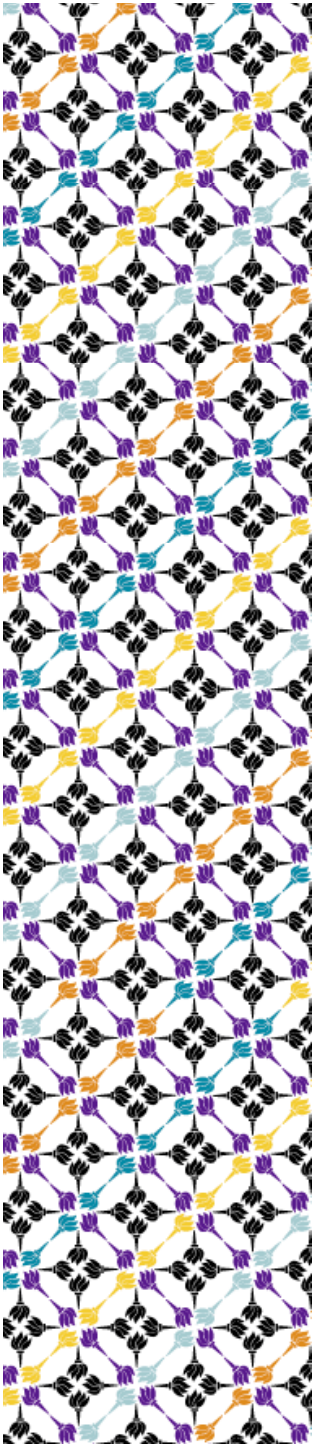




Discussion of A Macroeconomic Framework for Quantifying Systemic Risk

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What do they do?

Construct a model with two regimes: normal times and crises

In crises:

- Investment falls
- Volatility increases
- Sharp ratios rise
- Macro variables closely linked to equity of financial firms

The model

Backbone a simple RBC model

- Consumption produced from capital with linear technology
- Quadratic costs to adjusting the capital stock.
- Single shock: a shock to the capital stock.

Households own capital stock through financial firms

The model

Two regimes

- Leverage insensitive to economic shocks (normal times)
- Leverage responds to shocks (crisis)

Questions

- How do they model leverage?
- How leverage linked to the economy?

How do they model leverage?

Two constraints on leverage

- Households only allowed to invest fixed fraction $(1-\lambda)$ of wealth in equity of financial firms
- Households only willing to invest up to “reputation” of financial sector

In normal times first constraint binds.

During crises the second constraint binds

Reputation

Assume that reputation evolves proportionately to return on equity

$$\Delta \text{ reputation} = m * (\text{return on equity})$$

Generates sensitivity of leverage to economic activity

Why does leverage matter?

Assume that financial firms maximize present value of a concave function of their reputation.

With their functional form assumptions, they maximize

$$(\text{return on equity}) - (m/2) * \text{variance}(\text{return on equity})$$

Crisis periods drive everything

Without “reputation”

- The model scales by the capital stock
- Output, consumption and the price of land are random walks
- The price of capital, leverage and the investment rate are constant.

What happens when the reputation constraint binds?

Suppose that capital stock falls...

- Since the intermediary is levered, the return on equity falls by more than the decline in the capital stock.
- This reduces reputation and the amount of equity the intermediary can raise (relative to the capital stock)
- Leverage increases, increasing the variability of the return on equity
- Rates of return need to rise to compensate for the increased variability.
- ... causing the price of assets to drop more than they otherwise would.

Feedback

Since in the crisis region the prices of assets respond to shocks

... risk rises further

... further reducing the demand for assets

The unconstrained region

All action in the unconstrained region is due to anticipation of the constraint.

Comments

The paper lacks a convincing story for the constraints

- Aggregate reputation – no benchmarking
- Behavioral assumption?
- Difficulty of raising internal funds?

Comments

Any story will have to explain why reputation binds in some states and not in others.

Comments

One view of the paper is that it is investigating the implications of these crisis periods for other macro variables

The question being: Can we see the signs of a crisis before they happen.

Here the current paper is somewhat negative: non-linearities don't kick in until late into the game

Comments

Empirical evidence should follow the model

- Not convincing as evidence of non-linearity
- Correlations need not be constant across subsamples if the shocks are different.
- Evidence works much better as a check on the model.

Comments

To what extent did anyone anticipate the possibility of the crisis.

- Analysis leans heavily on the idea that in distress periods people look forward to the possibility of a crisis.

Comments

In the model the losses are coincident with the shocks.

- Why need big shocks leading up to the crisis in 2009
- What are these shocks?
- Alternative view: mortgage default is a threshold event – can build up unseen.
- Issue is the probability of a crisis in 2008.