

Discussion of Drehmann, Juselius and Korinek: Going with the Flows: the Transmission of Credit Booms

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SUMMARY OF THE PAPER

↑ Credit ↑ Economic Activity

↑ Credit ↑ Future Debt Service

↑ Future Debt Service ↓ Future Economic Activity

MY DISCUSSION

What type of model and what type of “credit shocks” are consistent with the empirical findings?

FRAMING THE RESULTS IN CONTEXT OF A MODEL

A model of small open economy borrowing from ROW
(based on Guerrieri and Iacoviello, JME 2017)

$$\max \sum_{t=0}^{\infty} \beta^t (u(c_t) + u(h_t))$$

$$c_t + q_t h_t = y_t + b_t - s_t + q_t h_{t-1} (1 - \delta_h)$$

$$d_t = b_t + (1 - \delta) d_{t-1}$$

$$b_t \leq m q_t h_t + z y_t$$

$$s_t = (\delta + R_{t-1} - 1) d_{t-1}$$

Assume q follows AR(1) exogenous process in order to close the model.
Fix $R_t = \bar{R}$ and $y_t = 1$

SMALL β : THE CONSTRAINT BINDS

Assume small β , infinite adj cost on h , $\delta_h = 0$ and $y_t = 1$
Model simplifies a bit

$$\max \sum_{t=0}^{\infty} \beta^t (u(c_t) + u(h_t))$$

$$c_t = y_t + b_t - s_t$$

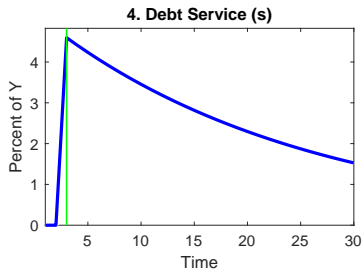
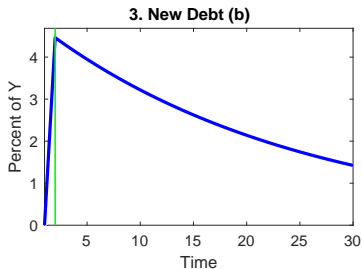
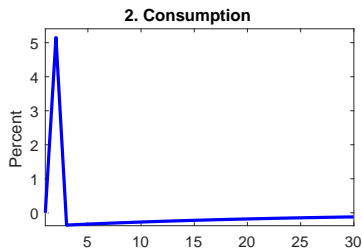
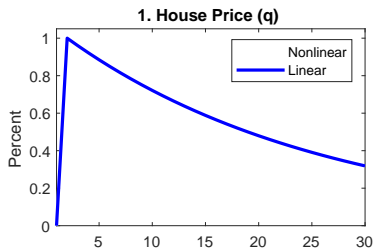
$$d_t = b_t + (1 - \delta) d_{t-1}$$

$$b_t = mq_t \bar{h} + z$$

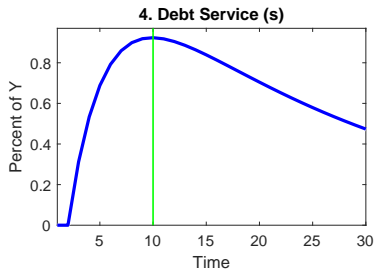
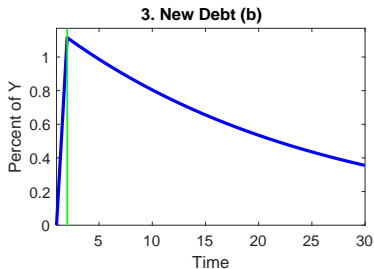
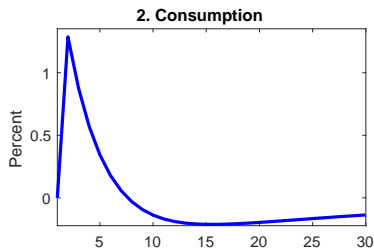
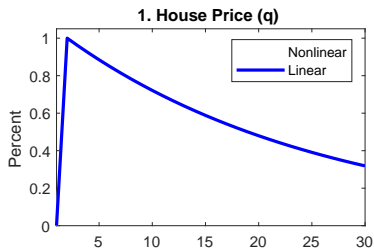
$$s_t = (\delta + R_{t-1} - 1) d_{t-1}$$

Asset price shocks look like the credit shocks in paper

SHORT-TERM DEBT AND BINDING CONSTRAINT



LONG-TERM DEBT AND BINDING CONSTRAINT



LARGE β : THE CONSTRAINT MAY NOT BIND IN BOOMS

Assume now β close enough to $1/R$, consider again an expansionary credit shock

$$\max \sum_{t=0}^{\infty} \beta^t (u(c_t) + u(h_t))$$

$$c_t = y_t + b_t - s_t$$

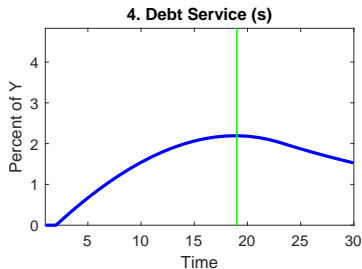
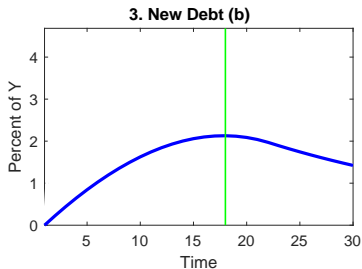
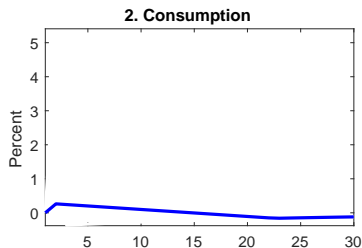
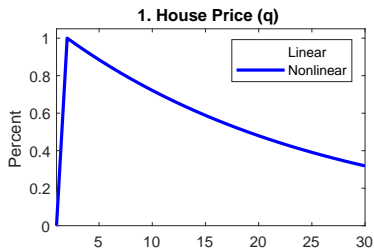
$$d_t = b_t + (1 - \delta) d_{t-1}$$

$$b_t < mq_t \bar{h} + z \text{ and } u'(c_t) = \beta RE_t u'(c_{t+1})$$

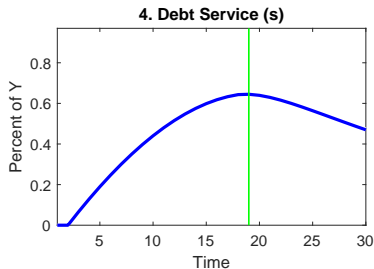
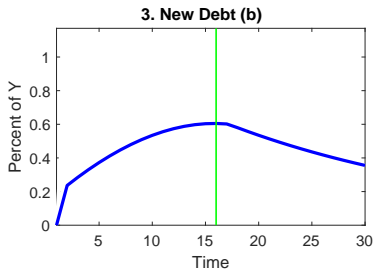
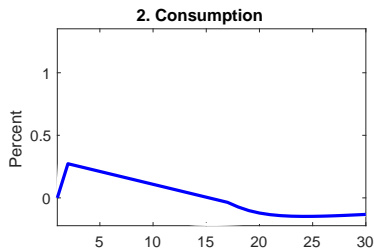
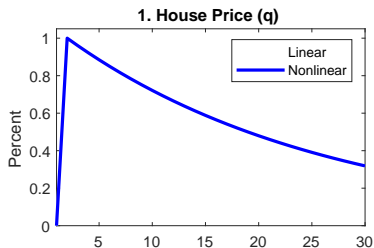
$$s_t = (\delta + R_{t-1} - 1) d_{t-1}$$

Asset price shocks generate different dynamics

SHORT-TERM DEBT AND NON-BINDING CONSTRAINT



LONG-TERM DEBT AND NON-BINDING CONSTRAINT



LONG-TERM DEBT AND NON-BINDING CONSTRAINT

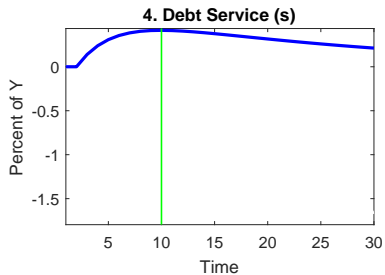
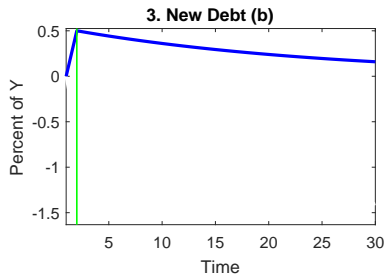
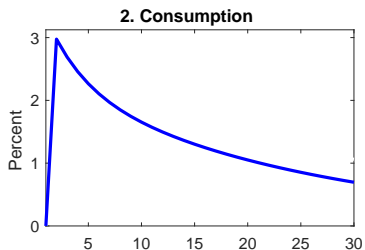
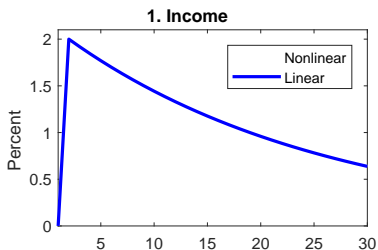
Consider now credit dynamics following an income shock

Income shock may affect budget and borrowing constraint simultaneously

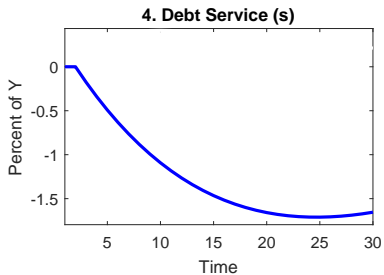
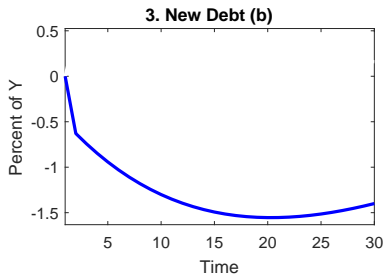
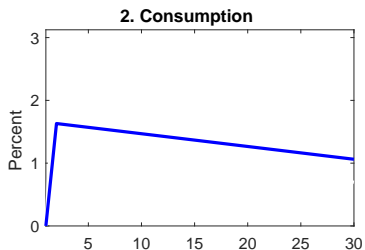
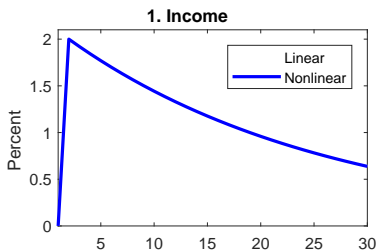
$$c_t = y_t + b_t - s_t$$

$$b_t \leq m\bar{q}\bar{h} + zy_t$$

BINDING CONSTRAINT AND INCOME SHOCK



NON-BINDING CONSTRAINT AND INCOME SHOCK



CONCLUSIONS

This is a great paper. It has simple but profound insights.

The joint dynamics of debt, debt service, income and consumption may help distinguishing between competing theories of credit and the business cycles

How debt, income and consumption comove depends on the shocks and the underlying model.