

Supply Constraints Do Not Explain House Price and Quantity Growth Across U.S. Cities

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What Explains Observed Price Variation Across Cities?

Standard view: Some cities are relatively unaffordable because increasing supply is more difficult e.g. S.F. vs Houston

- Increased impediments to new supply (geography, zoning) during times of rising demand will show up mostly as higher prices
- In places where building is easier, adjustment should occur through more units
- Underlies the case for relaxing local regulation to improve affordability which is central to much of the current housing policy debate around affordability

LMW's provocative claim: measured supply constraints do not explain differences in price or quantity growth across U.S. metro areas over recent decades (2000-2020)

Main Findings

Sample: Metro-level house prices, housing units, rents, population, income

- Four constraint measures: Saiz elasticity, Baum-Snow and Han elasticity, Wharton regulation index, land share of home value

Key result: Conditional on similar income growth, (measured) constrained and unconstrained cities show nearly identical price and housing unit growth

- Estimated supply responsiveness is about the same in both groups
- Same pattern with alternative demand shocks (climate, jobs, remote work) and back to 1980
- Offer a different explanation: Segmentation
 - Increases in per-capita income drives up demand for housing quality
 - Population growth drives growth in units

Contribution I: Measurement

- Theory: authors take implications model seriously and seek to falsify them
- Empirical: Examines prices and the number of homes together
 - High prices alone can reflect strong demand as well as limited supply
- Methodological: Checks whether standard constraint measures predict different responses to growth
 - Uses several measures, time periods, and sources of demand variation
- Implication: Questions whether measured regulation/supply constraints predicts much about affordability → raised questions about the efficacy of policies aimed at regulatory constraints will increase affordability.

Contribution II: Role of the Quality Margin

Authors argue housing has two margins: number and quality

- Increasing per-capita income → increasing demand for quality → higher prices but not necessarily a building boom
- Rising population → demand for homes → more units
- Same cities, different demand driver: estimated unit supply elasticity is 0.2 (per-capita income) vs. 1.5 (population)
- Note: these shock-driven estimates

Essentially argue that San Francisco vs. Houston type gap is consistent with this framework

Issue 1: Classification

- Baseline classification into H and L is bit coarse and the measures may be noisy- misclassification pushes any true gap toward zero
- Measurement error in the underlying proxies can still obscure differences in supply responsiveness.
- Timing matters: the land share is measured in 2012, and regulation may respond to earlier growth and prices.

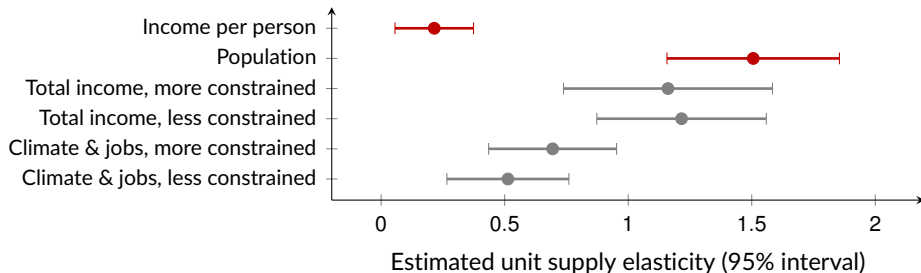
Suggestions: Report cross-measure agreement. Perhaps, construct a consensus index or treat the truth as a latent index. Maybe show how results change when imposing agreement across measures.

Issue 2: Income Growth Is Partly Shaped by Housing Supply

- Constraints impact both who moves in → helps determine total income growth
- Note: as authors argue, this is not necessarily a problem in identifying the slope
- Same aggregate income growth can mean very different levels of income (and wealth) and population composition

Suggestion: Be a little clearer about auxiliary assumptions and the implications of the failure of these assumption. test using alternative demand instruments.

Issue 3: Same Data, Different Elasticities



- Same cities, same outcome: elasticity ranges from 0.2 to 1.5 depending on the demand driver
- Housing units move almost one-for-one with population, so the 1.5 reflects this long run relationship
- If housing has two margins, the paper's principal result is not a clean elasticity test

Issue 4: Joint Evidence and the Quality Mechanism

- Price and quantity responses are linked by market equilibrium. Their joint pattern is informative, but not distinct tests.
- Stable housing expenditure shares links rents and housing services to income. Extending that logic to asset prices and unit counts requires more assumptions.
- The quality mechanism is consistent with the evidence but still untested
 - Constrained, high-wage cities (San Francisco, Boston) would show the same pattern in the standard model

Suggestion: Need to think more carefully about linking price dynamics (rents, repeat-sales indexes) with more detail about structures.

Note: repeat-sales indexes embody amenity changes.

Policy Implications

- Evidence is strongest in raising issues with using the measures to explain cross-section variation in response to growth
 - Need to complement this with (causal) reform-based evidence (upzonings, lot-size and parking reforms)
- Metro-level result can mask local effects: constraints in the central city may shift building to the suburbs of the same metro
- Comparing cities cannot capture the effect of relaxing constraints everywhere at once (national prices, migration, construction costs)

Sorting Models

LMW show: observed prices and unit counts need not reveal a single supply primitive.

- Households choose a bundle of dwelling characteristics, location, and neighborhood amenities
- Higher demand for local quality can raise the bundle's price without producing many additional units
- A model using composite prices may attribute quality demand to inelastic unit supply. Quality-adjusted prices alone do not remove changing amenity valuations.

Implication: distinguish the supply of units from the supply and valuation of housing and location quality.

Neighborhood Access and Regulatory Reform

- Supply: restrictions may limit homes in desirable locations while units grow elsewhere in the metro
- Evidence: locate construction and track who enters and leaves each neighborhood
- Affordability: examine rents and access to schools and jobs for households at different incomes
- Counterfactuals: Sorting models need local supply and redevelopment responses to evaluate reforms

Additional Interests

- Bounds on the true difference in supply responsiveness; smallest effect the design could detect
- Better classification of cities (agreement across measures, combined index)
- Estimates for high-growth cities, population-weighted, and with spatially robust standard errors
- Direct evidence on quality, and results by structure type (single-family vs. multifamily)
- Variation from actual policy changes

Conclusions

Key Takeaways

- Important facts: for the same income growth, measured supply constraints do not line up with price or unit growth
- Raises questions about whether measured metro-level constraints do not account for differential price and unit growth, conditional on income growth
- Unclear that relaxing regulation would do little for affordability
- Speaks to sorting models and within and across city dynamics

Thanks!