

Discussion: Doubt, Inequality, and Bubbles
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Outline

- Brief synopsis of the key idea
- Characteristics of bubble in the model versus the data
- Three questions about the model and analysis
- Conclude

Bubble Ingredients

- ① Pessimistic agents whose pessimism increases with wealth
- ② Endogenous heterogeneity of beliefs due to differences in wealth that arise from asset price appreciation
- ③ Option value for selling the asset to less pessimistic agents
 - Measure of a bubble (Scheinkman and Xiong, 2003)

Tension between pessimism and option value

$$V(W) = \frac{x}{r - \mu} - \frac{\epsilon}{2} \left(\frac{\sigma^2}{r - \sigma^2} \right) W^2 + \epsilon B W^\beta \quad (1)$$

- $\frac{x}{r - \mu}$ - fundamental value
- $-\frac{\epsilon}{2} \left(\frac{\sigma^2}{r - \sigma^2} \right) W^2$ - effect of ambiguity on the fundamental price by an individual's *own* doubts
- $\epsilon B W^\beta$ - option value of trading with a less doubtful individual

Noteworthy Qualities

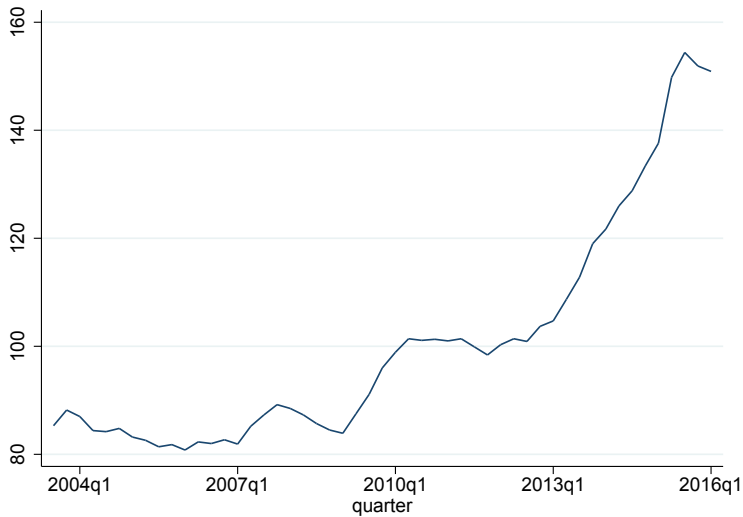
- A “rational” bubble because it is preference based
- Option value of selling the asset is nice
- Placing wealth inequality at the center of the issue is topical and fits the stylized facts

Bubbles in the model versus potential bubbles in the data.

Stylized Facts of Bubbles in the Model

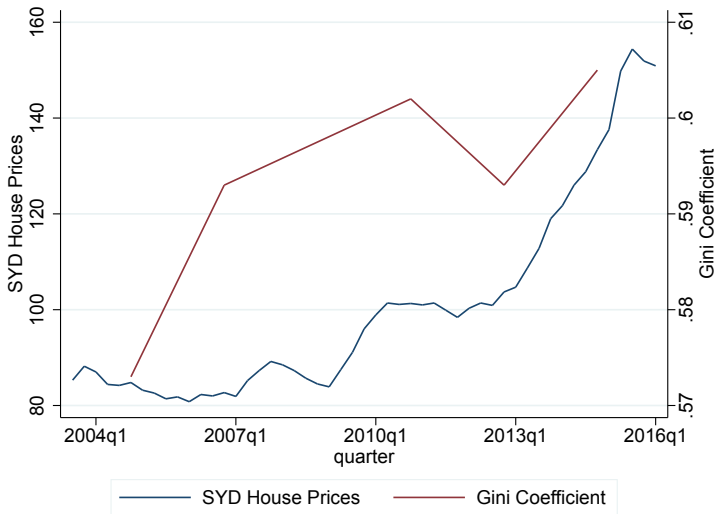
- ① Rising wealth inequality
- ② Increased trading volumes
- ③ Belief heterogeneity... specifically pessimistic beliefs

Sydney House Prices



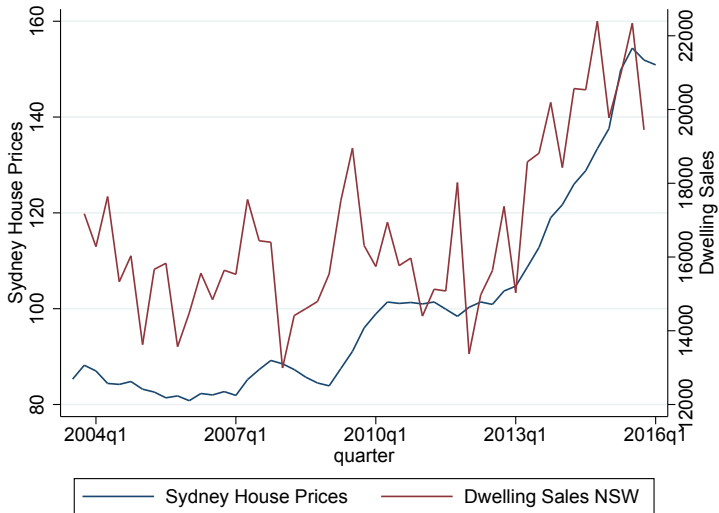
Notes: Source ABS

Rising Wealth Inequality



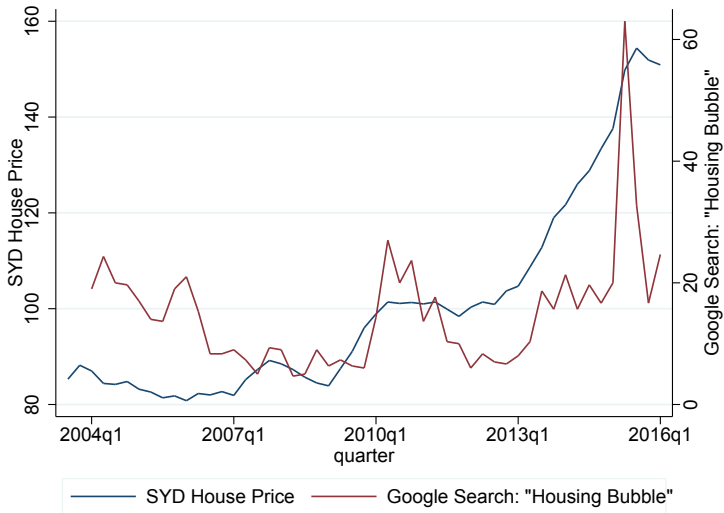
Notes: Source ABS

Increased Trading Volumes



Notes: Source ABS

Doubts



Source: ABS and Google Trends

Questions raised by the model.

Question 1

The model does a good job fitting some key stylized facts... but are bubbles large enough?

Question 1: Size of the Bubble

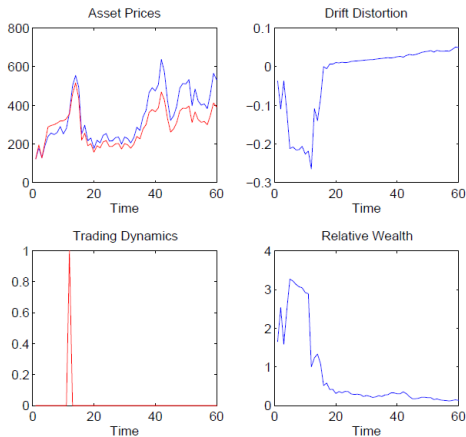


FIGURE 2. Simulation: $\mu = .01$, $\sigma^2 = .03$, $\varepsilon = .001$

Source: Cho and Kasa (2016)

Question 1: Size of the Bubble

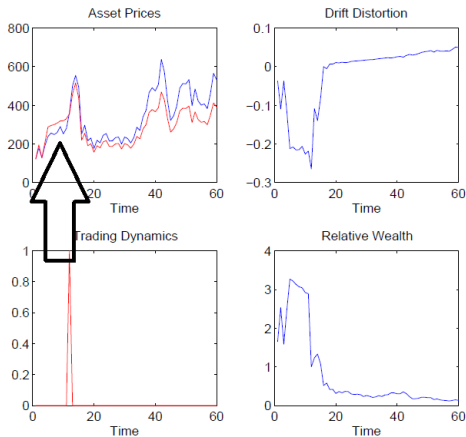
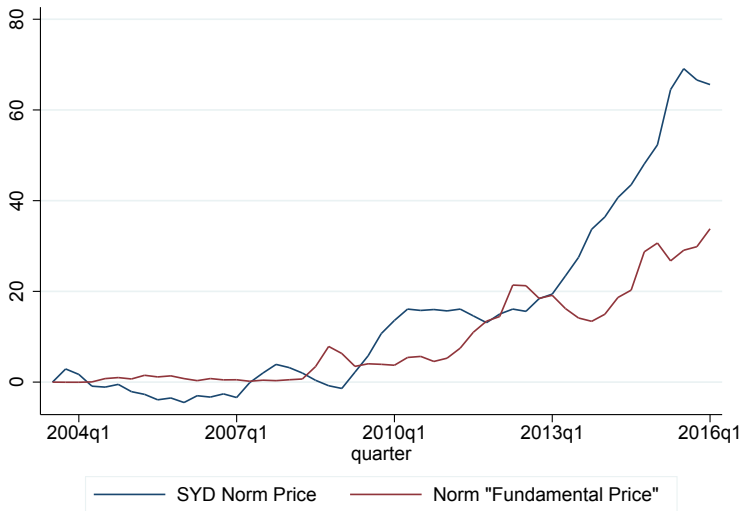


FIGURE 2. Simulation: $\mu = .01$, $\sigma^2 = .03$, $\varepsilon = .001$

Source: Cho and Kasa (2016)

Question 1: Size of the Bubble



Source: ABS and my calculations

Question 1: Size of the Bubble

- How large of a bubble can this framework generate?
(bubbles defined as a deviation from fundamental price)
 - What kind of wealth inequality is necessary to generate these bubbles?
 - Is the wealth inequality empirically plausible?

Question 2

Is there any empirical evidence for assets trading below some measure of fundamental value for extended periods of time?

- This appears to be the most common state of the world for this model.

Suggestion: Perhaps less pessimism in the model would both mitigate this issue and increase the size of the bubbles.

Question 3

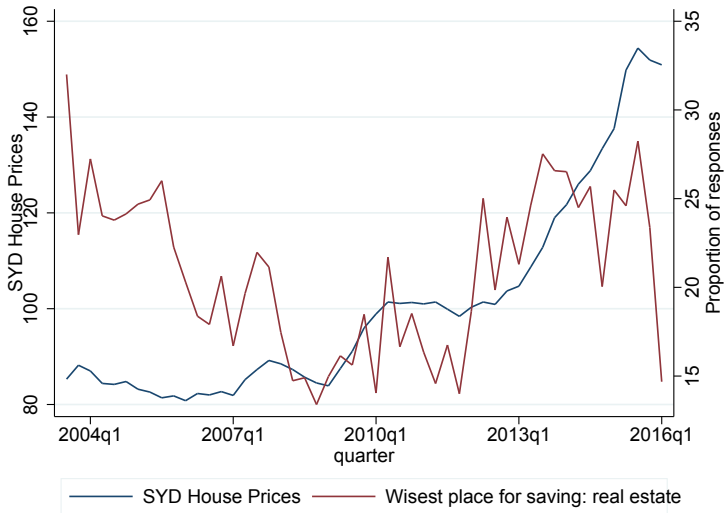
Caveat here that this question is for future work...

Do you think this framework has scope to include a more drastic departure from rationality?

- I am convinced by this paper that pessimism plays a role now in bubbles but I think less optimal decision making than is assumed in this paper does as well...

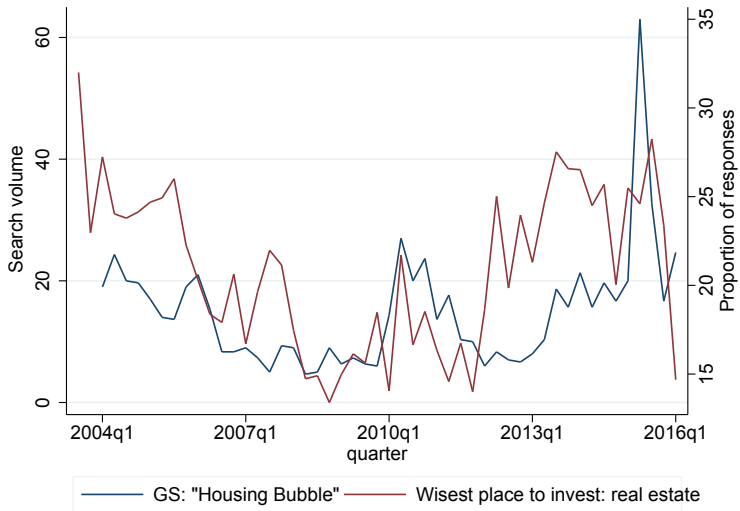
Suggestion: Potential to mix the ideas in this paper with the “learning-to-optimize” framework of Evans and McGough (2015).

Question 3: Optimism?



Source: ABS and Westpac - Melbourne Institute Survey of Consumer Sentiment

Question 3: Optimism and pessimism correlated?



Source: Google Trends and Westpac - Melbourne Institute Survey of Consumer Sentiment

Conclusion

- This paper highlights an potential element of the bubble story - doubts - that to my knowledge is novel.
- Bubbles are usually framed as fueled by *optimism* but empirically I think there is a case for doubts as well.