Discussion of Favilukis, Ludvigson, and Van Nieuwerburgh

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• 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
Why do model agents care about capital flows?

Because they affect interest rates

Suppose foreigners sell a lot of US bonds
   → decrease in bond price (increase in interest rate)
   → general decrease in asset prices
   → 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 ⇒ 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
  \[ C_t = 1 \]
  \[ Q_t = \beta \]
- 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:

\[
C_t = 1 + Q_tB_{t+1}\]

\[
C_{t+1} = 1 - B_{t+1}\]

- 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 \( \omega \) to

\[
(1 + \beta) \log(1 + \omega) = \log(C_t(x)) + \beta \log(C_{t+1}(x))
\]
Welfare

\[
\begin{align*}
\text{omega} & \quad 70 \\
60 \quad 50 \\
40 \quad 30 \\
20 \quad 10 \\
0 \quad 10 \\
-0.4 & \quad -0.3 \quad -0.2 \quad -0.1 \quad 0.0 \quad 0.1 \quad 0.2 \quad 0.3 \quad 0.4 \quad 0.5
\end{align*}
\]
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 \(\theta\) goes to stock holders
- Preferences are

\[
\max \left\{ \log c^y_t + \beta \log c^o_{t+1} \right\}
\]

- Budget constraints

\[
\begin{align*}
    c^y_t &= (1 - \theta) - p_t s_{t+1} \\
    c^o_t &= s_t (\theta + p_t)
\end{align*}
\]
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
  
  \[ c_t^y + c_t^o = 1 + p_t s^* \]
  \[ c_{t+1}^y + c_{t+1}^o = 1 - s^* (\theta + p_{t+1}) \]

- Equilibrium stock prices are
  
  \[ p_t = \frac{(1 - \theta)}{(1 - s^*)} \frac{\beta}{1 + \beta} \]
  \[ p_{t+1} = (1 - \theta) \frac{\beta}{1 + \beta} \]
Welfare

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