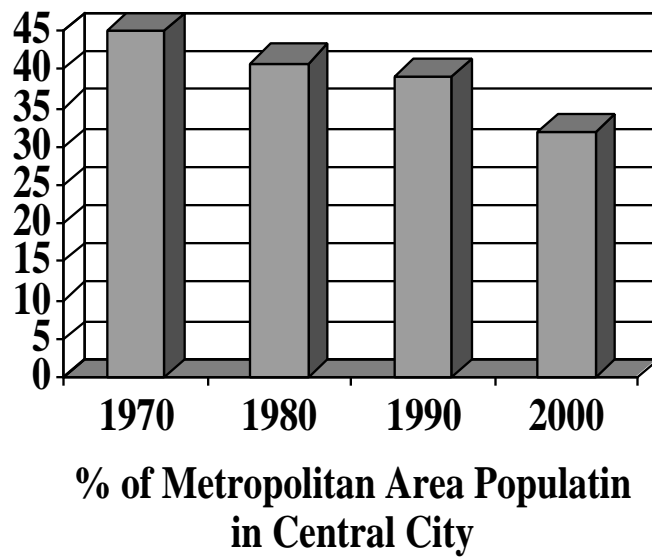


Suburbanization



Outline

- Central Cities vs Suburbs
- Why Did Suburbs Grow?
- Decentralization of Employment and the Monocentric City
- Is Suburbanization Efficient?

Central Cities vs Suburbs

- Decentralization of employment
- <http://socds.huduser.org/index.html>



Exhibit 4: Jobs Are Growing Again in Central Cities

Jobs and Establishments in Central Cities and Average Annual Pay (in 1998 Dollars) for 77 Central Cities and Their Metropolitan Areas: 1991 to 1996*

Year(s)	73 Metropolitan Statistical Areas	77 Central Cities	Suburbs
1991			
Jobs	52,524,822	23,305,144	29,219,678
Establishments	3,215,833	1,256,679	1,959,154
Average Annual Pay	30,300	31,911	29,015
1993			
Jobs	53,254,032	22,995,065	30,258,967
Establishments	3,303,761	1,263,869	2,039,892
Average Annual Pay	30,814	32,615	29,445
1994			
Jobs	54,180,896	23,271,430	30,909,466
Establishments	3,356,893	1,270,214	2,086,679
Average Annual Pay	30,978	32,738	29,653
1995			
Jobs	56,226,587	23,950,126	32,276,461
Establishments	3,415,046	1,284,211	2,130,835
Average Annual Pay	31,287	33,256	29,826
1996			
Jobs	57,381,656	23,999,209	33,382,447
Establishments	3,479,687	1,286,931	2,192,756
Average Annual Pay	32,015	34,103	30,515
Change 1991-93 (in percent)			
Jobs	1.4	-1.3	3.6
Establishments	2.7	0.6	4.1
Average Annual Pay	1.7	2.2	1.5
Change 1993-96 (in percent)			
Jobs	7.8	4.4	10.3
Establishments	5.3	1.8	7.5
Average Annual Pay	3.9	4.6	3.6
Change 1991-96 (in percent)			
Jobs	9.2	3.0	14.2
Establishments	8.2	2.4	11.9
Average Annual Pay	5.7	6.9	5.2

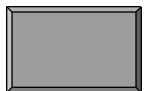
* See Appendix B for individual city and suburb results.

Source: HUD Special Tabulation of County Business Patterns, Bureau of the Census.



Theories of Suburban Growth

- Increase in real income
- Decrease in commuting cost
- Negative externalities of city life
- High taxes in cities and fragmented government
- Subsidies to home ownership



Paradise Lost

Urban residential patterns depend on
“availability of fast mode of transportation
that is cheap enough to be used
economically by rich but is too costly for
poor.”

Leroy and Sonstelie, 1983

Historical Examples

- 1850-1860 - Walking principal means of transport; Rich lived in CBD
- Omnibus and commuter railroads create some suburbs for very, very rich
- Post 1860 - Streetcars -- rich lived in suburbs
- As wages rose, streetcar became more affordable
- Private automobile recreated affordability gap

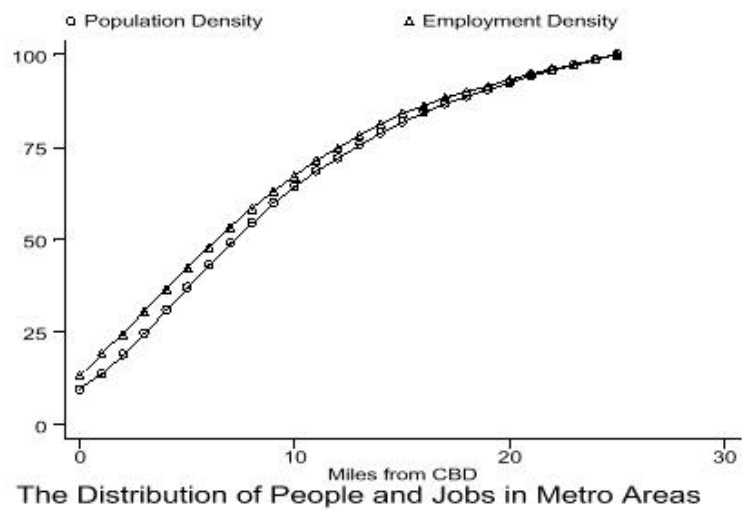


Factors that Increase Pace of Suburbanization

- Old Housing Stock (Bradbury, Downs and Small, 1982)
- Relatively High Taxes (Bradbury, Downs and Small, 1982; Frey, 1979)
- Large Black Population (Bradbury, Downs and Small, 1982)
- High Crime Rate (Frey, 1979)

Decentralization of People and Jobs

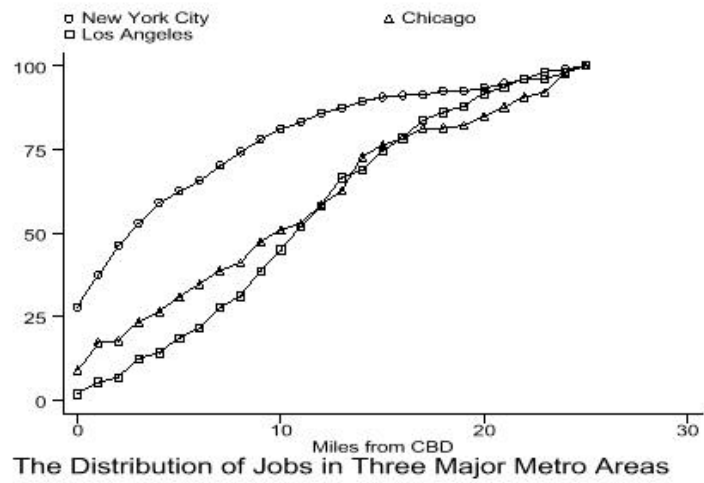
Figure 1



Source: Glaeser and Kahn, NBER W8117, February 2001

Three Cities

Figure 4



Source: Glaeser and Kahn, NBER W8117, February 2001

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.

Source: Glaeser and Kahn, NBER W8117, February 2001

Do Housing Prices Decline with Distance?

$$(2) \text{Log}(\text{Median Housing Price}) = \gamma_{MSA} + \chi_{MSA} * \text{Distance from CBD}$$

- In cities where employment is centralized, housing prices decline with distance.
- Decline is “milder” in cities where employment is not centralized.

Source: Glaeser and Kahn, NBER W8117, February 2001

Does Commute Time Increase with Distance from Center?

(3) $\text{Log}(\text{Average Commute Time}) = \theta_{MSA} + \delta_{MSA} * \text{Distance from CBD}.$

- In decentralized cities, commute times barely rise with distance from the center.
- People in low density areas commute longer distances but at higher speeds.

Source: Glaeser and Kahn, NBER W8117, February 2001

Does Income Increase with Distance from CBD?

Exhibit 16: Urban Problems Have Spread to Some Suburbs

Distressed Suburban Places With Populations Greater Than 15,000

City	State	1996 Population	1995 Estimated Poverty Rate (in percent)	Population Change 1980-96 (in percent)
Pritchard	AL	32,887	51.6	-16.8
Hallandale	FL	31,163	21.4	-14.5
College Park	GA	20,300	30.5	-17.6
East Point	GA	34,155	21.2	-8.9
Forest Park	GA	17,060	20.0	-9.2
Chicago Heights	IL	31,899	21.1	-13.8
Harvey	IL	29,097	26.9	-18.7
Covington	KY	40,971	23.8	-17.4
Newport	KY	16,957	29.5	-21.4
Gretna	LA	16,862	31.2	-18.2
Hamtramack	MI	18,262	30.7	-14.3
Highland Park	MI	19,788	45.9	-29.1
Inkster	MI	30,992	24.8	-11.9
East Orange	NJ	70,534	20.8	-9.4
Oswego	NY	18,522	22.7	-6.4
Ashtrabula	OH	21,315	21.7	-9.1
East Cleveland	OH	31,141	30.4	-15.7
Butler	PA	15,179	23.9	-10.8
Chester	PA	40,660	31.8	-11.2
McKeesport	PA	23,343	24.3	-24.7
Washington	PA	15,184	24.4	-17.3
Orange	TX	18,953	23.4	-19.8

Sources: 1980 and 1990 Census of Population, Bureau of the Census; 1993 and 1995 estimates by HUD from Small Area Income and Poverty Estimates, Bureau of the Census; and Federal-State Cooperative Population Estimates, Bureau of the Census

Are Cities Polycentric?

Table 5 Distribution of Population and Jobs

MSA	Inner Ring		Outer Ring	
	Employment	Population	Employment	Population
Albany, NY	0.5048	0.2935	0.1211	0.1037
Atlanta, GA	0.4278	0.2181	0.2116	0.1330
Baltimore, MD	0.3816	0.3063	0.1155	0.0875
Bergen, NJ	0.1654	0.1189	0.1396	0.0752
Birmingham, AL	0.6716	0.4050	0.0954	0.1043
Boston, MA	0.4331	0.2979	0.0976	0.0575
Chicago, IL	0.2969	0.1762	0.1285	0.0622
Cincinnati, OH	0.4147	0.2925	0.2427	0.1157
Cleveland, OH	0.3223	0.2062	0.1237	0.0880
Dallas, TX	0.5496	0.2716	0.1736	0.1549
Denver, CO	0.4857	0.2965	0.2133	0.1470
Detroit, MI	0.3392	0.2099	0.2452	0.1193
Houston, TX	0.4722	0.2328	0.1550	0.1019
Kansas, MO	0.5052	0.3250	0.2248	0.2098
Los Angeles, CA	0.3236	0.1579	0.1994	0.1136
Minneapolis, MN	0.5612	0.3375	0.1499	0.1635
Nassau NY	0.1299	0.0571	0.1048	0.0425
New York, NY	0.5986	0.2702	0.0632	0.0882
Newark, NJ	0.2423	0.1940	0.1403	0.0364
Oakland, CA	0.2562	0.1999	0.1964	0.0539
Philadelphia, PA	0.3190	0.3029	0.1822	0.0930
Phoenix, AZ	0.3952	0.1864	0.1610	0.1598
Pittsburgh, PA	0.4552	0.2636	0.0431	0.0373
Riverside, CA	0.3501	0.1904	0.1600	0.1311
Sacramento, CA	0.5249	0.3517	0.1044	0.1467
St. Louis, MO	0.4714	0.3339	0.2182	0.1552
San Diego, CA	0.3997	0.2167	0.2296	0.1075
San Francisco, CA	0.5552	0.3872	0.1596	0.1319
Seattle, WA	0.5463	0.2558	0.1715	0.1365
Tampa, FL	0.3614	0.1999	0.2609	0.1458
Washington, DC	0.4578	0.2495	0.2047	0.1004

The Inner Ring is defined as those zip codes whose distance from the CBD is less than the MSA median. The Outer Ring is defined as those zip codes whose distance from the CBD is greater than the MSA median. In each ring, zip codes are sorted by job density from highest density to lowest. Zip codes are added until the total land area of the set equals 5% of the MSA's total area. The table reports the share of all MSA jobs and population in each of these cells.

Source: Glaeser and Kahn, NBER W8117, February 2001

What Factors Lead Firms to Suburbs?

- Age is not strongly correlated with centralization.
- Greater share of labor force in manufacturing leads to greater decentralization
- Worker suburbanization is strong predictor of an industry's suburbanization.
- Intellectually intensive industries more centralized.
- Higher transport costs lead to greater suburbanization
- Politics matters

Source: Glaeser and Kahn, NBER W8117, February 2001

Suburbs and Economic Efficiency

- Externalities
 - Congestion
 - Pollution
- Distortion of incentives