

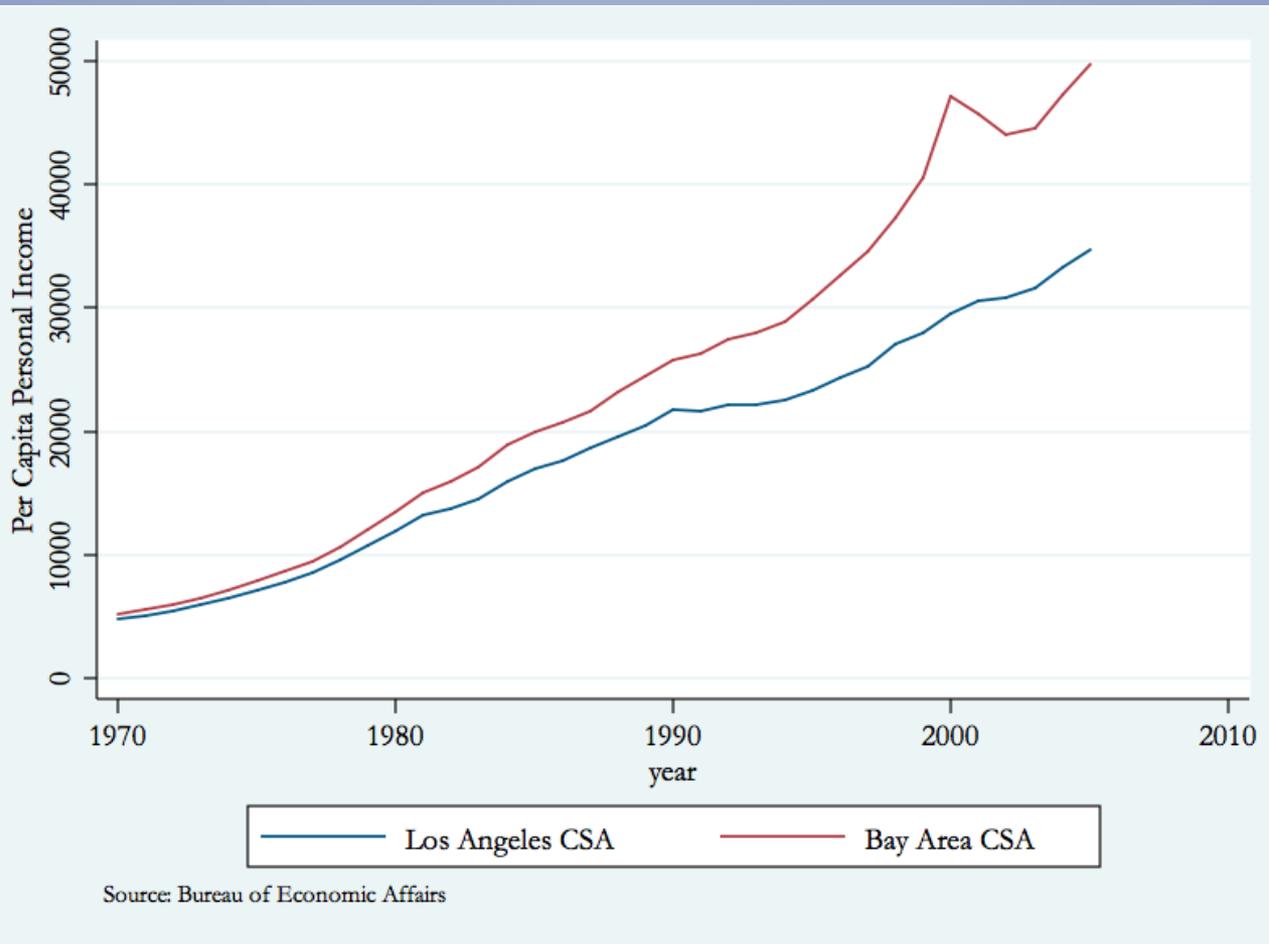
# THE RISE AND FALL OF URBAN ECONOMIES



Lessons from San Francisco and Los Angeles

Michael Storper, Thomas Kemeny,  
Naji Makarem, and Taner Osman

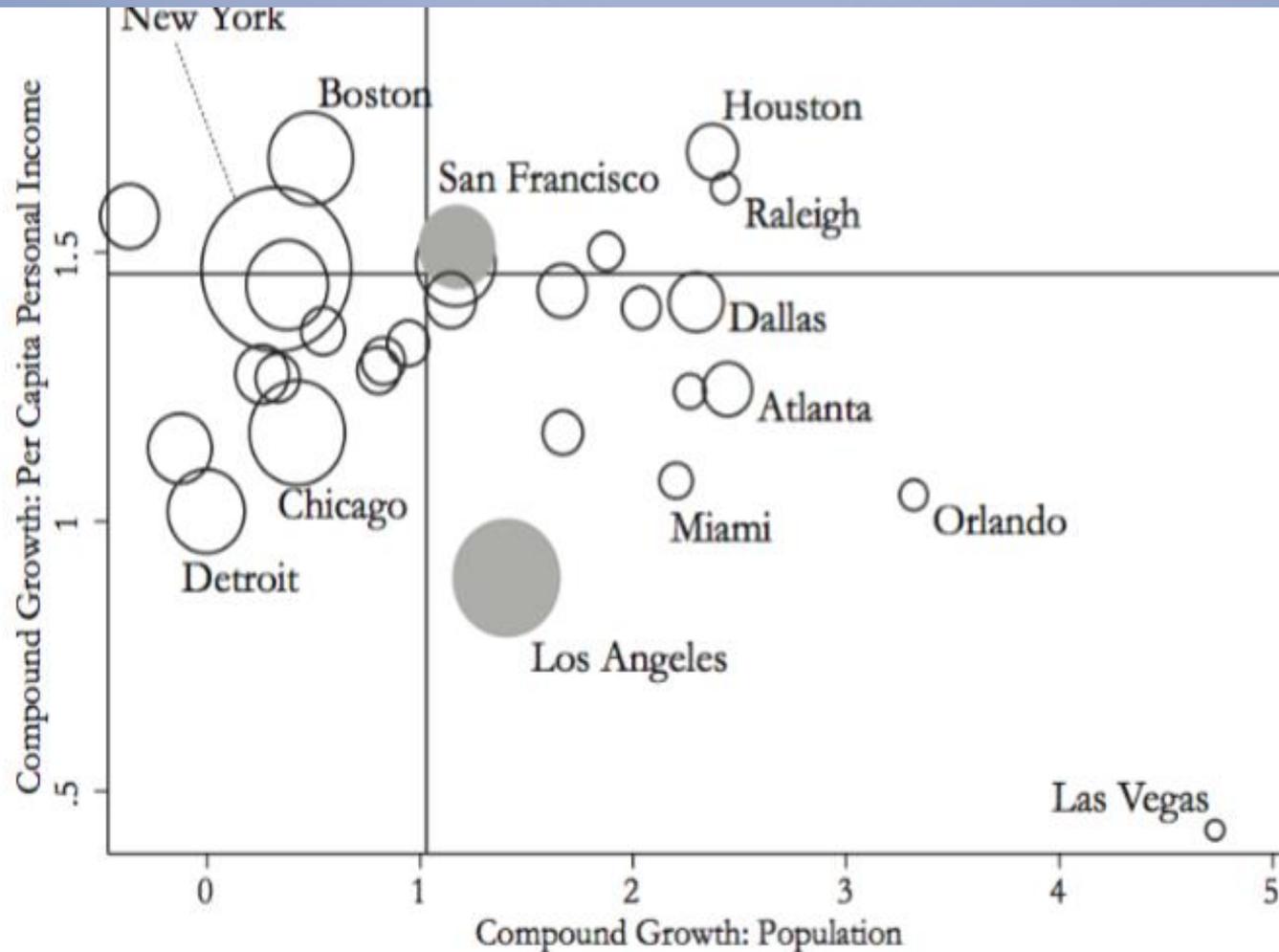
# Two metro regions: two pathways



# SF 1st-1<sup>st</sup>. LA 4-25<sup>th</sup>!

Area Name	<u>Income Rank</u>		<u>Pop Growth</u>
	1970	2009	1970-2009
San Jose-San Francisco-Oakland, CA	1	1	55.3%
New York-Newark-Bridgeport, NY-NJ-CT-PA	2	3	13.0
Chicago-Naperville-Michigan City, IL-IN-WI	3	12	21.1
Los Angeles-Long Beach-Riverside, CA	4	25	78.2
Washington-Baltimore-Northern Virginia, DC-MD-VA-WV	5	2	57.2
Detroit-Warren-Flint, MI	6	52	1.7
Minneapolis-St. Paul-St. Cloud, MN-WI	7	11	60.0
Seattle-Tacoma-Olympia, WA	8	6	96.6
Cleveland-Akron-Elyria, OH	9	36	-6.6
Philadelphia-Camden-Vineland, PA-NJ-DE-MD	10	10	13.6

# Pop versus income change: LA/SF are comparable in pop



# Two city -regions

- Entire metropolitan regions: San Francisco (7.8 million residents) and Los Angeles (17.8 million residents)
- They had 4% differences per capita incomes in 1970, but are about 1/3 different today.
- A sharp case of divergence.
- Greater LA was one of the 20<sup>th</sup> century's economic success stories (1910-1970 multiplied population 21x while moving up the ranks of US metro regions in per capita income = high quality growth)

# Pop in relat to income

- Because both LA and SF had high population growth, their income divergence is interesting.
- Different from NY, Boston etc, which had low pop growth but better income story
- Houston is to the 21<sup>st</sup> century what LA was to the 20<sup>th</sup>: high quality-high quantity growth

# Definitional issues (methodology)

1. These differences survive very detailed calculations that take into account differences in housing and cost of living between No Cal and So Cal (too long to go into here) – so both nominal and *real* (after housing cost) income
2. *Not* due to differences in inequality: the two regions' gini coeffs are similar and track one another. At every point in distribution, therefore, Bay higher than So Cal
3. Geographical scale: 10 county Bay Area, 5 county So Cal: these are the equivalent *Functional Urban Regions*
4. Border issues are important: we corrected for them (added commuting populations from low-income regions across the SF border in San Joaquin Valley, thus matching the Riverside-San Bernardino low-wage laborshed of SoCal)
5. Difference is not because one region is bigger than another: Bay Area has 75% of its population in counties whose PCPI is above that of the richest Greater LA County (Orange)....so not an illusion of scale– there are some high-income neighborhoods in LA that rival those of the Bay Area, but only two high-income sub-regions (West LA and Newport Beach/Irvine/Laguna Beach)– compared to at least 9 such subregions in the Bay Area

# Consequence of divergence

- Both the Bay Area and So Cal have regional and municipal tax receipts at about 7% of their regional GDPs
- Differences in per capita income mean that in 2010 the Bay has per capita local/regional public expenditures of \$25,000. So Cal = \$18,000
- Widening fiscal capacity gap = widening investment gap (culture, education, infrastructure, health, etc)
- This is in addition to gaps in private well-being at every level of the income distribution.

# Obvious starting point: changes in specialization

- Bay Area
  - Grows Silicon Valley
  - Refocus in finance sector at high end
  - Growth of IT-related corporate HQs
  - Currently winning in biotech, digital entertainment distribution, and apps
- So Cal
  - Lost much aerospace/ defense
  - Loses corporate HQs
  - Grows in light manufacturing
  - Entertainment sector grows
  - Gains in transportation & logistics
  - Currently losing out in biotech

# Specialization

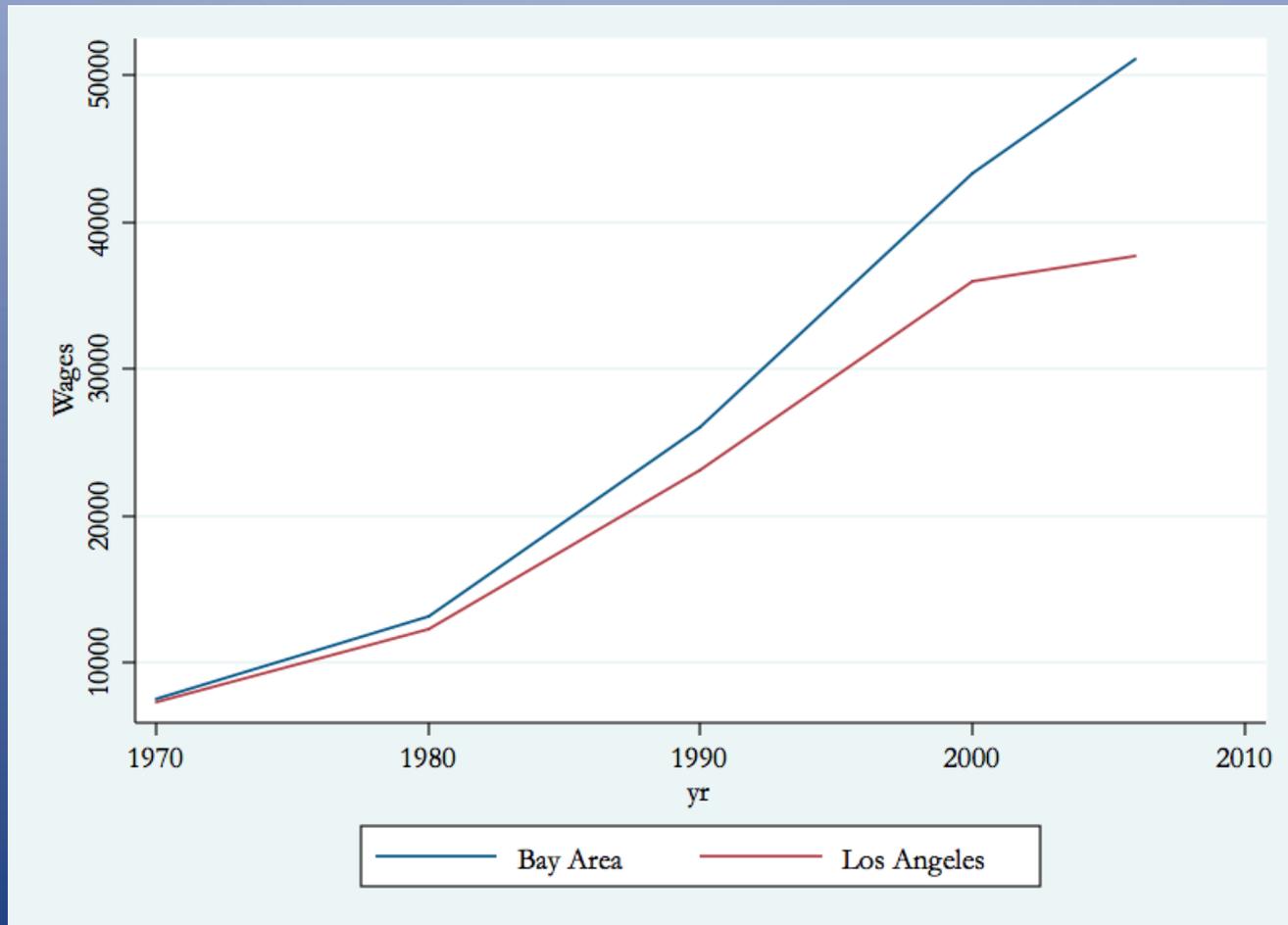
## TRADABLE INDUSTRIES 1970 & 2010

	<i>Los Angeles, 1970</i>		<i>San Francisco, 1970</i>	
	<i>Employees</i>	<i>%</i>	<i>Employees</i>	<i>%</i>
IT	81,872	2.6	38,621	2.7
Aerospace & defense	108,083	3.4	455	0.03
Logistics	39,851	1.3	21,313	1.5
Entertainment	22,978	0.7	2,171	0.15
Apparel	56,965	1.8	7,806	0.06

	<i>Los Angeles, 2010</i>		<i>San Francisco, 2010</i>	
	<i>Employees</i>	<i>%</i>	<i>Employees</i>	<i>%</i>
IT	153,524	2.7	255,334	10.2
Aerospace & defense	47,960	0.9	735	0.02
Logistics	129,651	2.3	23,505	0.9
Entertainment	141,025	2.5	14,686	0.5
Apparel	50,788	0.9	819	0.03

# Better specialization in Bay: wages of core industries



# Specialization & innovation

USPTO UTILITY PATENTS 1975–2005



Methodology again: decomposing specialization  
more finely

- Specialization differences not just between sectors, but *within* them:
  - SF is composed of industries that pay higher wages
  - *Within* sectors, SF is engaged in more skilled work

# Same occupations, different wages

2000

NAICS	Industry	LA Wages	SF Wages
541511	Custom Computer Programming Services	\$78,616	\$109,355
541512	Computer Systems Design Services	65,115	140,137
511210	Reproduction of Software	96,074	176,476
334413	Semiconductor manufacturing	87,776	158,120

2006

NAICS	Industry	LA Wages	SF Wages
541511	Custom Computer Programming Services	\$81,247	\$95,792
541512	Computer Systems Design Services	76,051	106,855
511210	Reproduction of Software	96,074	150,091

# SF work becomes more complex

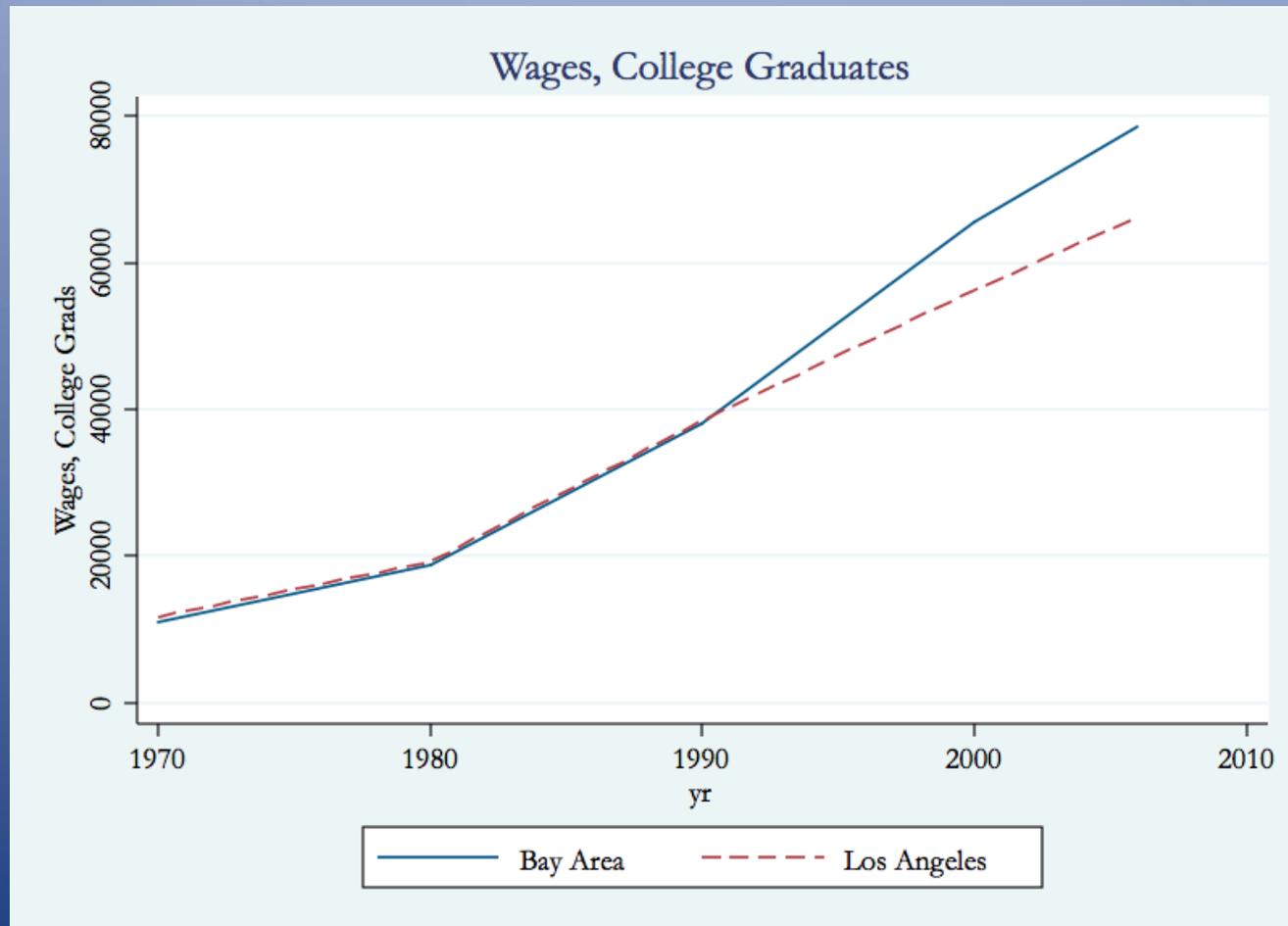
## AGGREGATE REGIONAL NON-ROUTINE COGNITIVE TASK INDICES

<i>Region</i>	<i>1970</i>	<i>2006–08</i>
Los Angeles	2.58	2.82
San Francisco	2.61	3.47
United States	2.40	2.95

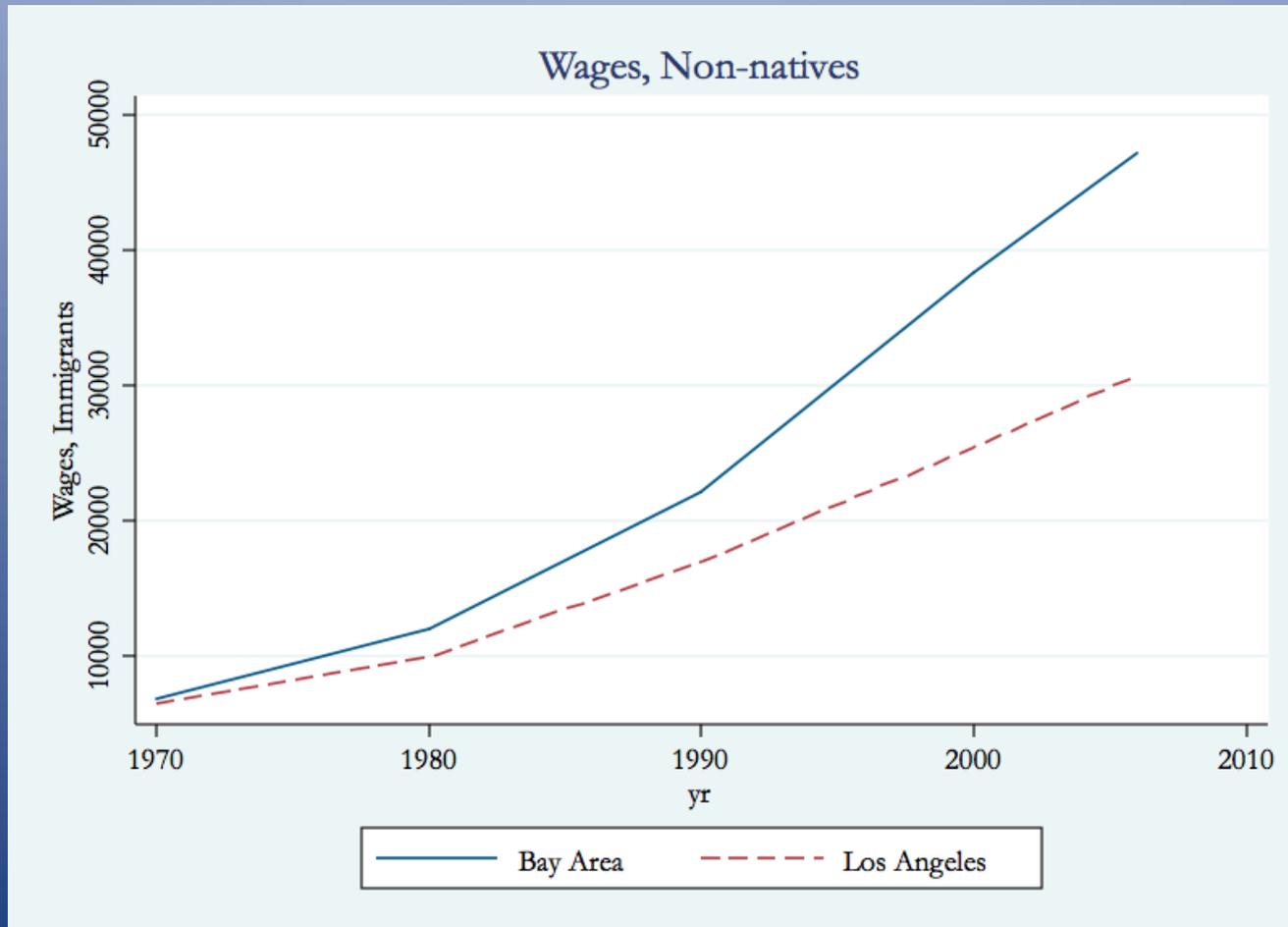
# Is it the difference in labor supply that drove specialization?

- This is the typical story: SF gets more highly-skilled immigrants, LA gets more low-skilled and this leads their job and wage structures to diverge
- Formally: if driven by supply, then we expect that a region with better specialization will have a higher *proportion* of skilled people (thus playing to its abundant factor), but *not* that it will reward “identical” skilled individuals more (theory predicts that because people will move in, in search of those kind of jobs – supply will catch up to demand for particular skills, equalizing their wages across regions).
- As we shall now see, this is not what our evidence suggests:

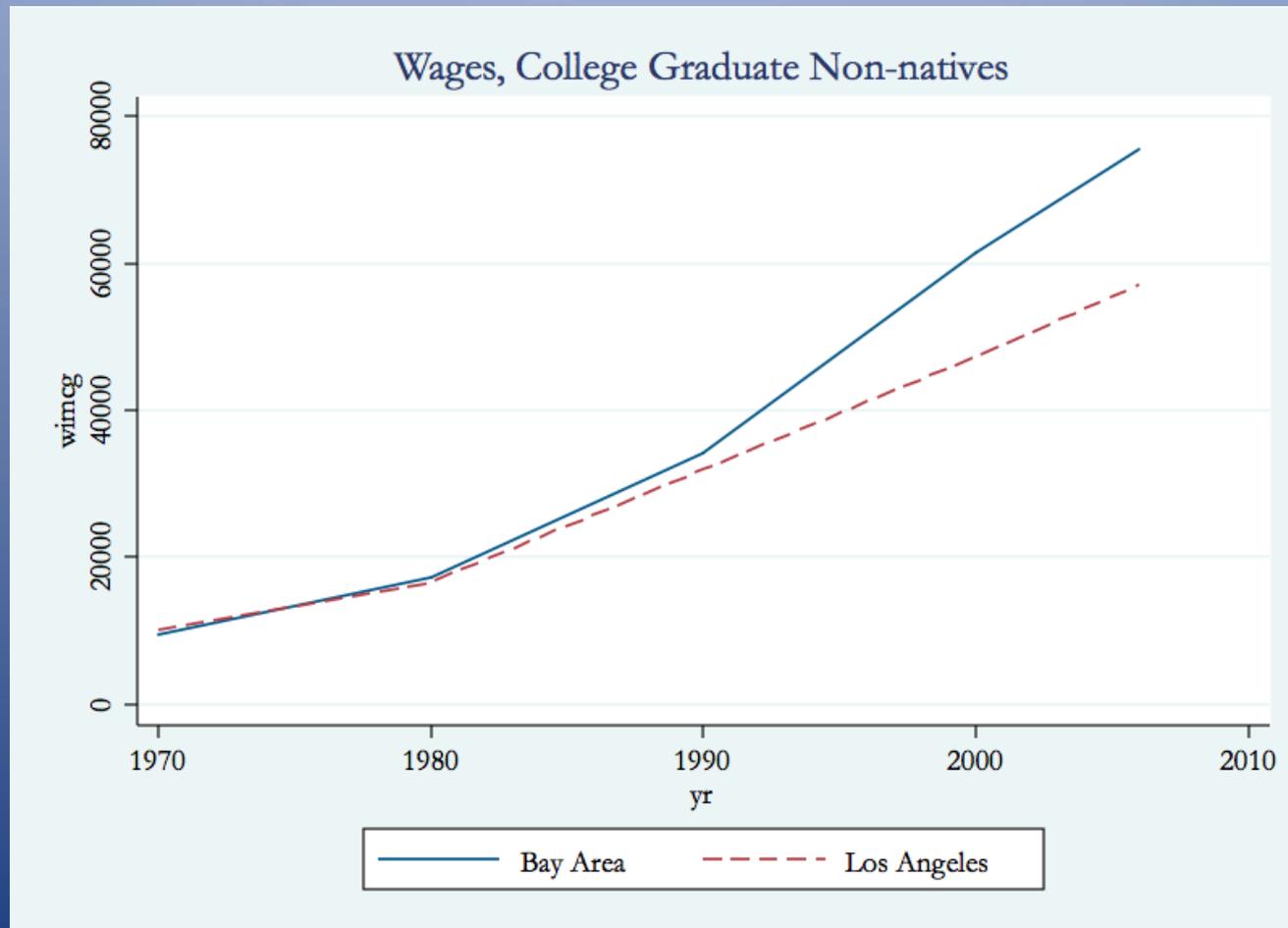
# But wage diffs for identical workers are considerable



# Wage diffs increase for immigrants too



# Even for highly-educated immigrants



# And for less-skilled immigrants!

*Table 3.12. Wages among Hispanic Immigrant Workers*

	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2005-10</b>
Los Angeles	\$5,085	\$9,005	\$14,493	\$20,231	\$26,465
San Francisco	5,960	11,102	17,383	24,252	31,669

Notes: Authors' calculations using IPUMS data.

# Migration wasn't the cause of divergence

- Thus:
- Supply changes could not have thrown the switch of divergence: even though the Bay Area has a higher proportion of highly skilled migrants, most of the differences in wages and incomes come from better wages for *similarly skilled* migrants, i.e. the migrant wage premium in the Bay Area, which grew from 5% to 35% in the period under examination. Only about a third of it was “compositional” (supply). The rest comes from higher wages for similar skills, i.e. *demand*.
- Why is this important? Supply-driven theories of sharp urban economic change are dominant, whether of the Glaeser (formal RSUE) brand or the popular “creative city” type. The evidence (of this and many other panel-data driven econometric studies) is either weak or contradicts them. Our study certainly doesn't support them
- Stated another way: migration is the egg, not the chicken.

# Good luck, bad luck?

- There are good luck myths for SF and bad luck myths for LA.
- SF: Fairchild's breakthrough chip
- But Fairchild's chip wasn't revolutionary. What was revolutionary was that Bay Area IT producers emphasized cheap commercial chips over custom-built fancy ones (where LA led the Bay Area)
- Aerospace: LA's slide begins well before the end of the Cold War (indeed, during the Reagan aerospace buildup). And aerospace causes only 2.37% of the approx. 30% gap in PCPI
- Shockley's "massacre." His 8 close collaborators quit and ventured into start-ups because he was so poorly behaved -- probably was a stroke of very good luck for the Bay Area, as well as that his mother lived in Menlo Park and he wanted to be near her = MAYBE YES.
- All in all, though, we need something more than luck and idiosyncrasy (and remember, many city-regions did better than LA, so a one-off explanation isn't going to work for that)

# Pathways of transition: clues to an alternative explanation

- In the book, we constructed detailed histories of the evolution of key industries in the two regions: aerospace; information technology; entertainment; finance; logistics/trade; biotechnology.
- In the key New Economy sectors of IT and biotech, we found strongly diverging ways that firms, business leaders, leadership groups, and public agencies used their technology factor endowments, in creating the practices of the New Economy.
- We found that these differences were systematic at the regional level. We ended up with an explanation that complements the pure economics of divergence with a variety of “institutional” forms and practices.

# Institutions

- Two levels:
  - *Formal* institutions = local/regional gov't and their economic development policies, public expenditure priorities, policy preferences
  - *Informal institutions*: beliefs and attitudes of leaders, informal networks among them, between entrepreneurs, technologists and business people – a big theme in economic sociology

# *Formal* institutional outputs?

- We looked at ED policy
  - Virtually *no systematic published databases*
  - We tried to reconstruct ED policies from wide variety of sources (infrastructure, tax, business regulation, housing supply & regulation)
  - Did this for a limited sample. Our conclusion is that differences in explicit policies labeled “ED” could not have driven the sharp divergence of the two regions
  - Public expenditures:
    - Bay Area and LA public budgets. We reconstructed county and city expenditures.
    - Mandated categories (federal and state pass through) are similar.
    - Same total regional+ local taxation rate : 7%
    - But higher expenditure per capita (that widens with economic divergence)
    - So widening overall fiscal capacity (becomes very big) – But this comes as a *consequence* of divergence, not a cause
    - Some different priorities and preferences (more transport in Bay, more security in So Cal)

# Informal or soft institutions 1: beliefs and world views

- Douglass North claims that beliefs have a recursive relationship to economic development and matter a lot to pathways taken
- We analyzed 30 years of reports by major regional business roundtables and networking forums (ABAG, SCAG, Bay Area Council, LABR, etc )
- Major differences: So Cal hardly mentions “new economy.” Bay Area centrally concerned with it
- Bay Area systematically views itself as New Economy, since 1980s....especially the Bay Area Council, the Bay Area’s comprehensive business leadership group

# Mistaken beliefs and actions: LA

- SCAG and other coalitions emphasize development of manufacturing (free up land for manufacturing) + port-logistics industry.
- Successfully pushes for high-speed rail link from port to railhead lines( Alameda Corridor)( (but does so in a top-down way that alienates local cities along the corridor and reinforces intra regional fragmentation and mistrust)
- Reflects the outdated belief of turning the clock back by making region land-abundant and cheaper again.
- Fails to do anything meaningful to reconvert aerospace or emphasize high-wage high-skill development.

# Getting it right: SF

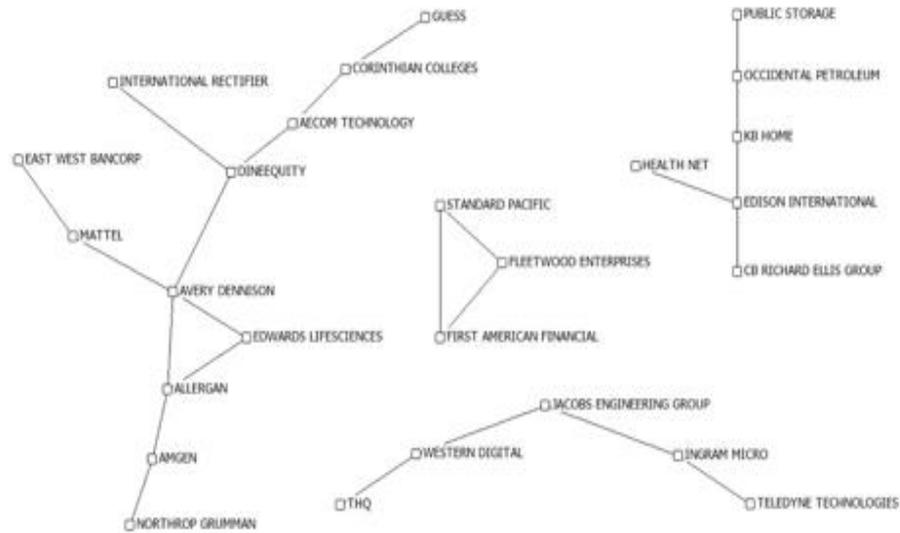
- Bay Area Council recognizes, in early 1980s, Bay Area as center of a new economy
- Reports consistently call attention to cost issues (housing, transportation), but in context of becoming the world's premier high-tech region, resolutely high-wage and high-skill
- Equity through opportunity : a “high road” vision
- Partially realized: Bay is highly unequal, but wages/incomes for ALL groups are higher than So Cal

# Soft institutions 2: private leadership networks

- Previously been done for small cities (Safford); never for huge regions
- Network analysis of largest firms:
- Board interlocks of major firms
- Similar structure in 1970-1980 (number of major nodes; distance between any randomized pair of major directors (known technically as “n-betweenness))
- Sharp divergence in 2010 as shown on following slides:



# Los Angeles 2010



## Centrality of business leadership organizations

<i>Business leadership organization (BLO)</i>	<i>nBetweenness %</i>
<i>Los Angeles</i>	
<b>Los Angeles Chamber of Commerce</b>	<b>5.9</b>
Los Angeles Economic Development Corp	1.7
Valley Industry and Commerce Association	0.6
Orange County Business Council	0.0
CALSTART	0.0
<i>Bay Area</i>	
<b>Bay Area Council</b>	<b>18.0</b>
Silicon Valley Manufacturing Leadership Group	6.0
San Francisco Chamber of Commerce	5.8
Semiconductor Industry Association	5.0
Joint Venture Silicon Valley (JVSV)	0.0

# Entrepreneur networks

- Overall levels of entrepreneurship- about the same (aggregate)
- But networks totally different: Bay Area rate of having worked with another entrepreneur as co-manager, or of scientist having worked with an entrepreneur: these networks are 9 times denser in Bay Area compared to Greater LA
- Bay Area has dense “invisible colleges” of innovator-entrepreneur-managers
- Bay Area has 7x the density of “dealmakers” as LA (Feldmann)
- This combines with the greater “range” (cross-industry) and within-industry nature of Bay Area networks
- These gaps open up with income divergence : networks have a non-linear effect, sealing in advantage.....

# Civil society networks

- On almost every indicator of the depth and breadth of non-business social tissue, Bay Area ahead of So Cal: assets of private foundations, labor unions, environmental and community groups almost 2x higher than So Cal, 4x on a per capita basis
- Social capital index of “generalized trust:” small gap between LA and SF earlier, very wide gap today (ACS data, regionalized)
- Why might this matter? Greater LA faced many challenges during divergence period (deep recession in late 1980s; end of Cold War; Rodney King riots and loss of confidence; rise in low-skill, low-wage population).
- Many attempts to launch policies to deal with these problems (such as Rebuild LA). All fail. Business leaders never support them; don’t cooperate with community groups; fade away.

How it all comes together: institutions and organizational change in IT and biotech

- Two key New Economy industries evolve differently, involving all these institutional factors that are so different in the two regions
- IT: LA had extraordinary endowments in semiconductor design and manufacture in the late 1950s and early 1960s
- Got lazy about commercialization because of luxury defense market

# IT divergence

- But H-P existed since 1938 and had federal government client too
- But Fairchild, HP, and Xerox saw opportunities in commercialization
- Especially Xerox because of Xerox PARC (Palo Alto Research Center)
- Paul Duguid told us that it mixed “hippie academics and buzz-cut engineers”
- This culture then leaked over to HP

# IT divergence story

- Why important? Because the academic-hippie technologists were anti-Pentagon and interested in the “revolution of daily life.” They saw technology as a way to simplify (LOL) and improve ordinary lives
- Second generation: Steve Jobs, in his commencement address at Stanford in 2005, ends the talk by citing the *Whole Earth Catalog* as the technology bible of his generation
- Simplicity, beauty, usefulness, not luxury, secretiveness, and complexity
- No such milieu-crossing social-business networks exist in Greater LA to draw the technologists into the New Economy
- The Bay Area’s academic-social change oriented networks mix with its engineering networks
- Early on, the Bay Area Council gets this and sees it as an advantage: creates an inclusive coalition, and formalizes the belief structure: “we are the center of the New Economy.”

# Biotech

- The science for gene splicing is developed simultaneously, and in cooperation, between UCSF and City of Hope hospital in Duarte.
- Boyer attempts the first start-ups in LA, among them Amgen, whose board is shared between Cal Tech, UCLA and UCSB
- Amgen very quickly becomes a successful firm, but the scientists are excluded from management. Amgen becomes a very conventional firm: economies of scale, New York finance, and making the scientists into workers

# Biotech in the Bay

- Boyer retreats back to the Bay, teams up with young entrepreneur from the IT world, creates a new form of firm that is managed by scientists and managers (Genentech)
- Genentech model is rapidly imitated in Bay Area
- Another network is created, with much rotation in and out of firms by managers and scientists who know one another
- Bay Area has no “big hit” firm like Amgen, but many biotech firms
- Result: “science based capitalism” emerged in Bay Area. A big cluster, versus LA’s one stand-alone firm, isolated from its regional environment

# Paradoxically.....

- Los Angeles, which is so culturally innovative, has become a more conservative business culture than SF.
- This was not formerly the case: from 1900-1970, LA was one of the most technologically and organizationally innovative regions in the world
- Had many “robust actors” (game-changing leaders) in many sectors
- With the New Economy, SF has had the relational infrastructure that has supported the success of new robust actors and new organizational forms. LA has blocked them

# The bottom line

- These many kinds of – mostly informal and “soft” – institutions (including networks and organizational practices) are what we call the different “relational infrastructures” of the two regions. They have progressively widened with divergence.
- There is also the level of beliefs or world views – the Bay Area and LA have different *zeitgeists*

# A new conversation is needed

- LA needs a new relational infrastructure: leadership has to focus on the goal and it has to rebuild its networks. So Cal needs a region-wide leadership (from LA to Orange to the Inland Empire).
- Where are the leaders to do this?
- Its first task is to change the conversation, away from denial.
- It needs to focus on high-wage, high-skill employment, which will benefit everybody