Discussion of Favilukis, Ludvigson, and Van Nieuwerburgh

Jonathan Heathcote
FRB Minneapolis

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Question

- Foreign ownership of US safe assets: Good or Bad?
- A very good question: lots of discussion of pros and cons of open capital flows, not much theory
- FNLV Approach: Suppose there are two countries in the world: US and China
- American's can neither buy nor sell Chinese assets
- Chinese can buy or sell American assets
- Are these trades good or bad for the US? How are the gains / losses distributed?

Context

- Approach makes US net exports / NFA position exogenous
- Contrast to large literature on how productivity shocks, demand shocks, fiscal shocks, demographic shocks etc. drive current account
- But, though rather extreme, still an interesting perspective – there *is* an exogenous component to these flows
- Some parallels to the literature on sudden stops, but most of those papers make a small open economy assumption

Summary Comments

- Modelling of change in NFA position is very simple
- Rest of the model is very rich
- Model does a very nice job on business cycle dynamics, asset prices
- Are all the ingredients central?
  - e.g., does the housing sector play a critical role in the transmission of capital flow shocks?
- My discussion will mostly focus on understanding welfare impacts of capital flows in much simpler models

- Before that, a quick summary of FLVN's findings and a few comments on the model details

Distributional Effects

- Why do model agents care about capital flows?
- Because they affect interest rates
- Suppose foreigners sell a lot of US bonds
  $\rightarrow$ decrease in bond price (increase in interest rate)
  $\rightarrow$ general decrease in asset prices
  $\rightarrow$ capital losses for the rich old, young benefit from cheap asset prices, except those who are borrowing constrained (and must now borrow at higher rates)

Interest Rates

- Why bother modelling NFA position at all? Why not just feed in stochastic sequence for the interest rate?
- One reason: supply of safe assets in US hands matters for risk premium: want to incorporate that effect
- In fact a lot of model machinery precisely about getting risk premia right
- But still two concerns:
  1. Does the model do a good job replicating historical US time series for bond prices / interest rates? If not, should interpret welfare results cautiously
  2. Large changes over time in US govt. supply of debt $\Rightarrow$ changes in NFA position not only determinant of US bond holdings. How fast has supply of US debt risen relative to Chinese holdings of it?

Counter-Cyclical Variance of Shocks

- One reason model does well on asset prices is that in the model the variance of idiosyncratic earnings risk is counter-cyclical
- Unfortunately recent empirical evidence suggests it is not in the data (Guvenen, Ozkan and Song 2012)
- But apparently skewness is counter-cyclical. Also potentially useful for asset pricing, but needs to be assessed

Simple Model 1

- Endowment economy with constant endowment $= 1$
- Preferences

$$\sum_t \beta^t \log C_t$$

- Absent China

$$\begin{aligned} C_t &= 1 \\ Q_t &= \beta \end{aligned}$$

- At t China unexpectedly spends x dollars on US bonds
- Everyone correctly expects China to sell the bonds at $t+1$, and never buy or sell again
- Goal: compute path for Q_t, ask how welfare varies with x

Simple Model 1 (cont.)

- Budget constraints:

$$\begin{aligned} C_t &= 1 + \underbrace{Q_t B_{t+1}}_{x} \\ C_{t+1} &= 1 - \underbrace{B_{t+1}}_{x/Q_t} \end{aligned}$$

- FOC

$$Q_t = \beta \frac{C_t}{C_{t+1}}$$

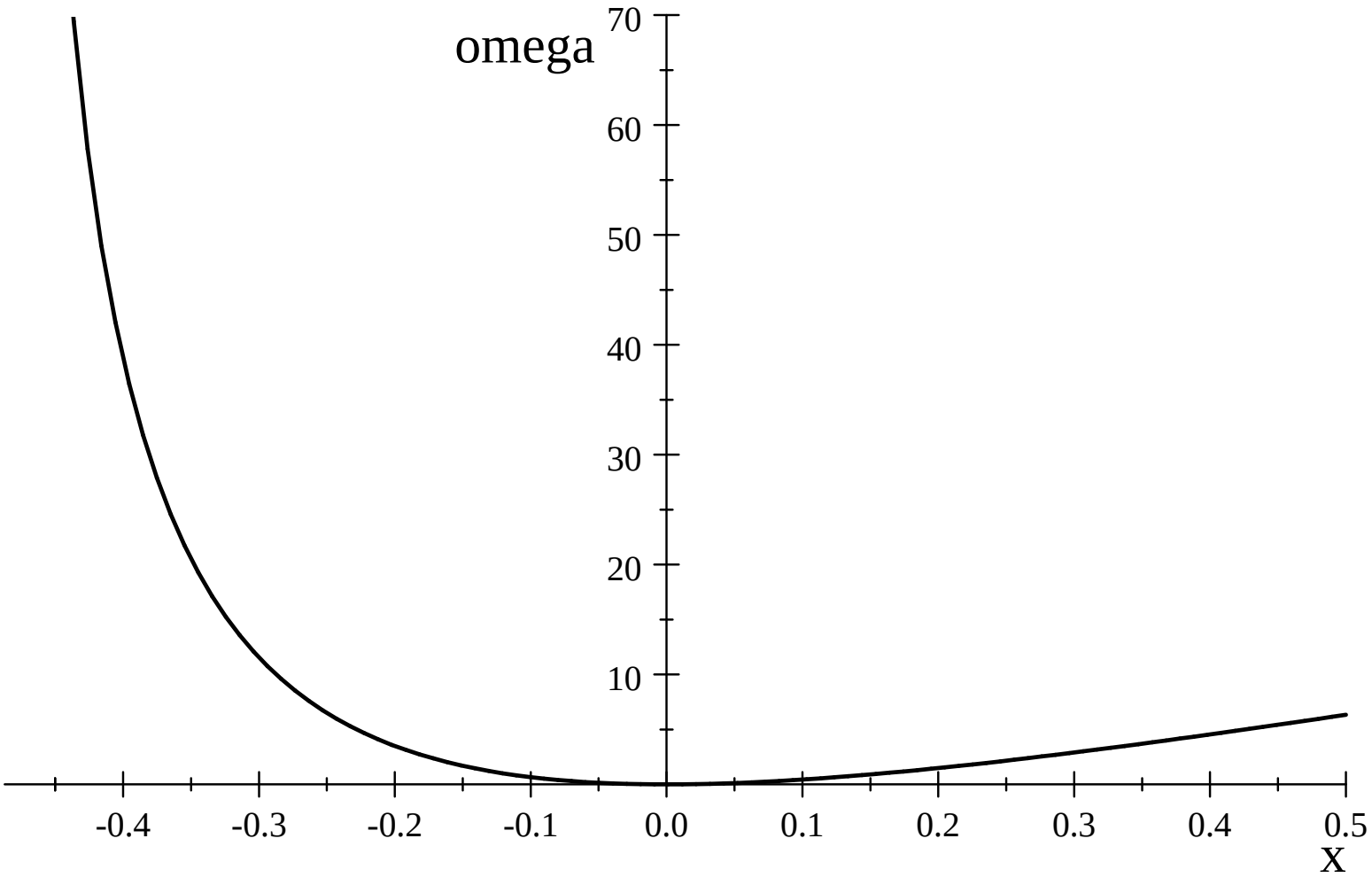
- Substituting in budget constraints

$$Q_t = x + \beta(1 + x)$$

- Compute welfare effect as solution ω to

$$(1+\beta)\log(1+\omega) = \log(C_t(x)) + \beta \log(C_{t+1}(x))$$

Welfare



Welfare Discussion

- Hot money / capital reversals / sudden stops always good
- What is the logic?
- Chinese can't expropriate US assets - must pay for them.
- An atomistic America could always decide not to trade with China and just consume endowment
- Does better by accommodating Chinese trades – at the right price
- Analogy: Model with rational agents and noise traders
  - Rational agents do better by trading with the noise traders
  - Sell high when noise traders randomly want to buy
  - Buy low when noise traders randomly want to sell
- China is like a noise trader

Simple Model 2

- Two period OG model
- Output is 1 each period.
- Fraction $(1-\theta)$ goes to young workers
- Fraction θ goes to stock holders
- Preferences are

$$\max \left\{ \log c_t^y + \beta \log c_{t+1}^o \right\}$$

- Budget constraints

$$\begin{aligned} c_t^y &= (1-\theta) - p_t s_{t+1} \\ c_t^o &= s_t(\theta + p_t) \end{aligned}$$

Simple Model 2 (cont.)

- Agent's FOC + lifetime budget constraint gives

$$c_t^y = \frac{(1-\theta)}{(1+\beta)}$$

- Consider surprise foreign stock purchases s^* at date t that are sold at $t+1$
- Resource constraints are

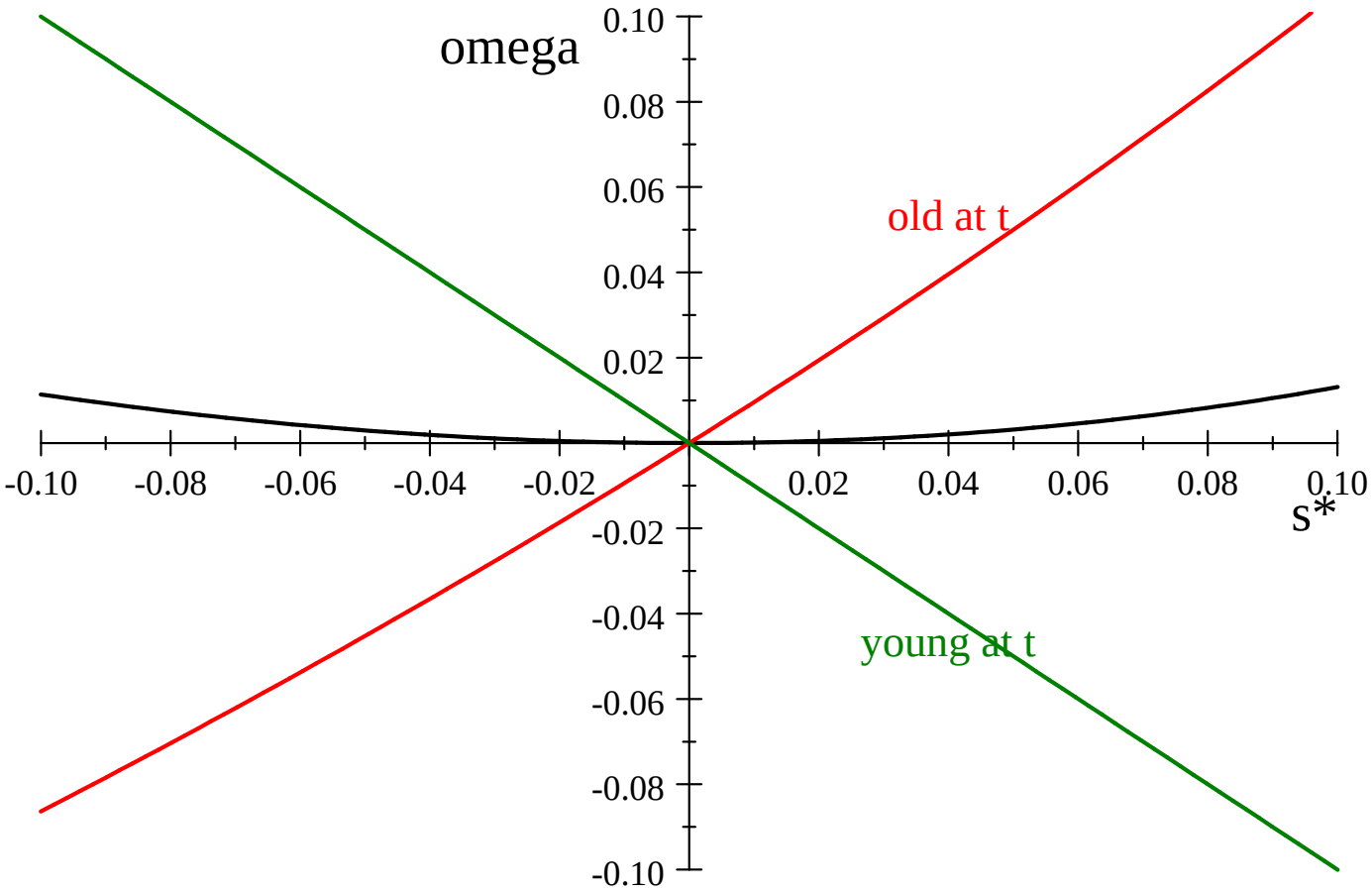
$$\begin{aligned} c_t^y + c_t^o &= 1 + p_t s^* \\ c_{t+1}^y + c_{t+1}^o &= 1 - s^* (\theta + p_{t+1}) \end{aligned}$$

- Equilibrium stock prices are

$$\begin{aligned} p_t &= \frac{(1-\theta)}{(1-s^*)} \frac{\beta}{1+\beta} \\ p_{t+1} &= (1-\theta) \frac{\beta}{1+\beta} \end{aligned}$$

Welfare

Set $\beta = 0.3$ and $\theta = (1 - \beta)/2 \Rightarrow c^y = c^o$ in steady state



Discussion

- In this model, foreign asset purchases benefit the old and hurt the young
- Still the overall welfare effect is positive
- Get negative welfare effect from foreign purchases in calibrations where $c^o > c^y$