

THINKING ABOUT HOUSING PRICES

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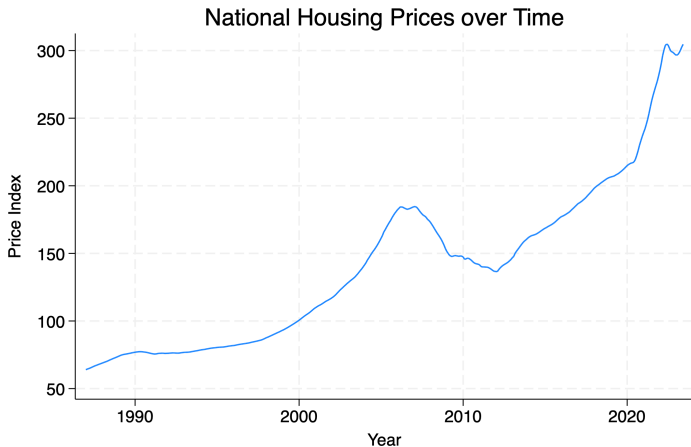
CAUTION

- ▶ The question the class posed to me was: “Housing: US housing prices have increased precipitously in the last 20 years: why? Is this a “bubble?” What’s happened to demand and supply? ”
- ▶ I’ll make this presentation a little “stream of consciousness” /detective novel to give you an idea of how I tackle this sort of problem from a data perspective, in the sense that it will follow chronologically my thinking process
- ▶ Hope this helps you in thinking about such problems in the future!

OUTLINE

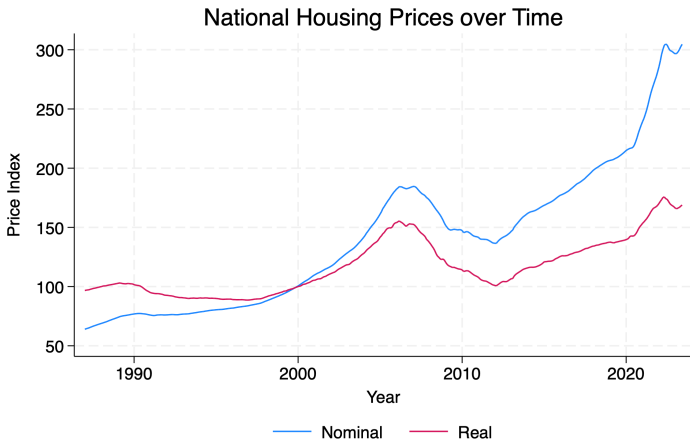
- ▶ What's happened with housing prices in the United States over time?
- ▶ Why?

HOUSING PRICES IN THE U.S. OVER TIME



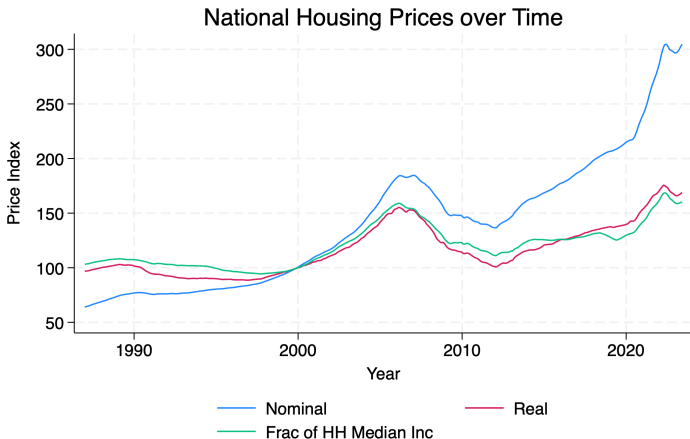
Was there a $> 400\%$ increase in the last 40 years?

HOUSING PRICES IN THE U.S. OVER TIME



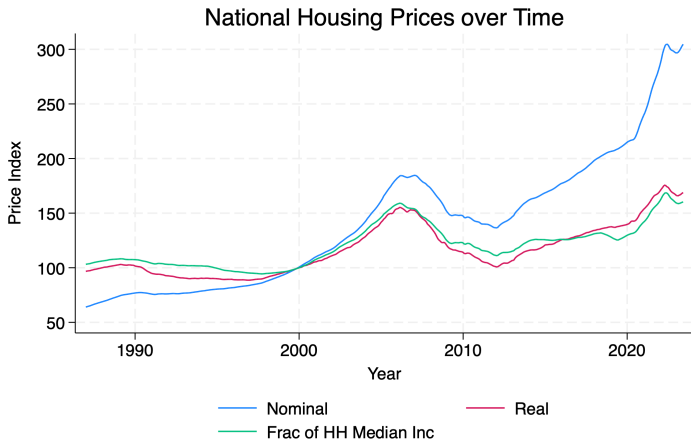
In real terms, mostly since 2000 or 2010, more like 70% not 300%

HOUSING PRICES IN THE U.S. OVER TIME



The rise isn't explained by income!

HOUSING PRICES IN THE U.S. OVER TIME

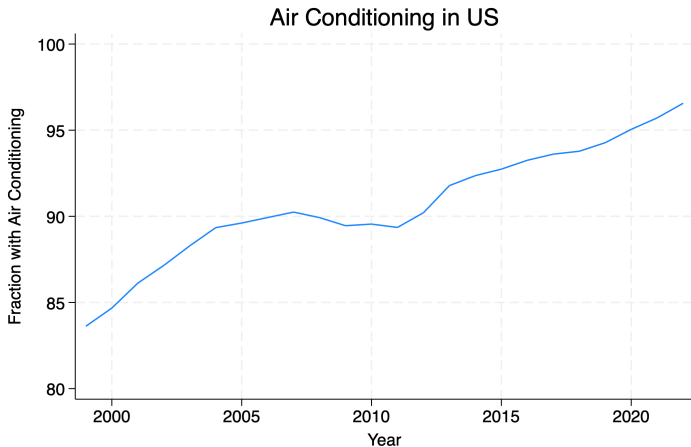


The rise isn't explained by income!

NOW WHAT?

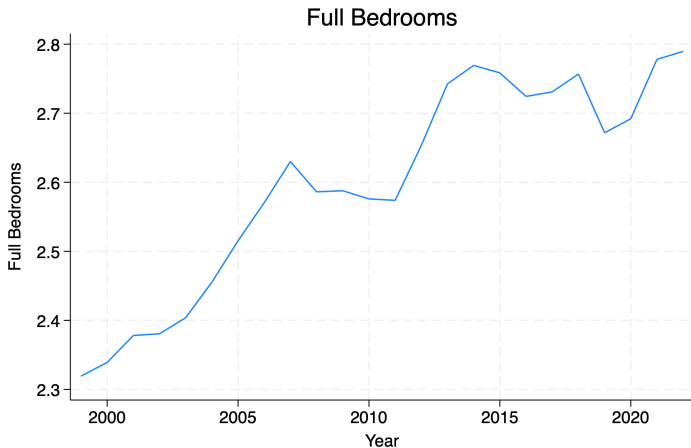
- ▶ We've seen there's a national housing price increase that has risen faster than both CPI and income
- ▶ But we don't have an explanation for the 87% rise!
- ▶ One option (not the best) is to look at time-series: are there national changes that could explain this?
- ▶ Idea: has housing quality risen 87%?

AIR CONDITIONING HAS RISEN



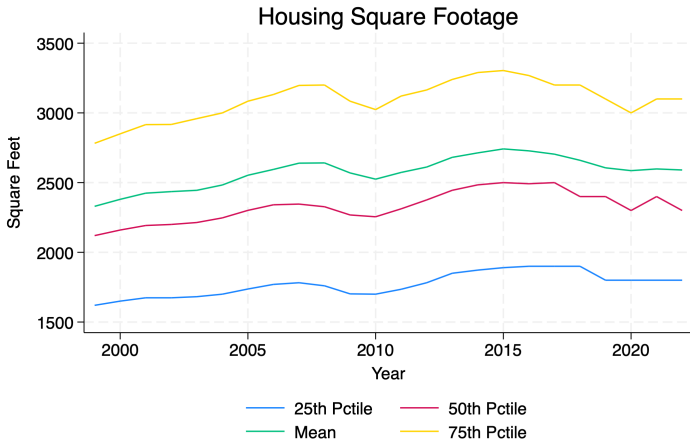
From $\approx 84\%$ to $\approx 96\%$

NUMBER OF FULL BEDROOMS HAS RISEN



From ≈ 2.3 bedrooms to ≈ 2.8 bedrooms

SQUARE FOOTAGE HAS RISEN

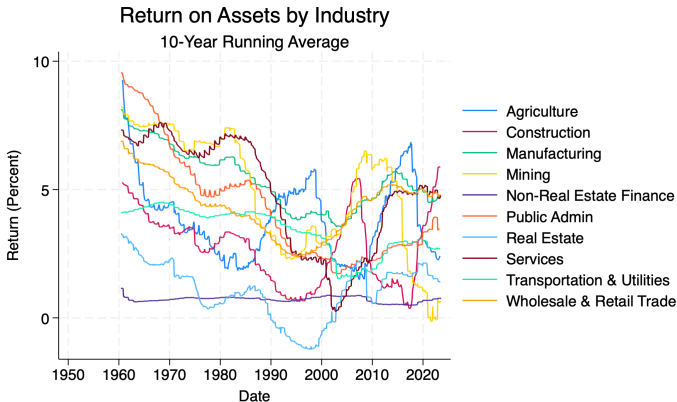


From 2120 sq. ft to 2300 sq ft (8%)

IS QUALITY ENOUGH?

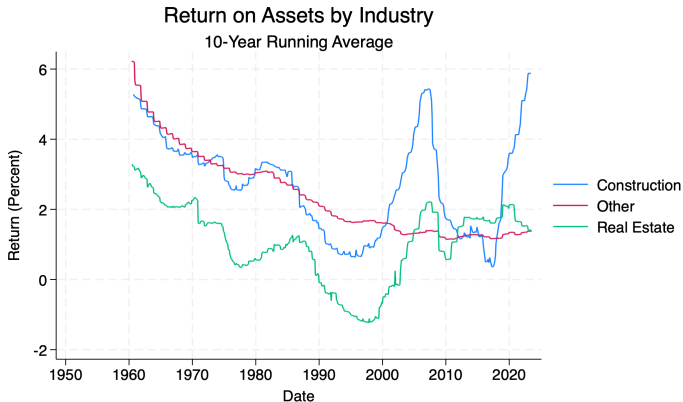
- ▶ Air conditioning presence rose by 12%
- ▶ Full bedrooms rose by 21%
- ▶ Square footage rose by 8%
- ▶ Doesn't feel like enough to explain the 87% rise, but I'll ballpark 10% to "quality improvements"
- ▶ Is this just greedy landlords, or is it something to do with construction?

RETURN ON INVESTMENT BY INDUSTRY



Publicly-traded real estate firms have a pretty bad return on investment, historically. But construction?

RETURN ON INVESTMENT BY INDUSTRY

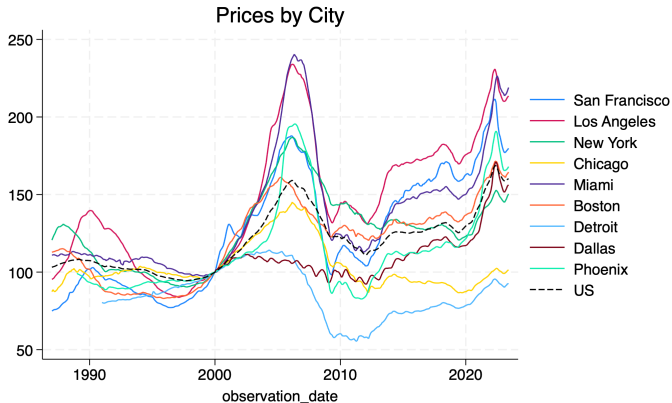


It is the case that construction's return on investment has been high. Makes me think quantity restrictions play a role.

WHERE CAN WE GO FROM HERE?

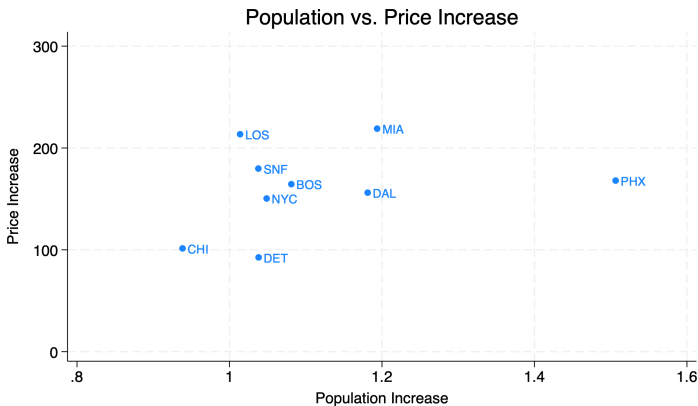
- ▶ States are sometimes laboratories of democracy!
- ▶ Also, urban vs rural may be important here!
- ▶ Let's look at heterogeneity by state, look at some large cities

STATE PRICES



Enormous heterogeneity! Could it be explained by population migration?

STATE PRICES



A decent amount of the heterogeneous rise is explained by population, but there are outliers: why didn't prices rise in Phoenix?

RECONCILIATION

- ▶ Population didn't rise in Los Angeles, while prices rose by 200%
- ▶ While population went up by more than 50% in Phoenix, but prices “only” rose by 75%.
- ▶ I thought the answer would be building permit restrictions, but Phoenix issued 801,000 while LA issued 623,000, doesn't seem like that would explain everything!
- ▶ Are we building in response to booms?

GLAESER, GYOURKO, SAKS (2005)

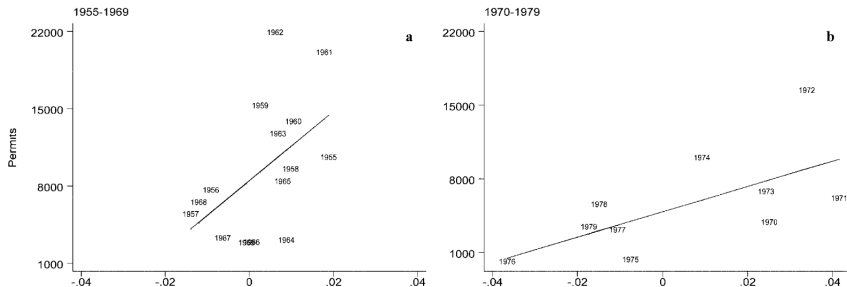
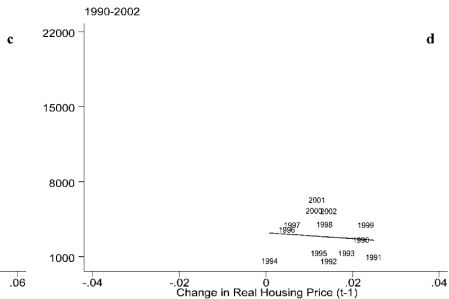
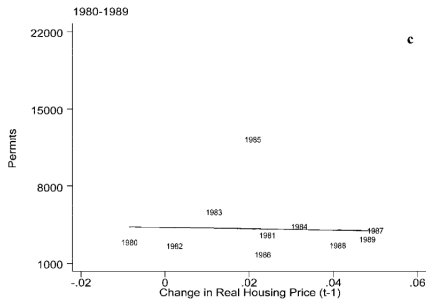


FIGURE 4.—Manhattan permits and changes in (lagged) housing prices, by decade

We used to build when housing prices were elevated

GLAESER, GYOURKO, SAKS (2005)

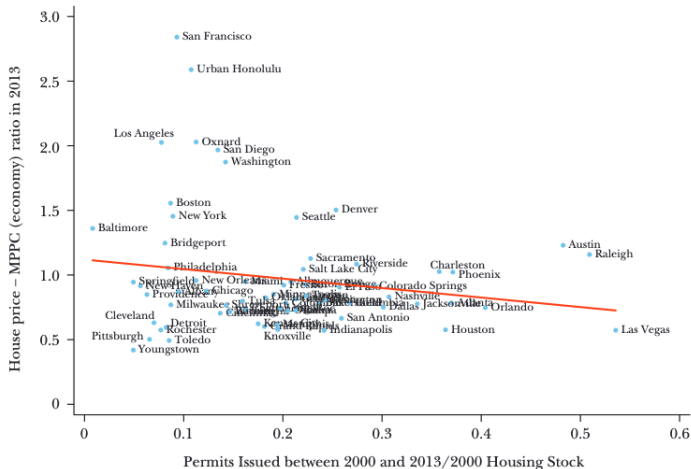


But that relationship is gone now.

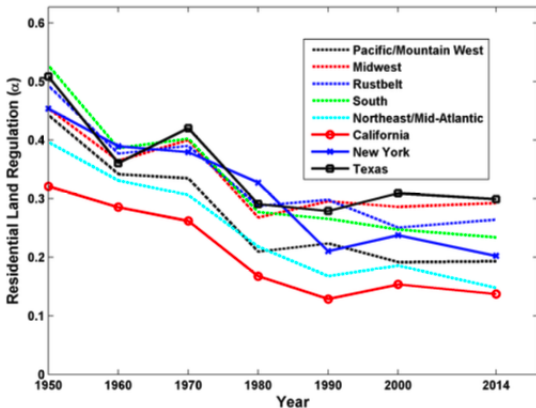
GLAESER GYOURKO (2018)

Figure 3

Price-to-Cost Ratios and Permitting Intensity, 2000–2013

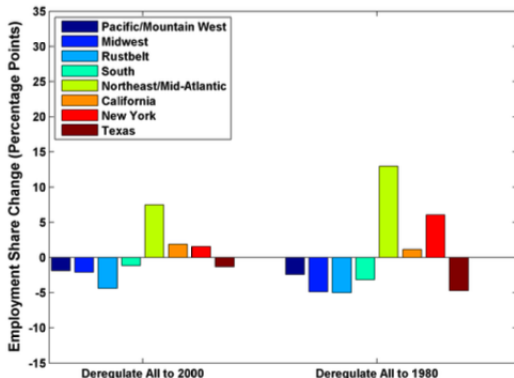


Construction markup highly (nonlinearly(?)) correlated with new housing permits

Figure 1: Measures of Land-Use Regulations ($\alpha_{jt}^{1-\xi}$)

Land use regulation has become more stringent over time

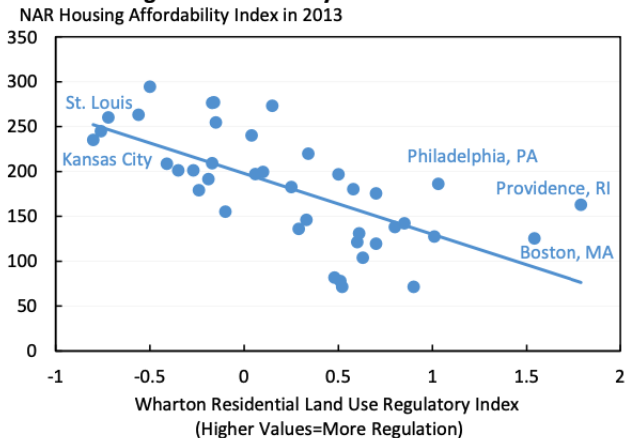
(A) Change in Employment Shares



And it has significantly distorted population

Figure 3

Zoning and Affordability in Select Metro Areas



More land use regulation is correlated with higher prices

SUMMARY SO FAR

- ▶ Housing prices have gone up significantly!
- ▶ But also enormously heterogeneous—not in Chicago, yes in San Francisco
- ▶ The big returns on investment haven't been to real estate firms, but to construction firms
 - ▶ Consistent with quantity restrictions
- ▶ Glaeser et al. 2018 point to building permit restrictions, while Herkehnoff et al. 2017 and Furman (2015) point to land use regulation
 - ▶ All point to quantity restrictions
- ▶ Why has quantity been restricted so much?

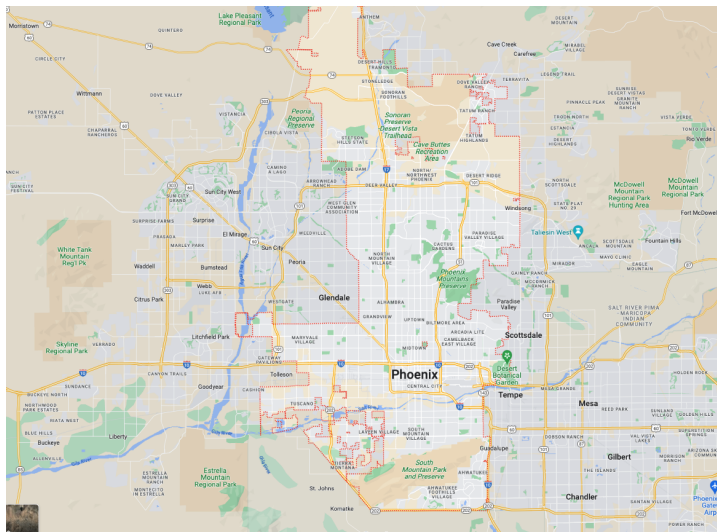
CORRELATED OF LAND RESTRICTIONS

- ▶ From Gyourko, Hartley, Krimmel (2021)
- ▶ Higher strictness with:
 - ▶ Higher house values
 - ▶ Higher incomes
 - ▶ More college graduates
- ▶ Not highly correlated with
 - ▶ Race
 - ▶ Housing permitting intensity

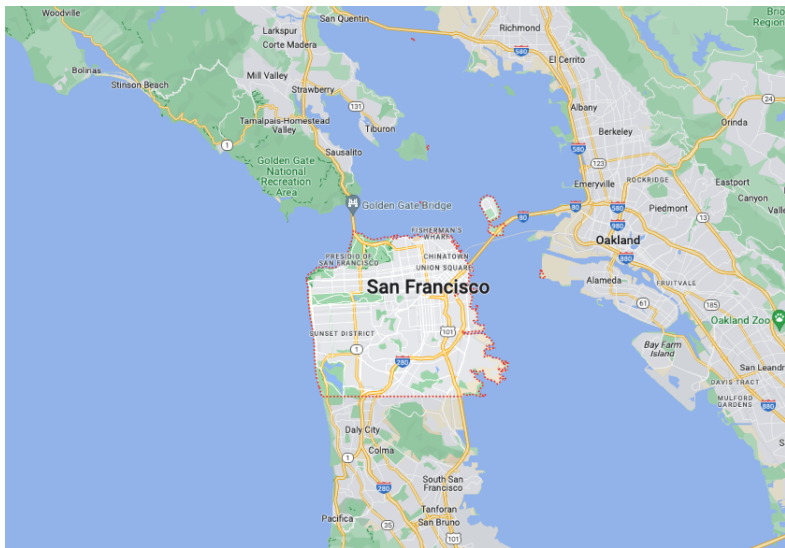
PARKHOMENKO 2023

- ▶ Most papers take land use regulation as given
- ▶ Parkhomenko “endogenizes” it in a model where people vote
- ▶ Homeowners typically want more regulation, renters less
- ▶ When your area is booming (as S.F.), restrictions significantly more impactful, more house price dispersion
- ▶ Parkhomenko finds that this economic motivation for explains a significant fraction (40%?) of differences in regulation
- ▶ Consistent with this (Saiz 201): places with more geographically-induced supply constraints have *more* regulation
 - ▶ Idea: hard to regulate Phoenix (just keeps going, city boundaries small), but easy to regulate S.F. (it loses all its land to water and terrain, only a handful of bridges, and thin land bridge)
 - ▶ So S.F. voters can regulate S.F. into high prices, but not Phoenix (too much competition)

PHOENIX



SAN FRANCISCO



MY APPROXIMATE STORY SO FAR (INCOMPLETE!)

- ▶ Significant urbanization: land rush to places like S.F.
- ▶ But some places have capacity to regulate due to geographic features and political setup, while others cannot
- ▶ The ones that can regulate have homeowners push for regulation, driving up prices significantly
- ▶ The ones that can't regulate build, causing them to expand in population but not (as much) on price
- ▶ This explanation isn't everything, but it's the direction my thoughts are oriented now
- ▶ Pivot: what's downstream of the housing price rise? Any policy recommendations?

POLICY RECOMMENDATIONS

- ▶ The idea behind Parkhomenko (2023) and my interpretation of Saiz (2010) is that housing regulation shouldn't be taken as exogenous
- ▶ Instead, it may be a *political equilibrium*
- ▶ Just saying “oh we shouldn't restrict” isn't useful—people will continue to disagree!
- ▶ Parkhomenko suggests bribery of local officials akin to Obama's “race to the top” for charters, and/or a land value tax
- ▶ But the first is hard to do when real estate ownership is a significant source of wealth, while the second seems hard to implement from a Federal perspective
 - ▶ Example: for someone like me, if my house price had risen as much as it did in S.F., it would represent nearly 2/3rds of my net worth, and my incentive to fight deregulation at the local level is big!

DOWNSTREAM

- ▶ I wanted to talk about homelessness!
- ▶ I struggled to get good data on it—for instance, San Francisco has about 1% of its population as homeless, while Phoenix has 0.35%, and the U.S. has about 0.2% of its population as homeless.
- ▶ Consistent with the story: don't have restrictive geography
 - > don't have homeowner incentive to be restrictive — >
 - build houses — > fewer homeless, but no definitive dataargument from me yet!
- ▶ Ideal dataset would see how mobile the homeless are—how many in San Francisco migrated there vs. became homeless after prices rose?