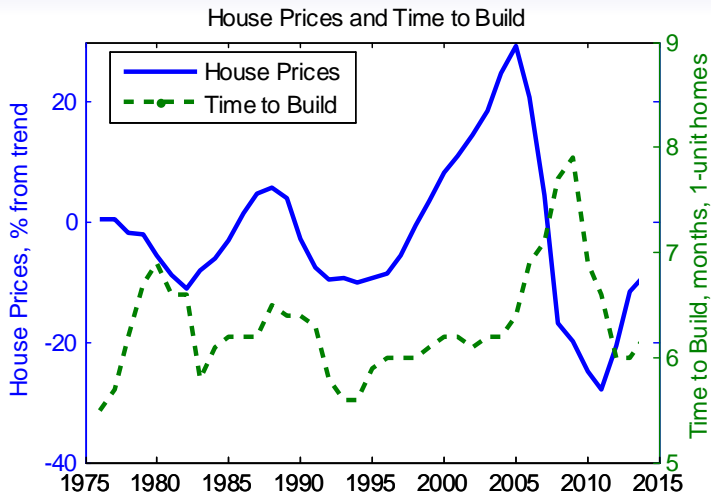# Discussion of Oh and Yoon
"Residential construction lags across the US and their implications for housing supply"

Matteo Iacoviello
Federal Reserve Board

ASSA/ISIR
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House Prices and Time to Build

This Paper

1. Construction times in housing sector have risen throughout the last housing Recession

2. This is a puzzle along several dimensions

   - in light of previous housing and non-housing recessions, where construction times barely moved
   - in light of most economic models, where construction times are either constant, or not modeled
   - in light of some economic theory, which suggests that bottlenecks and delays are unlikely when resources are sitting idle

3. This paper documents these facts, and uses a TTB model to explain them.
   The paper finds that higher uncertainty (rather than falling prices) is the main driver of the rise in construction times during the Great Recession.

My Favorite Chart from the Paper
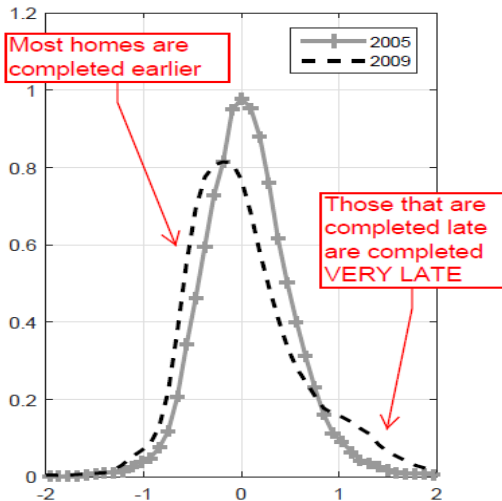
My Main Comments

Two alternative hypotheses should be given a better chance at explaining data before uncertainty.

1. Better Modeling of Financing Frictions for Builders
   The paper acknowledges this, and maybe this is material for another paper.

2. **Better Modeling of Housing Price Decline**
   Is the rise in construction times a puzzle in light of the simple story suggesting that there is no hurry in building stuff that nobody wants?

The Model

1. The model is a simulated partial equilibrium economy with 20,000 builders each subject to time-to-build constraint, price uncertainty shock, price level shock. Builders subject to irreversibility constraint and to convex adjustment costs too.

2. Delaying construction already started is optimal (TTB rises) if: (1) current price is low; (2) uncertainty is high

3. Not starting construction is optimal if (1) price is low; (2) uncertainty is high

The Model's Findings

Figure 9: Separate first- and second-moment shocks
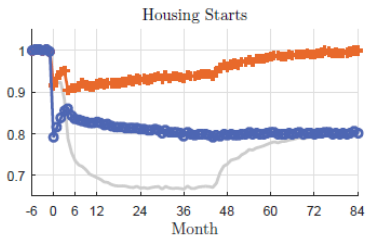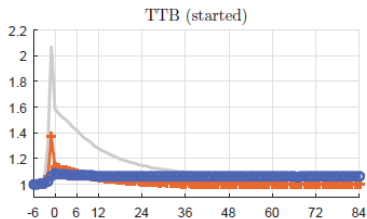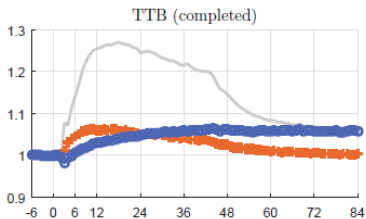
Suggestion 1: Clarify Origins of Uncertainty Shock

1. I found some of housing uncertainty measures used by the authors a little peculiar

2. Housing uncertainty: "6-month moving average standard deviation of the monthly growth rate of house prices"
   This measure should go up every time house prices fall, but to me it seems correlated with the first moment shock to the level of housing prices

3. An alternative uncertainty measure could be based on cross-sectional variation in prices
   (such housing uncertainty measure probably fell during the housing crash)

National and 100 Largest MSA House Prices
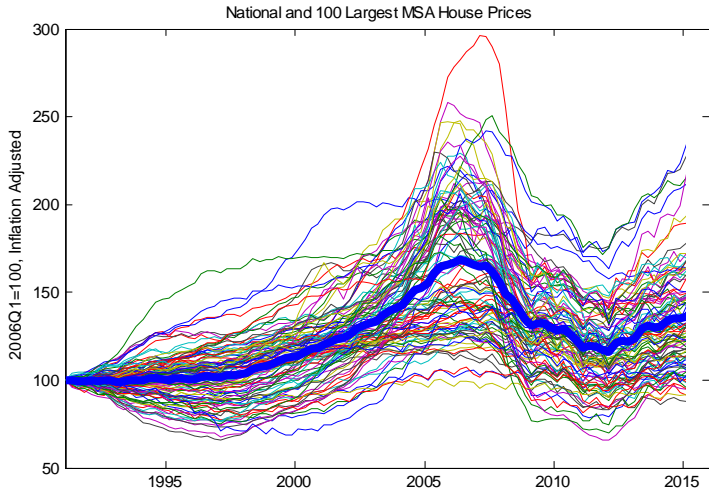
Suggestion 2: How to Validate the Model

1. It is hard to validate the model (quantitatively) on the basis of impulse responses alone

2. A better strategy would be to run a horse race among the alternative stories
   Feed into the model the path of local and national housing prices (and housing uncertainty) over time, and draw model's implications for the entire distribution of completion times over time.
   It would be even ok to make costs a function of some aggregate state, to control for the bottleneck hypothesis....

Suggestion 3: An Alternative Model

1. In my favorite chart, it appears that some homes were indeed being completed earlier...

   ...and some others were being abandoned or delayed

2. The model seems to speak to the second issue, not to the first

3. A better model could have fixed-price homes already sold (price agreed), and flex-price homes not sold yet

4. When house prices tank, builders would finish fixed-price homes early, and finish flex-price homes later

5. This model would probably give more prominence to the first moment shock.