

Discussion of “Forced Sales and House Prices”

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Views expressed in this presentation are my own, and do not reflect the opinions of the Federal Reserve Bank of New York or the Federal Reserve System.

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Introduction

- General comment: Very interesting, stimulating paper. Great data. Careful. Lots of promising future research to be done.

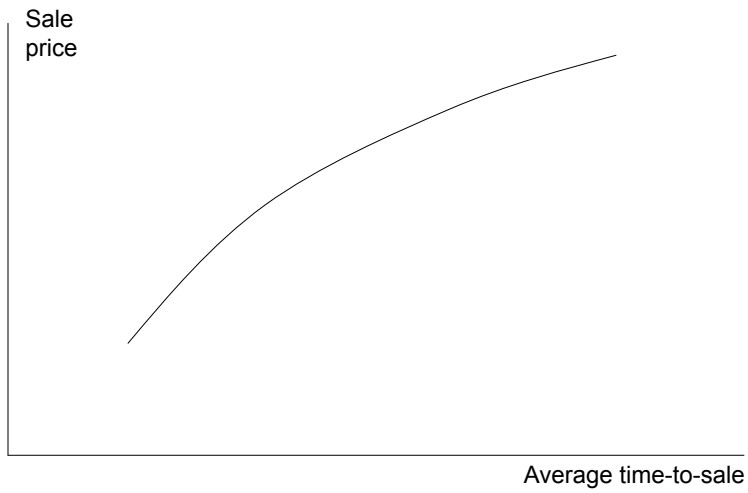
Outline

I'll summarize and comment on three key findings:

- Price discount for forced sales (esp. foreclosures).
- Differences in price dynamics for forced versus unforced sales (ZIP code level).
- Forced sales reduce prices for nearby sales.

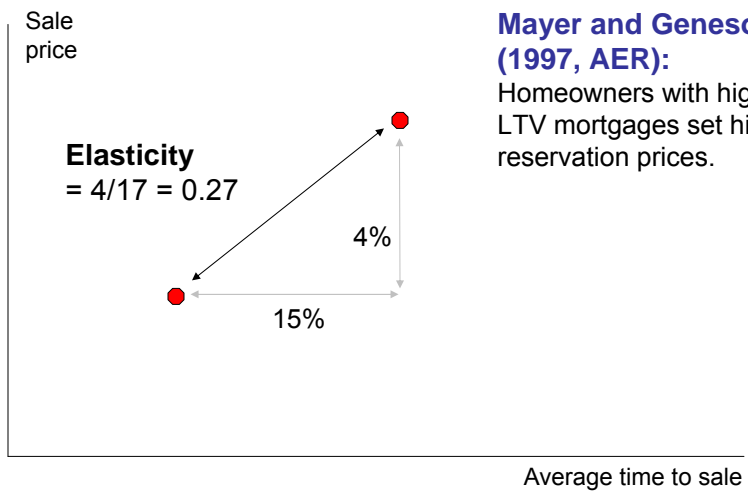
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Housing as a search market



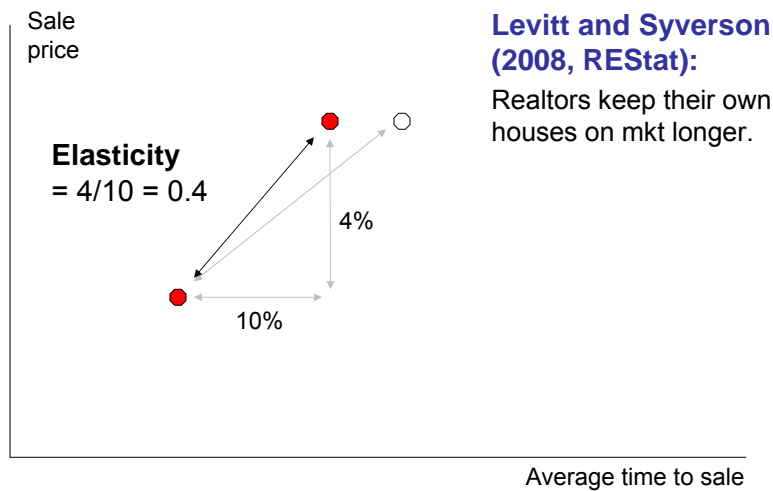
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Time-to-sale and housing sales price



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Time-to-sale and housing sales price



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Some questions that follow

1. Elasticity of house prices with respect to search time (time-to-sale)?
2. How does the elasticity vary with:
 - **Search technologies** (brokers, internet, Zillow etc.)?
 - Availability of **informed investors** (as per Shleifer and Vishny, 1992)?
 - Market **liquidity**? Market **size**?
3. Implications for measuring house prices?
 - No “one” house price. Search times, market volume fluctuate enormously over the housing cycle.

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1. Measuring forced sale discount

- Hedonic regression:

$\ln(\text{price}) = f(\text{forced sale dummies, zipcode} \times \text{year dummies, house and census tract variables})$

- **Findings:**

- Sales around deaths: 5-7% discount.
- Sales around bankruptcies: 3% discount.
- Sales after foreclosures: 28% discount. (Larger discount >1 year after foreclosure).

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Comments on data

- Authors have put together a great dataset
 - Merge deeds records from Warren Group, death records of SSA, bankruptcy filings from Lexis / Nexis.
- Anything missing?
 1. Match with MLS data on time-to-sale?
 - Would be nice to measure price elasticity w.r.t. time-to-sale, directly compare to previous research.
 2. Warren Group data identifies lender name.
 - Could match to HUD list of subprime lenders, following Gerardi, Shapiro and Willen (2007).

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Foreclosure discount

- Unresolved question: why is foreclosure discount so large (28%)? Three possibilities:
 - i. Are these sales “more forced” than sales due to death or bankruptcy? If so, why? Are banks leaving money on the table?
 - ii. Are these houses poorly maintained? (Would explain larger discount for sales > 1 year after foreclosure).
 - iii. Some other type of omitted variable bias?
- One idea: Relate discount to lender information
 - Lenders who are constrained or have many foreclosed properties on books more eager to sell?

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Other comments: hedonic regressions

- General challenge: omitted variable bias.
 - Are these properties different in other ways, that explain why they sell at a discount?
 - e.g. “death discount” seems spurious, since discount unrelated to timing of sale w.r.t. death.
- What determines foreclosure discount?
 - Interact foreclosure dummy with economic conditions, liquidity, volume of local foreclosures etc.

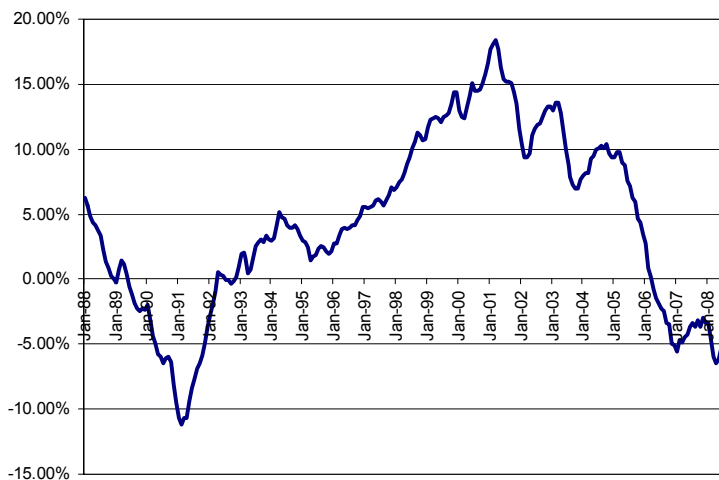
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2. VAR evidence

- Methodology:
 - Estimate VARs to study dynamics amongst forced sale prices, unforced prices, and unforced share.
 - Aggregated at zipcode x year level. Demeaned by time period and zip code.
- Findings:
 1. House price growth is negatively serially correlated.
 2. Degree of mean reversion higher for forced sales.
 3. Forced sale discount is more persistent (less mean reverting) when share of forced sales is higher.

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Contrast: Boston MSA home price growth is positively serially correlated ($\rho=0.8$)



Source: Case-Shiller

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Explaining serial correlation

- Why are authors' zip-code level results so different to MSA-level evidence?
 - e.g. Case-Shiller (AER, 1989) finds high persistence in house price growth (consistent with graph).
 - What are the economics here? Not discussed.
- One potential explanation: measurement error.
 - Authors only observe a modest number of forced home sales in each year x zip code.
 - Even after averaging, may have very noisy signal of “true” house prices in the zip code.

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Measurement error

- Basic point: errors in measuring house price levels induce negative serial correlation in growth rates.
- e.g. I considered a simple simulation, assumed:
 - Growth in average prices is positively autocorrelated, with $\rho = 0.5$, and $\sigma_e = 0.025$.
 - I observe N individual home sales, and estimate “true” average price by taking mean of these.
 - Assume standard deviation of individual home prices is 20% of the average price (e.g. if average price in a ZIP code is \$250k, st.dev of home prices is \$50k).

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Measurement error (cont...)

- Calculated averages in authors' data:
 - Sales per zip code x year = 262
 - Forced sales per zip code x year = 14.6
 - Forced sales (~99th percentile) = 89
- How important is measurement error?
 - Simulate path for average house prices.
 - Plug in these values for N, simulate sample averages, estimate AR(1) models.
 - How close do we get to true ρ of 0.5?

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Simulation results

- True serial correlation (ρ) = 0.5.
- Estimated serial correlation:
 - $N = 261 \Rightarrow \rho = 0.21$ [All sales]
 - $N = 14 \Rightarrow \rho = -0.32$ [All forced sales]
 - $N = 89 \Rightarrow \rho = -0.05$ [95th % of forced sales]
- Consistent with several of paper's results:
 - (i) Low / negative autocorrelation in price growth;
 - (ii) Greater mean reversion in price growth for forced sale than for unforced sales;
 - (iii) Mean reversion when high fraction of forced sales.

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Suggestions: VAR

1. To reduce measurement error, estimate VAR on *unexplained* component of home prices.
 - Rather than just averaging raw prices by ZIP, instead calculate average *residual* from hedonic model.
 - Much less sampling error, because you've stripped out component of price variability that is simply due to changes in housing characteristics.
2. Exposition: good to use graphs, impulse response functions to present VAR results.
 - SVAR? Orthogonalized shocks?

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3. Local effects of foreclosures

- Final section: use spatial data to study effect of forced sales on prices of nearby dwellings.
- Comment: Foreclosures could affect nearby prices in at least two different ways:
 1. Shock to housing supply temporarily depresses prices for nearby homes that are close substitutes.
 2. Forced sales may be poorly maintained, attract crime etc. ("broken windows" theory). Externalities.
- Which do authors have in mind? Both? Any way to disentangle them?

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Findings

- Approach: Take hedonic model, add variables for number of nearby foreclosures:
 - Number of foreclosures within 0.25 miles.
 - Weighted sum of foreclosures within 0.1 miles
- Results:
 - Foreclosure < 0.25 miles lowers price 1.1%.
 - Foreclosure < 0.1 miles lowers price 7.5%.
 - Effects smaller for foreclosures in year after sale (versus year before sale).

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Comments: Local effects of foreclosures

- Difficult identification problem. Exploiting fine spatial data is a good strategy.
 - Assumption: Foreclosure externalities *more* local than correlation in unobservables (economic shocks etc.).
- However, concern from results that subsequent foreclosures have a large effect on prices.

Foreclosure spillovers	[3]	[4]
Past foreclosures	-0.084***	-0.061***
Future foreclosures	-0.065***	-0.044***

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Suggestions

- I couldn't think of a "smoking gun" instrument for foreclosures.
 - One possibility: Match with mortgage data, look at foreclosures around reset dates?
- General comment about paper: Would be good to look at (i) transaction volumes and (ii) search times, not just prices.

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Wrapup

- Very interesting, careful paper. Lots more to do!
- Encourage authors to organize future research around key policy questions, for example:
 1. How much would successful foreclosure prevention boost aggregate house prices?
 2. Effects of other policy responses (e.g. tax credits, lower mortgage market spreads)? Greatest bang for the buck?
 3. How to adjust house-price indices (e.g. Case-Shiller) for variation in time-on-market? etc. etc.

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