Housing Production Cycles

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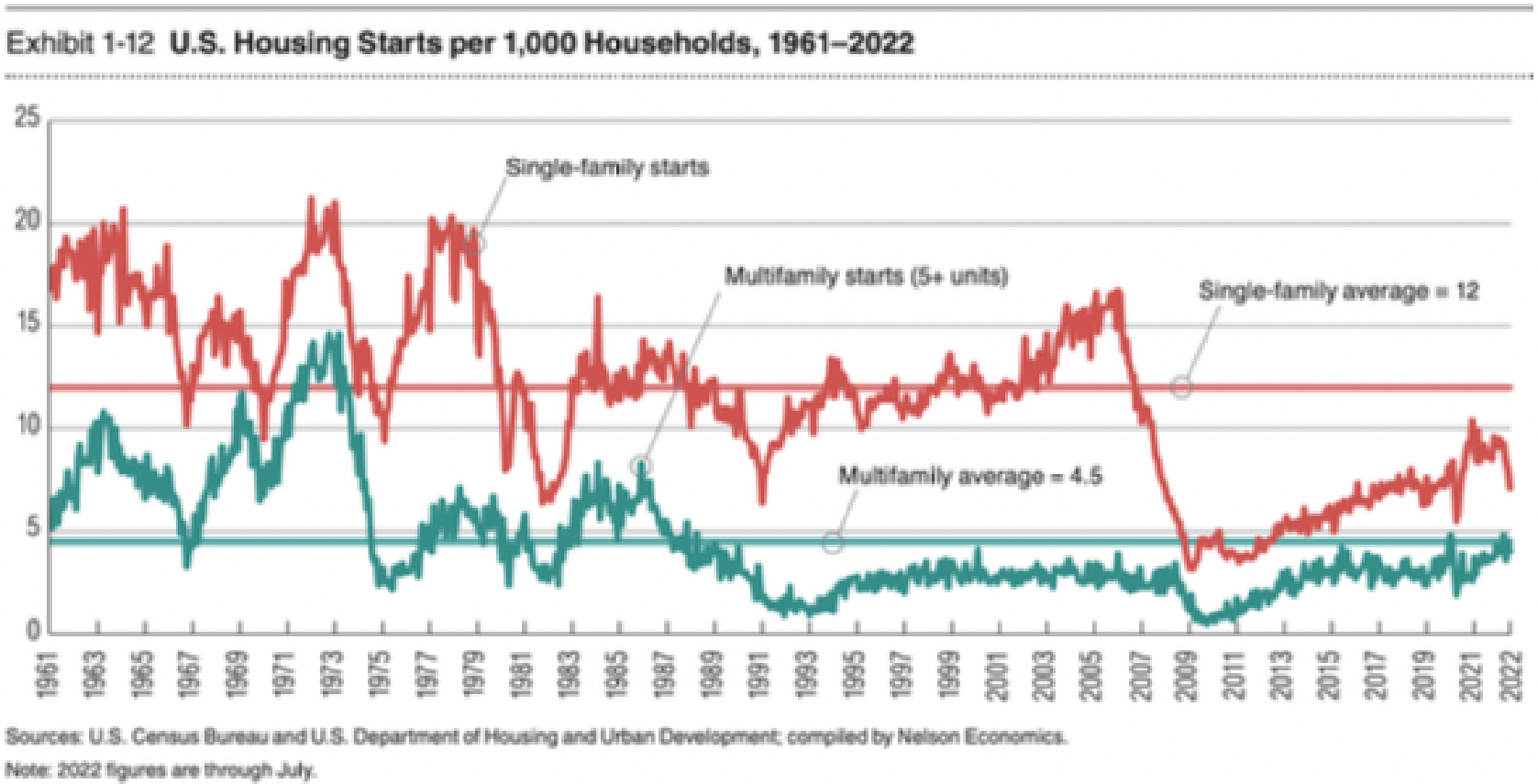
Housing Prices are Cyclical

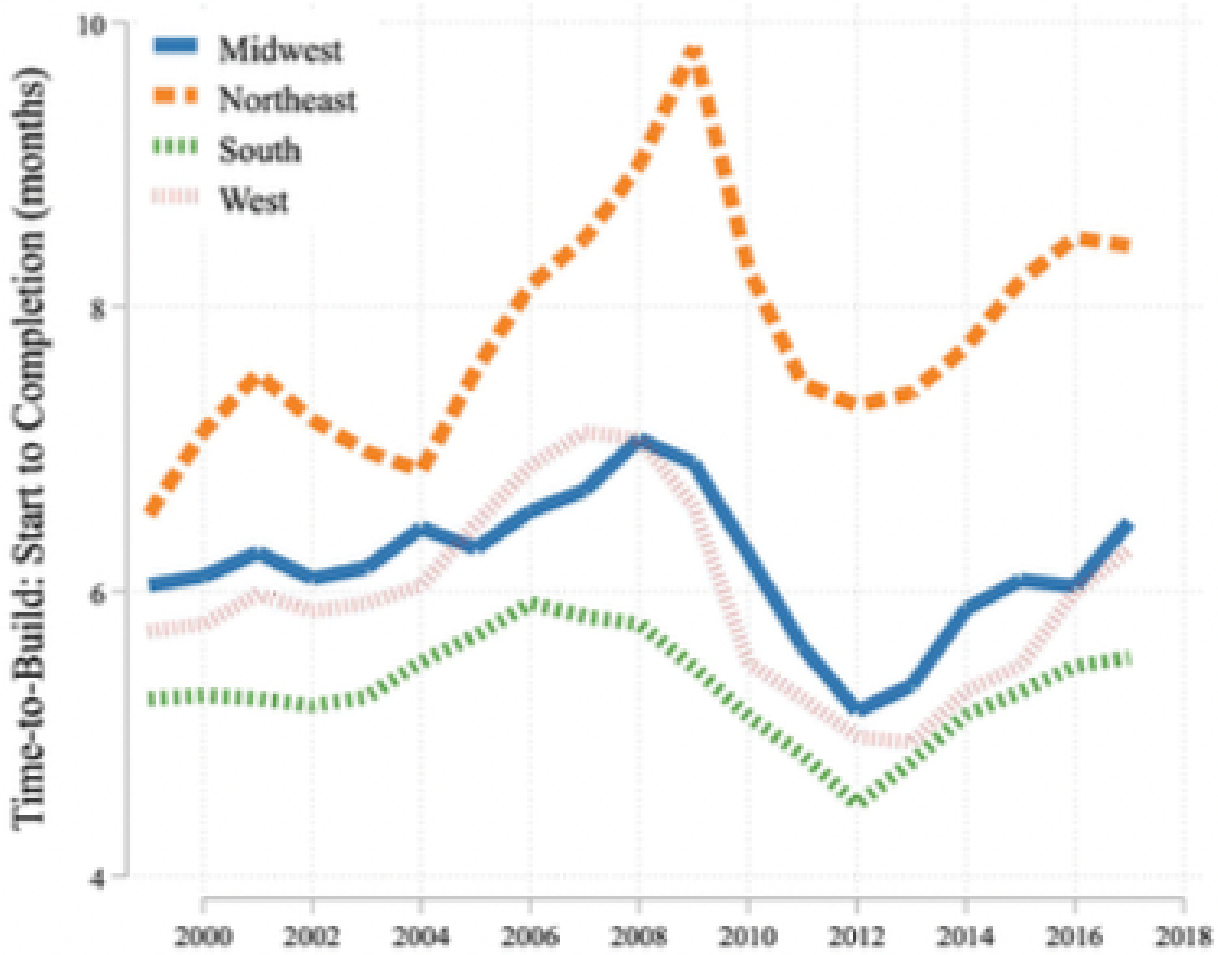
Exhibit 1-10 **Median Price of Existing Single-Family Homes, Nominal versus Real Prices, 1954–2022**

Source: DQYDJ.com based on data from the National Association of Realtors, Robert Shiller, and the Federal Housing Finance Agency; compiled by Nelson Economics.

Housing Production Cycles Match Price Cycles (Almost)

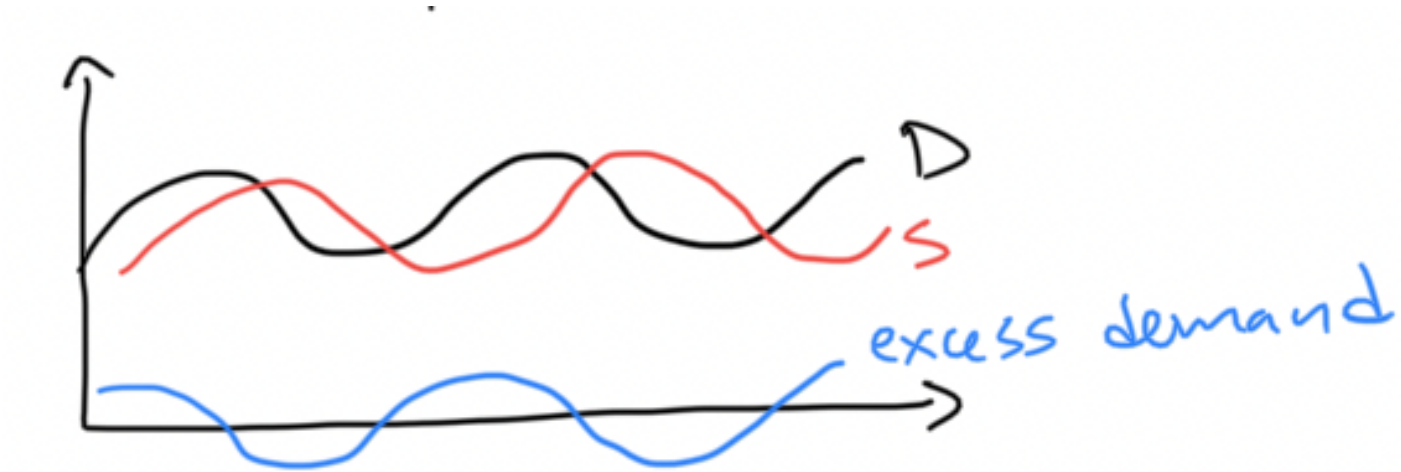


Time to Build is Long and Pro-Cyclical



Putting it Together

- Housing prices are cyclical
- Housing production cycles match price cycles
- Time to build is long and pro-cyclical



Proposal I

Questions

- Why are home prices so cyclical?
- Why has signle family home production taken so long to recover since the Great Recession?

Approach

- Build a dynamic model of housing production that captures this cyclicality in prices and the recent reduction in production.

References

- "Time to Build and Fluctuations in Bulk Shipping," Kalouptsdidi (2014 AER)
- "Waves in Ship Prices and Investment," Greenwood and Hanson (2015 QJE)
- "Time to Build and the Real-Options Channel of Residential Investment," Oh and Yoon (2020 JFE)

Housing Supply Is Getting Less Responsive

TABLE 1: Changing Land Supply Elasticities Across MSAs, 1950–2000

Year	Average Slope of the Supply Curve	Standard Deviation of the Slope of the Supply Curve
1950–1970	0.77	0.58
1960–1980	0.85	0.46
1970–1990	0.87	1.23
1980–2000	0.99	1.79

Notes: Data are from the U.S. Decennial Census, 1950–2000. The "slope of the supply curve" is defined as the ratio of the average house price growth over the prior 20 years to the average housing unit growth, as in Gyourko et al. (2006). A separate slope is computed for each MSA in each year from 1970 to 2000. A higher number corresponds to more inelastic supply since it implies that a change in demand is reflected more in price changes than quantity changes.

Proposal II

Questions

- Why have housing supply elasticities changed over time?
- How do land use regulations play a role?
- What implication does this have for resorting within cities?

Approach

- Calibrate a spatial urban model that has a "filling up" mechanism
- Introduce a shock where employment locations become decentralized
- Estimate the welfare effect of land use regulations (limits residential resorting)
  $\Rightarrow$ does the changing housing supply elasticities make this worse?