

Cities, Skills, and Technologies

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Chicago Booth

Ninth Annual Booth Real Estate Conference
November 5, 2015

Three themes for today

- ▶ The Great Divergence between skilled and unskilled cities
- ▶ America's Downtown Revival
- ▶ Technology and the city

Dispersion in long-run housing price appreciation

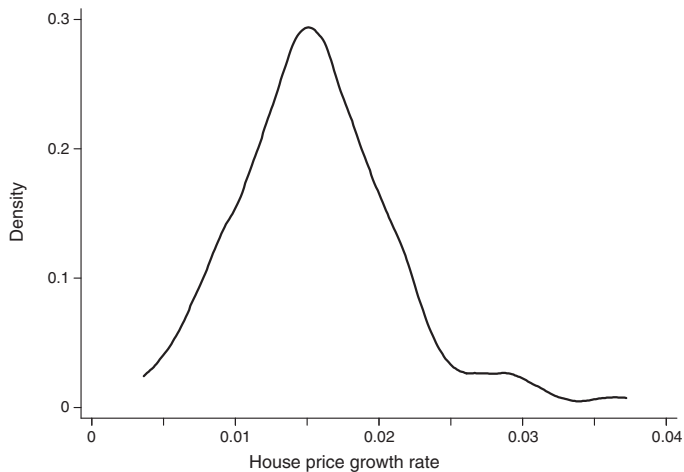


FIGURE 1. DENSITY OF 1950–2000 ANNUALIZED REAL HOUSE PRICE GROWTH RATES
ACROSS MSAs WITH 1950 POPULATION > 50,000

Source: Gyourko, Mayer, Sinai (2013)

Dispersion in long-run housing price appreciation

TABLE 1—REAL ANNUALIZED HOUSE PRICE GROWTH, 1950–2000,
TOP AND BOTTOM TEN MSAs WITH 1950 POPULATION >500,000

Top ten MSAs by price growth: Annualized growth rate, 1950–2000		Bottom ten MSAs by price growth: Annualized growth rate, 1950–2000	
San Francisco	3.53	San Antonio	1.13
Oakland	2.82	Milwaukee	1.06
Seattle	2.74	Pittsburgh	1.02
San Diego	2.61	Dayton	0.99
Los Angeles	2.46	Albany (NY)	0.97
Portland (OR)	2.36	Cleveland	0.91
Boston	2.30	Rochester (NY)	0.89
Bergen-Passaic (NJ)	2.19	Youngstown-Warren	0.81
Charlotte	2.18	Syracuse	0.67
New Haven	2.12	Buffalo	0.54
Population-weighted average of the 48 MSAs in this sample: 1.71			

Source: Gyourko, Mayer, Sinai (2013)

“Superstar cities” of the right tail

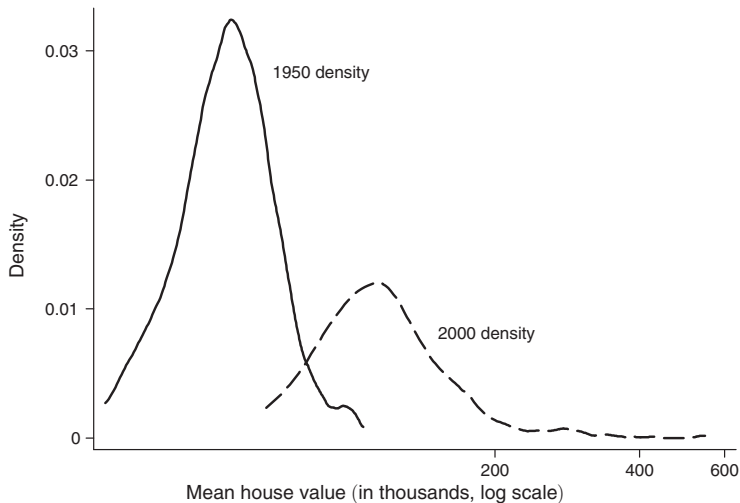
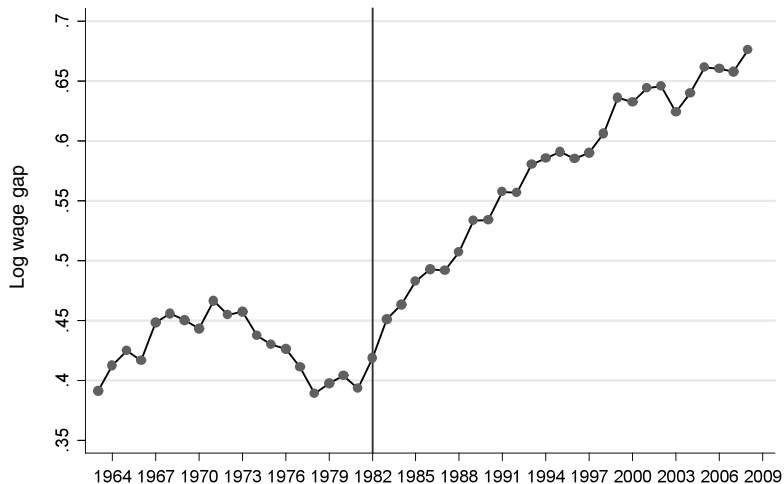


FIGURE 2. DENSITY OF MEAN HOUSE VALUES ACROSS MSAs (1950 VERSUS 2000)

Source: Gyourko, Mayer, Sinai (2013)

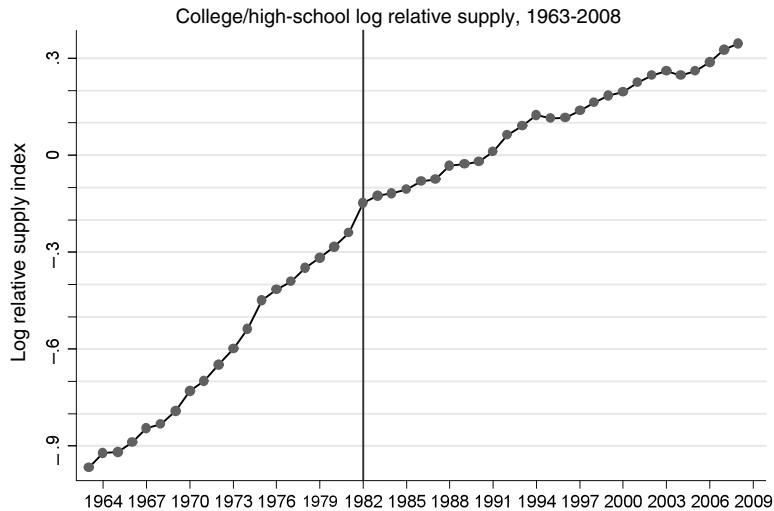
Skill premium over time

Composition adjusted college/high-school log weekly wage ratio, 1963-2008



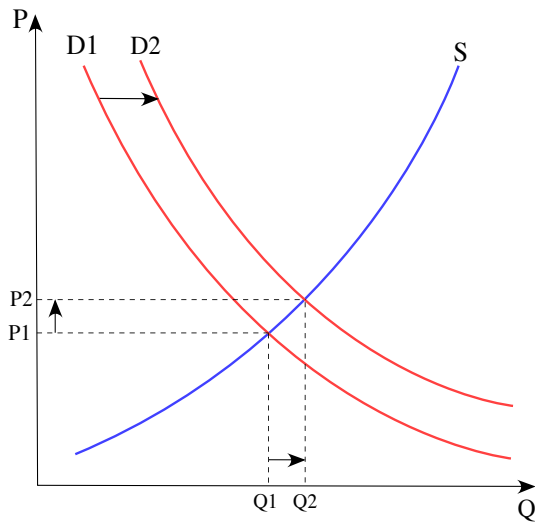
Source: Acemoglu and Autor (2011)

Skill quantities over time

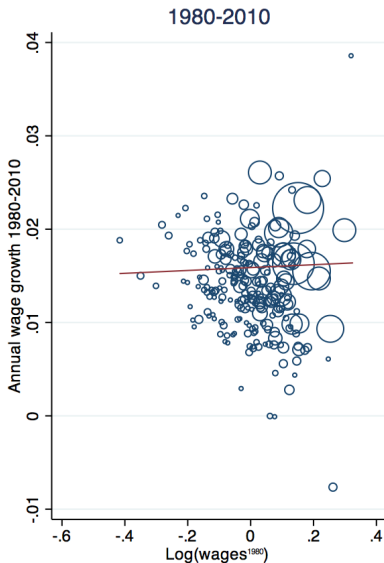
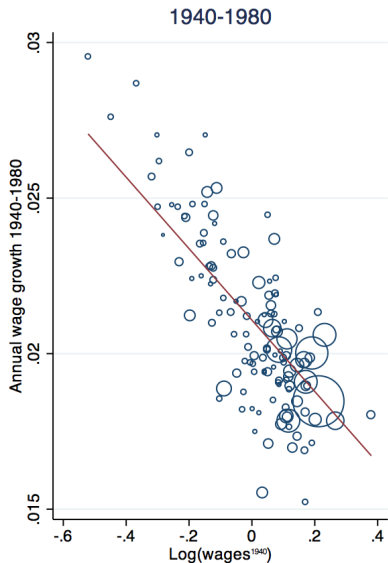


Source: Acemoglu and Autor (2011)

Relative supply and demand

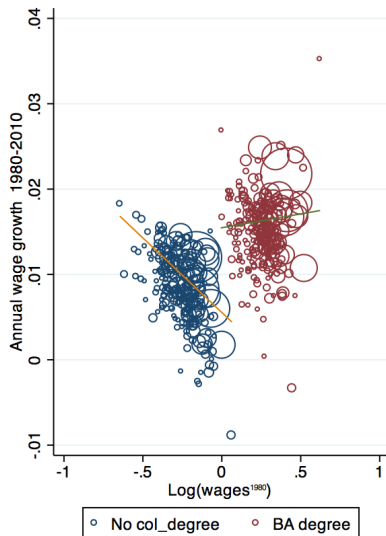
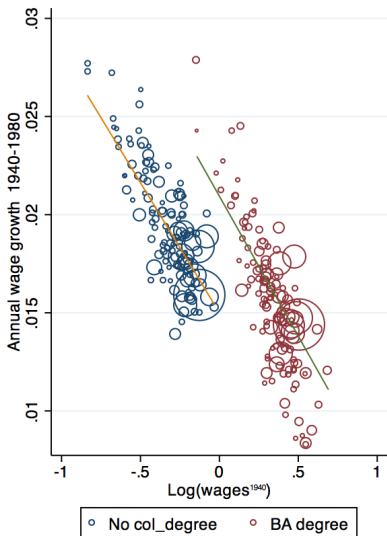


The end of wage convergence



Source: Giannone (2015)

The end of wage convergence



Source: Giannone (2015)

Divergence in human capital

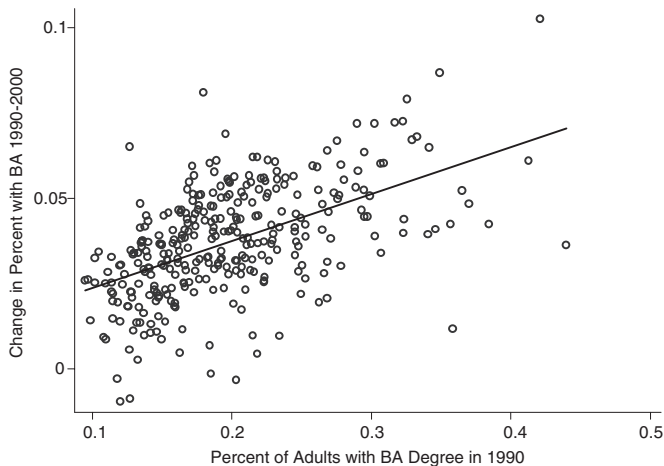


Fig. 1. Initial attainment and attainment growth, 1990–2000

Note for Figures 1 and 2: Observations include all 318 metropolitan statistical areas and primary metropolitan statistical areas (NECMA definitions in New England), using constant 1999 boundaries. Data are from the census.

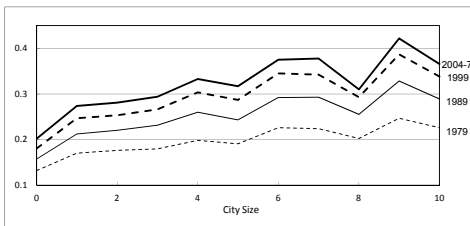
Source: Berry and Glaeser (2005)

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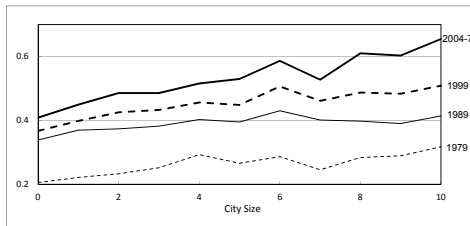
Skill premia across cities

This pattern is getting stronger over time

Panel A: Fraction College or More by City Size



Panel B: College Log Wage Premium by City Size



Source: Baum-Snow and Pavan (2013)

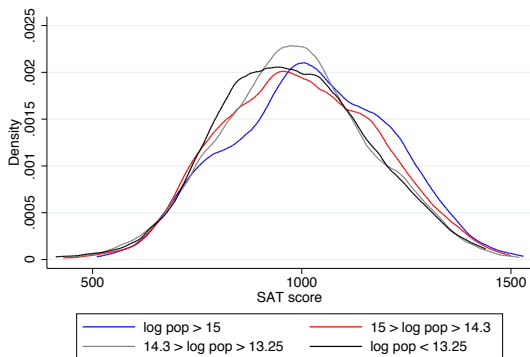
Explaining these patterns

Two possible mechanisms could account for bigger cities having higher college shares and higher college wage premia:

- ▶ Skill-biased agglomeration – cities complement skills
- ▶ Spatial sorting of skills – bigger cities host better skills

Spatial sorting of skills

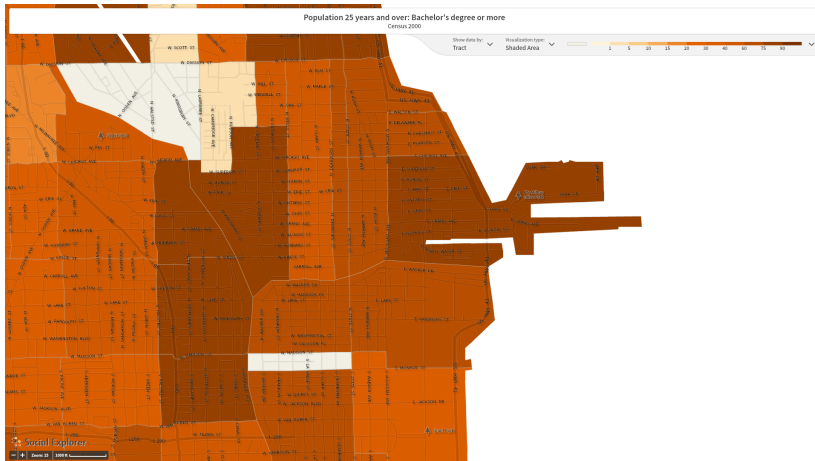
- ▶ Baccalaureate and Beyond tracks a cohort graduating from four-year colleges in 1993
- ▶ In 2003, look at 2300 white individuals who obtained no further education after bachelor's degree
- ▶ Mean SAT score in metros with more than 3.25m residents is 40 points higher than metros with fewer than 0.57m residents



Where are these college graduates living?

- ▶ Spatial sorting of high-skilled into big cities
- ▶ Where within these cities do the skilled reside?

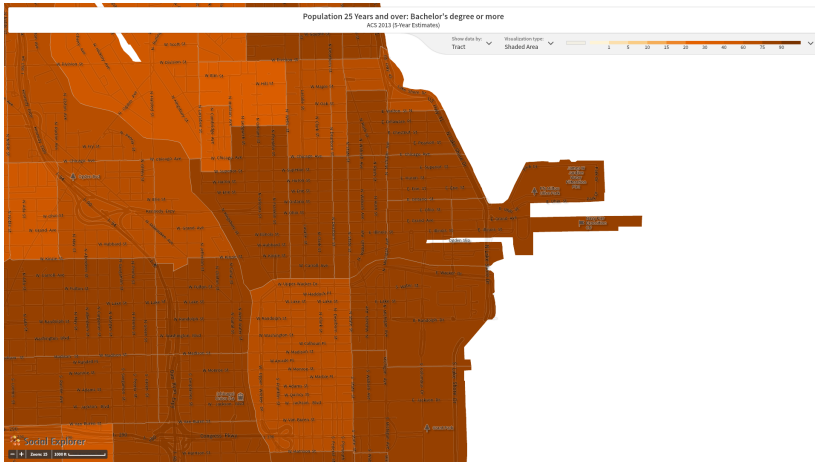
Chicago's downtown developments



Source: socialexplorer.com

Zoom

Chicago's downtown developments



Source: socialexplorer.com

▶ Zoom

Chicago's downtown developments

Gleacher:

- ▶ In 2000, Gleacher and Navy Pier were in the same census tract
- ▶ Then: 8,332 residents 25 and older, 76% bachelor's degree or more
- ▶ Today: Three tracts with 11,562 residents, 83% with bachelor's +

Lakeshore East:

- ▶ In 2000, the census tract containing Lakeshore East community had 4700 residents with 73% BA+
- ▶ Now, 8158 residents with 80% BA+
- ▶ 3458 increase in population, 3095 increase in bachelor's degrees
- ▶ More building anticipated

▶ Wanda Vista

A Downtown Revival?

- ▶ Nationwide, population increased from 281 million in 2000 to 309 million in 2010
- ▶ Nationwide, college-educated share increased from 24.4% in 2000 to 28.8% today
- ▶ Are the changes in downtown Chicago distinctive?
- ▶ What about other big cities?

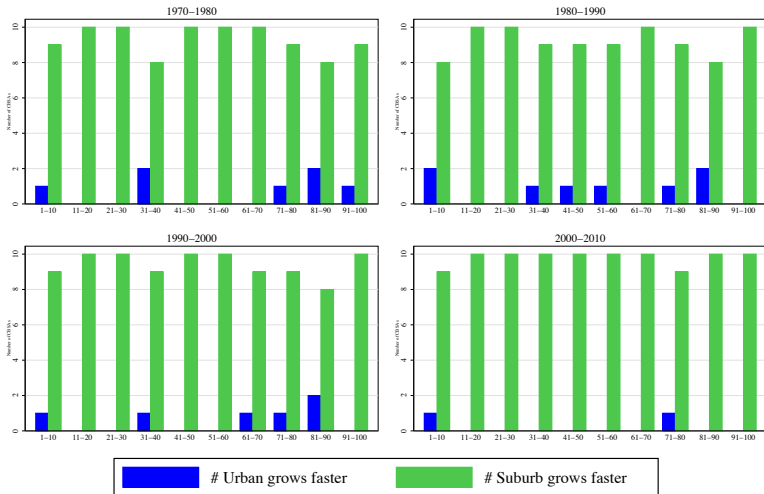
A Downtown Revival?

Couture and Handbury (2015)

- ▶ Compare “downtown” census tracts to suburban tracts
- ▶ When? Look at all decades from 1970 to 2010
- ▶ Where? Look at 100 largest metropolitan areas
- ▶ Who? Split population by age and education

America's Downtown Revival

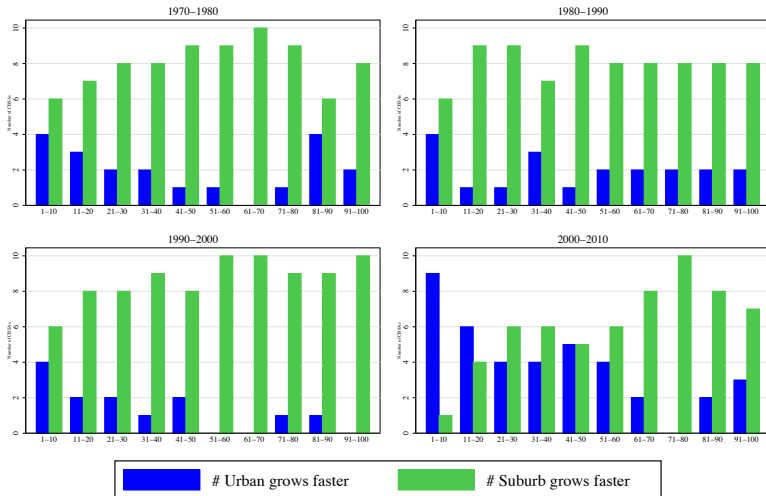
Downtown vs Suburban Growth, Total Population
by CBSA population rank (groups of 10)



Source: Couture and Handbury (2015)

America's Downtown Revival

Downtown vs Suburban Growth, College Educated by CBSA population rank (groups of 10)

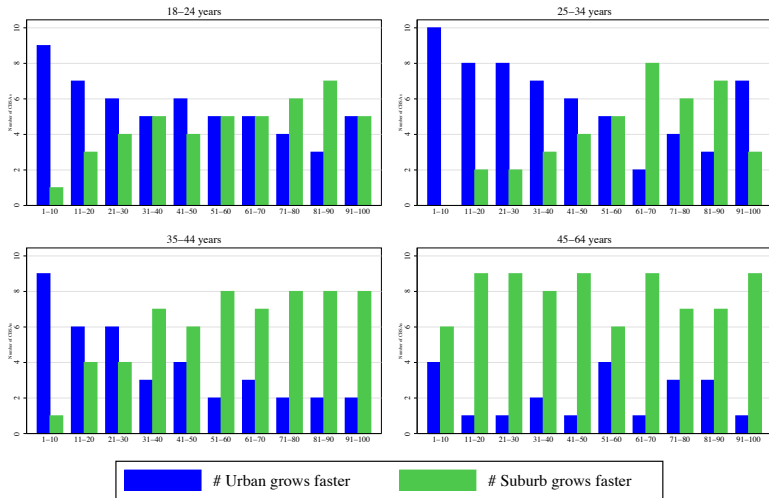


Source: Couture and Handbury (2015)

America's Downtown Revival

Downtown vs Suburban Growth, College Educated, 2000–2010

by CBSA population rank (groups of 10)



Source: Couture and Handbury (2015)

America's Downtown Revival

- ▶ Reversal of college-educated workers' locational choice in 2000-2010
 - ▶ Coming from 18-45 year old group (i.e. no baby boomers)
 - ▶ Not just today's millenials!
- ▶ Fast aggregate growth in 50 largest metropolitan areas:
 - ▶ 25-34 group grew 44% downtown vs. 14% in the suburbs
 - ▶ 35-44 group grew 30% downtown vs. 10% in the suburbs
- ▶ Downtowns contain only 5% of population, but:
 - ▶ Account for 24% of growth in 25-34 year old college-educated population
 - ▶ Account for 11.5% of growth in 35-44 year old college-educated population

Technology and the city

- ▶ How do improvements in information technology change the value of living and working in cities?
- ▶ How will Big Data change our understanding of cities?

IT and urban living

Key question: Are information technology and cities substitutes or complements?

- ▶ Improved telecommunications could eliminate the need for physical proximity ▶ Friedman
- ▶ Improved telecommunications could raise the benefits or lower the costs of meeting in-person
- ▶ Improved information can make density more valuable – Yelp
- ▶ Improved coordination can make urban living more attractive - Uber
- ▶ Silicon Valley is strong evidence for complementarity

IT and urban economists

- ▶ Many interesting dimensions of urban activity have long been invisible to researchers
- ▶ Private enterprises are now documenting urban activity - Yelp, Foursquare, Uber, Google
- ▶ City governments are adopting open data initiatives
 - ▶ City of Chicago crime data is excellent
 - ▶ Seattle fire department posts dispatches in real time
- ▶ Potential privacy concerns, but huge research potential

Urban planning

Does mixed-use zoning reduce urban crime?

- ▶ Jane Jacobs (1961) hypothesized that mixed-use neighborhoods experienced lower crime due to “eyes on the street”
- ▶ During Michael Bloomberg’s mayorship, 37% of city had zoning changes, many of them for mixed-use developments
- ▶ Twinam (2015) combines a high-resolution land-use survey and Chicago’s geocoded crime data to analyze
- ▶ In high-density areas, commercial zoning reduces crime (opposite at low density)
- ▶ Negative effects of commercial zoning largely due to liquor stores and late-hour bars

Spatial and social frictions in the city

Davis, Dingel, Monras, Morales (2015):

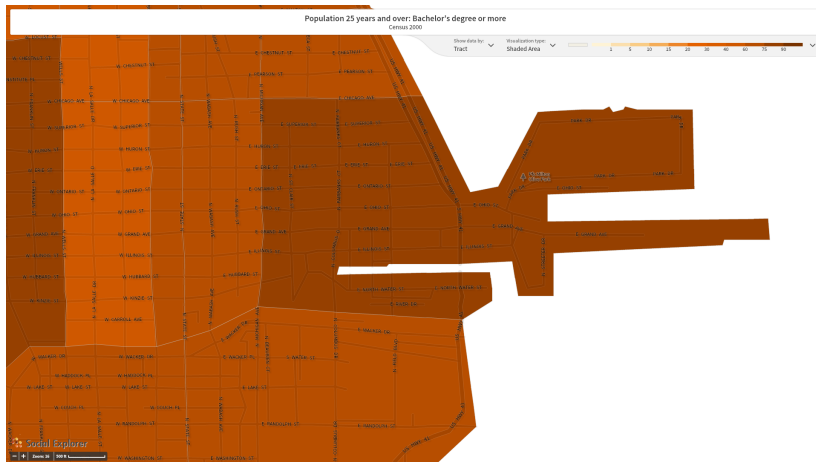
- ▶ We use data from Yelp restaurant reviews to characterize consumers' decision-making in New York City
- ▶ Travel time is paramount: Users are 2-4 times more likely to visit a restaurant that is half as many minutes away from their residence or workplace
- ▶ Demographic differences fragment the city: Users are 27% more likely to visit restaurants in a census tract one standard deviation more similar to their home tract
- ▶ Women are more averse to dining in high-robbery areas than men

Summary

- ▶ There's been a divergence between skilled and unskilled cities
- ▶ Downtown revival is widespread across large US cities
- ▶ Tech and cities are complements, for both residents and researchers

Questions?

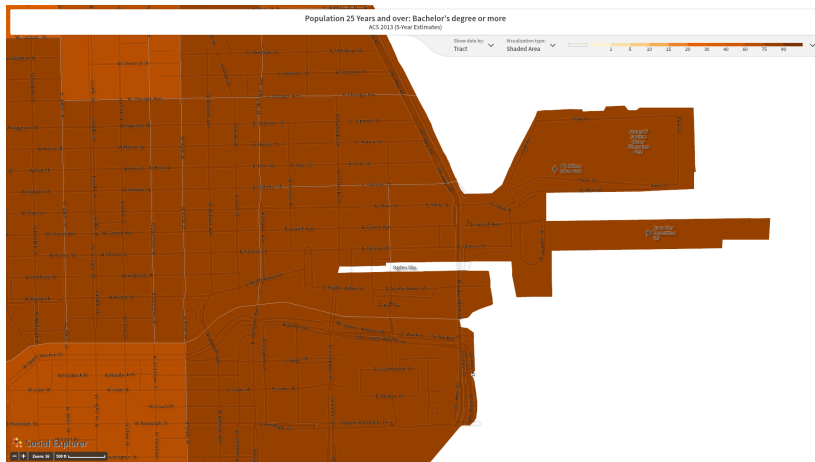
Chicago's downtown developments



Source: socialexplorer.com



Chicago's downtown developments



Source: socialexplorer.com



Chicago's downtown developments



Source: Curbed

Does IT make the world flat?

“The world got flat when all 10 of these flatteners converged around the year 2000. This created a global, Web-enabled playing field that allows for multiple forms of collaboration on research and work in real time, without regard to geography, distance or, in the near future, even language.” – Tom Friedman, 2005 