

### Moretti: The New Geography of Jobs the Great Divergence

- (1) Economic factors that shaped American & global cities from the 19<sup>th</sup> to 21<sup>st</sup> Century
- (2) Political economy: changing relationship between government & markets – huge national variations
- (3) Cities 1990-2008: Tom Friedman – globalism & free markets
- (4) Cities that succeed & cities that fail; concentrated poverty
- (5) Brexit; American revolt against globalism; from left & right
- (6) Next week: Implications/responses to inequality; Branko Milanovic

### Quick overview of U.S. economic history; implications for cities

- 19<sup>th</sup> & early 20<sup>th</sup> century North American & European cities were manufacturing centers; centers of production; steel, oil refineries; locomotives, boats, cars, radios, military equipment, garment industry; food processing
- Maker cities - exporting cities- through ports & rail lines
- Office buildings in downtown, housed the management functions for the industrial city; corporate headquarters; office firms tied to place
- Manufacturing was driving edge of innovation  
Selling manufactured goods regionally/nationally was source of wealth for cities and places

### 1948: Manhattan's downtown with a working port; Manufacturing = 33% of the city's jobs; today 4.5%



### Lower Manhattan today: center of global business Professional & business services, finance, insurance



### New York & Philadelphia garment industry



### Pittsburgh: steel industry



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### Detroit & Chicago



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### Chicago's downtown, 1926 Functioning rail yards



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### Chicago's Millennium Park today Amenities & quality of place



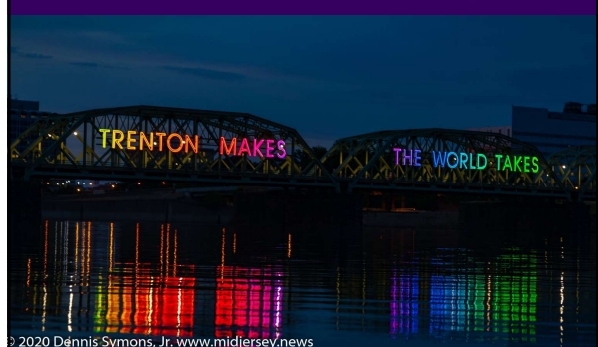
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**Legacy:**  
19<sup>th</sup> & 20<sup>th</sup> century industrial wealth = 21<sup>st</sup> foundations

Rockefeller (oil)  
Carnegie (steel)  
Ford (cars)  
Knight (newspapers)  
Pew (Oil)  
William Penn Foundation (chemicals)

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### Legacy art: Delaware River Bridge

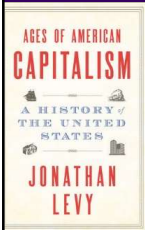


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## Political economy



Late 19<sup>th</sup> century, post civil war, the slave based southern agricultural economy was defeated & the U.S. became a developing nation competing against more developed economies: England, France, Germany, Holland

National government supported & facilitated commerce

- protective tariffs to shelter emerging American industry
- government support for transportation; roads, canals & railroads – land grants

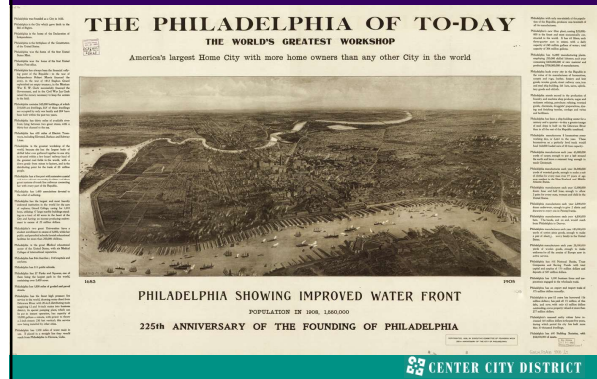
Emergence of major regional & national corporations  
Railroads, oil, steel, food processing

- Period of rapid industrialization; immigration (1865-1929)

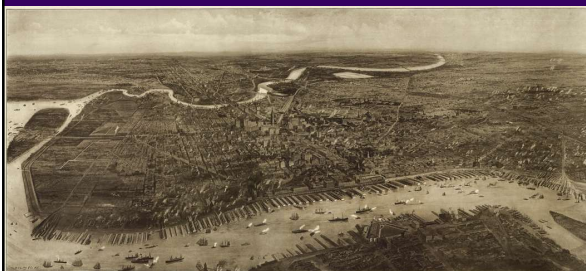
- Time of rapid urbanization  
Home for 50%+ of American population



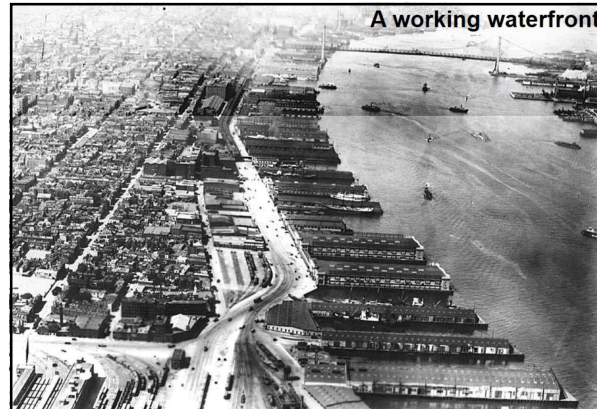
## 1908: Huge importing and exporting city



## 1908: Huge importing and exporting city



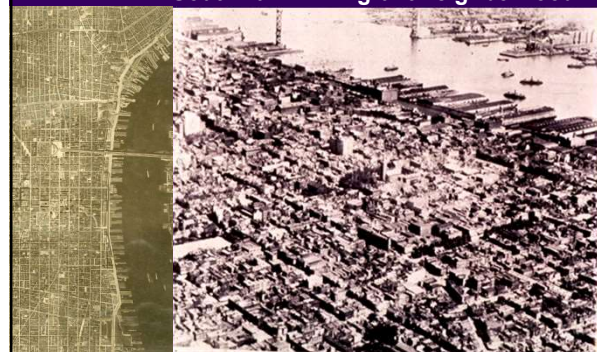
## A working waterfront



## Serviced by trains & trucks



## Working class neighborhoods adjacent to port Southwark: Immigrant neighborhood

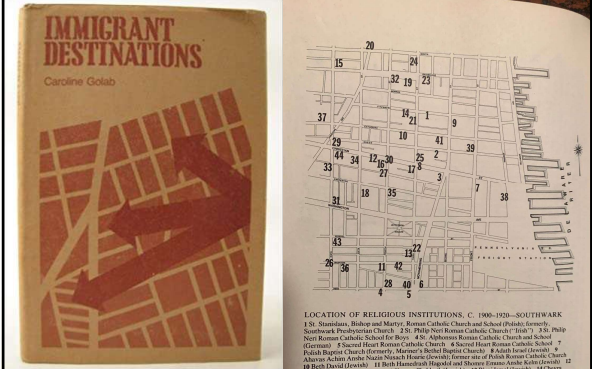


## Manual labor intensive jobs



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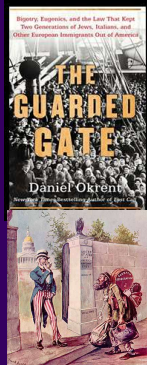
## 46 different ethnic churches/synagogues 1920



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## Nativism & anti-immigrant sentiment

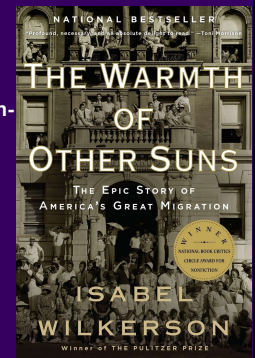
- Building from the 1880s and 1890s
- World War 1: immigration shut down
- Formalized in 1924 restriction of immigration; didn't end until 1965
- Cut off foreign supply of industrial labor



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## African American migration north & to California

- starting in WW1 & growing thru 1920s & 1930s migration of African-Americans from south to north
- Recruited by northern industry; leaving segregation, Jim Crow & rural share-cropping for opportunities in northern cities



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## Depression & the New Deal

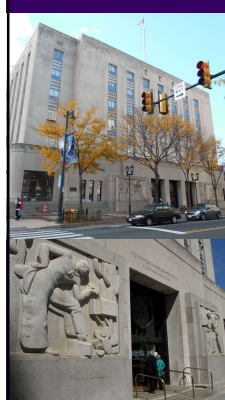
- 1930s, in response to collapse of economy, FDR & New Deal
- No federal "social safety net" until 1930s; charity is local
- National government takes on compensatory/redistributive role: unemployment insurance, aid to mothers with dependent children, social security –
- US no progressive income tax until 1913-1914
- New Deal funded thru progressive income tax
- Social Security: mandatory payroll withholding
- all introduced in Europe in 1880s & 1890s

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## Works Progress Administration (WPA) projects

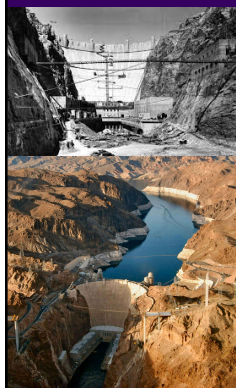
Bridges, highways, post offices infrastructure as job generation: Robert Moses

Rural electrification thru Tennessee Valley Authority (TVA)



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## Hoover Dam, Nevada

Building of dams; power generation & water supply in the west; Colorado River

Dedicated by FDR in 1935

Job generation through infrastructure investment, but no specific urban development strategy

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Kenneth Jackson, Crabgrass Frontier

Post World War 2 National government supports mobility strategies but not many place-based strategies:

Interstate highway program  
FHA/VA mortgage insurance programs  
facilitate suburbanization

Urban renewal 1949  
– originally just housing  
downtowns & university campuses  
1954-1968

Funded significantly lower than highways

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Huge economic expansion 1945-1973

New Deal programs remains in place even with Dwight Eisenhower, Republican President 1952-1960

Labor/management peace

Strong, expanding national economy

Post-war Commitments to rebuild  
European & Japanese economies.

Huge build up of permanent military/aerospace industry  
in the south and west (Texas and California)

Cold-war; anti-communism; both Democrats & Republicans;  
bipartisan support for the Vietnam War

US commitment to global free-trade;

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## Post World War 2: North American & European cities steadily de-industrialize

The rust belt was formed when industries began migrating south into the Sun Belt for more favorable economic policies, affordable and abundant housing options and a decreased union presence.



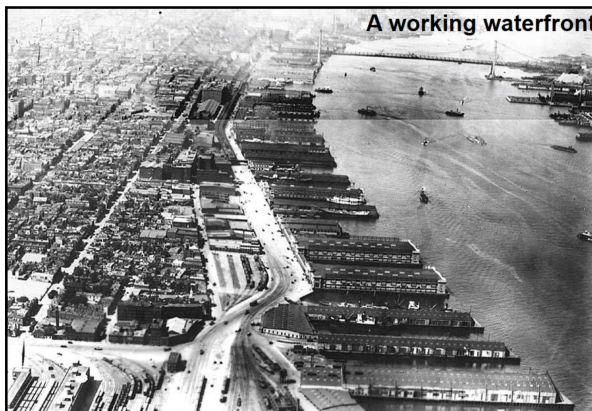
US –  
City to Suburbs,  
from north to south  
Rust Belt/Sun Belt  
& then global

Arab Oil Embargo  
1973; stagflation

Emergence of Asian  
economies: 1980s;  
global competition

Standard of living  
ceases to grow  
robustly

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A working waterfront

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Working class neighborhoods adjacent to port  
Southwark: Immigrant neighborhood

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Food distribution center: 1910 – labor intensive



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Dock Street today: hotels & housing  
Water front is entertainment & leisure



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Changes in transportation technology,



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Mechanization of moving goods and products



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From container ship



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To trains.....



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Or trucks; significant reduction in need for labor  
Huge gains in efficiency



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Rotterdam



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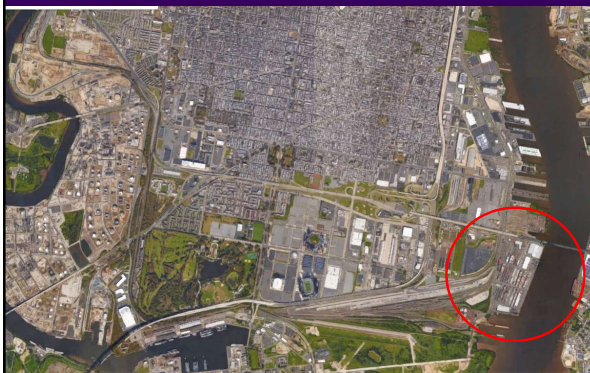


Loading & unloading  
moves away from central waterfront



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Packer Marine Terminal

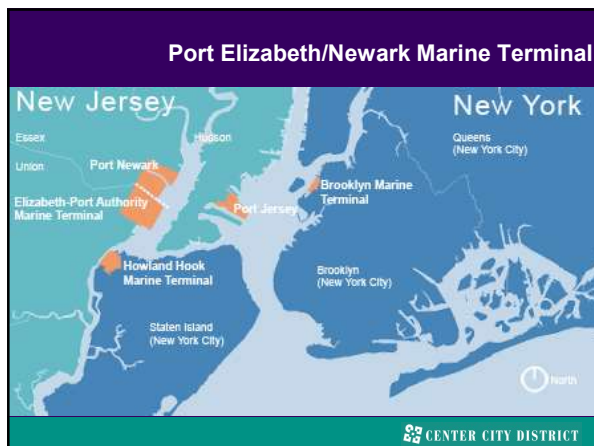
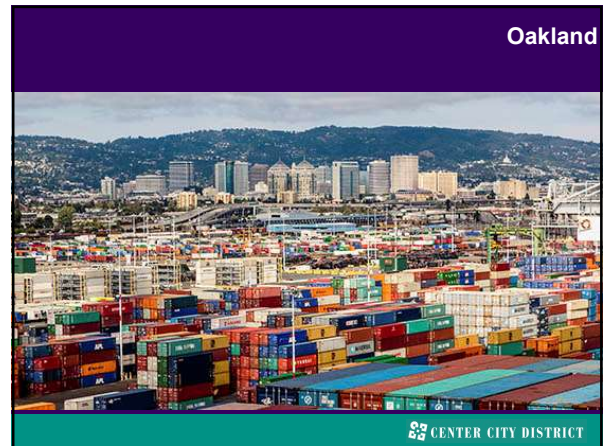


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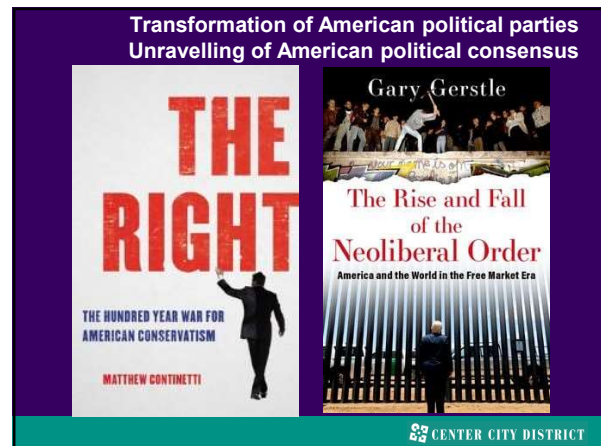
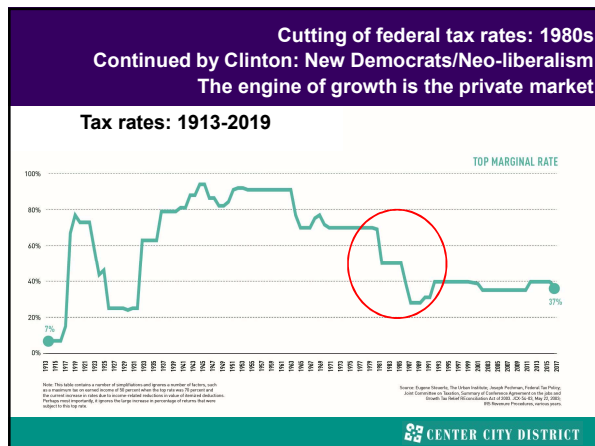
Similar process in San Francisco  
Move to Oakland



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**1990 to 2008**

Little or no national development policy  
freedom of capital: mobility of investment  
Collapse of Soviet Union:  
"the triumph of democratic capitalism"

Absent anti-communism; Republican party begins to move away from globalism & free-trade

Little national commitment to infrastructure investment other than highways; Obama attempt to fund High Speed Rail

Contrast that to state managed & directed capitalism  
China and Singapore –

In the European Union:  
coordinated regional & industry growth strategies  
European union funding of infrastructure investment.

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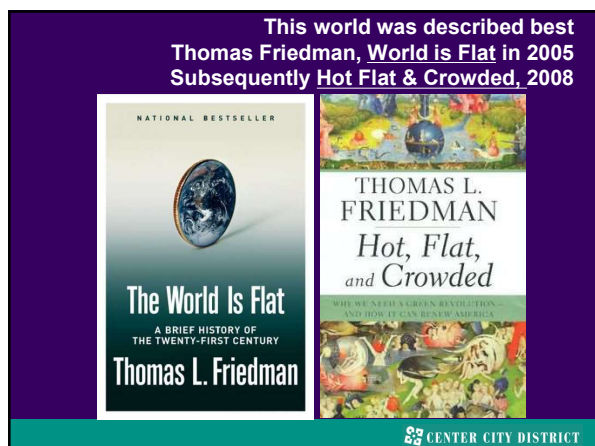
**Free-market "neo-liberalism" (supported by Clinton/Bush)**

In US Cities compete against their own regions & each other:

- for investment capital
- federal capital grants
- expansion of existing businesses
- relocation of businesses
- start-up of new firms
- conventions & professional meetings
- for retail sales
- for residential decision making
- sports franchises

Few constraints on mergers/acquisitions  
Cities also compete in global context  
environment is one of competitive capitalism  
business free to locate where-ever it chooses including overseas

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Data & money move digitally around world at touch of finger.

outsourcing began in manufacturing  
(foreign labor cheap enough to overcome costs of transportation)

Moved from low skilled services –call centers & then slowly moved up the skill ladder to outsourcing of high-skilled professional services

"outsourcing" is parochial term  
Internationally owned firms & globalization of capital able to contract for labor & carry out production in lower cost markets

Corporations no longer tied to place

- NAFTA & free-trade (Clinton)

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In Friedman's view: competitive cities & regions, the places that will thrive & increase prosperity for their residents have minimum barriers to entry;

these are places that make it easy to start businesses, raise capital & become entrepreneurial; places with simple, equitable & transparent regulations;

they have an educated, energetic & versatile workforce that thrives in a competitive, rather than sheltered environment.



In this global economic context urban economic environment characterized by **turbulence**, responding to forces beyond local control

over 10 years any given place is likely to lose **one-half its jobs**.

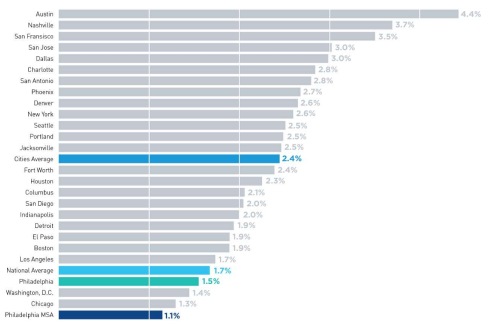
"Great divergence"  
places that don't respond to these challenges  
"places in trouble"  
places that lose market share  
places that decline with high poverty rates  
Patrick Sharkey, chapters 1-3

Successful places continually innovate & grow new businesses; expand market share

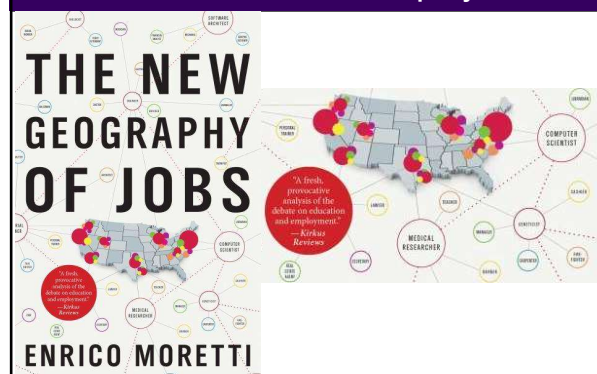


## Fast growing cities & slow growth cities 2009-2019

AVERAGE ANNUAL PERCENT CHANGE IN PRIVATE SECTOR JOBS, 2009-2019



## Growth is not equally distributed



## TRIUMPH OF THE CITY

How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier and Happier

EDWARD GLAESER



Two Case studies: Detroit & London



Detroit—early 20<sup>th</sup> century emergence of auto industry

innovation comes out of densely clustered, competitive environment—lots of inventors & entrepreneurs all crammed into small area of Detroit

Automobile emerged by combining 2 existing ideas  
horse-drawn carriage + the gas engine  
— both of which had been made in Detroit —

Skilled workers ready to adapt  
lots of small firms frantically competing with each other to innovate, break through & capture market share.





Starts with hand-crafted vehicles; skilled labor

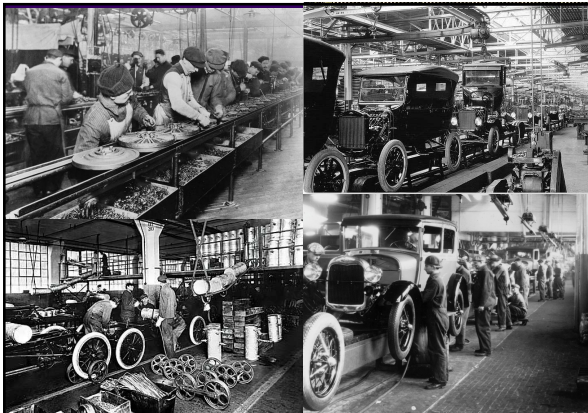


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Moves to mass production



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Cities are a magnet for unskilled labor



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More than a dozen competitive firms,  
Successfully producing cars for the market.

Detroit 1900-1920 booming city

But as Henry Ford introduced mass production on  
assembly line, it lowered the cost of production, sold  
cars at lower cost & it reduced the need for knowledge  
intensive workers & innovation.

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Ford's River Rouge Plant in Detroit



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To compete, no longer relied hand craftsmen, who designed, redesigned & built between **10-50** cars/year,

Capital & labor intensive factories, mass production; the routinization of function.

Drove mergers: reduced field to just 3 large companies:  
Ford, General Motors & Chrysler  
American Motors in 1960s

They dominate the global markets (40 years)  
Few domestic upstarts to challenge big 3  
*Lack of competition drives out creativity*

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## Downtown Detroit, 1930 management functions of auto industry



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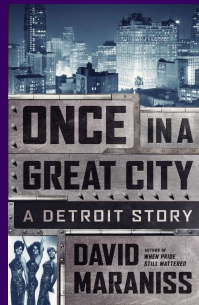
Huge expansion – after World War 2 for a decade until late 1950s US had few global competitors for auto production

But by 1963 – half the cars in the world were made outside of US

By 1964: 500,000 imports were sold in US

1970s & 1980s German & Japanese auto producers began to undercut the domestic market providing smaller, more fuel efficient cars as energy prices rise

Detroit goes into decline – population declines from 1.7 million to 688,000



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## Packer Motor Plant Detroit: 1903-1958



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## Abandoned Packer Motor Plant Detroit



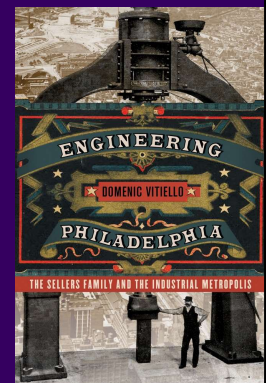
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## Dominic Vitiello, Engineering Philadelphia

Tells similar story of early innovation & then the decline of manufacturing beginning in the 1920s

East German cities, smaller Japanese cities; Camden; East St Louis, Rochester, Reading PA

These are the loser cities in deindustrialization & globalism



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## Contrast London, England,

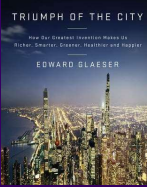
a city of production & exporting for first ¾ of the 20<sup>th</sup> c  
Manufacturing decline & containerization of cargo made ports obsolete

City lost **25%** of population by 1980

New innovative cycle: 1986 deregulation of financial services  
—opening up to global competition

Good international connections-  
investment in Heathrow Airport

Excellent position in global time zone:  
do business with Asia in AM; North America in PM



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## The post-industrial economy

A trusted legal system, stable politics, a trusted bureaucracy; no need for bribery to do business

Less regulated business environment than European continent

Becomes a global financial capital; attracted huge influx of immigrant entrepreneurs – from former colonies

Global wealth poured in, driving up housing prices –

Lower skilled immigrants come for opportunity; often going directly to some suburbs; wealth concentrates at the center

1/3 of Londoners & 1/3 of New Yorkers born outside of these countries

Miami as haven for South American wealth  
(Gateway cities) – Vancouver, BC - Asian

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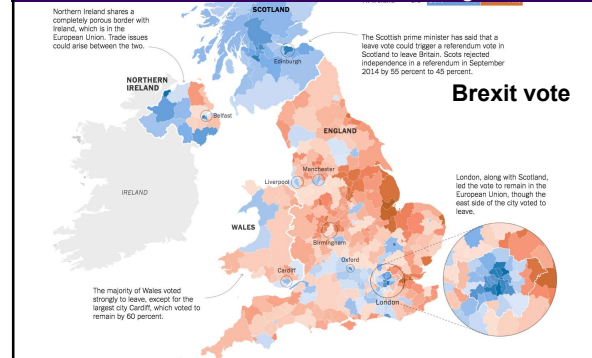
**Brexit: withdrawal from European Union**  
Erection of trade barriers – restrictions on mobility of capital

Amsterdam, Frankfurt & Paris all position to capture market share of financial services



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## Internationalist London outvoted Winners & losers in globalization



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## Moretti; the “great divergence” Some place were pulling ahead, many falling behind



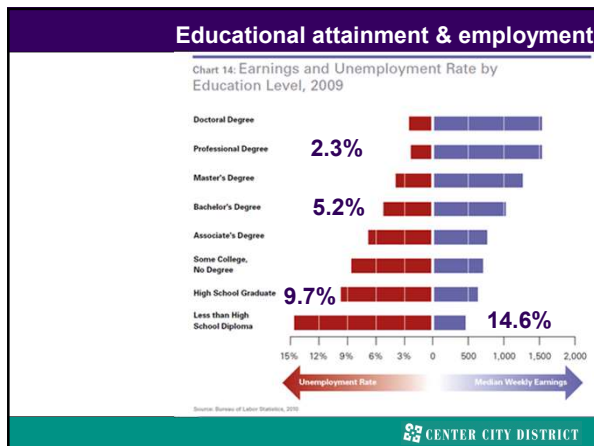
For years, economists have understood that post-industrial economy was dividing into

High-skilled knowledge-intensive jobs,  
& lower skilled jobs;

Advantage of a college & graduate degree

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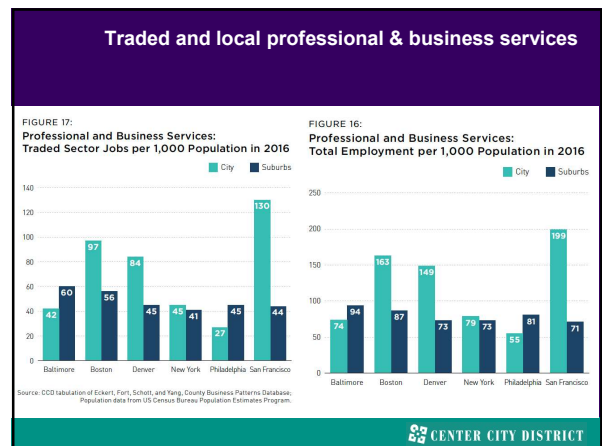
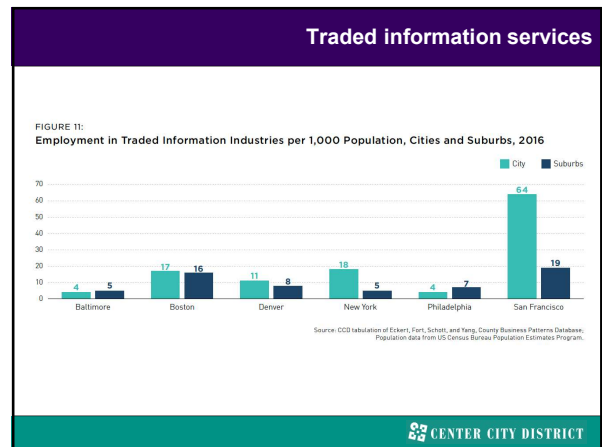
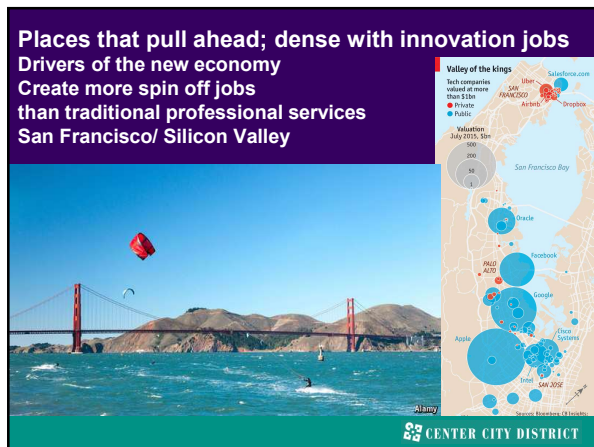
Moretti's focus is on the place dimension of this change: *"the great divergence"*

1. Places with knowledge-intensive jobs, draw to them a solid base of workers & the presence of knowledge-workers is attractive to firms – mutual reinforcement.
2. knowledge-intensive industries tend to geographic agglomeration; "clustering"

They cluster & want to be near each other & near venture capital not evenly dispersed across places

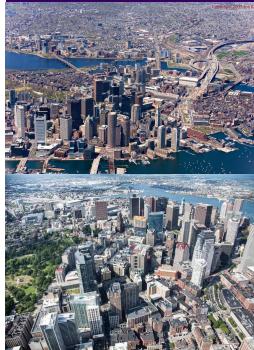
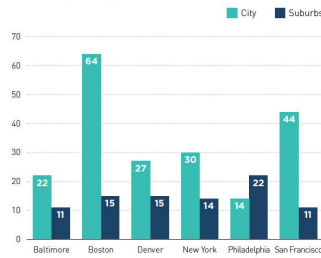
Bay area – SF/Silicon Valley, London, Bangalore, India; Shenzhen & Pearl River Delta in China

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### Boston's strength in financial services

FIGURE 13:  
Financial Activities: Traded Sector Employment  
per 1,000 Population in 2016



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### Fast growth firm concentrations in China

#### Location and number of Chinese unicorns



### Edward Glaeser, Triumph of the City

Virtues of density for economic development  
Density enables a virtuous cycle to begin in which employers are drawn by the large pool of potential employees & workers are drawn by abundance of potential employers

The denser the cluster of employers  
The greater the chance for upward cycle (Detroit)

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### Writing about Bangalore India Glaeser, Triumph of the City

"These cities create a virtuous cycle in which employers are attracted by the large pool of potential employees and workers are drawn by the abundance of potential employers. So firms come to Bangalore for the engineers and engineers come for the firms."

Urban scale also makes it easier for workers to move from job to job. In highly entrepreneurial industries, workers get ahead by hopping from firm to firm. Young people become more productive and better paid as they switch employers and acquire new skills." Thick labor markets (1 architect firm)

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Rather than a leveling & dispersing effect of internet & digital technology- reinforce/cluster  
More phone calls. Emails. Social media messages are sent to people in close proximity

In the presence of competition, everyone improves their game  
Example: Tennis, squash, fencing

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### In these cities amenities & quality of place are competitive advantages



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Bryant Park, NYC



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Streetscape investments reinforce competitiveness



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Moretti: Knowledge intensive jobs  
= higher wage jobs,  
so that even as American cities have desegregated from  
the perspective of race,

they are sorting themselves by income;  
smart cities get smarter; smart cities get richer  
smart cities get less affordable absent public policy

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Moretti "secular" change – long term & structural  
& not "cyclical" (ups & downs of the business cycle)

part of long-term transition from manufacturing to service

manufacturing employment in the US peaked in 1978-  
1979 and then began a steady decline; Pre-Nafta

#### Factors

rise of Asia - Japan, Korea, China  
with lower cost labor as a manufacturing powerhouses;  
garment industry, cars, home appliances, computers,  
personal electronics, sportswear; free-trade can  
facilitate but this is embedded structurally in the  
knowledge economy

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Not simply "off-shoring" from US  
the application of technology to manufacturing in the  
US– reduced the size of workforce  
in 1950 each General Motors assembly line worker  
made 7 cars per year

Due to mechanization, by 2013 the average worker  
made 28 cars/year

Much higher productivity = less labor needed

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Post-industrial economy is built around human  
knowledge as the major input not manual labor;

But, argues Moretti, the presence of high-skilled high-  
wage workers has a positive impact on creating  
opportunity for all.

This is different from Richard Florida's  
"creative economy" argument in that he lumps artists,  
craftspeople; different from "trickle down"

Moretti is focused on high-tech & innovation jobs Seattle,  
San Francisco, San Jose, Boston, Bangalore,  
Pearl River Delta

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High-tech jobs have the highest multiplier effect, creating 5 additional jobs around them;  
Both high-skilled services: lawyers, accountants, bankers & doctors

Lower skilled service jobs: waiters, personal trainers hair dressers, taxi & Uber & Lyft drivers

"While service jobs are the largest portion of the economy, they are the effect, not the cause of economic growth" innovative industries as driver



As an urban development strategy: Moretti, makes the case for focusing on innovation, tech & pharmaceutical sectors; bio-med

Pennovation center; Schuylkill Yards

Only **10%** of US jobs in innovation sector  
Majority of jobs are in the service sector  
FIRE, law, financial services accounting,

personal services  
Low-skilled services Macdonalds, Walmart

But innovation sector is where job-generation comes from



Particularly in the "traded sector"  
products & services sold outside the region into larger national & global market  
Google, Microsoft – Comcast, Facebook  
Entertainment: Hollywood, Korean KPop

Jobs created in one place, sell outside region  
import wealth back to home region

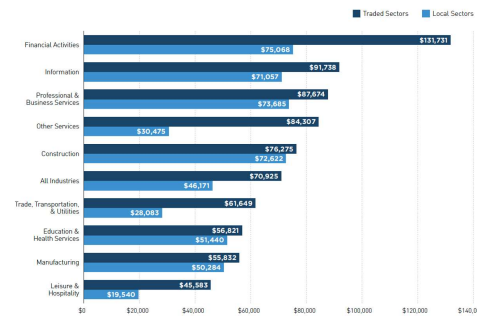
page 58-59: multiplier effect innovation jobs in traded sector

Boeing Aircraft – traditional manufacturer  
has more jobs in Seattle than Microsoft.  
But generates less spin off jobs.  
Microsoft employs 40,000 people,  
28,000 of whom are high-skilled RD engineers



## Traded sector firms pay higher wages

FIGURE 10:  
Philadelphia Average Wage per Employee by Supersector, Traded and Local Industries, 2016



High tech & innovation jobs = high wage jobs  
Higher profit margins in global economy.  
Auto manufacturing compared to  
Pharmaceutical production & digital technology

Those cities that excel in innovation pull ahead –  
"the great divergence"

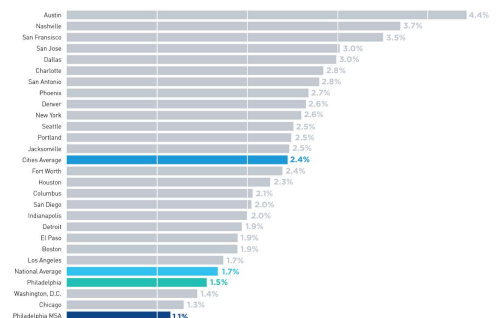
"Cities with the right sectors & with workers who have the right skills are strengthening their position, while others trapped by their past are losing ground" p146

the innovation economy is unevenly distributed.  
Three states—New York, Massachusetts, & California—  
account for three-quarters of all venture-capital investment in the United States



## Fast growing cities & slow growth cities 2009-2019

AVERAGE ANNUAL PERCENT CHANGE IN PRIVATE SECTOR JOBS, 2009-2019





Successful cities also have more charitable giving - more investment in arts & cultural facilities, parks, services for those in need

So the innovation economy produces & reinforces **income disparities**

Backlash against tech in San Francisco/San Jose

Has pandemic broken the hold of these superstar cities?  
Does remote work create the opportunity for others?



Moretti: Innovation economy is the driver of economic & technological progress; the solution for cities is to grow more innovative sectors; but this appears to conflict with imperative to provide moderate wage, lowered skilled jobs

Contrast: manufacturing city had thousands of good paying jobs that did not require a college degree (dirty, dangerous, physically exhausting)

But provided upward mobility for working class

Manufacturing centers also produced positive ripple effects elsewhere in national economy

