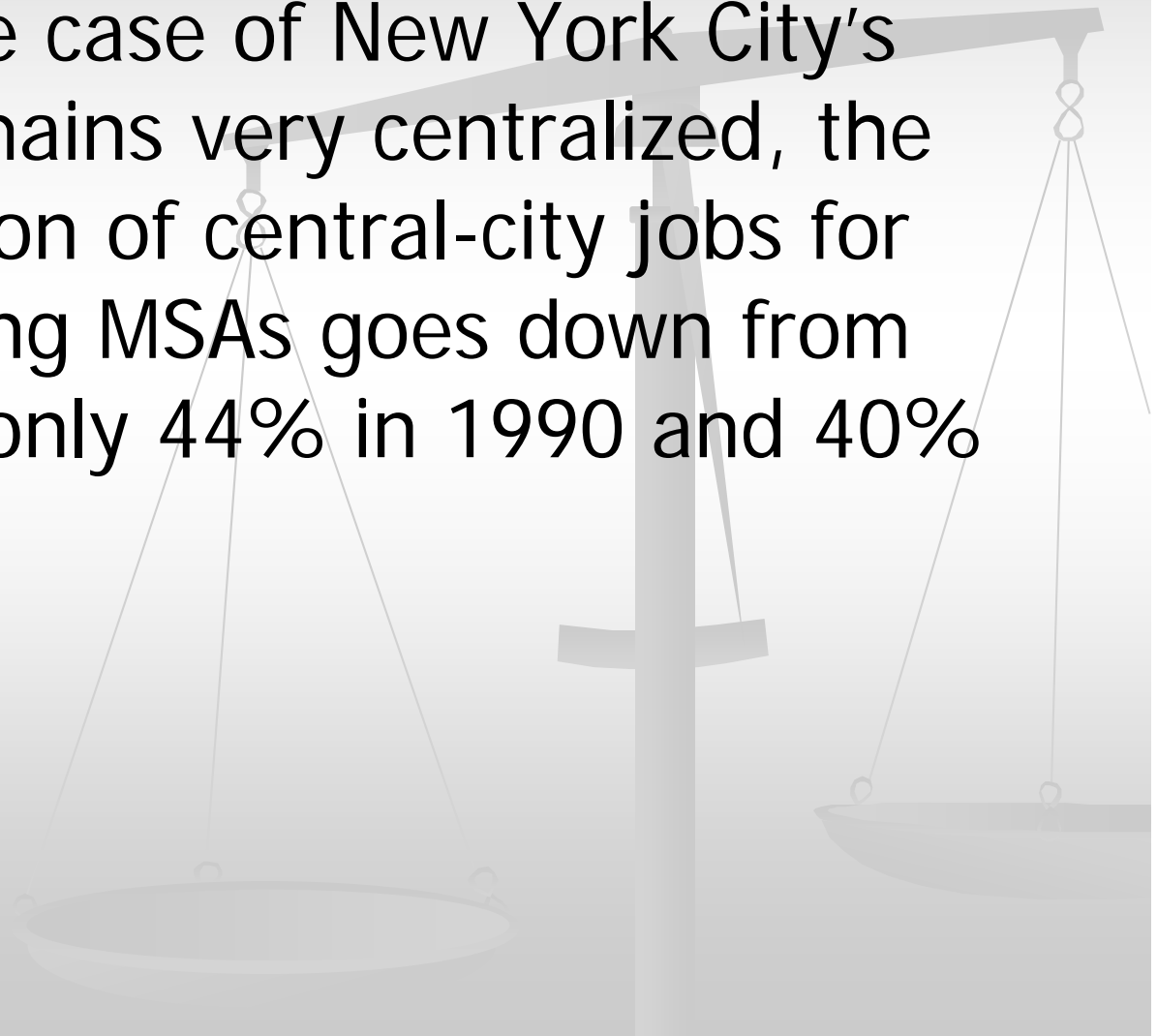


Suburbanization of jobs

- Whereas in 1950, central cities gathered nearly 70% of MSA jobs, the figure went down to 50% in 1980 (Mills and Lubuele, 1997).
- In the ten largest MSAs, the proportion of jobs located in central cities decreased from 57% in 1980 to 51% in 1990 and 47% in 2000.

Suburbanization of jobs

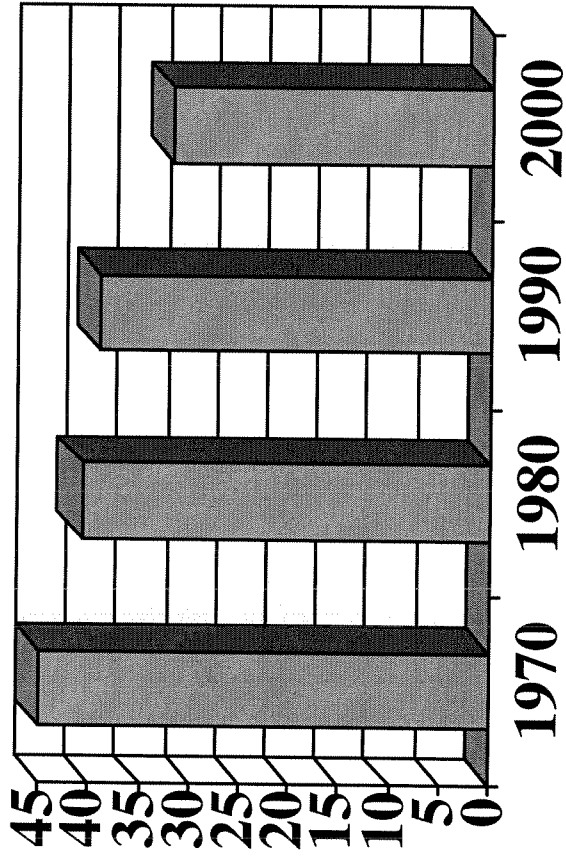
- If we exclude the case of New York City's center which remains very centralized, the average proportion of central-city jobs for the nine remaining MSAs goes down from 49% in 1980 to only 44% in 1990 and 40% in 2000.



Suburbanization of jobs

- In the ten largest MSAs, between 1980 and 1990, the number of jobs increased on average by +3% each year in the suburbs, but only grew by +0.8% in central cities.
- Between 1990 and 2000, the number of jobs increased on average by +1.4% each year in the suburbs, but slightly decreased by -0.1% in central cities.

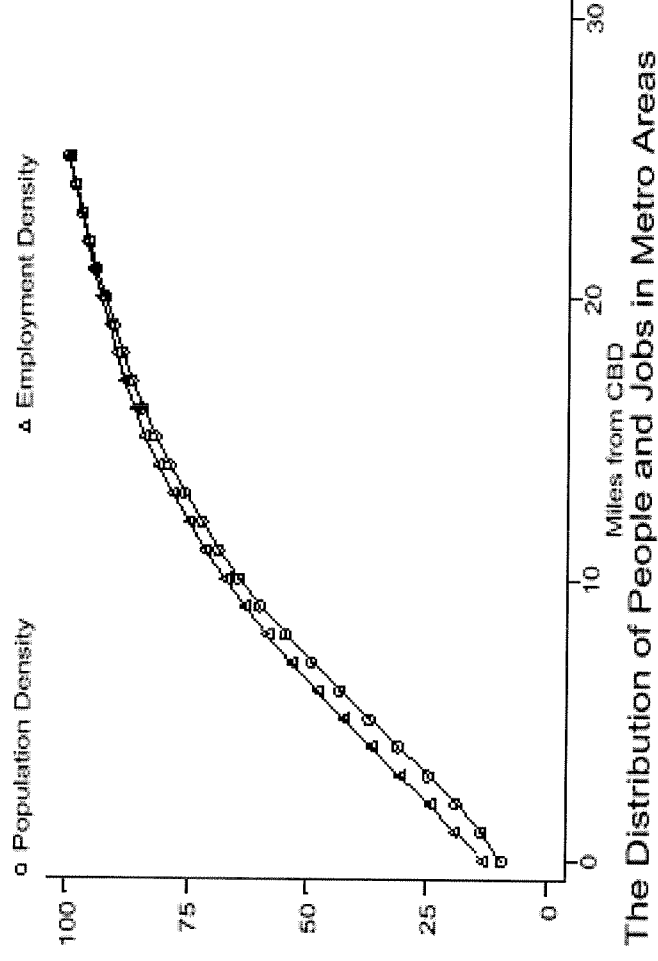
Suburbanization



% of Metropolitan Area Pop
in Central City

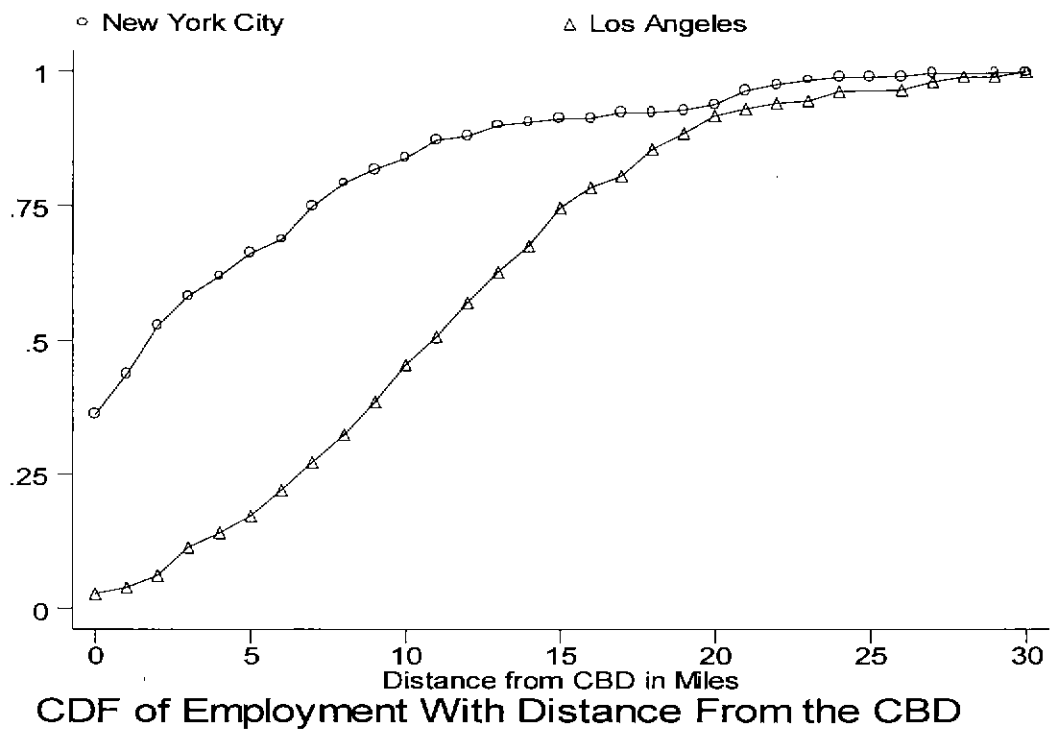
Decentralization of People and Jobs

Figure 1



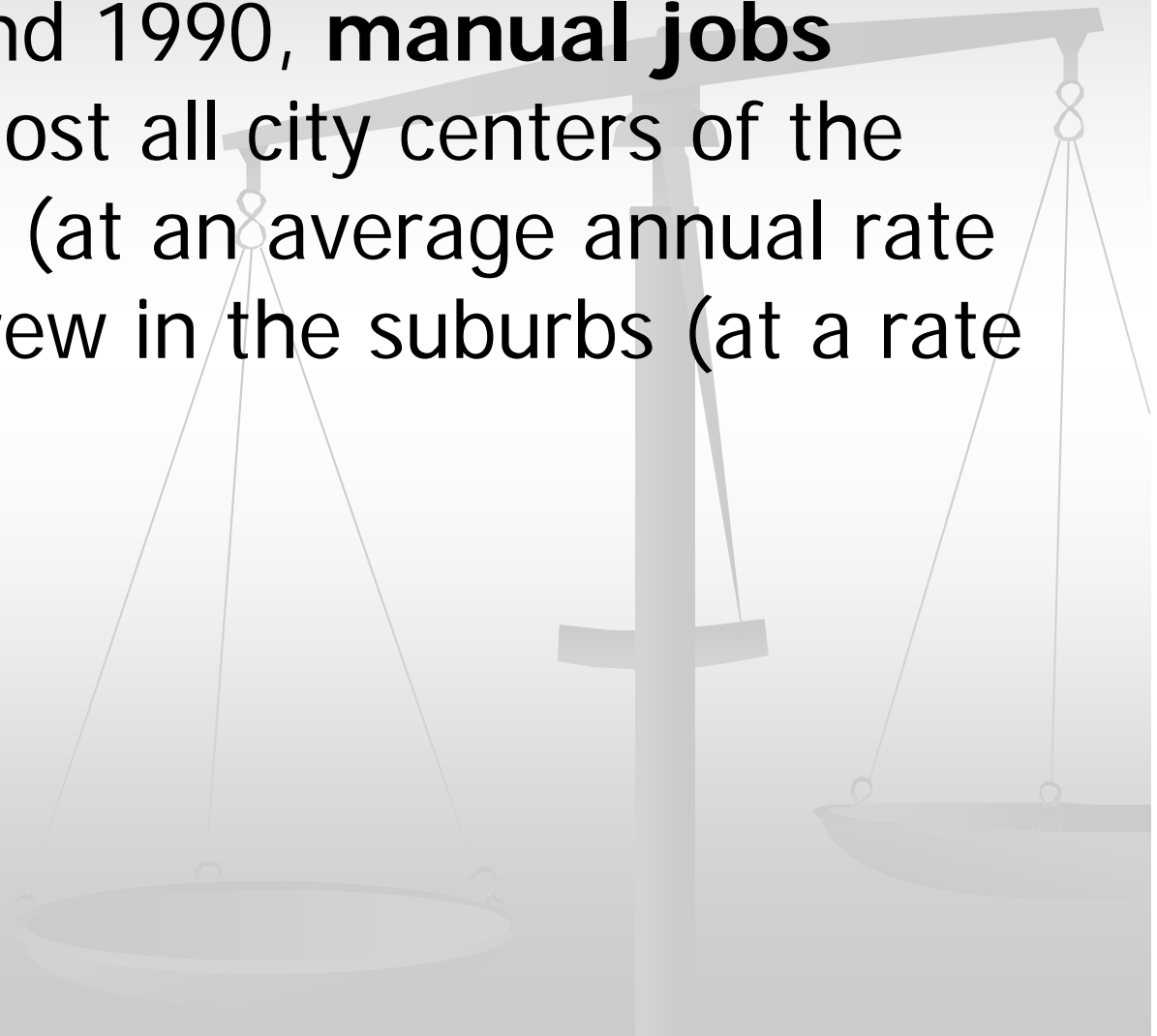
Source: Glaeser and Kahn, NBER W8117, February 2001

Figure 10: Cumulative Distribution of Employment
in New York and Los Angeles



Suburbanization of jobs

- Between 1980 and 1990, **manual jobs** decreased in almost all city centers of the ten largest MSAs (at an average annual rate of -1.7%) and grew in the suburbs (at a rate of +1.2%).



Suburbanization of jobs

- Between 1990 and 2000, these trends continued with a decrease of -1.6% in city centers and an increase of $+0.3\%$ in suburbs.

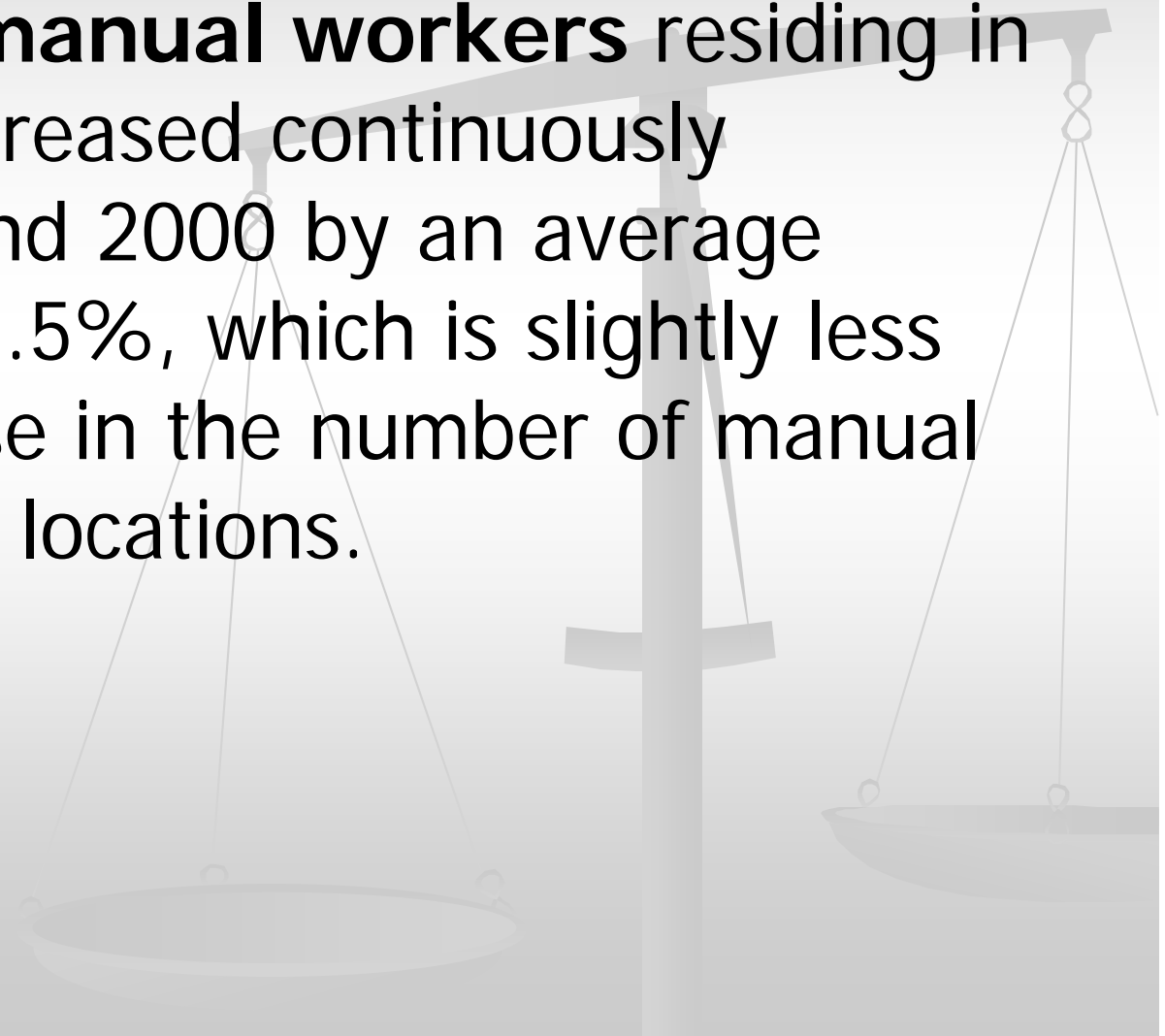


Suburbanization of jobs

- **Services jobs**, which group both skilled and unskilled positions, grew in the city center (+2.4% for 1980-1990 and +.7% for 1990-2000) but much more in the suburbs (+4.1% for 1980-1990 and +2.6% for 1990-2000).

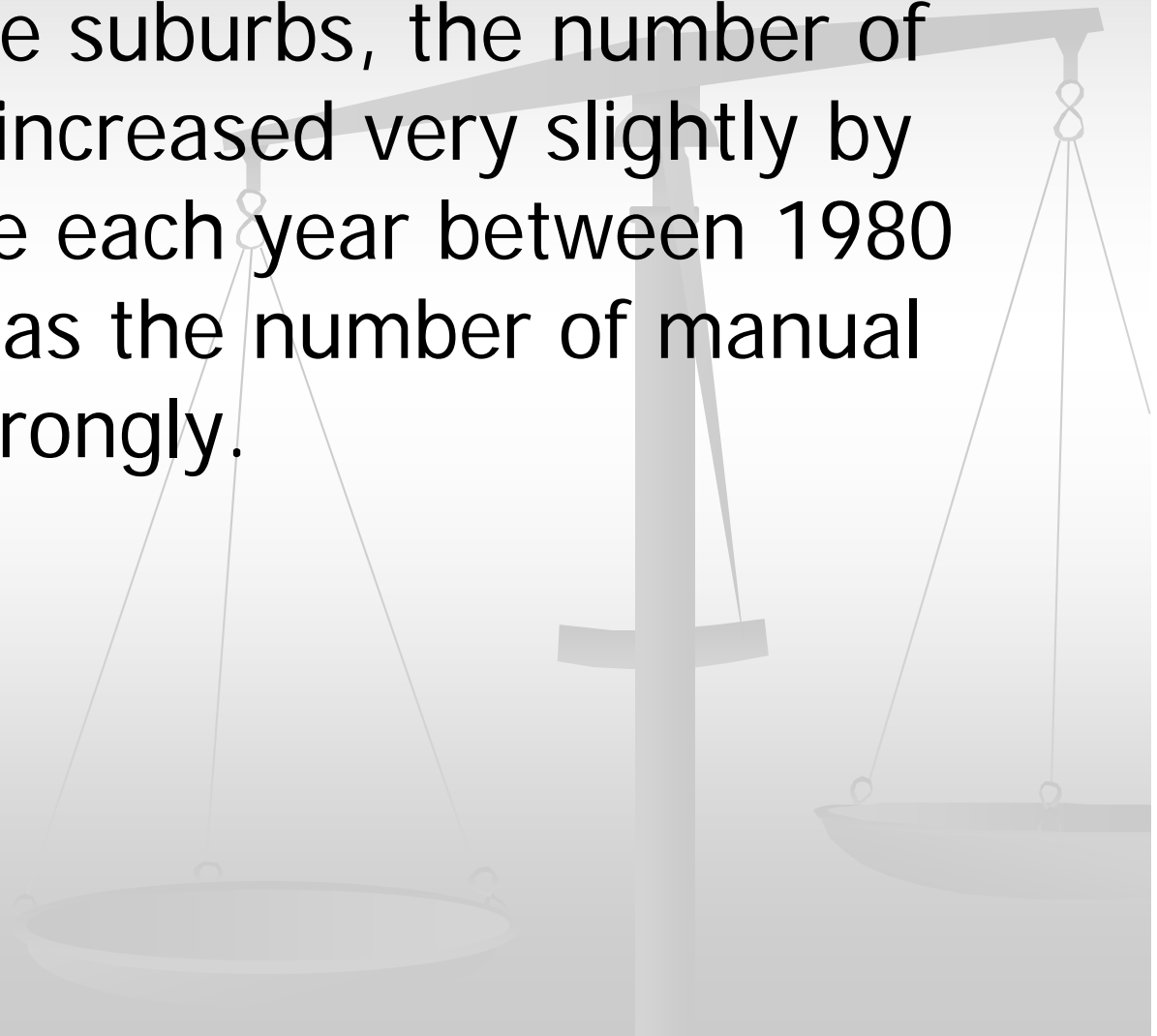
Suburbanization of jobs

- The number of **manual workers** residing in central cities decreased continuously between 1980 and 2000 by an average annual rate of -1.5%, which is slightly less than the decrease in the number of manual jobs in the same locations.



Suburbanization of jobs

- In contrast, in the suburbs, the number of manual workers increased very slightly by $+0.1\%$ on average each year between 1980 and 2000, whereas the number of manual jobs increased strongly.



Decentralization by Industry

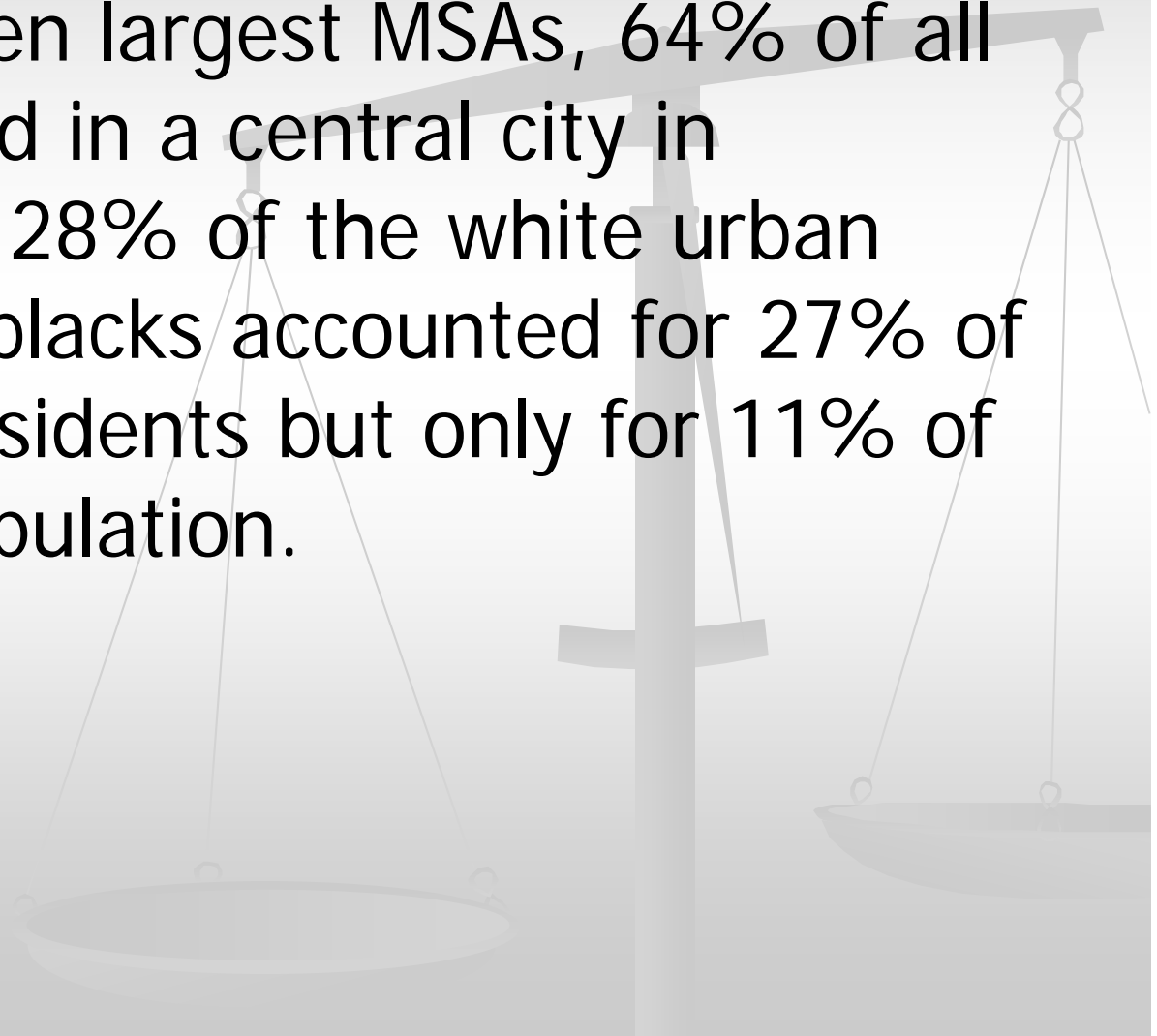
Table 3 Centralization by Industry

	SIC Code	Industry Name	Beta
Ten most centralized	581	Eating and drinking places *	-0.099
	541	Grocery stores	-0.077
	801	Offices and clinics of medical doctors	-0.075
	738	Miscellaneous business services *	-0.075
	866	Religious organizations	-0.074
	832	Individual and family services	-0.067
	736	Personnel supply services *	-0.065
	602	Commercial banks	-0.065
	651	Real estate operators and lessors	-0.063
	653	Real estate agents and managers	-0.060
Ten least centralized	124	Coal mining services	0.000
	140	Nonmetallic minerals, except fuels *	0.000
	214	Tobacco stemming and redrying	0.000
	460	Pipelines, except natural gas *	0.000
	101	Iron ores	0.000
	840	Museums, botanical, zoological gardens *	0.000
	376	Guided missiles, space vehicles, parts *	0.000
	213	Chewing and smoking tobacco	0.000
	147	Chemical and fertilizer minerals *	0.000
	142	Crushed and broken stone *	0.000

For each three digit SIC industry, a OLS regression is estimated. The unit of analysis is the zip code. The dependent variable is $\log(1+\text{job density})$ and the independent variables are MSA fixed effects and the zip code's distance from the CBD. This table reports the coefficient on zip code distance.

Disconnection of blacks from jobs

- In 2000, in the ten largest MSAs, 64% of all urban blacks lived in a central city in comparison with 28% of the white urban population, and blacks accounted for 27% of all central-city residents but only for 11% of the suburban population.



Disconnection of blacks from jobs

- In Detroit, a highly segregated metropolitan area, 70% of inner-city residents are blacks, whereas blacks only account for 6% of the suburban population.
- In Washington, blacks still account for 44% of inner-city residents and only 19% of suburban residents.

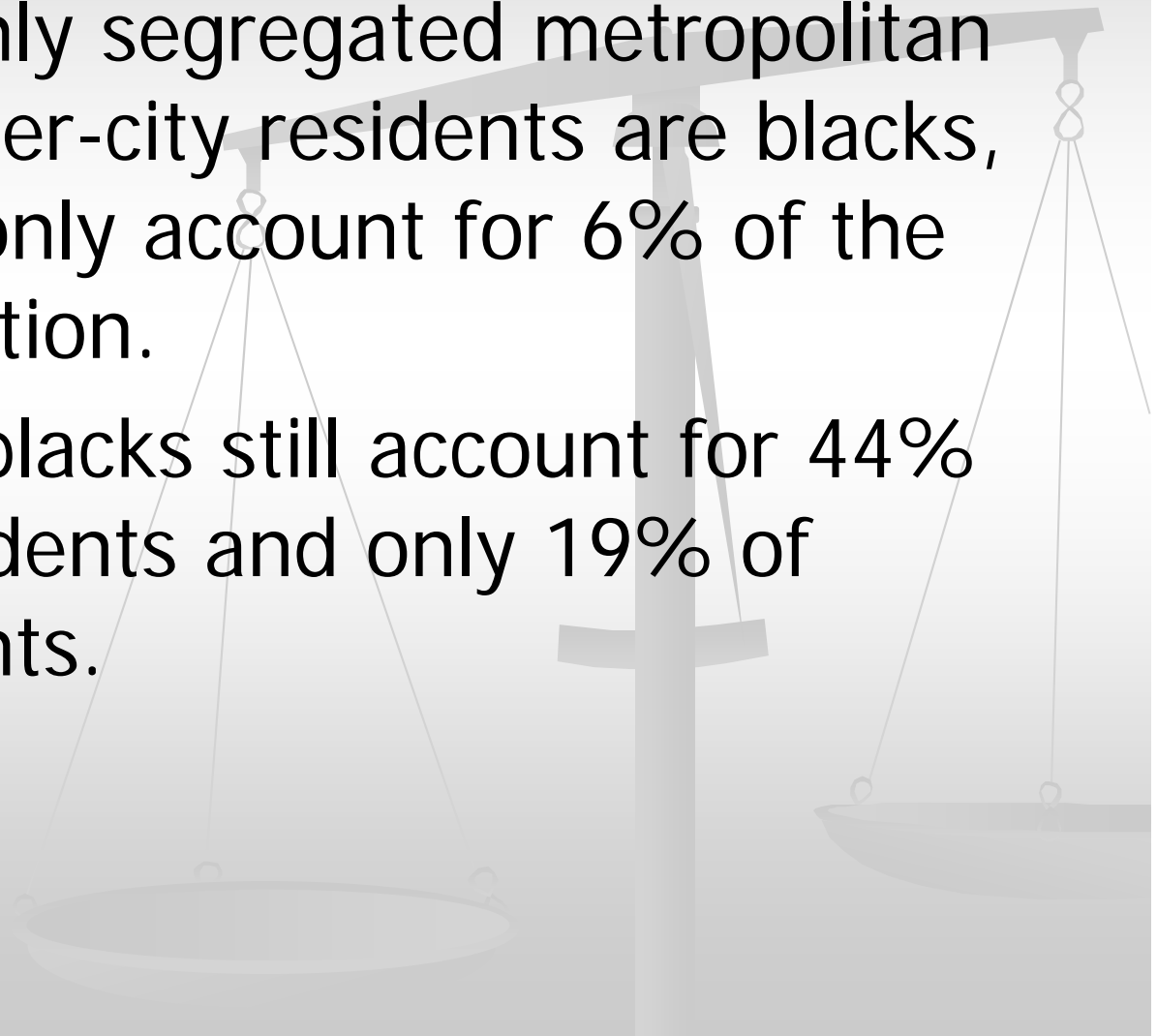


Table 1: Percentage of Population Living in Central City by Race, 1980-2000

	<i>Blacks</i>			<i>Whites</i>		
	<i>1980</i>	<i>1990</i>	<i>2000</i>	<i>1980</i>	<i>1990</i>	<i>2000</i>
<i>Los Angeles– Long Beach</i>	61	58	56	45	45	46
<i>New York</i>	94	94	93	79	78	77
<i>Chicago</i>	88	81	73	31	27	25
<i>Boston</i>	84	79	74	30	27	24
<i>Philadelphia</i>	77	73	68	27	23	18
<i>Washington</i>	53	40	29	14	12	12
<i>Detroit</i>	89	86	80	17	11	8
<i>Houston</i>	87	77	69	50	38	34
<i>Atlanta</i>	53	35	22	8	6	5
<i>Dallas</i>	84	75	63	43	36	28
Ten Largest MSAs	79	72	64	37	32	28

(Source: calculated by the authors from census data)

Table 2: Percentage of Blacks by Location, 1980-2000

	<i>Central City</i>			<i>Suburbs</i>		
	<i>1980</i>	<i>1990</i>	<i>2000</i>	<i>1980</i>	<i>1990</i>	<i>2000</i>
<i>Los Angeles– Long Beach</i>	16	13	11	9	8	8
<i>New York</i>	24	26	24	10	11	12
<i>Chicago</i>	37	36	33	5	6	8
<i>Boston</i>	9	10	11	1	1	2
<i>Philadelphia</i>	38	40	43	7	8	9
<i>Washington</i>	56	51	44	16	19	22
<i>Detroit</i>	56	66	70	3	4	6
<i>Houston</i>	27	27	24	6	9	10
<i>Atlanta</i>	66	67	61	14	19	25
<i>Dallas</i>	25	25	23	5	7	9
Ten Largest MSAs	24	28	27	7	9	11

(Source: calculated by the authors from census data)

Disconnection of blacks from jobs

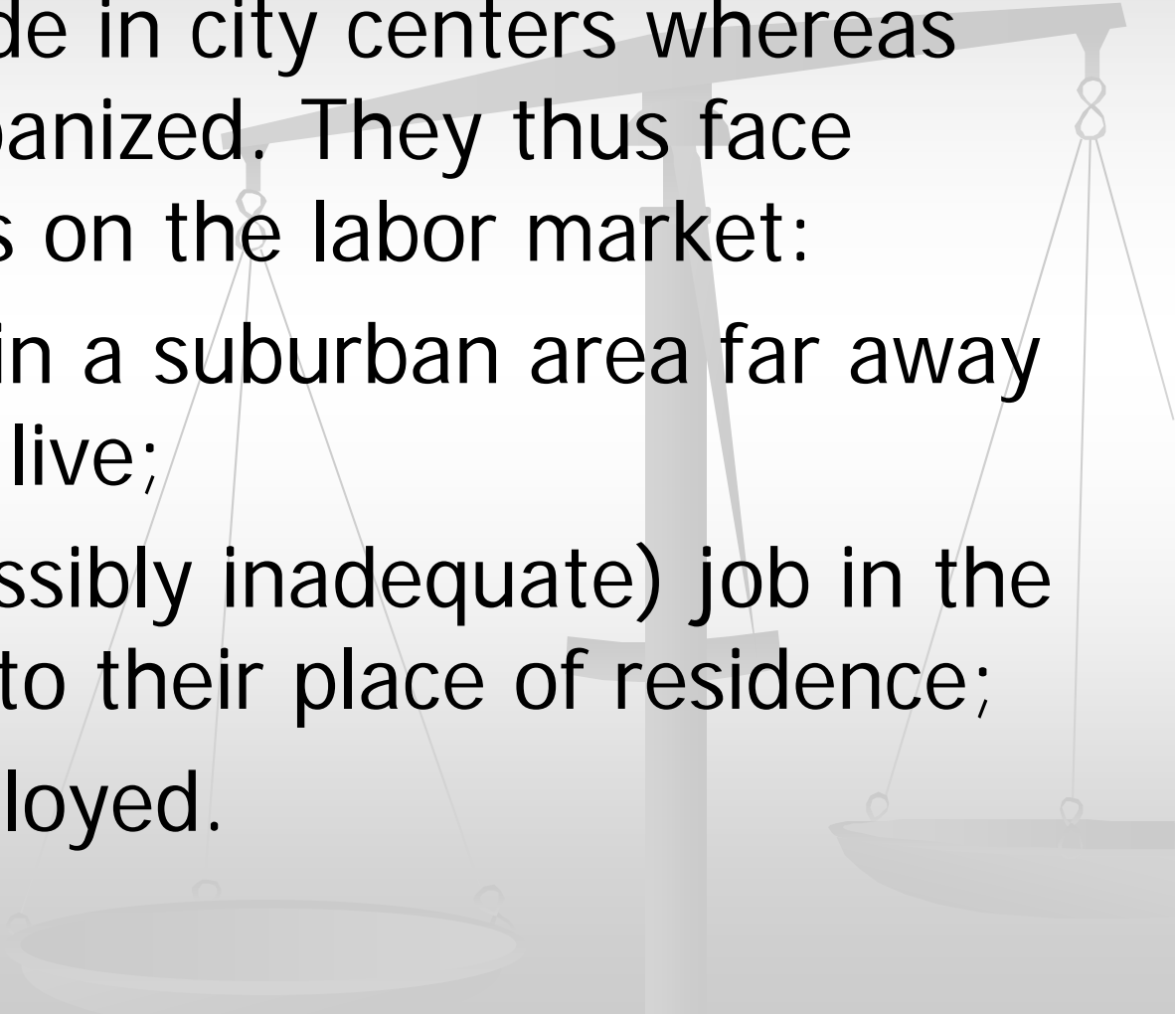
- As blacks are highly concentrated in city centers whereas jobs have suburbanized, there exists a **spatial disconnection** between blacks and jobs.
- In 2000, the dissimilarity indexes between the residences of blacks and jobs and between the residences of blacks and retail jobs were both close to 55%

Table 3: *Dissimilarity Indexes at the Census Tract Level, 1990-2000 (%)*

	1990	2000
<i>Los Angeles</i>	64	57
<i>New York</i>	69	67
<i>Chicago</i>	84	78
<i>Boston</i>	68	63
<i>Philadelphia</i>	75	69
<i>Washington</i>	64	60
<i>Detroit</i>	64	60
<i>Houston</i>	62	57
<i>Atlanta</i>	67	62
<i>Dallas</i>	59	54

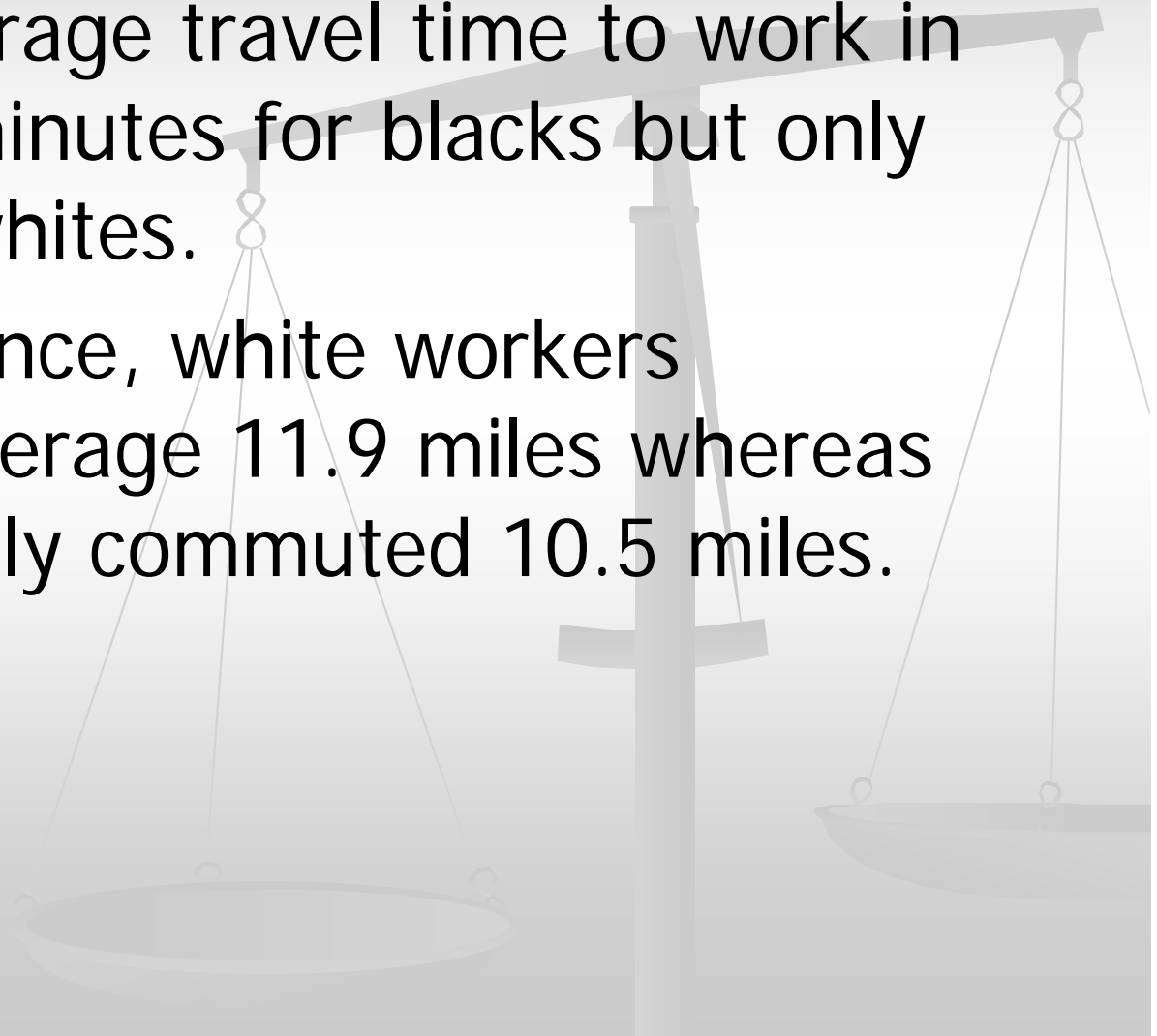
(Source: Glaeser and Vidgor, 2001)

The adverse labor-market outcomes of blacks

- Many blacks reside in city centers whereas jobs have suburbanized. They thus face three alternatives on the labor market:
 - (i) holding a job in a suburban area far away from where they live;
 - (ii) holding a (possibly inadequate) job in the city center close to their place of residence;
 - (iii) being unemployed.
- 

Travel time and distance

- In 1990, the average travel time to work in the US was 24 minutes for blacks but only 20 minutes for whites.
- In terms of distance, white workers commuted on average 11.9 miles whereas black workers only commuted 10.5 miles.



Car ownership



- In 1995, in the US, 5.4 percent of white households have no automobile while 24 percent of the black households do not own a car.
- 64 percent of black households have only one or zero cars whereas this number was 36 percent for white households.

Table 4: Mode Choice and Average Distance for Travel to Work by Race, 1995

	<i>Private Vehicle</i>	<i>Car Pooling</i>	<i>Transit (bus)</i>	<i>Transit (rail)</i>	<i>Walk</i>	<i>Other</i>
<i>Mode Choice (% of Trips)</i>						
<i>Black</i>	62	20	8	4	3	3
<i>White</i>	79	14	1	1	2	3
<i>Average distance (in miles)</i>						
<i>Black</i>	10.6	10.9	10.0	14.1	1.2	-
<i>White</i>	11.8	13.2	12.1	17.3	0.7	-

(Source: extracted from McGuckin, 2000, Table 4-8 and Table 4-15)

Labor-market outcomes

- In the twenty-five largest MSAs, the 1997 unemployment rate of inner-city blacks was 12.5%, which was 5 percentage points above the unemployment rate of suburban blacks in the same MSAs (standing at 7.6%) and more than three times the unemployment rate of suburban whites (at a low 3.7%).

Labor-market outcomes

- The contrast between central cities and suburbs was much dampened for whites since the unemployment rate of central-city whites (5.5%) was only 1.8 points above the unemployment rate of suburban whites.

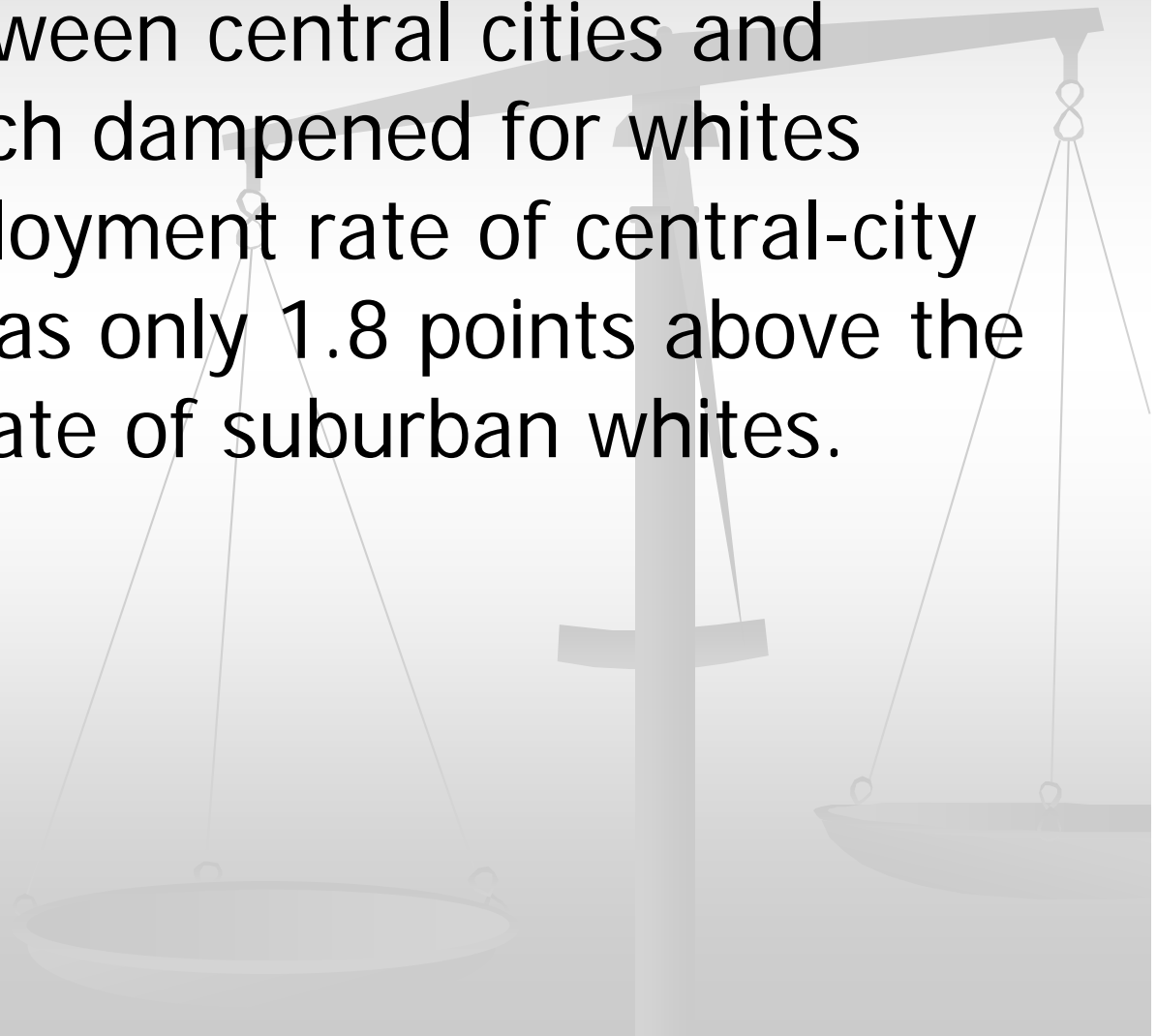


Table 5: Distribution of Recently Filled Jobs and People (in %): Pooled Sample of MSAs

	<i>Central City</i>	<i>Suburbs</i>
<i>Distribution of Recently-Filled Jobs</i>		
<i>All Jobs</i>	25.2	74.8
<i>Low-skill Jobs*</i>	20.4	79.6
<i>Distribution of People</i>		
<i>Whites</i>	13.1	86.9
<i>Blacks</i>	65.3	34.8
<i>White H.S. dropouts</i>	22.2	77.9
<i>Black H.S. dropouts</i>	76.3	23.6

(Source: Stoll, Holzer and Ihlandfeldt, 1999)

* No H.S. diploma, no experience of training, no reading, writing, math

Table 6: *Unemployment Rates, 1990-2000 (%)*

	<i>Central City</i>		<i>Suburbs</i>	
	<i>1990</i>	<i>2000</i>	<i>1990</i>	<i>2000</i>
<i>Los Angeles– Long Beach</i>	6.4	5.9	5.3	4.9
<i>New York</i>	7.2	5.7	3.2	3.0
<i>Chicago</i>	7.9	5.5	4.9	3.4
<i>Boston MSA</i>	4.9	2.7	4.6	2.1
<i>Philadelphia</i>	6.2	6.4	4.3	3.1
<i>Washington</i>	4.8	4.3	2.3	2.0
<i>Detroit</i>	13.9	6.1	6.6	2.5
<i>Houston</i>	6.5	5.0	4.3	3.2
<i>Atlanta</i>	6.5	4.7	4.2	2.6
<i>Dallas</i>	6.1	3.8	4.4	2.5
Ten Largest MSAs	7.0	5.4	4.5	3.0

(calculated by the author from the Current Labor Force Survey)

Table 7: Unemployment in the Twenty-Five Largest Cities, 1997 (%)

	<i>Central City</i>	<i>Suburbs</i>
<i>Whites</i>	5.5	3.7
<i>Blacks</i>	12.5	7.6
<i>Total Population*</i>	7.3	4.0

(Source: Brueckner and Zenou, 2003)

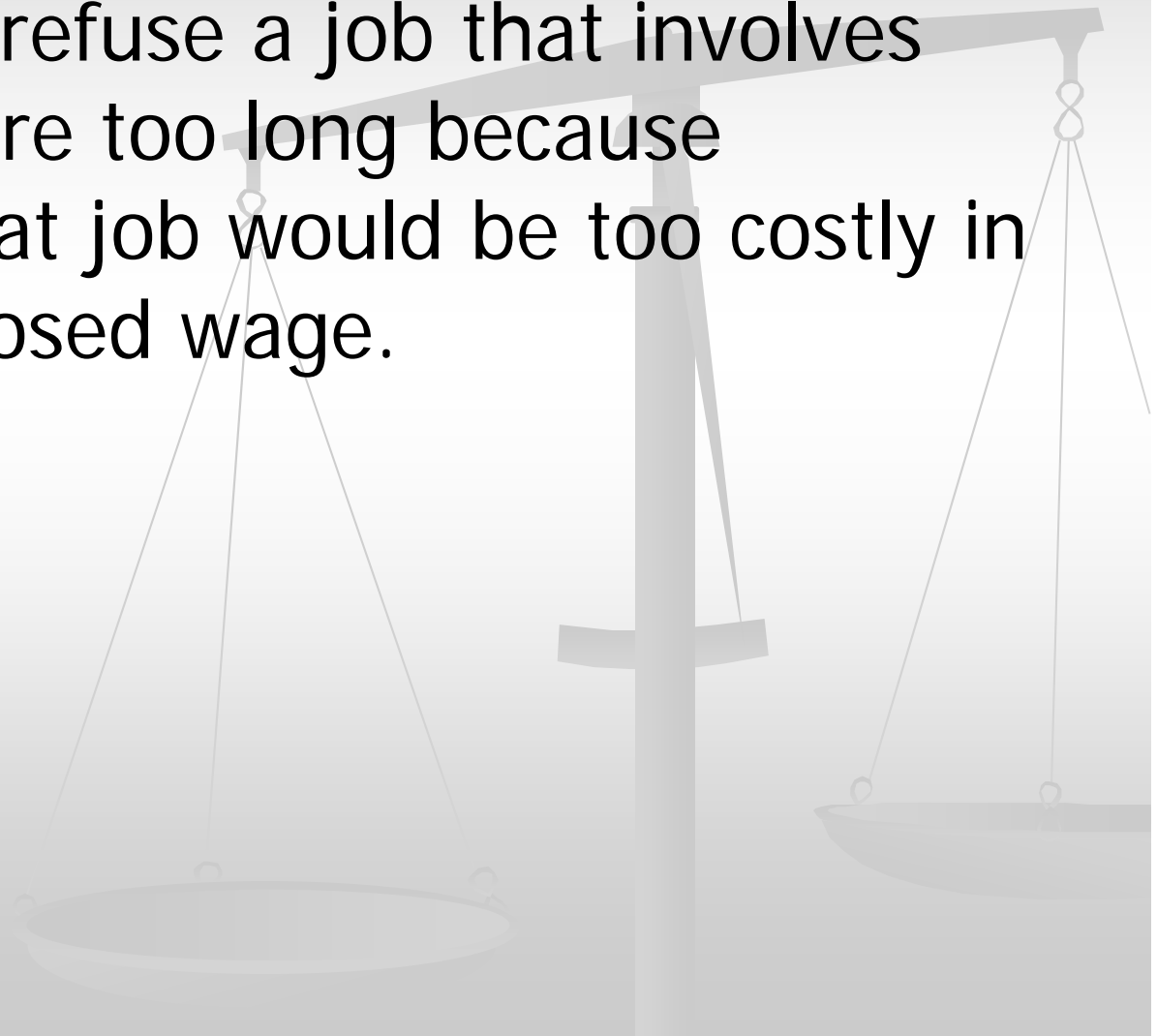
* Including Hispanic origin.

Income differences

- 1990 average income of a central-city black was close to \$8,700, which was little less than half the average income of a central-city white.
- Suburban blacks had an average per-capita income of \$11,000, which was one third lower than that of suburban whites but 25% higher than that of central-city blacks.

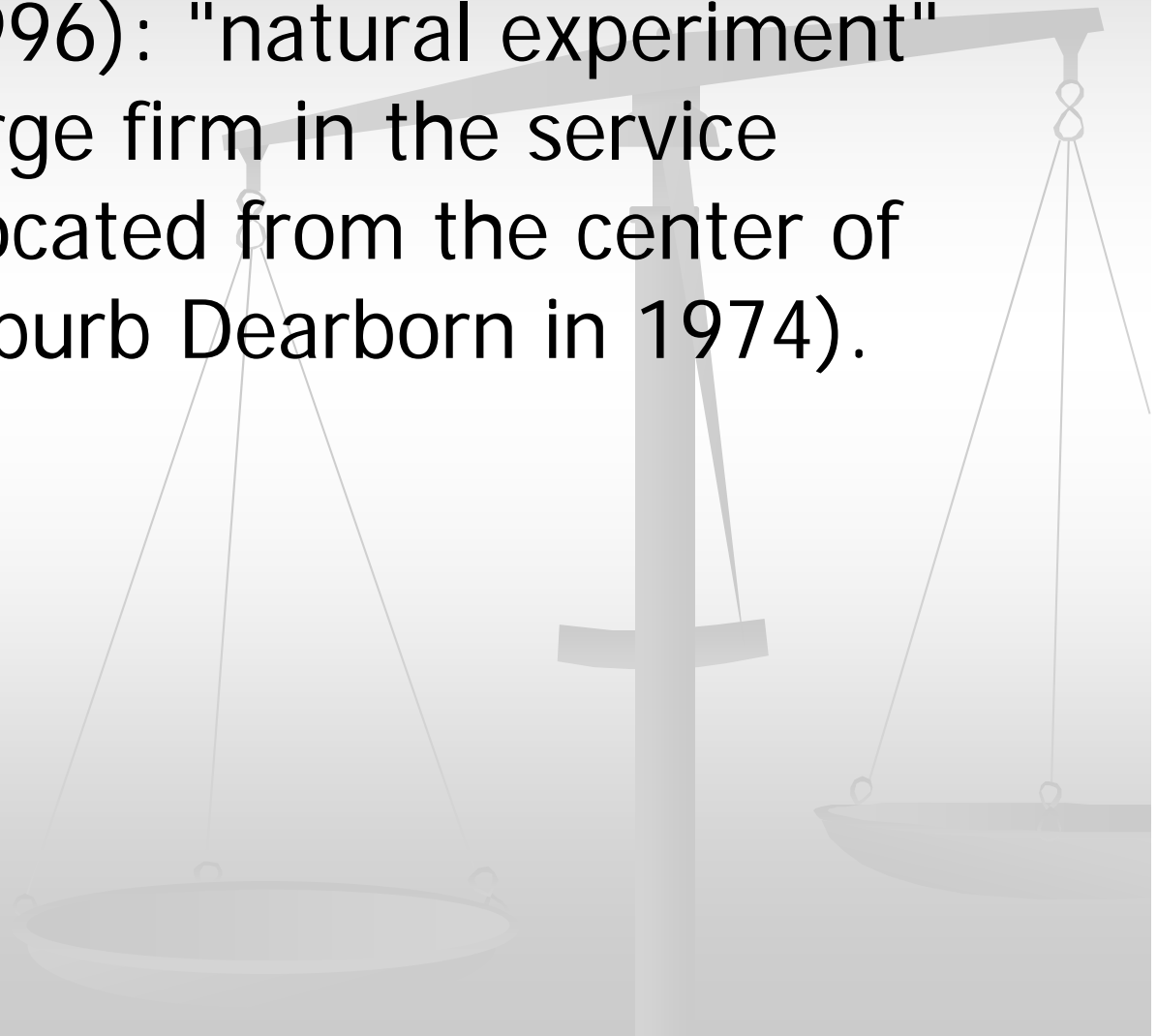
Mechanisms of spatial mismatch

- (i) Workers may refuse a job that involves commutes that are too long because commuting to that job would be too costly in view of the proposed wage.



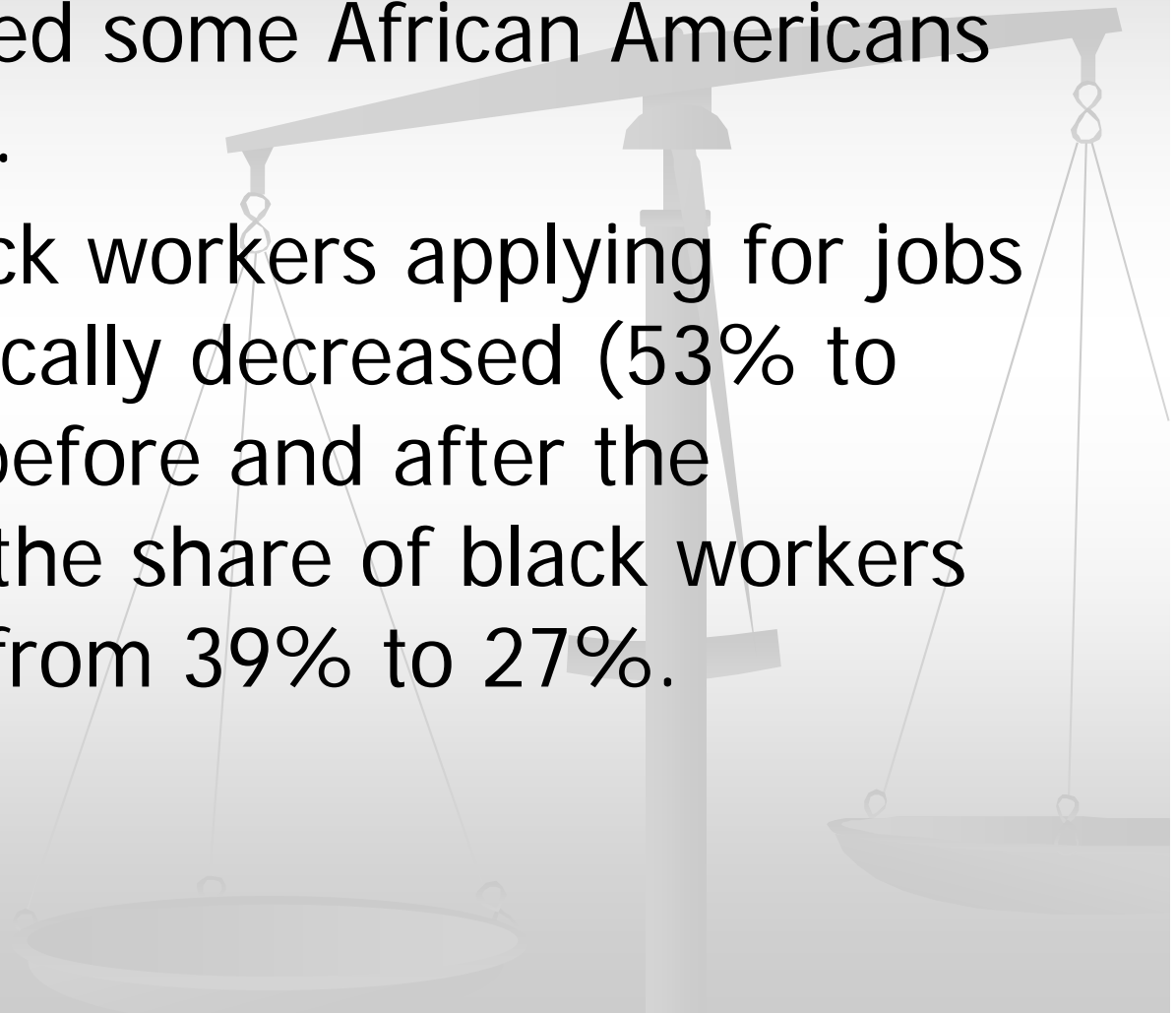
(i) Too long commutes

- Zax and Kain (1996): "natural experiment" (the case of a large firm in the service industry that relocated from the center of Detroit to the suburb Dearborn in 1974).



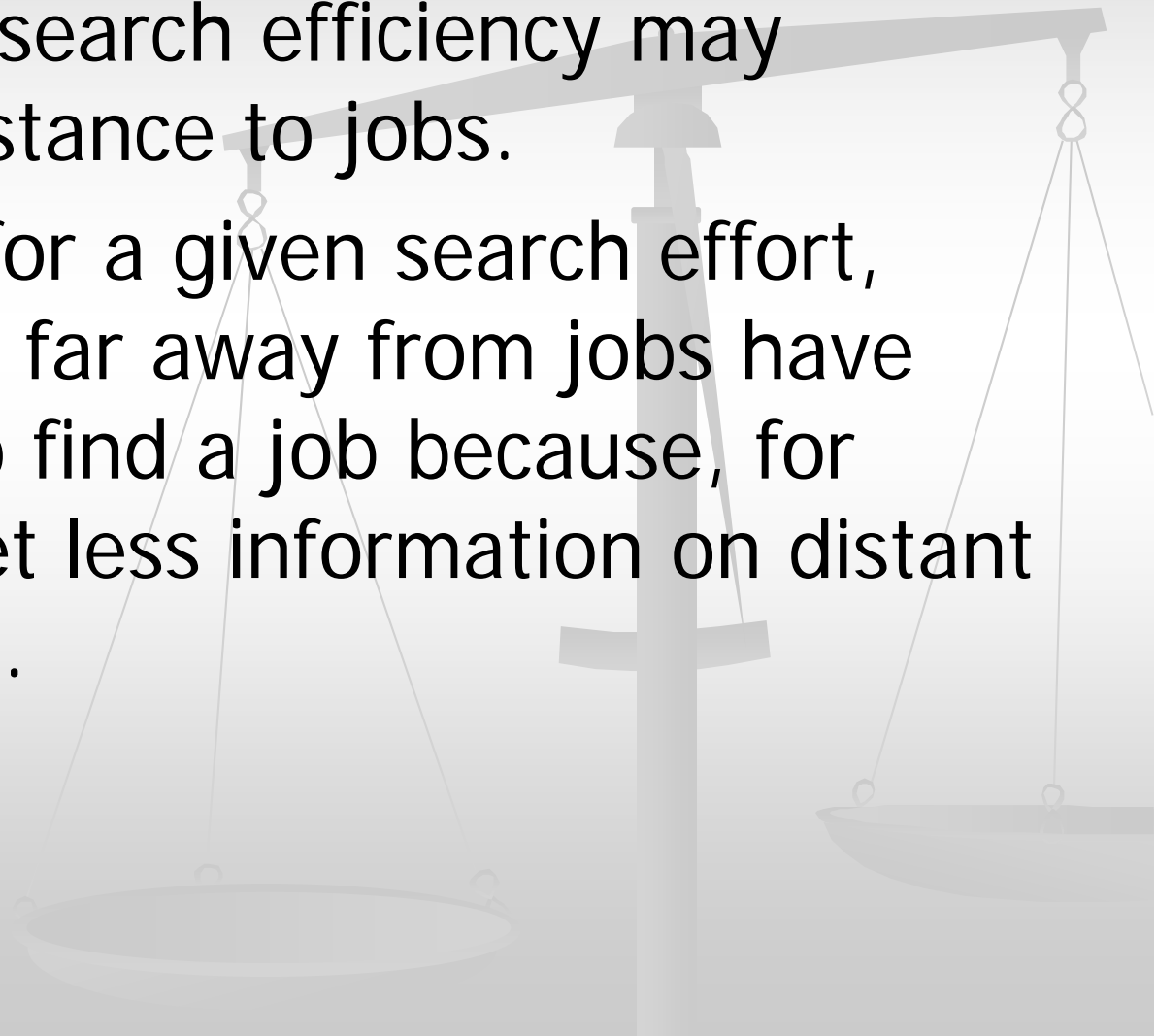
(i) Too long commutes

- Segregation forced some African Americans to quit their jobs.
- The share of black workers applying for jobs to the firm drastically decreased (53% to 25% in 5 years before and after the relocation), and the share of black workers in hires also fell from 39% to 27%.

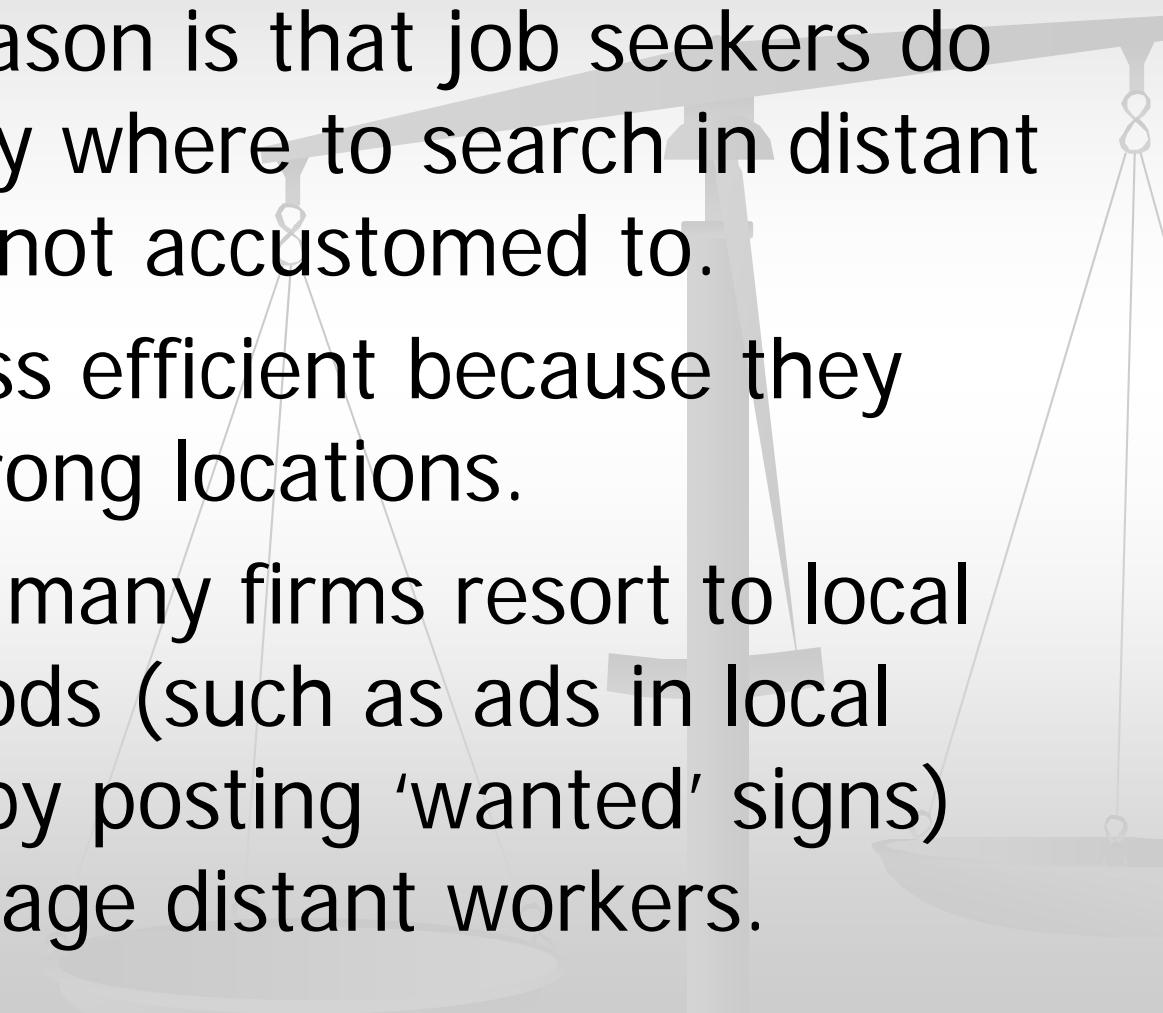


Mechanisms of spatial mismatch

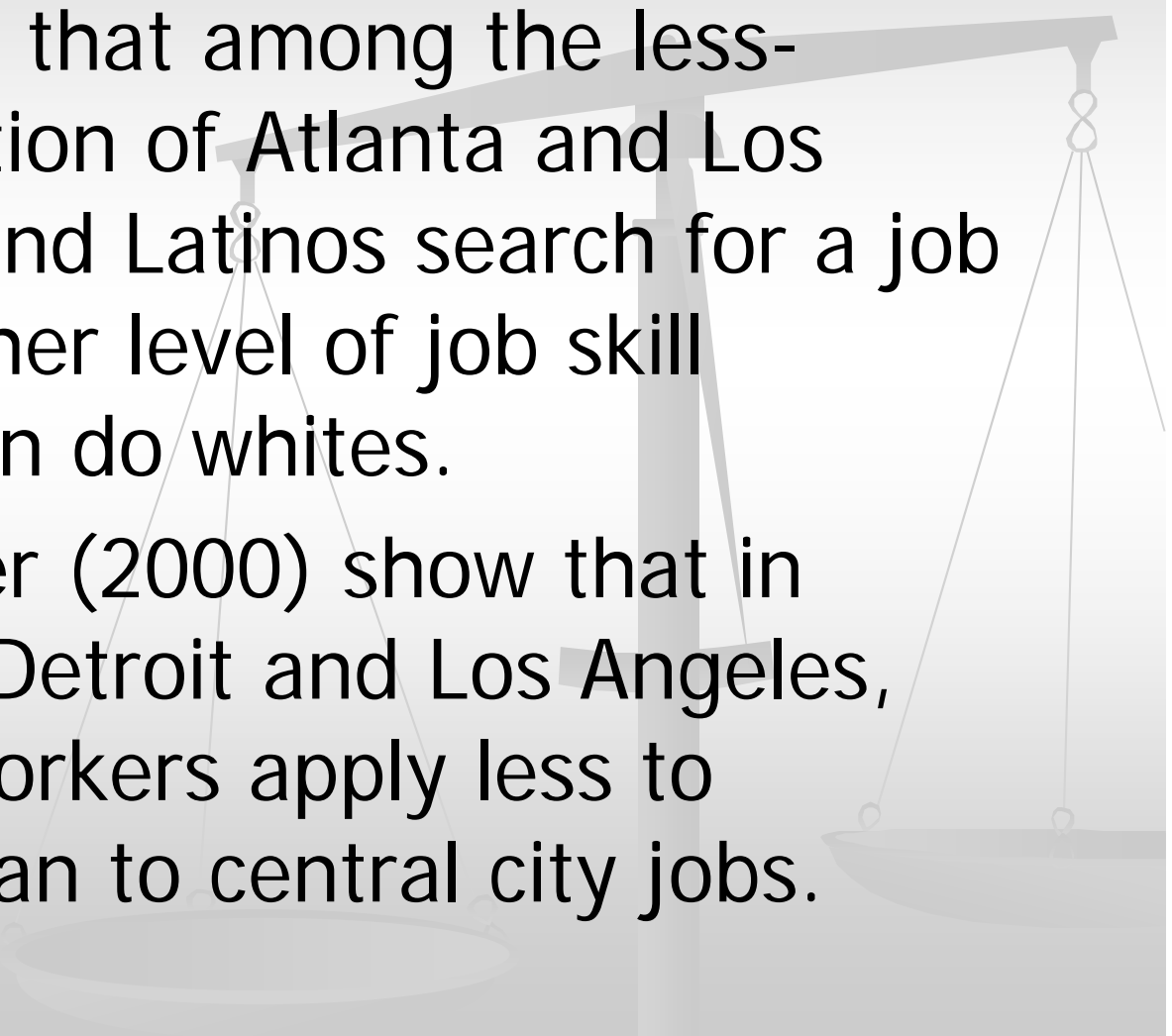
- (ii) Workers' job search efficiency may decrease with distance to jobs.
- In other words, for a given search effort, workers who live far away from jobs have fewer chances to find a job because, for instance, they get less information on distant job opportunities.



(ii) Workers' job search efficiency

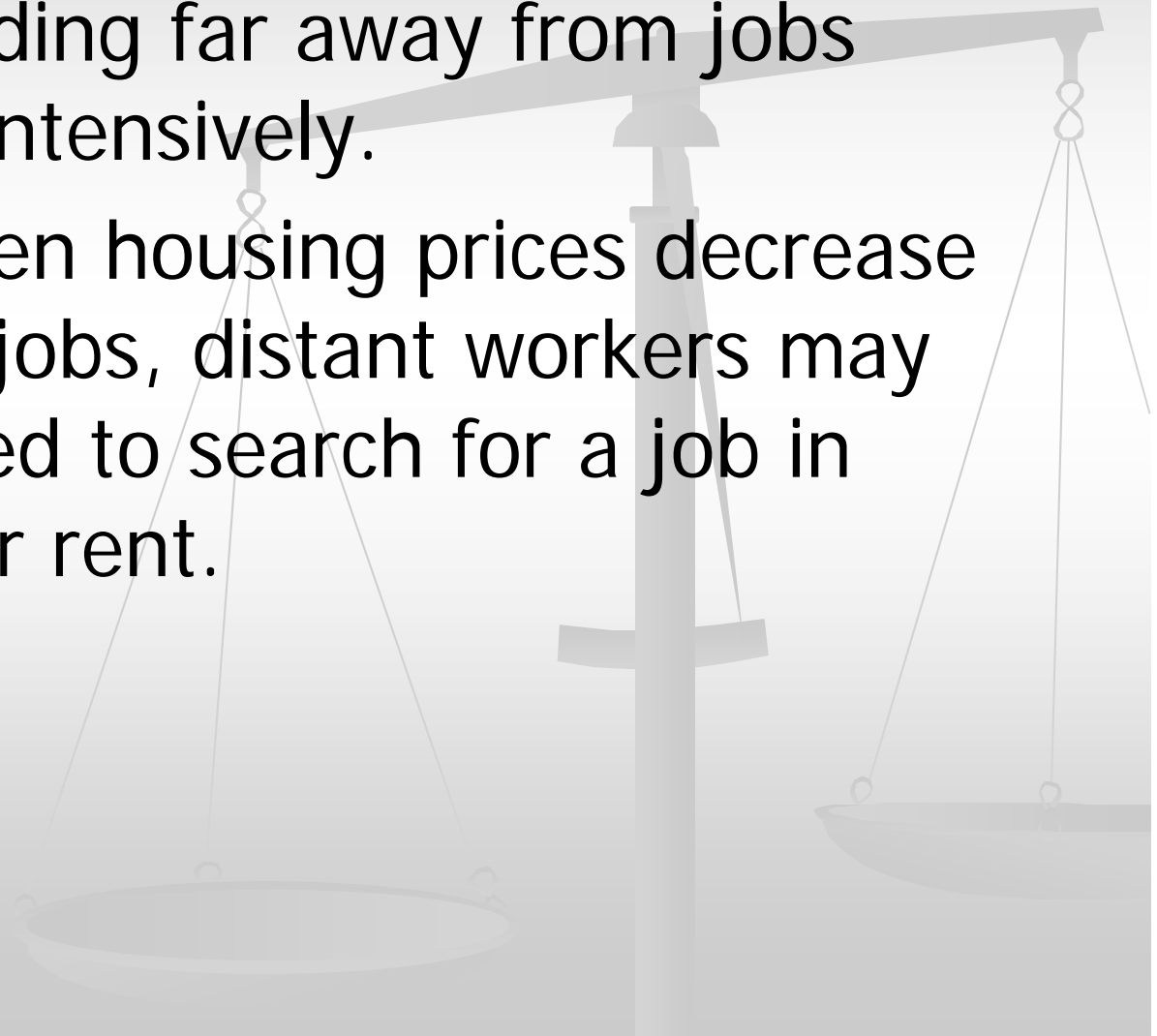
- One possible reason is that job seekers do not know exactly where to search in distant places they are not accustomed to.
 - They may be less efficient because they search in the wrong locations.
 - It could be that many firms resort to local recruiting methods (such as ads in local newspapers or by posting 'wanted' signs) which disadvantage distant workers.
- 

(ii) Workers' job search efficiency

- Stoll (2005) finds that among the less-educated population of Atlanta and Los Angeles, blacks and Latinos search for a job in areas with higher level of job skill requirements than do whites.
 - Holzer and Reaser (2000) show that in Atlanta, Boston, Detroit and Los Angeles, unskilled black workers apply less to suburban jobs than to central city jobs.
- 

Mechanisms of spatial mismatch

- (iii) Workers residing far away from jobs may not search intensively.
- For instance, when housing prices decrease with distance to jobs, distant workers may feel less pressured to search for a job in order to pay their rent.

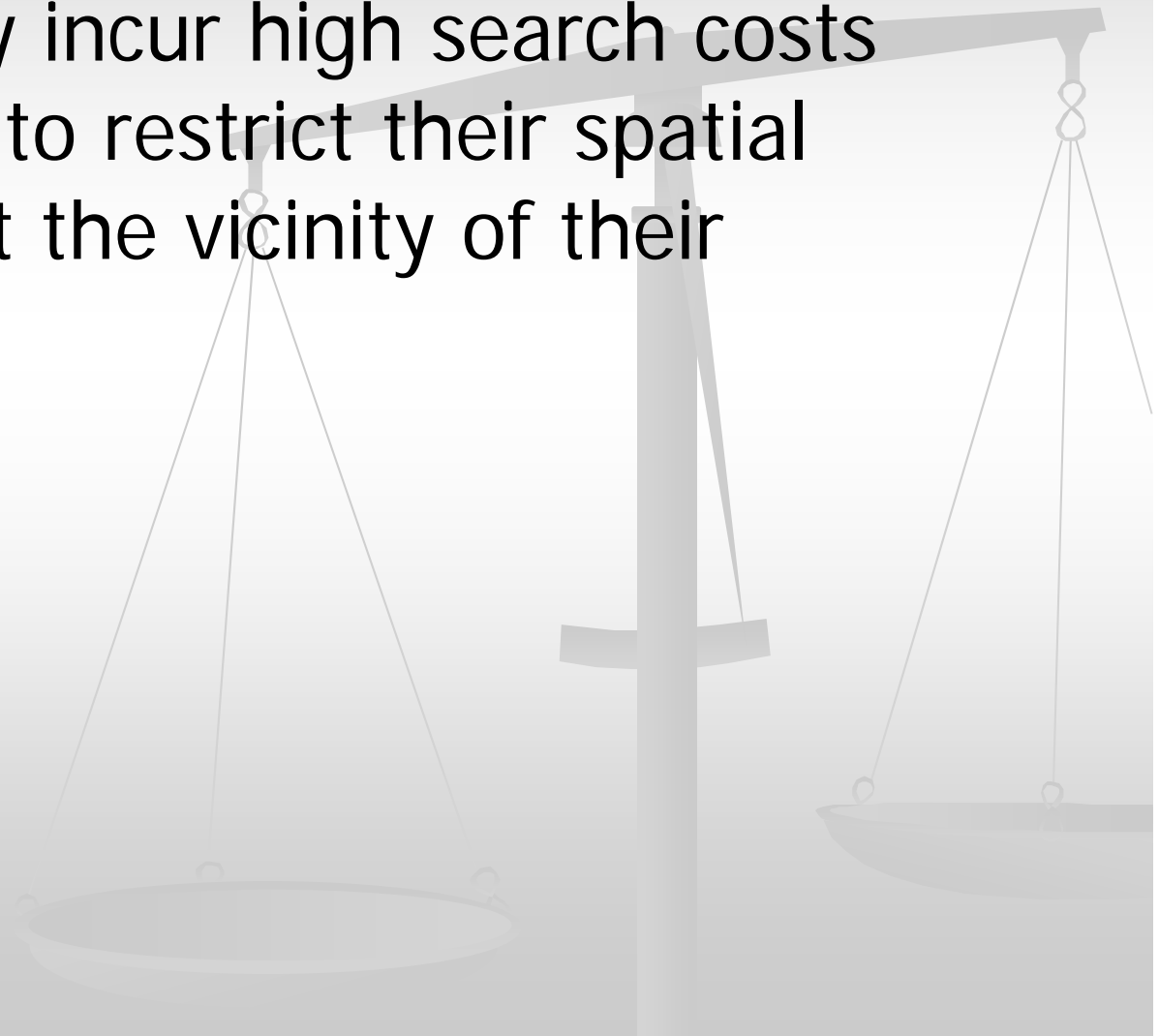


(iii) Workers' job search efficiency

- Using English sub-regional data, Patacchini and Zenou (2006) empirically confirm that living in areas where rents are higher induces workers to search more for a job:
- a one-standard deviation increase in housing prices raises search intensity by about one third of a standard deviation.

Mechanisms of spatial mismatch

- (iv) Workers may incur high search costs that cause them to restrict their spatial search horizon at the vicinity of their neighborhood.



(iv) High search costs

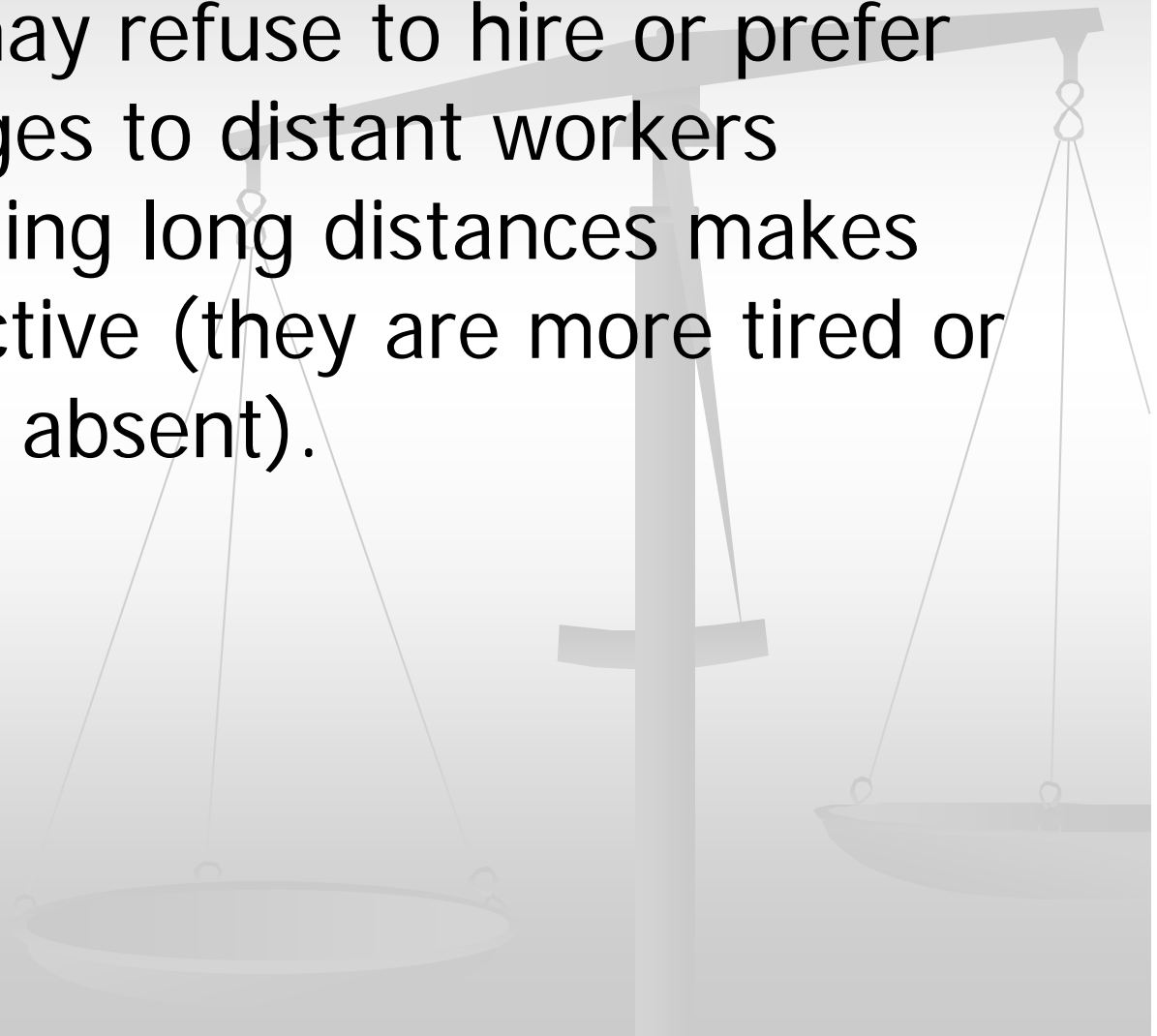
- Stoll (1999) shows that increasing blacks' access to cars or decreasing their average distance to search areas (thus decreasing their search costs) should lead to a greater geographic job search.
- Holzer, Ihlanfeldt and Sjoquist (1994) found that blacks cover less distance than whites while searching.

Mechanisms of spatial mismatch

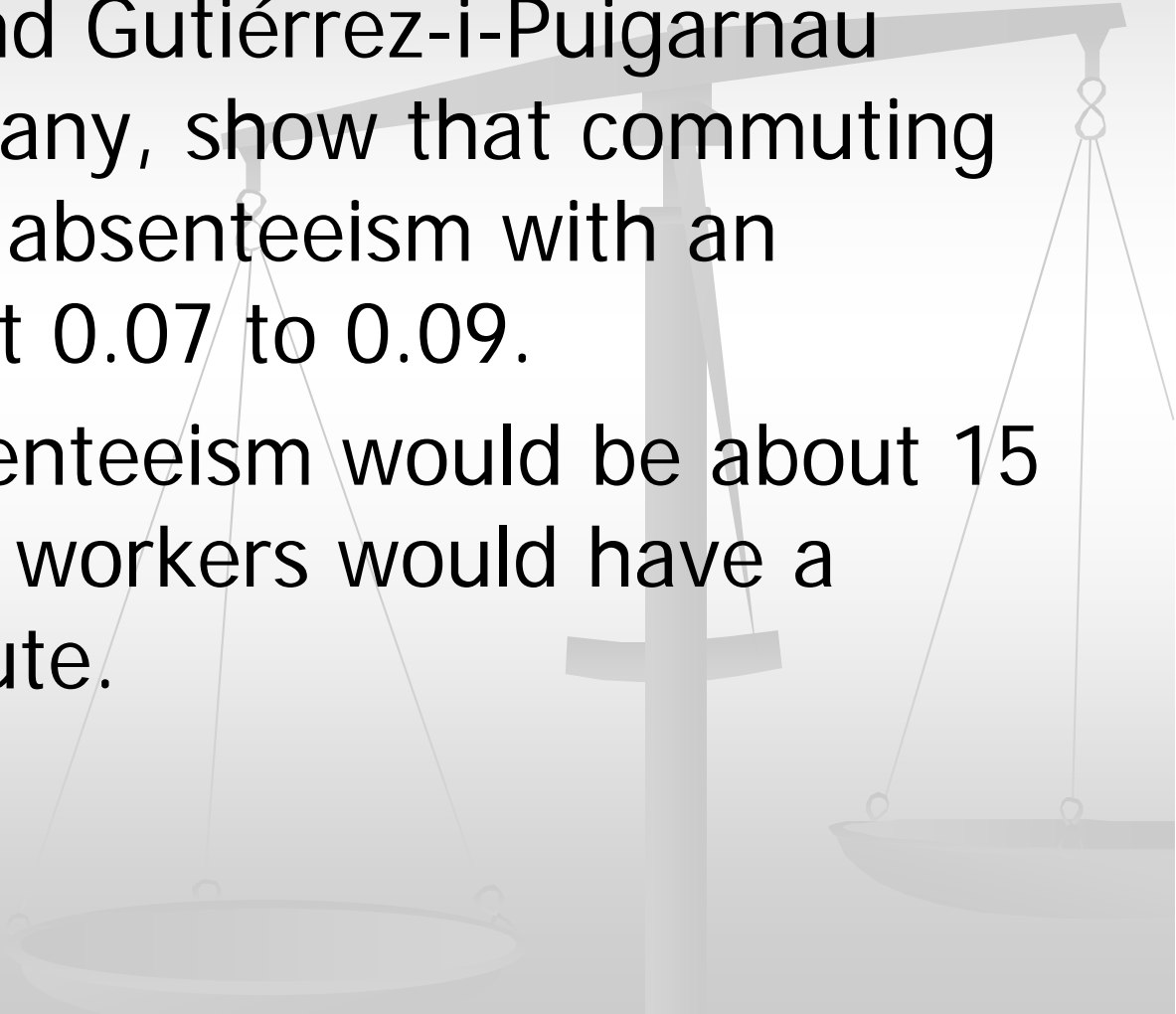
- (v) Employers may discriminate against residentially segregated workers because of the stigma or prejudice associated with their residential location (*redlining*).
- In particular, suburban employers may consider that, on average, inner city residents have bad work habits or are more likely to be criminal (*statistical discrimination*).

Mechanisms of spatial mismatch

- (vi) Employers may refuse to hire or prefer to pay lower wages to distant workers because commuting long distances makes them less productive (they are more tired or more likely to be absent).

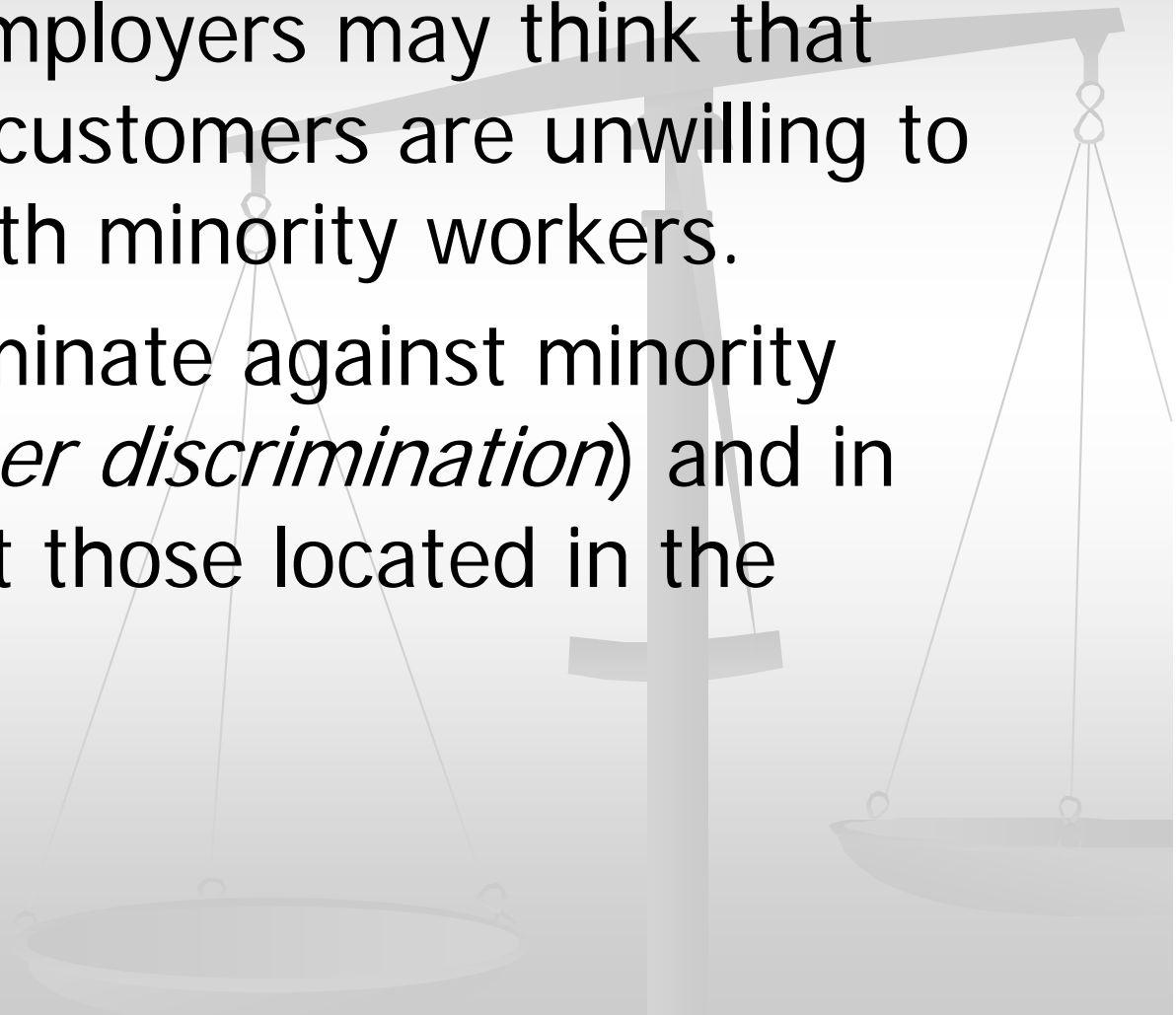


(vi) Distance and absenteeism

- van Ommeren and Gutiérrez-i-Puigarnau (2011), for Germany, show that commuting distance induces absenteeism with an elasticity of about 0.07 to 0.09.
 - On average, absenteeism would be about 15 to 20% less if all workers would have a negligible commute.
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Mechanisms of spatial mismatch

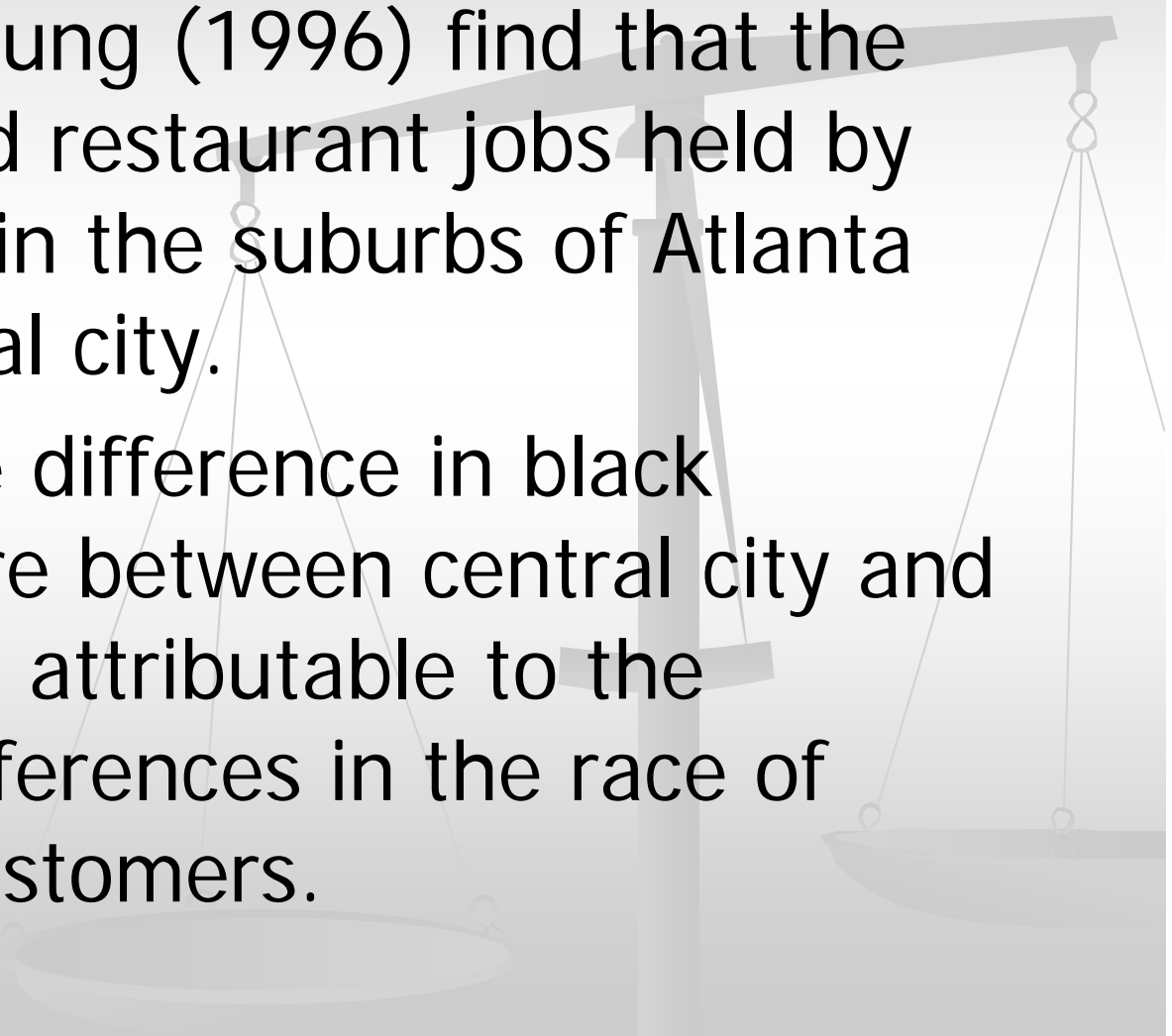
- (vii) Suburban employers may think that their white local customers are unwilling to have contacts with minority workers.
- They thus discriminate against minority workers (*customer discrimination*) and in particular against those located in the central city.



(vii) Customer discrimination

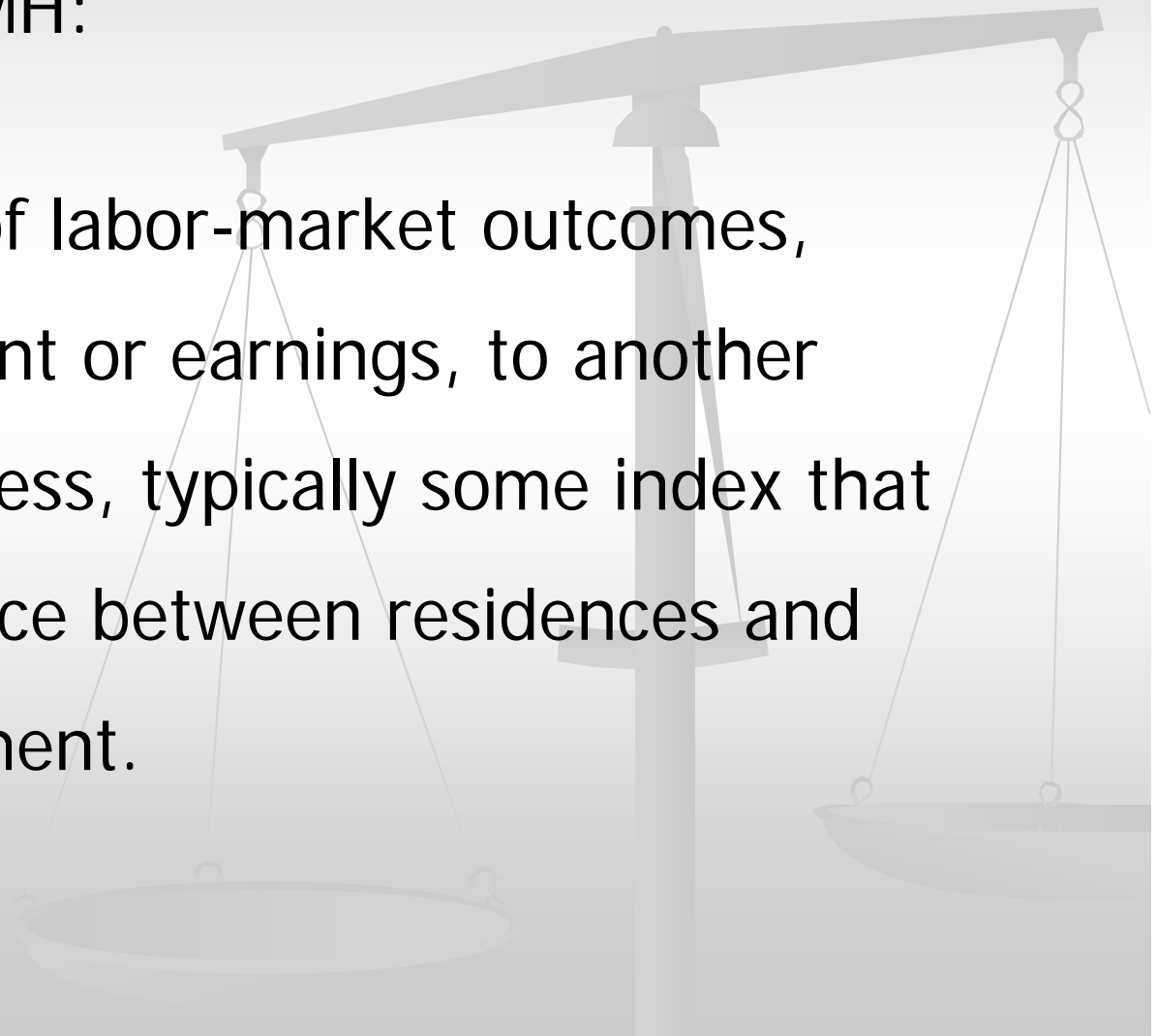
- Fast-food restaurants within Atlanta: Ihlanfeldt and Young (1994) find evidence that consumer prejudice affects the wages paid to black workers.
- They find that as distance from the CBD increases, there exists a negative effect on wages from greater customer discrimination.

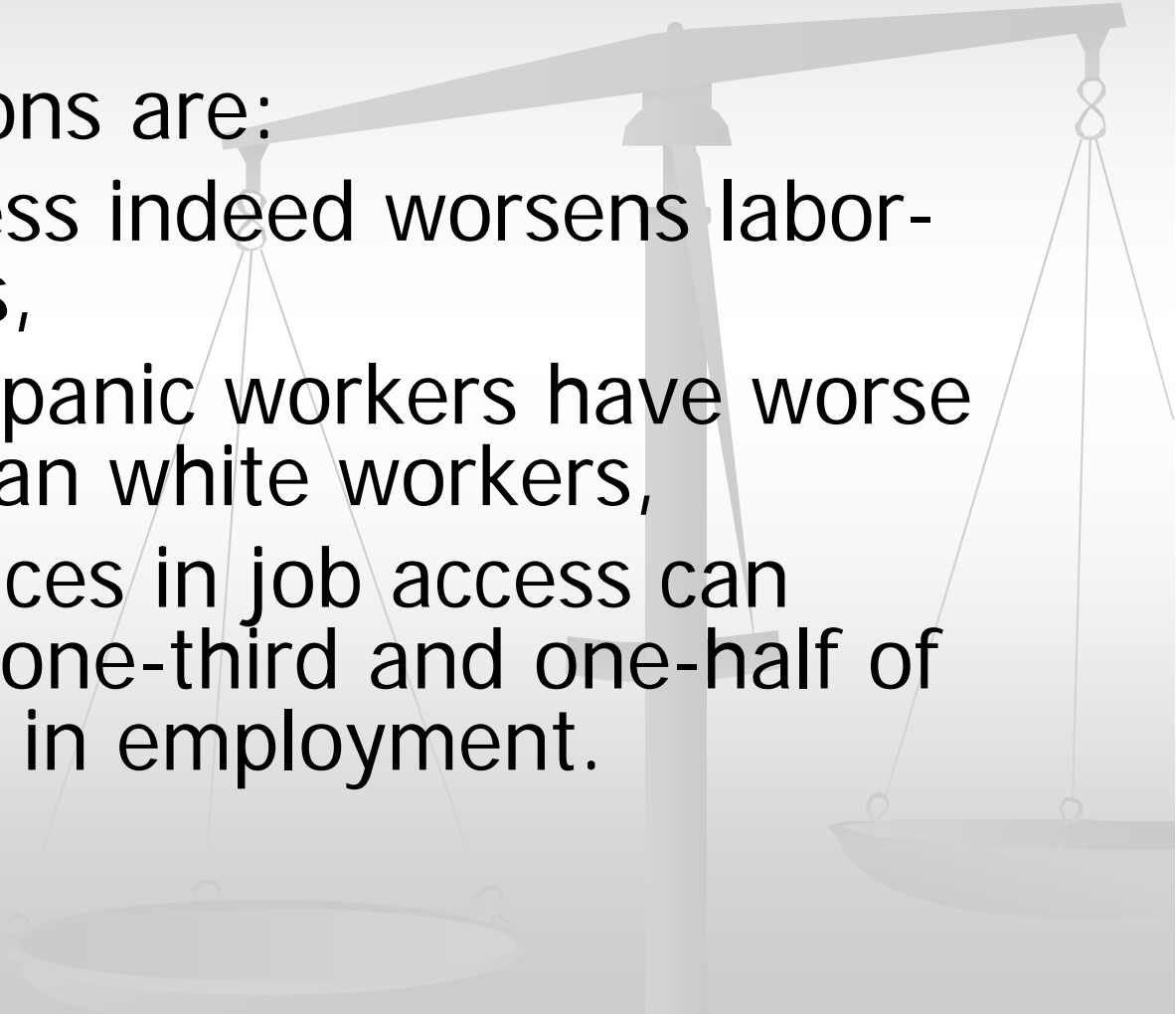
(vii) Customer discrimination

- Ihlanfeldt and Young (1996) find that the share of fast-food restaurant jobs held by blacks is smaller in the suburbs of Atlanta than in the central city.
 - 29 percent of the difference in black employment share between central city and suburban firms is attributable to the city/suburban differences in the race of managers and customers.
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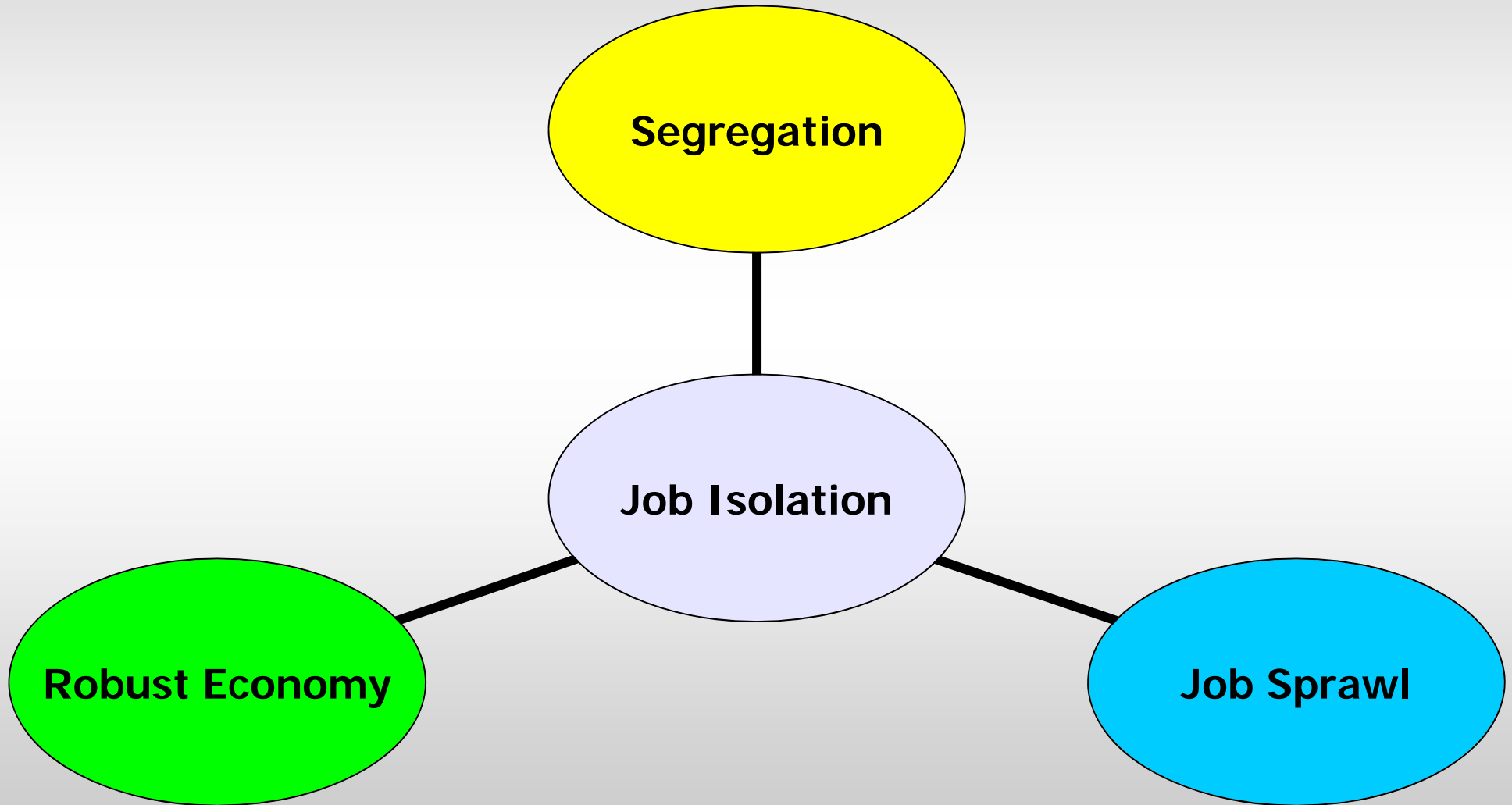
SMH

- Empirical test of SMH:
- Relate a measure of labor-market outcomes, typically employment or earnings, to another measure of job access, typically some index that captures the distance between residences and centres of employment.



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- General conclusions are:
 - (a) poor job access indeed worsens labor-market outcomes,
 - (b) black and Hispanic workers have worse access to jobs than white workers,
 - (c) racial differences in job access can explain between one-third and one-half of racial differences in employment.

What drives spatial mismatch?



Main Variable

- **Mismatch Index – Index of dissimilarity between blacks (whites, Latinos) and total jobs:**

(1)
$$D = \frac{1}{2} \sum_i \left| \frac{Black_i}{Black} - \frac{Employment_i}{Employment} \right|.$$

Weaknesses:

- may not measure physical distance between blacks and jobs
- may not measure low-skill jobs

Strengths:

- consistent mismatch measure across metro areas
- easy interpretation

Figure 1: Average Job Isolation Levels for All by Race, 2000

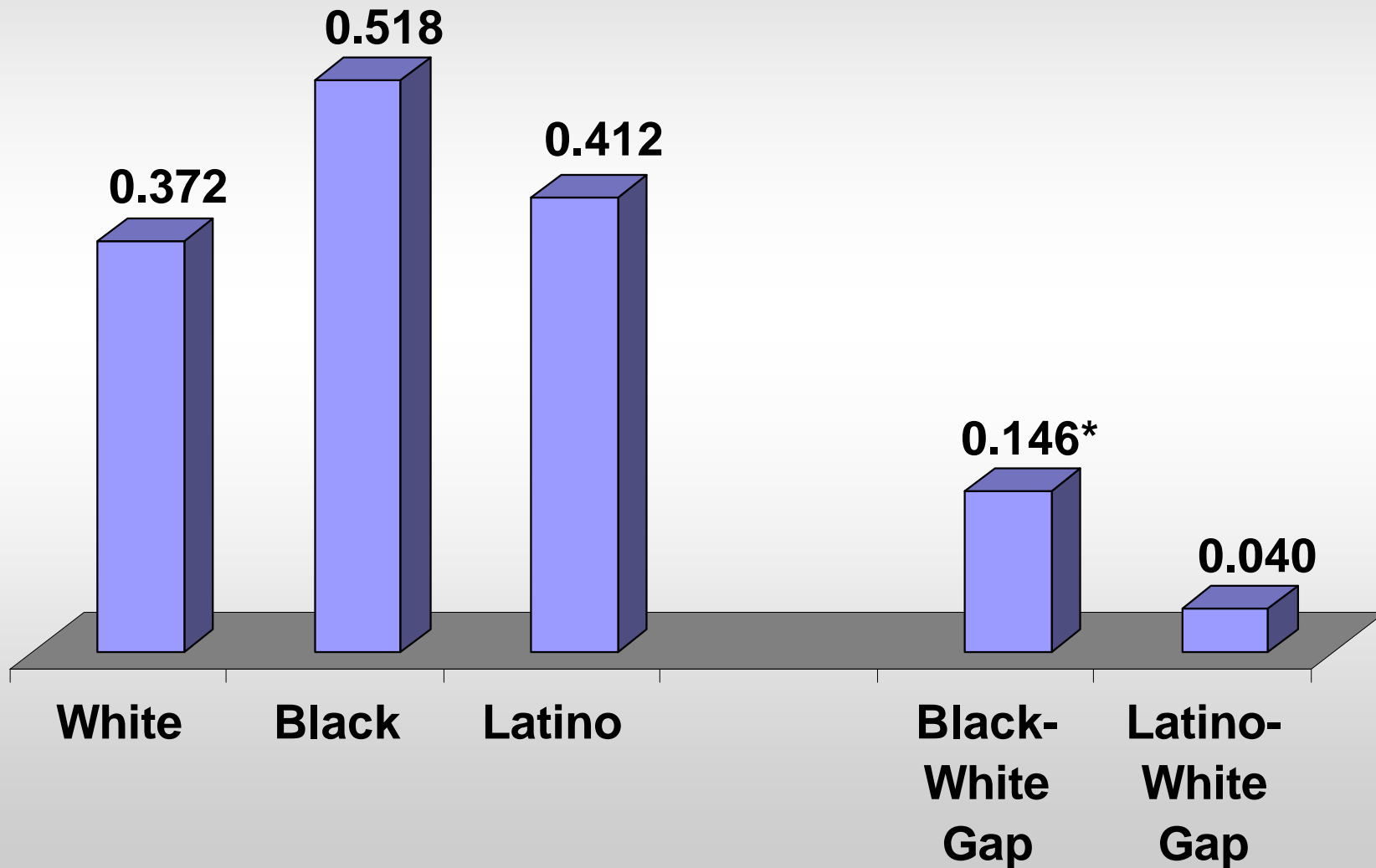
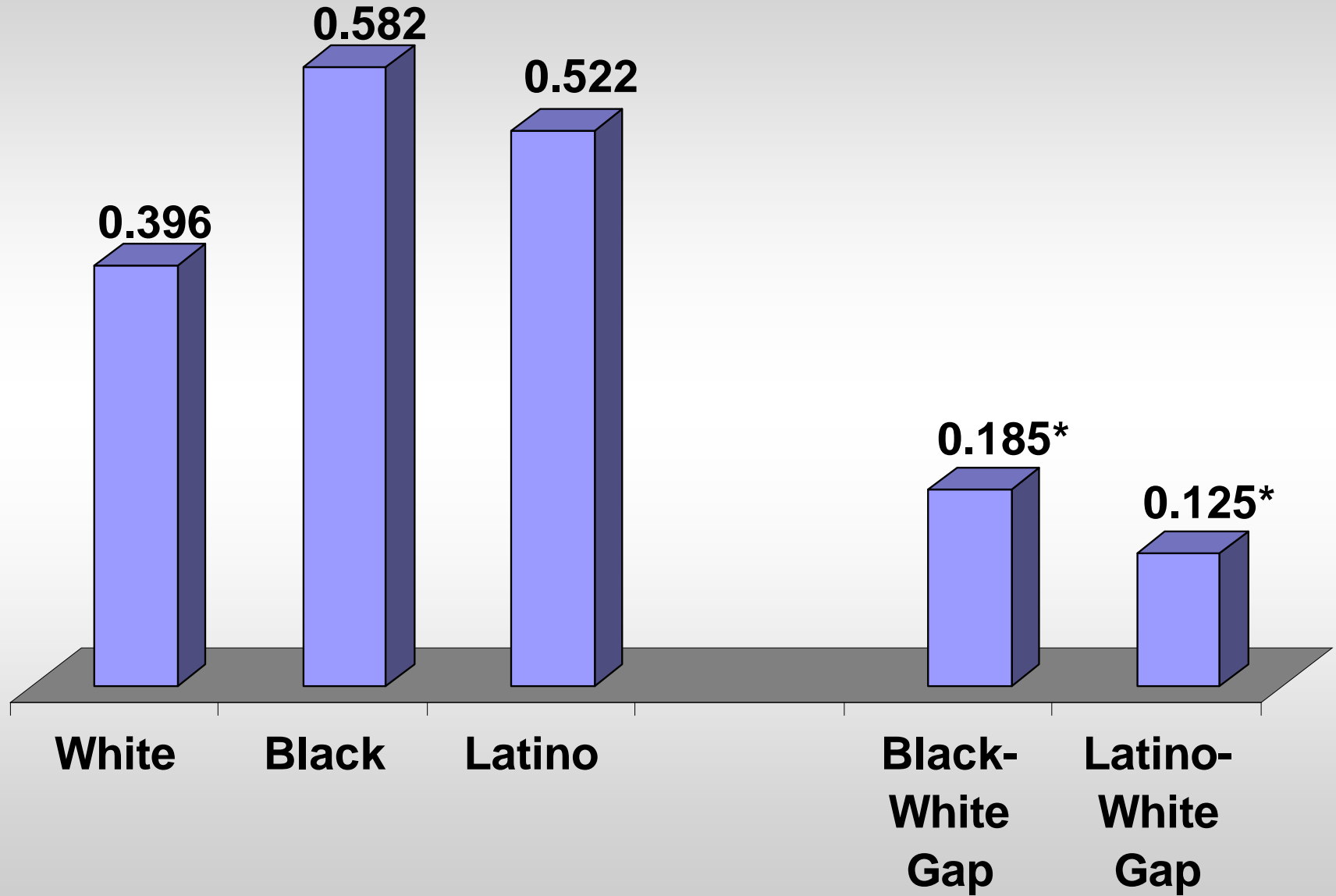


Figure 1a: Average Job Isolation Levels for Poor by Race, 2000



Independent Variables

- Segregation – Index of Dissimilarity
- Job sprawl
- Region

Other covariates:

age of central city, size, % of metro area that is black, Latino, over 65, or college educated, and % metro employment in manufacturing, service or retail trade, number of municipalities, local labor market conditions

Segregation Index

- Index of dissimilarity of residential locations between blacks (Latinos) and whites:

$$D = \frac{1}{2} \sum_i \left| \frac{\textit{Black}_i}{\textit{Black}} - \frac{\textit{White}_i}{\textit{White}} \right|.$$

Data

Spatial Mismatch:

People – 1990 & 2000 U.S. Census

Jobs – 1994 & 1999 U.S. Department of Commerce's
ZIP Code Business Patterns files

Index of Dissimilarity:

1990 & 2000 U.S. Census

Job Sprawl:

1994 & 1999 U.S. Department of Commerce's ZIP Code
Business Patterns files

Sample Size: 259 Metropolitan Areas (MSAs)

Table 3
Means (std. devs.) of Variables

	(1)	(2)
	Unweighted	Weighted by Population Size
Log (Population Size)	12.887 (1.052)	14.249 (1.180)
Northeast	0.127 (0.334)	0.173 (0.379)
Midwest	0.300 (0.459)	0.243 (0.430)
South	0.390 (0.489)	0.341 (0.475)
West	0.184 (0.388)	0.242 (0.429)
Log (city age)	5.128 (0.330)	5.186 (0.363)

Table 3
Means (std. devs.) of Variables

	(1)	(2)
	Unweighted	Weighted by Population Size
Percent Black	0.112 (0.104)	0.142 (0.092)
Percent Latino	0.099 (0.150)	0.143 (0.153)
Percent over 65 years old	0.117 (0.029)	0.111 (0.028)
Percent with college degree or more	0.169 (0.051)	0.189 (0.050)
Share of employment in manufacturing	0.141 (0.067)	0.130 (0.054)
Share of employment in retail trade	0.122 (0.0138)	0.116 (0.012)
Share of employment in service	0.427 (0.050)	0.432 (0.038)
Log (number of political jurisdictions)	2.995 (1.177)	3.826 (1.180)
Job Sprawl – 5 mile radius	0.446 (0.263)	0.647 (0.208)
White male employment-to-population ratio	0.793 (0.061)	0.814 (0.044)

Figure 2: Segregation on Racial Gaps in Job Isolation

■ Black-White Gap ■ Latino-White Gap

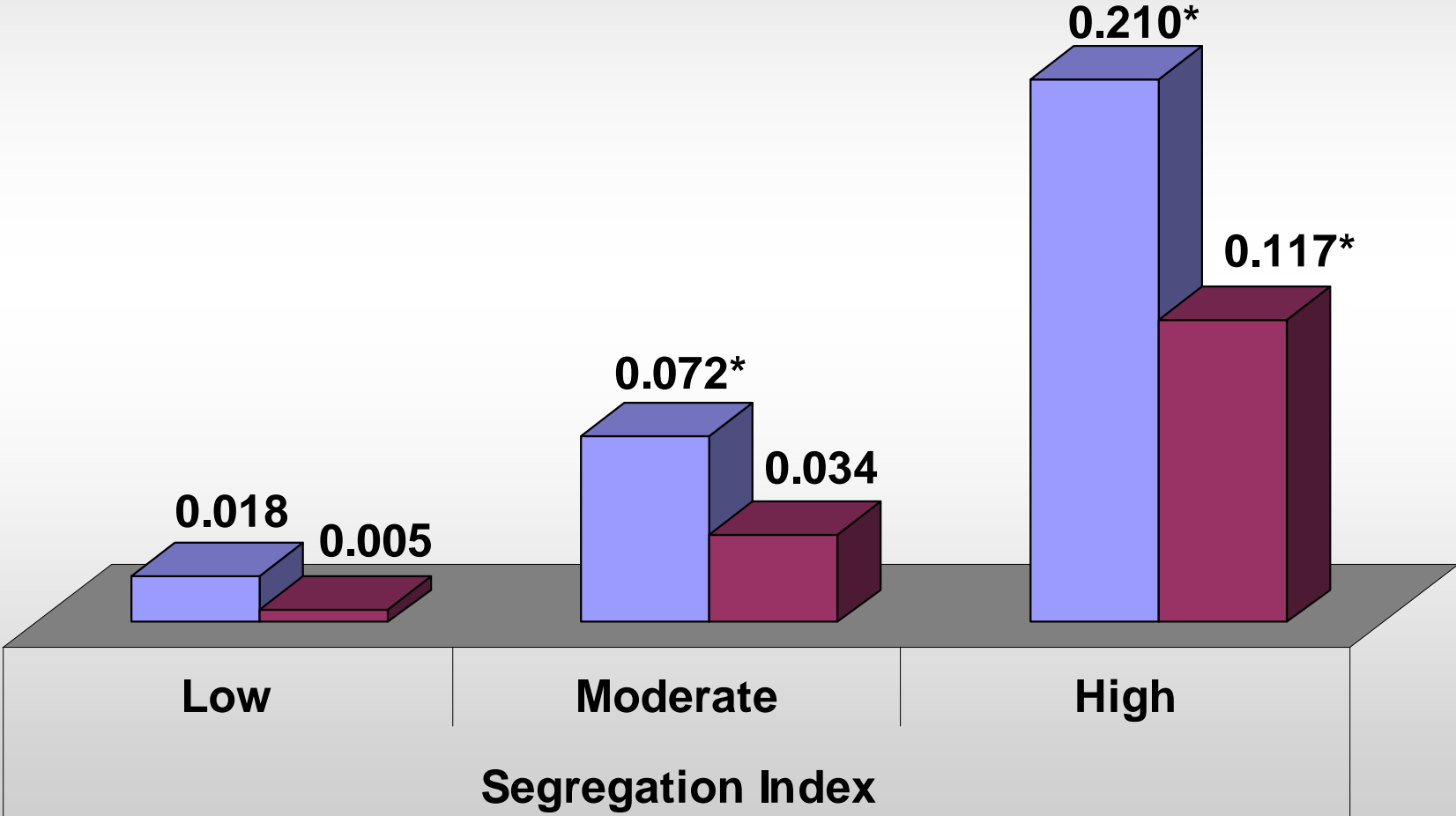


Figure 3: Regional Differences in Racial Gaps in Job Isolation

■ Black-White Gap ■ Latino-White Gap

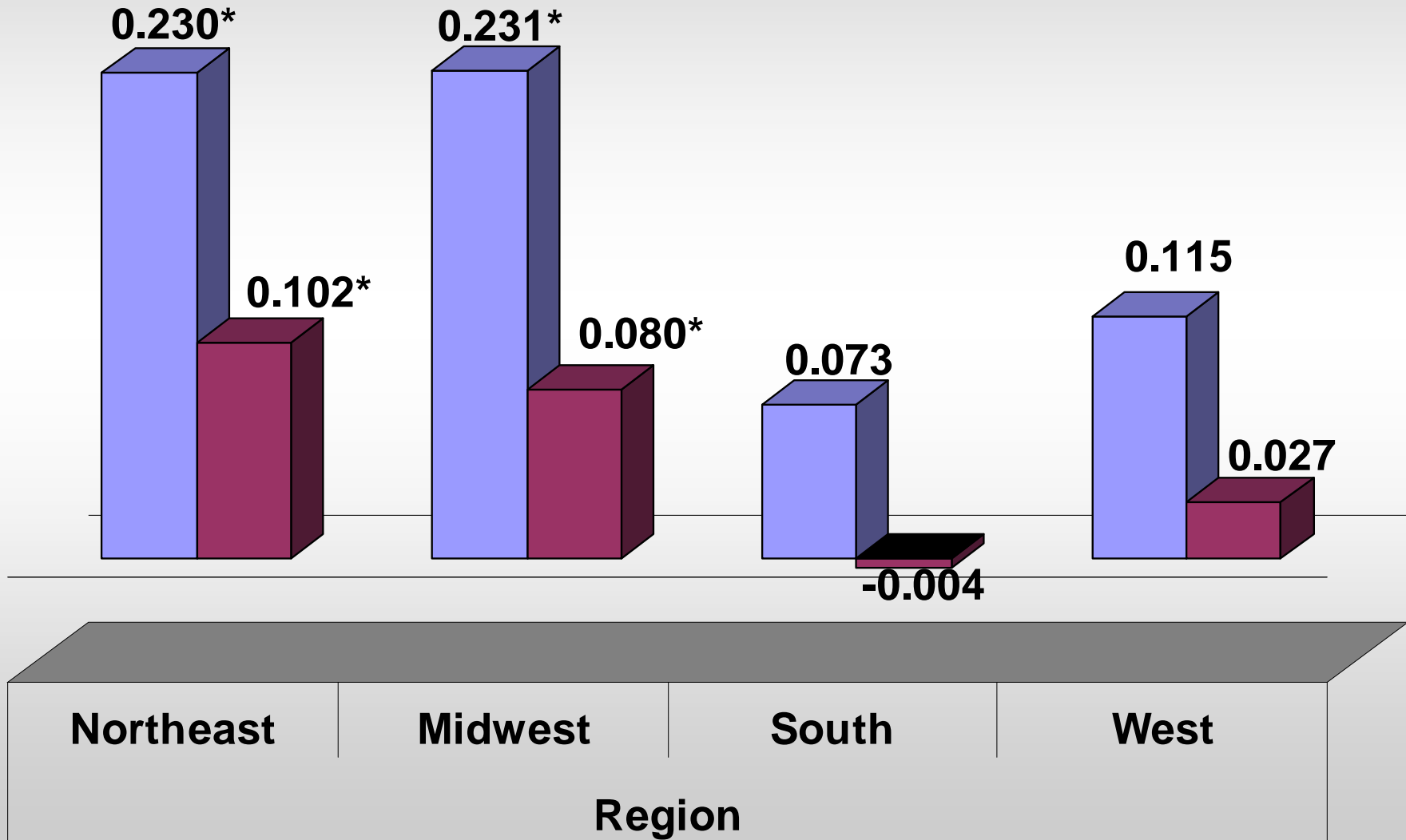
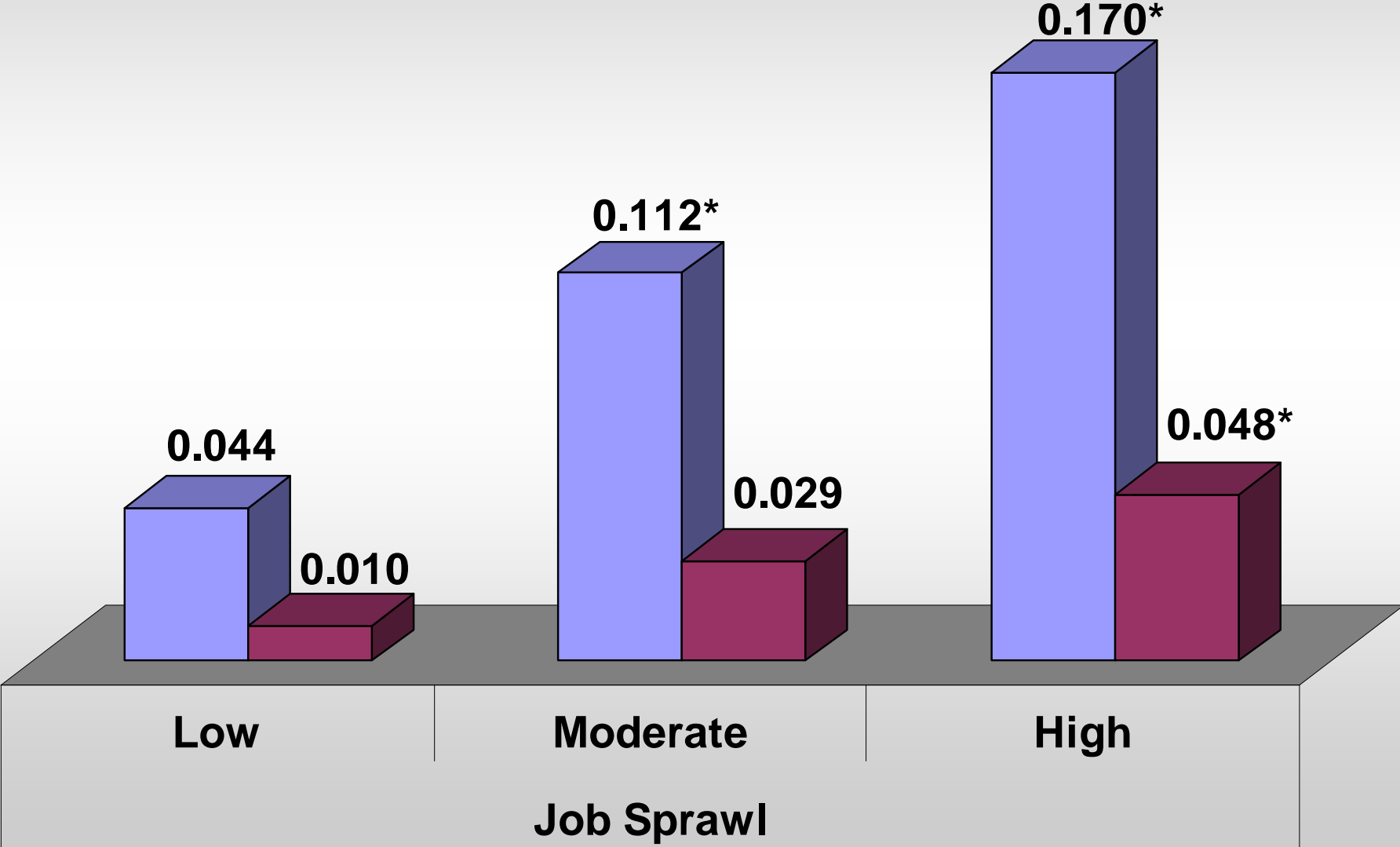


Figure 4: Job Sprawl Differences in Racial Gaps in Job Isolation

■ Black-White Gap ■ Latino-White Gap



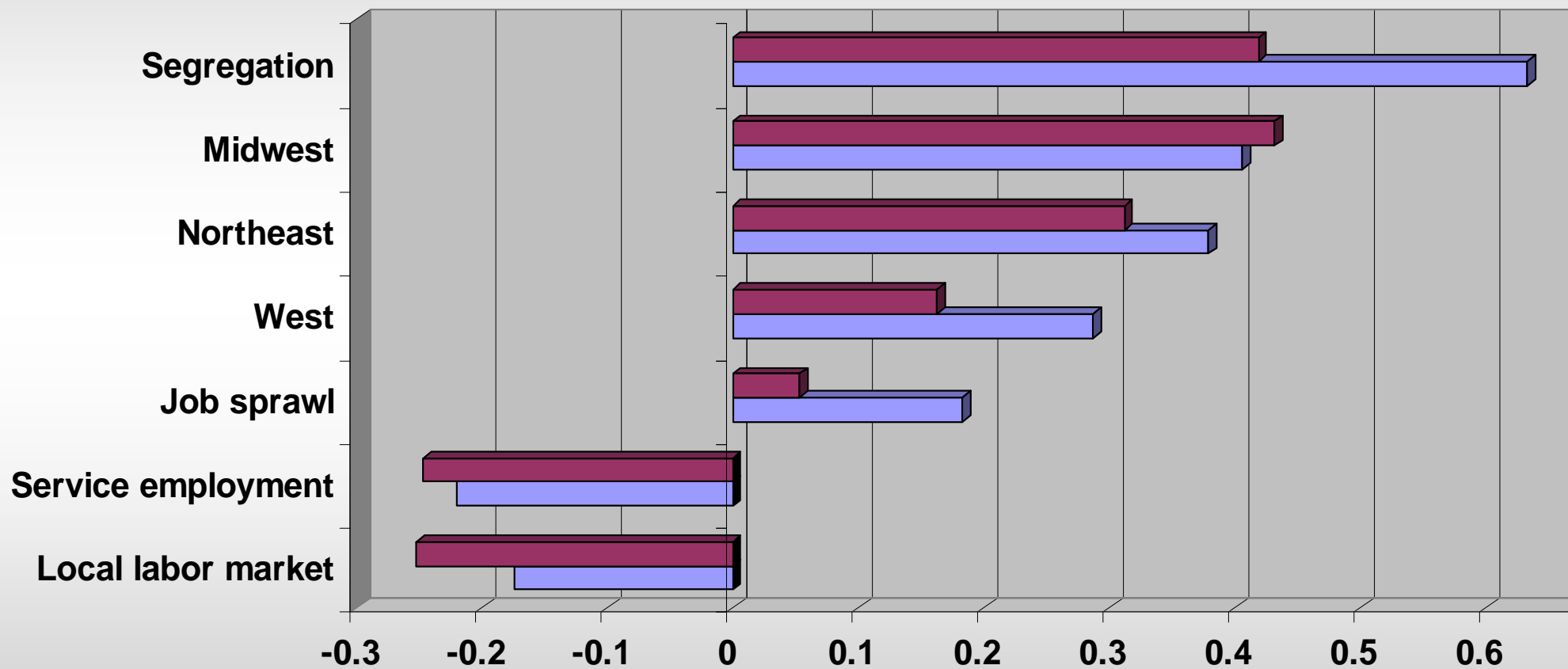
Estimating Equations

$$B(L) - W \text{ JobIso}_i = \text{Seg}_i \beta_1 + \text{JobSprawl} \beta_2 + \beta'_3 X_i + \varepsilon_i \quad (2)$$

where X_i = (region, age of central city, size, % of metro area that is black, Latino, over 65, or college educated, and % metro employment in manufacturing, service or retail trade, number of municipalities, local labor market conditions)

Figure 5: Normalized Regression Coefficients of Racial Differences in Job Isolation, 2000

Black-White Gap Latino-White Gap



Conclusions

Blacks' and to a lesser extent Latinos' job isolation remains more severe than that of whites:

- A number of important factors help account for this including segregation, job sprawl, region, metro size, local labor market strength, industrial structure, and others;
- Segregation, region, job sprawl and local labor market conditions are consistently most important factors.

Conclusions Cont'd

Accounts for a nontrivial part of racial/ethnic gaps in job isolation

Next up:

- compare to 1990
- observe dynamic results over time, probably the 1990s
- use other simulation methods for estimating contributions