

The Demography of Commuting:

How Population Groups Create and
Respond to Cities

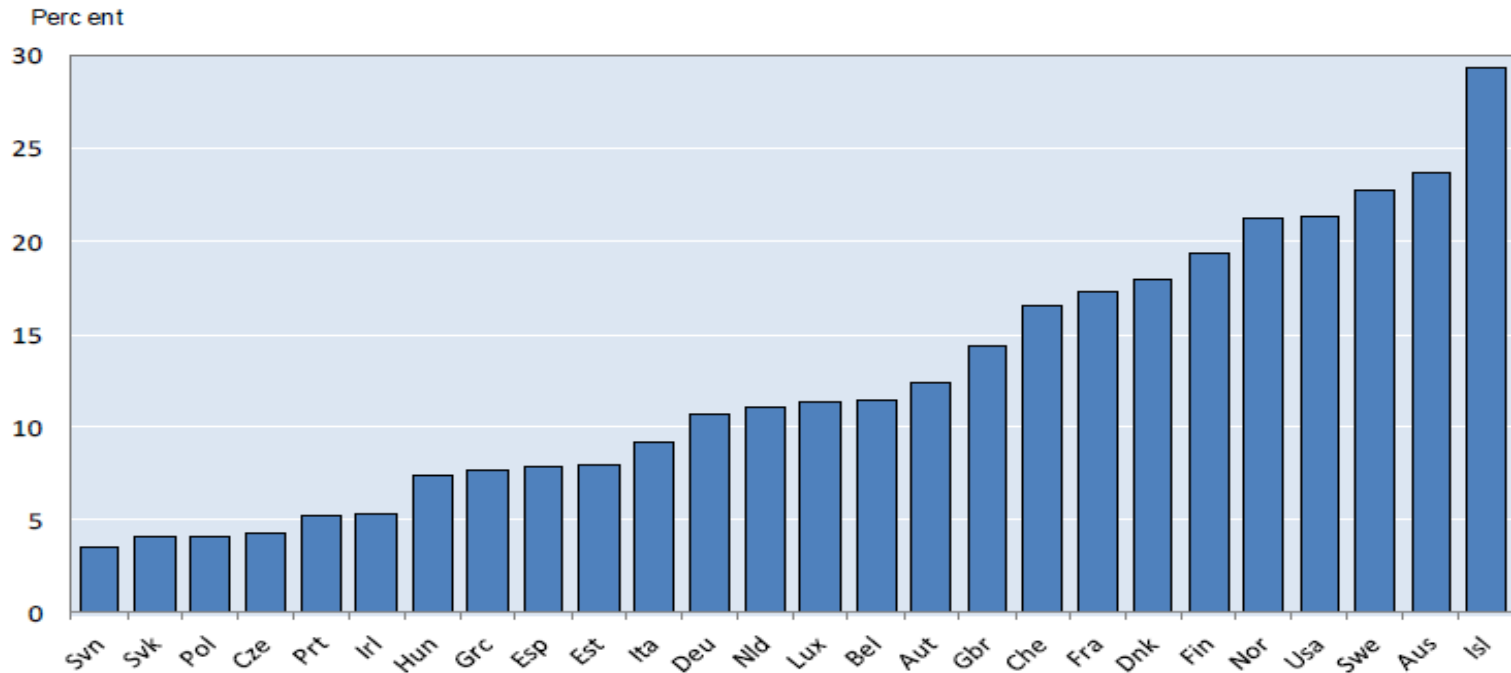
Demography of Commuting

- Commuting (the choices of residence and job locations) creates cities.
 - Job and residential mobility vary across nations
- Residential and job locations vary across demographic groups
 - Race
 - How have changes in racial segregation occurred?
 - What are the effects of racial segregation?
 - Gender
 - Why do women commute less?

US (and Iceland, Australia, and Sweden) have greater residential mobility

Figure 1: Residential mobility in OECD countries ¹

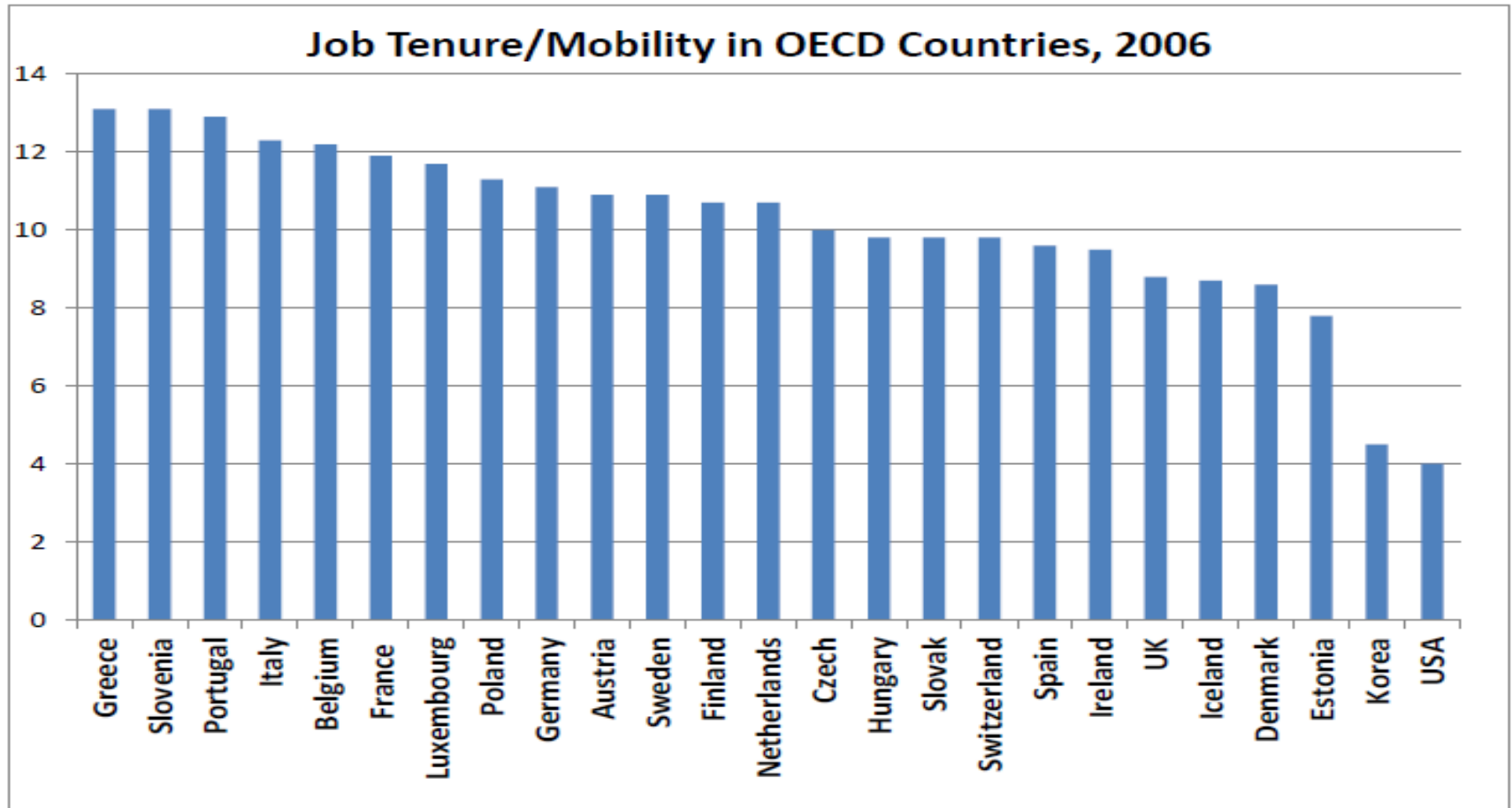
Percentage of households that changed residence within the last 2 years



1. The low mobility rate in some Eastern European countries (e.g. 4% in Slovenia implying a move every 50 years) does not seem reasonable and may reflect problems with the underlying data. However, this is difficult to verify as there is no alternative data source.

Sources: OECD calculations based on 2007 EU-SILC Database, on HILDA for Australia, AHS for the United States, SHP for Switzerland.

US workers have least job tenure, greatest job mobility



Implications of differential residential and job mobility across nations

- Are US urban residents more, or less, likely to be in equilibrium, or optimum, locations?
- Does lower mobility in Europe contribute to differences in urban forms between the US and Europe?
- Generally immobility reduces competition and the likelihood that locations are allocated based on current marginal costs and benefits. Does the greater mobility of US urban residents imply a more efficient allocation of locations for jobs and residences, and therefore, more optimal city structure?
- Are US residents more likely to be in optimal locations and in equilibrium, or do they move more because their optimums change more (due possibly to more marriage, divorce and births)?

Demography of Commuting

- Demographic groups with different residential and/or job locations have different commutes.
- Welfare effects depend on reasons for different commutes
 - Residence differences
 - Job differences
 - Commuting preferences or costs
- Two widely studied:
 - **Residential segregation of African Americans in US**
 - **Shorter commutes of women workers worldwide**

US Residential Segregation by Race

- Description of recent history
- Describing and explaining the process
- Welfare effects
 - Does residential segregation cause worse job outcomes for African Americans?

Duncan Index of Racial Segregation

$$\frac{1}{2} \sum_i |AA_i - nAA_i|$$

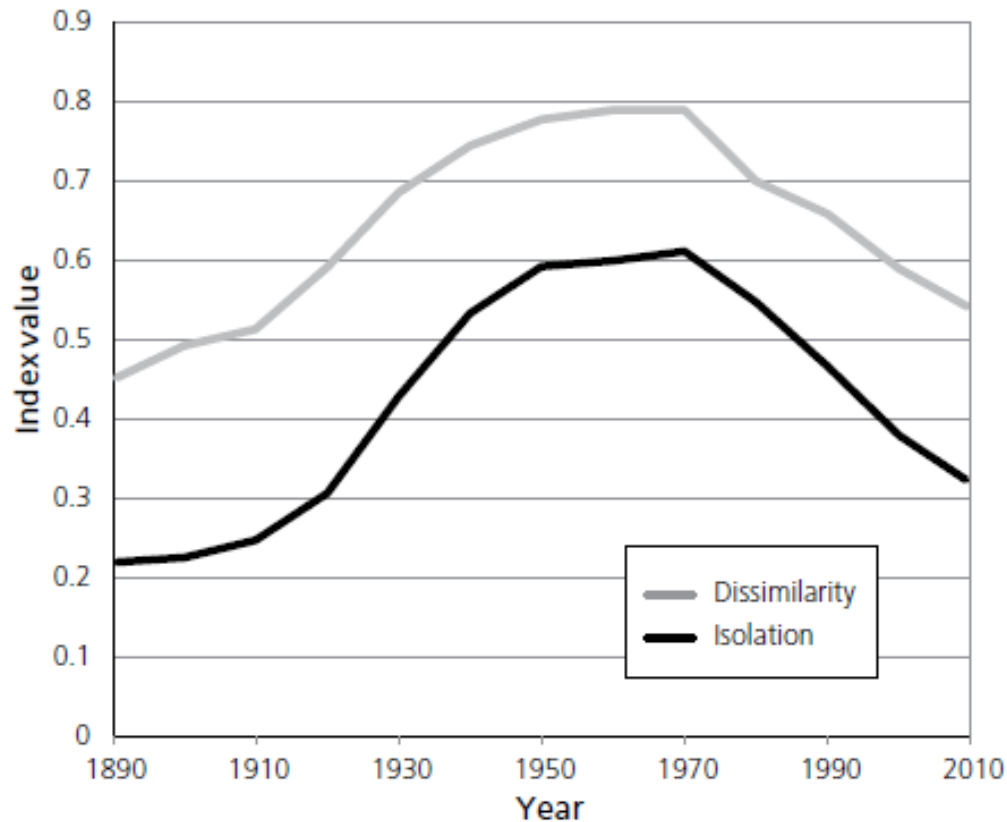
where

AA_i is the proportion of the metro's African American population in census tract i

nAA_i is the proportion of the metro's non poor (non African American) population in census tract i .

Segregation has declined since 1970

Figure I. Black/Nonblack Segregation 1890–2010



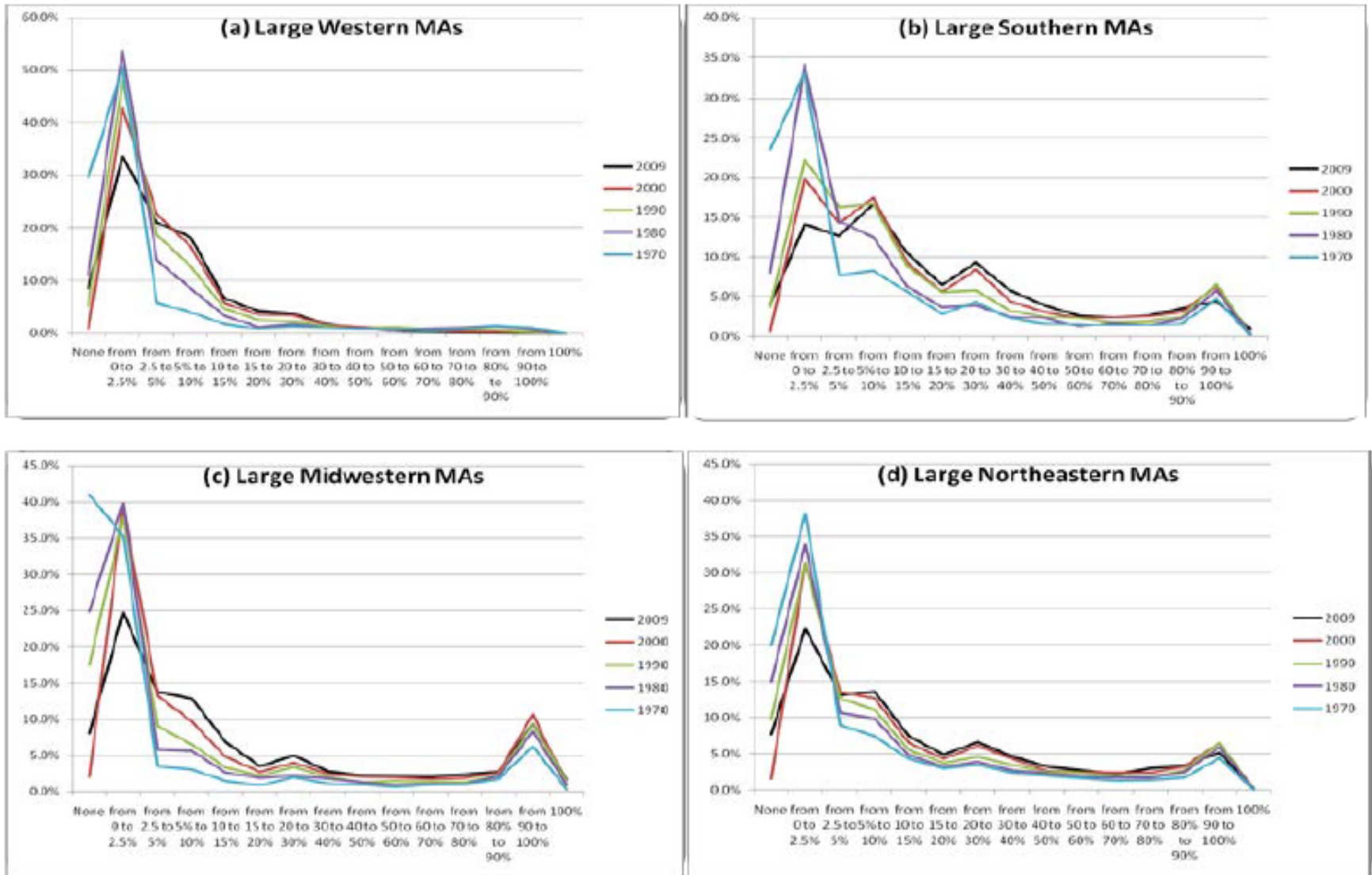
Glaeser and Vigdor, 2012

US Residential Segregation by Race

**DESCRIBING AND EXPLAINING THE
PROCESS**

Figure 2

Distributions of Census Tracts by Proportion African American, 1970-2009



For all regions, the particularly non-African American neighborhoods (0% and 0-2.5% African American) in 1970 generally increased their African American representation 39 years later.

Table 2

Distribution of Census Tracts of Large MAs by Proportion of African American Residents in 1970 and in 2009 by Region

Region and African American Representation in 1970	African American Representation in 2009					
	0%	0-2.5%	2.5-20%	20-40%	40-90%	Over 90%
West						
0%	13.2%	8.1%	4.0%	0.0%	0.3%	0.0%
0-2.5%	41.7%	36.6%	19.4%	7.6%	0.3%	0.0%
2.5-20%	43.5%	52.0%	65.6%	63.1%	26.2%	24.7%
20-40%	1.6%	2.8%	9.1%	18.5%	39.5%	46.8%
40-90%	0.0%	0.4%	1.9%	9.6%	31.8%	28.6%
over 90%	0.0%	0.1%	0.0%	1.3%	1.7%	0.0%
TOTAL	2069	3547	855	157	286	77
South						
0%	7.5%	6.0%	1.6%	1.3%	0.0%	0.5%
0-2.5%	20.6%	21.9%	7.1%	3.0%	0.6%	0.0%
2.5-20%	50.8%	48.5%	53.3%	42.4%	12.8%	1.4%
20-40%	12.0%	12.0%	22.0%	22.5%	14.2%	2.7%
40-90%	8.6%	9.1%	14.4%	23.8%	54.8%	38.7%
over 90%	0.5%	2.6%	1.6%	7.0%	17.7%	56.8%
TOTAL	1078	1512	1119	302	345	222

Table 2

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Region and African American Representation in 1970	African American Representation in 2009					
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Midwest						
0%	12.6%	7.8%	3.1%	0.5%	0.3%	0.2%
0-2.5%	32.3%	27.0%	9.9%	1.0%	0.0%	0.0%
2.5-20%	41.7%	43.9%	43.7%	14.7%	2.6%	0.0%
20-40%	5.7%	9.0%	15.5%	24.6%	7.0%	0.2%
40-90%	5.9%	10.7%	20.0%	40.8%	32.8%	15.8%
over 90%	2.0%	2.4%	7.8%	20.4%	57.4%	83.7%
TOTAL	2661	2294	575	195	345	417
Northeast						
0%	16.8%	9.1%	2.3%	0.4%	0.4%	0.0%
0-2.5%	35.4%	30.7%	11.3%	1.6%	0.0%	0.0%
2.5-20%	36.3%	46.6%	51.0%	22.4%	5.1%	0.5%
20-40%	5.2%	7.8%	18.7%	30.0%	14.6%	2.1%
40-90%	5.6%	5.1%	13.8%	35.1%	57.8%	45.8%
over 90%	0.7%	0.7%	3.0%	10.5%	22.1%	51.5%
TOTAL	1694	3248	1997	496	671	373

For all regions, the majority of the relatively integrated neighborhoods (2.5% to 20% African American) in 1970 stayed integrated.

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For each region, the 1970 0-2.5% and 5-10% African American neighborhoods attracted additional African American representation at a steady pace over 39 years.

Figure 3
1970 through 2009 % African American of Census Tracts in Large American Metropolitan Areas That Were 0 to 2.5% African American in 1970 by Census Region

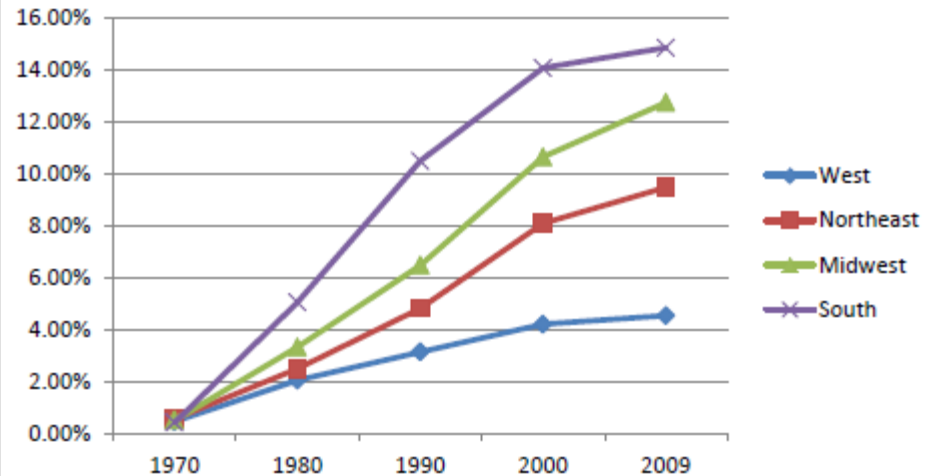


Figure 4
1970 through 2009 % African American of Census Tracts in Large American Metropolitan Areas That Were 5 to 10% African American in 1970 by Census Region

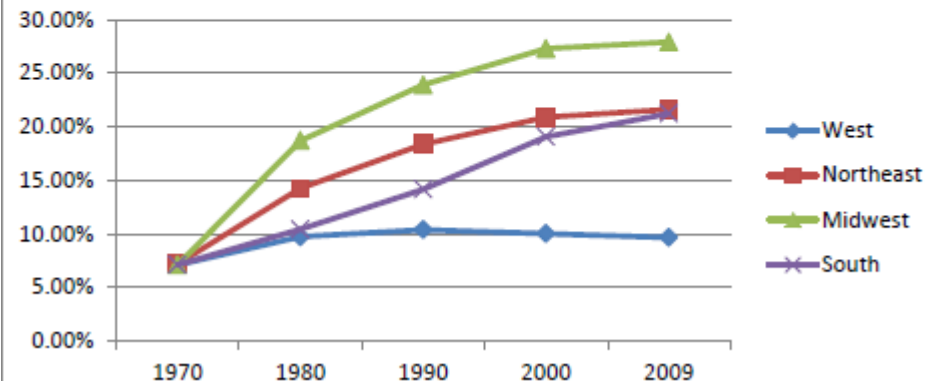


Figure 6
1970 through 2009 % African American of Census Tracts
in Large American Metropolitan Areas That Were over
90% African American in 1970 by Census Region

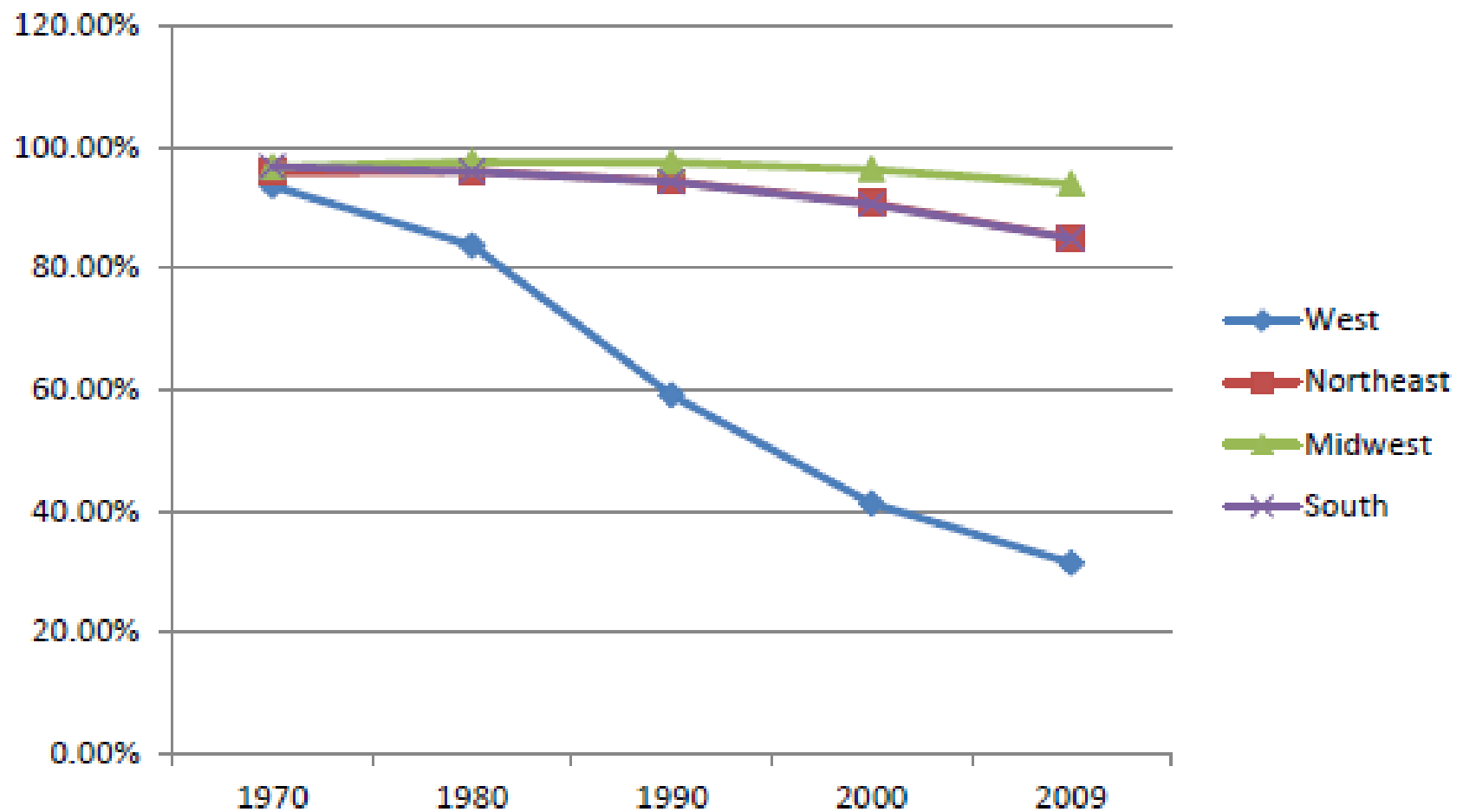


Table 5										
Number of Census Tracts with over 90% African American Residents and Proportion of MA African Americans Residing There, 1970- 2009, by Region, MA and Year										
	Proportion of MA African American Residents Residing in Tracts					Number of Tracts Over 90% African American Residents				
Region, MA	1970	1980	1990	2000	2009	1970	1980	1990	2000	2009
West	21.8%	10.5%	2.5%	2.0%	1.6%	75	48	13	9	7
Denver	0.0%	10.0%	3.5%	0.0%	0.0%	0	2	1	0	
Los Angeles	24.6%	12.2%	2.8%	2.3%	2.1%	61	32	9	8	7
Portland	0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0
Phoenix	0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0
San Diego	0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0
San Francisco	10.0%	6.7%	1.2%	10.0%	0.0%	14	14	3	1	0
Tuscon	0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0
South	48.3%	40.4%	32.9%	29.7%	23.6%	222	303	347	338	273
Atlanta	58.2%	44.6%	33.3%	31.6%	21.2%	42	60	74	86	68
Austin	0.0%	0.0%	4.1%	0.0%	0.0%	0	0	1	0	0
Charlotte	23.5%	22.8%	22.4%	7.9%	5.2%	10	14	17	9	9
Dallas	54.6%	40.5%	21.4%	10.4%	3.5%	37	40	35	23	11
El Paso	0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0
Houston	32.6%	38.3%	23.4%	11.6%	5.0%	22	41	41	25	14
Jacksonville	54.6%	44.6%	36.0%	28.5%	20.2%	10	14	16	18	15
Memphis	53.4%	50.6%	51.5%	43.1%	37.0%	34	49	60	65	67
Miami	43.3%	27.3%	22.8%	16.3%	8.3%	15	16	21	19	8
Nashville	46.7%	24.0%	22.4%	15.5%	11.7%	11	10	12	9	9
New Orleans	37.9%	40.0%	37.9%	38.7%	28.2%	27	47	60	71	64
Oklahoma City	57.2%	36.7%	18.4%	15.2%	9.3%	12	11	10	13	8
San Antonio	18.1%	6.0%	0.0%	0.0%	0.0%	2	1	0	0	0

Madden (2014a)

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Number of Census Tracts with over 90% African American Residents and Proportion of MA African Americans Residing There, 1970- 2009, by Region, MA and Year										
	Proportion of MA African American Residents Residing in Tracts					Number of Tracts Over 90% African American Residents				
Region, MA	1970	1980	1990	2000	2009	1970	1980	1990	2000	2009
Midwest	61.1%	60.5%	56.4%	49.7%	42.9%	417	609	717	773	738
Chicago	70.0%	71.5%	60.7%	51.9%	44.7%	226	302	317	327	294
Cleveland	58.5%	61.7%	64.8%	54.8%	47.0%	47	74	93	97	101
Columbus	6.8%	14.8%	11.8%	9.7%	7.9%	2	6	6	7	9
Detroit	43.5%	50.0%	57.3%	58.9%	50.8%	62	109	162	206	196
Indianapolis	35.8%	31.9%	26.9%	15.2%	12.1%	10	15	16	14	13
Kansas City	46.7%	41.1%	40.3%	28.0%	17.9%	22	31	36	35	28
Milwaukee	43.1%	41.4%	39.0%	26.5%	26.6%	18	26	31	29	34
Minneapolis	0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0
St. Louis	53.1%	50.7%	49.1%	34.1%	34.2%	30	46	56	58	63
Northeast	38.3%	35.9%	32.8%	27.4%	23.0%	373	530	595	588	488
Baltimore	61.2%	55.1%	48.7%	37.1%	36.0%	57	69	76	85	93
Boston	22.3%	28.1%	15.7%	5.3%	1.8%	8	15	10	4	2
Philadelphia	37.2%	44.5%	44.8%	37.3%	31.2%	49	73	88	97	90
Pittsburgh	23.7%	28.3%	24.6%	18.5%	10.4%	9	15	18	19	14
New York City	23.9%	25.0%	25.1%	19.9%	14.0%	162	252	292	260	190
Washington, DC	53.5%	43.4%	35.3%	30.7%	23.4%	88	106	111	123	99

Madden (2014a)

Expansion of African American Neighborhoods as Segregation Declines

- Why have only small numbers of these African American neighborhoods become integrated?
- Among metros with similarly decreasing overall segregation, what accounts for the differences between those that integrate their African American neighborhoods and those that have seen the numbers of black neighborhoods grow?
- Why do some neighborhoods stay “all African American” while others do not within the same metro? Why do others become all African American?

Only for Western MAs have Hispanics increased more in the African American Census Tracts

Table 7		
Hispanic Representation in Tracts, by African American Representation, 1970 and 2009		
Region, Year	Tracts over 90% African American in 1970	Tracts less than 90% African American in 1970
West		
1970	4.7%	13.9%
2009	53.6%	27.9%
South		
1970	1.1%	9.2%
2009	4.9%	22.1%
Midwest		
1970	0.8%	2.5%
2009	1.1%	7.9%
Northeast		
1970	2.1%	5.3%
2009	6.7%	12.7%

The Process of Desegregation, 1970-2010

- Racial segregation is declining.
- African Americans are moving into previously white neighborhoods and those neighborhoods are integrating.
- There is a large decline in African Americans residing in African American neighborhoods, but those neighborhoods are expanding in number and declining in population.

But not all agree that segregation of the heavily African American neighborhood is a problem



PEOPLE FROM all over Philadelphia came together Saturday to tell their stories about gentrification at the Church of the Advocate in North Philadelphia.

Organizers had issued fliers calling for an "emergency town hall" to confront a "crisis facing black Philadelphia: the demise of our neighborhoods..." *Daily News*, March 3, 2014



The Pittsburgh Courier, February 9, 2014

"...the Portland African American Leadership Forum said having a somewhat pricey food store in their Portland neighborhood would displace residents and perpetuate income inequality in the area." 21

US Residential Segregation by Race

**WELFARE EFFECTS: DOES RESIDENTIAL
SEGREGATION CAUSE WORSE JOB
OUTCOMES?**

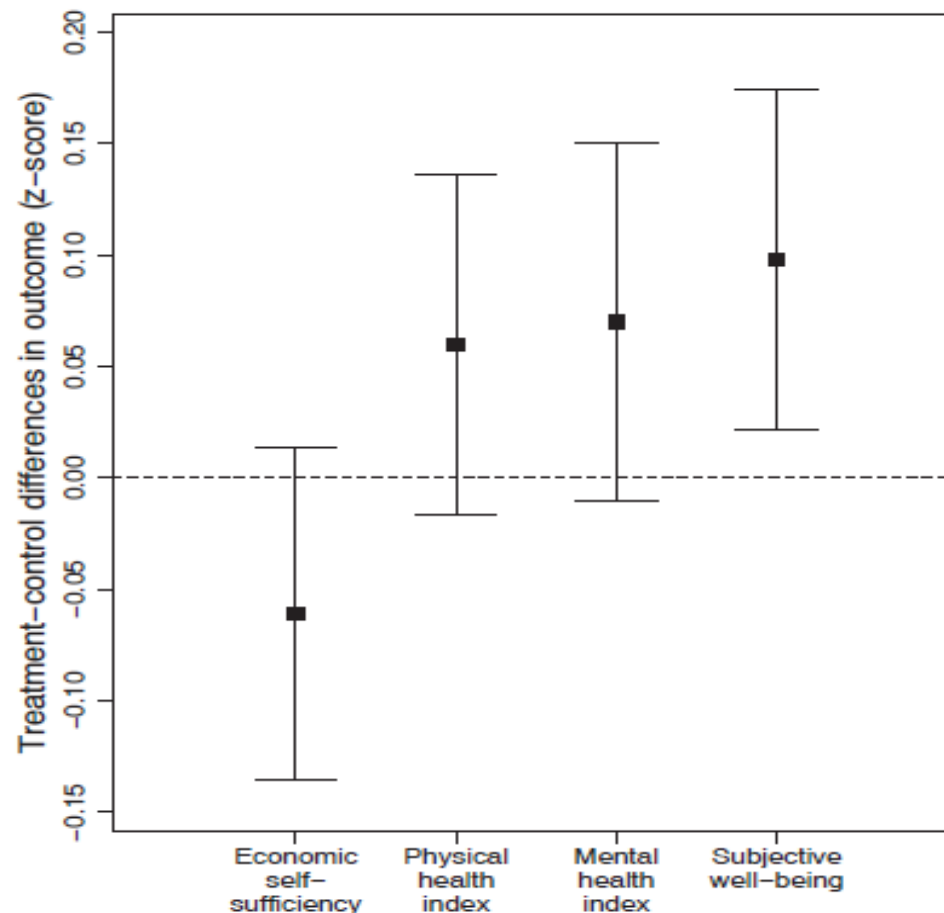
Evidence on welfare effects of segregation

- Ihlanfeldt and Sjoquist (1990); Ihlanfeldt (1992)
- Ellwood (1986)
- Hughes and Madden (1991)
- Cutler, Glaesar and Vigdor (1999)
- MTO -- Ludwig (2012)
- Mt. Laurel – Massey et al (2013)

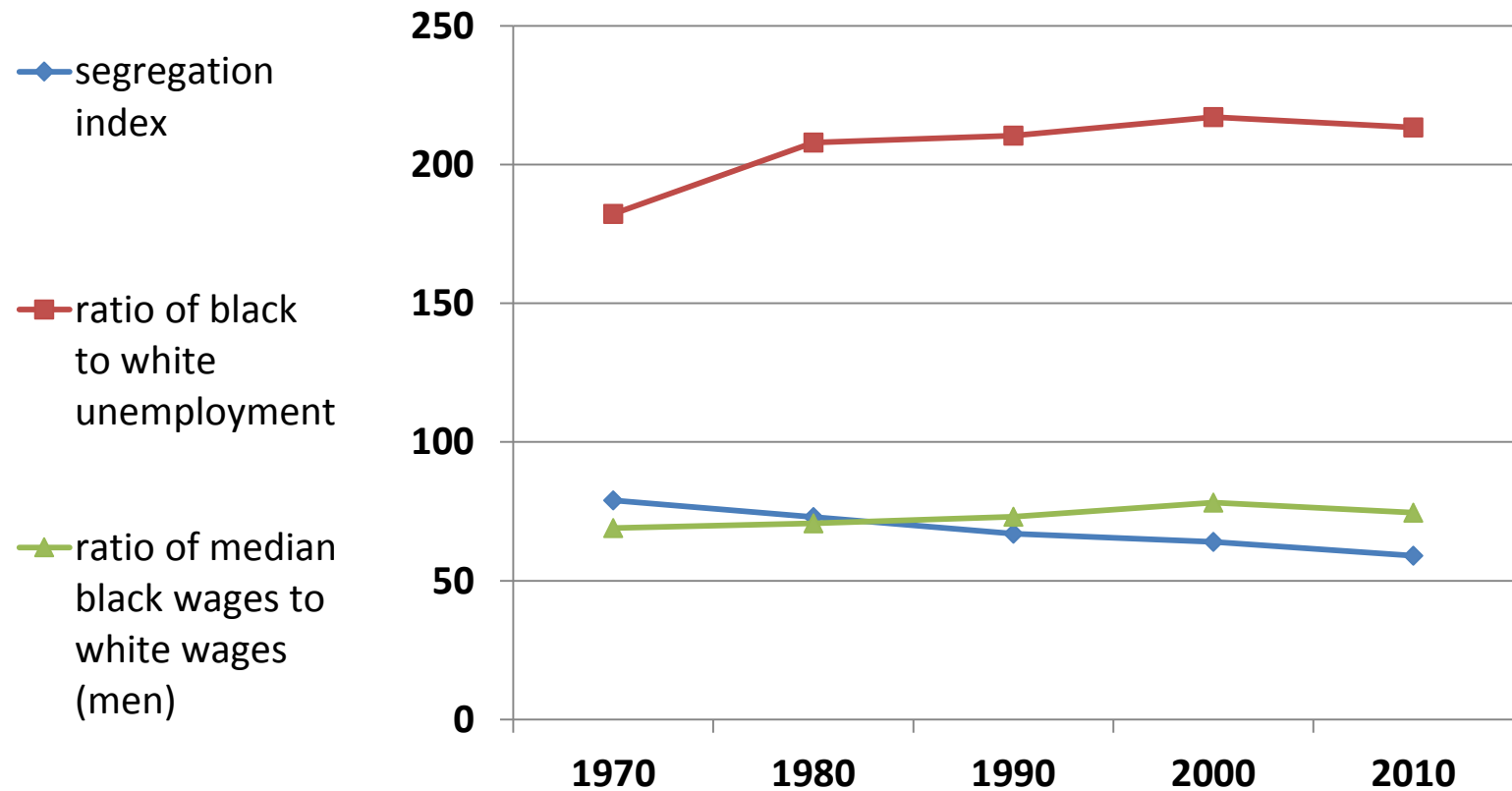
HUD's *Moving To Opportunity* experiment

Fig. 1. Impact on each outcome of assignment to the MTO treatment (voucher) groups for adults interviewed in a long-term survey. The squares represent the ITT estimate for the effect of being assigned to MTO treatment (pooling low-poverty and traditional voucher groups), rather than control, for the outcomes listed on the *x* axis: economic self-sufficiency, physical health, mental health, and SWB (Table 2 and supplementary materials, sections 1, 4, and 5). The box whiskers represent the 95th percent confidence interval around the estimates.

Ludwig et al 2012



Segregation Index, Ratio of African American to White Unemployment and Wages, 1970-2010



Shorter Commutes of Women

- Describing and explaining the commuting decision
- Accounting for sources of gender differences
- Welfare effects
 - Do shorter commutes create disadvantage in the labor market?

Table 1

Mean labor market, housing and family characteristics for households with employed heads, located within 30 miles of a city over 100,000: Panel Survey of Income Dynamics, 1976^a

	Two-earner with children	Traditional ^b with children	Female headed with children	Two-earner couple	Traditional ^b couple	Unmarried women	Unmarried men
Length of work trip							
Head	12.5 (12.0)	11.8 (10.7)	7.7 (5.8)	11.1 (8.9)	10.4 (8.3)	7.5 (7.1)	8.2 (7.0)
Spouse	7.7 (5.7)			10.1 (7.4)			

Labor Market characteristics:
(Madden 1981)

Women's commuting distances as percentage of men's by household status:

Singles	91.5%
Married, no kids	91.0%
Married, with kids	61.6%

Commuting distances relative to singles of same gender, by gender:

	Men	Women
Married, no kids spouse not employed	126.8%	NA
Married, no kids spouse employed	135.4%	134.7%
Married, with kids spouse not employed	143.9%	NA
Married, with kids spouse employed	152.4%	102.7%

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Married, with kids 61.6%

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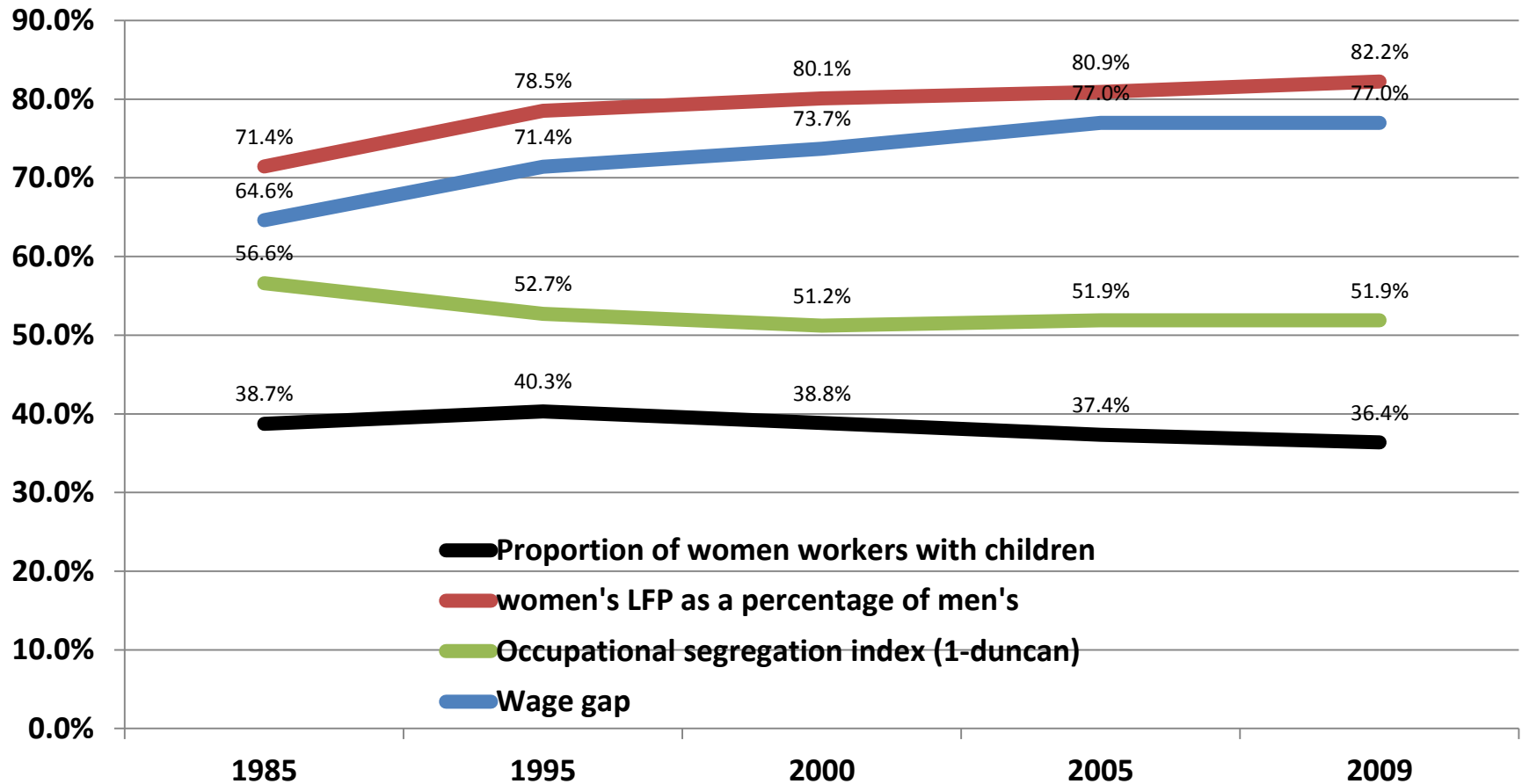
Why do women commute less

- Job locations
 - Professional, managerial, sales and clerical jobs more centralized (Ihlandfeldt 1992)
 - Manufacturing more decentralized (Tkocz and Kristensen 1994)
- Commuting costs
 - Compensation for commuting occurs in both residential and job markets (Zax 1991)
- Residential locations
 - Whose job is preferred when selecting residence?

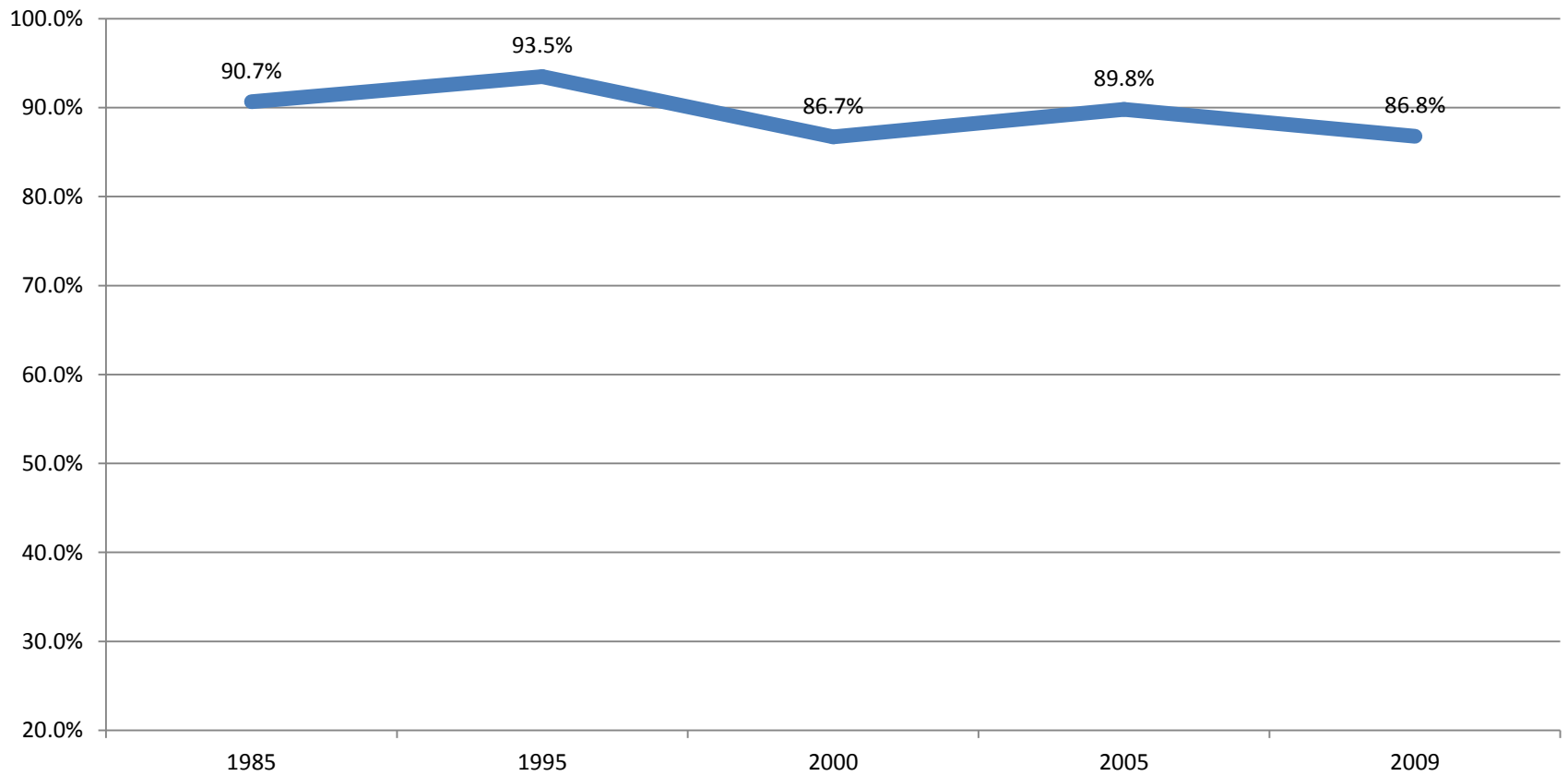
Accounting for sources of gender differences

- Madden 1981 – jobs and household roles
- Madden and Chiu 1991 – household roles, value of commuting time
- Ihlandfeldt 1992 – value of commuting time
- Deding et al 2009 –value of commuting time

Women Converging to Men's Labor Force Participation, Occupations and Earnings Between 1985 and 2009; Family Responsibilities Declining



Women's commute time as percentage of men's



Women Converging to Men's Labor Force Participation, Occupations and Earnings Between 1985 and 2009; Family Responsibilities Declining

