Trends in Spatial Inequality: Concentrating Affluence and a Democratization of Poverty

Cecile Gaubert, UC Berkeley
Patrick Kline, UC Berkeley
Damian Vergara, UC Berkeley
Danny Yagan, UC Berkeley

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Poverty is spatially concentrated

Affluence is spatially concentrated

### Median House Sales Prices
by Bay Area County, Q3 2020

<table>
<thead>
<tr>
<th>County</th>
<th>Median Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Mateo</td>
<td>$1,765,000</td>
</tr>
<tr>
<td>San Francisco</td>
<td>$1,665,000</td>
</tr>
<tr>
<td>Marin</td>
<td>$1,540,000</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>$1,400,000</td>
</tr>
<tr>
<td>SF CONDO</td>
<td>$1,250,000</td>
</tr>
<tr>
<td>SF Bay Area</td>
<td>$1,057,500</td>
</tr>
<tr>
<td>Santa Cruz</td>
<td>$1,050,000</td>
</tr>
<tr>
<td>Alameda</td>
<td>$1,034,500</td>
</tr>
<tr>
<td>Napa</td>
<td>$825,000</td>
</tr>
<tr>
<td>Monterey</td>
<td>$800,000</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>$790,000</td>
</tr>
<tr>
<td>Sonoma</td>
<td>$715,000</td>
</tr>
<tr>
<td>California</td>
<td>$694,000</td>
</tr>
<tr>
<td>Solano</td>
<td>$500,000</td>
</tr>
<tr>
<td>United States</td>
<td>$313,500</td>
</tr>
</tbody>
</table>

*Approximate numbers, per CAR Housing Affordability Index calculations*

Median price is that price at which half the sales occurred for more and half for less. It is a very general statistic that typically disguises an enormous range of sales prices in the individual underlying sales. It may fluctuate for reasons other than changes in fair market value. Seasonal fluctuations in median sales prices are very common.

Data per California Association of Realtors: “C.A.R.’s Traditional Housing Affordability Index (HAI). Methodology can be found on [www.CAR.org](http://www.CAR.org), Market Data section. SF condo median sales price calculated per MLS sales data.
Enormous interest in spatial income inequality

Economics

- “Great divergence” across areas [Moretti ’12]
- “Iron law of convergence” across areas [Barro-Sala-i-Martin ’91, Berry-Glaeser ’05, Barro ’15, Ganong-Shoag ’17]
- Income segregation → Large optimal place-based transfers [Gaubert-Kline-Yagan ’20]

Elsewhere

- Sociology literature on residential income segregation [e.g., Wilson ’87, Jargowsky ’97, Reardon-Bischoff-Owens-Townsend ’18]
- Spatial income shocks affect political outcomes [e.g., Autor-Dorn-Hanson-Majlesi ’20]
Are we growing apart?

- Yes, in terms of per-capita income
- Faster than across people. Attenuated by taxes and transfers.
- Distinct from whether poor places have grown faster \((\sigma\text{-convergence vs. } \beta\text{-convergence})\) [Young-Higgins-Levy '08]

“Democratization” of poverty

But median and especially top incomes diverging
Data

**State, county per-capita income:** BEA Regional Econ. Accts.
- Pre-tax income: Wages, benefits, interest, rent, and biz inc except corporate retained earnings
- Taxes: Federal, state, and local taxes except sales taxes
- Transfers include all major government transfers

**Standardizing by inequality across people:** Distributional National Accounts (DINA) [Piketty-Saez-Zucman '18]

**Quantiles**
- Bottom, median, and top (post-transfer) income: CPS
- Poverty rates: Census SAIPE
- Very top incomes: IRS pre-tax income [Sommeiller-Price '18]
Spatial income inequality statistics

**Main:** Pop.-weighted standard deviation of log per-capita income

- Bourguignon ['79] planner has logarithmic inequality aversion
- We show Bourguignon index $B$ relates to familiar var. of log:

\[
B \approx \frac{1}{2} \sum_i s_i (\ln v_i - \bar{\ln v})^2
\]

w/ per-capita inc. $v$ in area $i$, pop. $s$, and $\bar{\ln v} = \sum_i s_i \ln v_i$

- Planner maximizing mean log per-capita income: Willing to trade a 1% loss in mean income for a 0.01 reduction in $B$
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**Dissimilarity index** for poverty only

- Share who need to move for all areas $i$ to have the same poverty rate: $\frac{1}{2} \sum_i |P_i - NP_i|$ [\(P_i, NP_i\) are poor, non-poor shares]
States are growing apart after having grown together
Per-capita income dispersion across U.S. states [BEA]

Note: Planner willing to reduce avg. inc. by 1.0% to achieve income equalization
Counties are growing apart
Per-capita income dispersion across U.S. counties [BEA, DINA]

Note: Planner willing to reduce avg. inc. by 4.2% to achieve income equalization
Counties are growing apart...mainly on the coasts
Per-capita pre-tax income dispersion across U.S. counties [BEA]
Transfers have converged
Dispersion in per-capita transfers across U.S. counties [BEA]
Poverty has converged. Median incomes have diverged.

Dispersion in poverty rates and median household income across U.S. counties [Census]

**Note:** Planner willing to reduce med. inc. by 3.3% to achieve income equalization
Poverty has converged...including between regions

Dispersion in poverty rates across U.S. counties by region [Census]
...as poverty rose in Northeast/Midwest, fell in South

Poverty rates by U.S. regions [Census]
Poverty fell in the highest poverty counties, rose in the lowest.

County poverty 1989-2018 growth by 1989 county poverty rate rank [Census]

[diagram showing scatter plot with x-axis labeled 'Percentile (ranked from highest poverty to lowest poverty)' and y-axis labeled 'Change in poverty rate (%).']
Note: Poverty remains highly concentrated

County poverty rate by annual county poverty rate rank [Census]
Note: Poverty remains highly concentrated

Top incomes have diverged across states

Dispersion in state income percentiles [CPS]
Top incomes have diverged across states
Dispersion in state income percentiles [IRS]
Conclusion

Growing apart?

- Yes, on average and at the top and middle
- No, at the bottom (though poverty still concentrated)

Implications

- Growth findings poor guide to spatial income inequality
- Divergence due in part to persistence of place-based shocks? [e.g., Autor-Dorn-Hanson '13, Walker '14, Yagan '19]
- Impetus for “millionaire taxes” in CA/NY/CT/NJ/DC?