Discussion of

Bubbly Firm Dynamics and Aggregate Fluctuations

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Interesting question:

> How asset bubbles affect firms hiring and firing decisions?
> $\implies$ effects on the business cycle!!

This paper provides:

1. Theoretical model
2. Empirical analysis that support the model predictions

Comment #1: On how to identify asset bubbles

Key challenge of the empirical analysis:

How to identify bubbles?

Big challenge in finance and no clear answer in the literature!

Comment #1: On how to identify asset bubbles

This paper:

$$\underbrace{P_t = F_t + B_t}_{price=fundamentals+bubbles}$$

F_i is a function of dividends D_i and discount rates R_i

$$F_t \equiv E_t \left\{ \sum_{h=1}^{\infty} \left(\prod_{j=0}^{h-1} (1/R_{t+j}) \right) D_{t+j} \right\}$$

Log-linearize this equation leads to:

$$f_t = c + \sum_{h=0}^{\infty} \Lambda^h \left[(1-\Lambda)E_t \{d_{t+h+1}\} - E_t \{r_{t+h}\} \right]$$

Idea: Once we have P_t (from the data) and F_t (we can estimate)
$\implies B_t = P_t - F_t$

Comment #1: On how to identify asset bubbles

We just need to estimate F_t (via a VAR):

$$Y_t = B(L)Y_t + U_t$$

where $Y_t \equiv \left[TFP_t, y_t, d_t, p_t, r_t, en_t \right].$

- d_t uses real dividends
- r_t uses real interest rate $\implies r_t = r_f + \underbrace{\text{risk-premium}}_{=0} = r_f$

- p_t real prices.

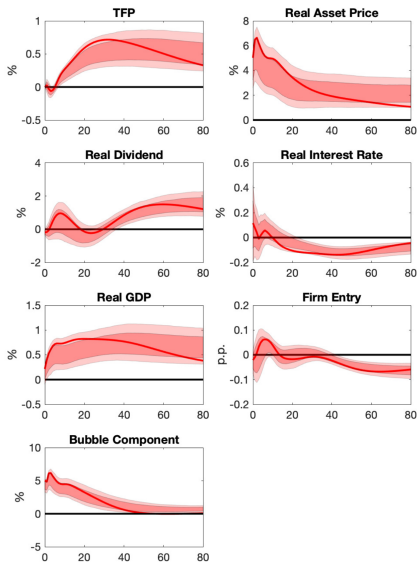Why important? F misses the risk premium component

$\implies$ the estimate of B has the risk premium in it.

Estimated bubble = "True" bubble – risk premia

From the literature we know that risk premia is big

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Estimated bubble = "True" bubble – risk premia

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Paper needs to convince us that

Estimated bubble = "True" bubble

1. Plot the time series of B_t and show:
   - Does not correlate with risk premia measures
   - Increases in times we think they were bubbles (e.g., late 90s)
2. Impose the present value restrictions in the VAR analysis?
3. Add controls for risk premia in the VAR

Takeaways

Great Paper!

The paper could be strengthened by sharpening the discussion and analysis in a few places.