Discussion of "Collateral Advantages:

Exchange Rates, Capital Flows, and Global Cycles"

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What does the paper do?

Gertler and Karadi (JME 2001) embedded into a 2-country NK Model

- Financial intermediaries in a New Keynesian model

- With the additional assumption on the relative advantages of US government bonds versus other bonds

- Produces a different way to explain the "convenience yield" (lower interest rate on US government bonds than the bonds of other equally low-risk governments)

- ## Advantages of the paper relative to the literature

  - Existing literature: US government bonds in the utility function
  - Bianchi?
  - This paper's explanation: US government bonds are considered by banks as better collateral than other government bonds or private sector bonds

- The same model can also explain patterns of capital flows and US dollar appreciation in times of economic stress

- Nicely and clearly written
  - As other papers by these authors

Comment 1: How general is the data pattern?

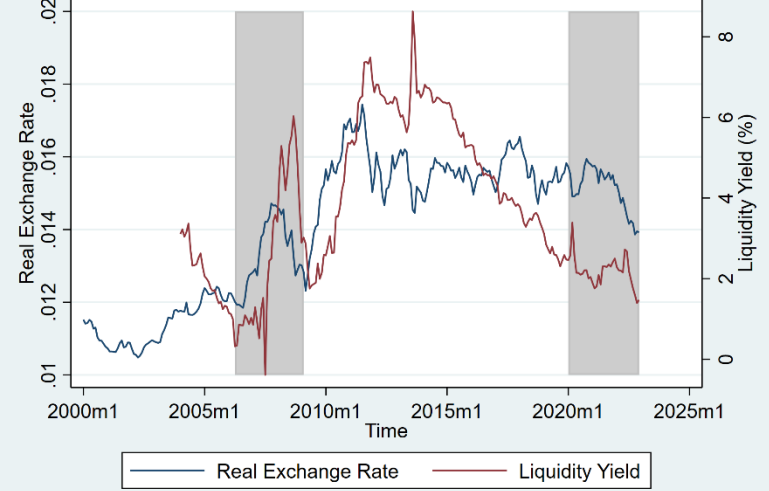Exchange rate and liquidity yield: U.S. vs Germany

- The convenience yield on US gov bonds (vis a vis the bonds of other high-income countries) is highly correlated with the dollar exchange rate in the early 2000s

- The paper aims to explain this pattern assuming this is a response to some common global shocks to all economies

- But GFC was not quite a common shock

- Does the pattern hold with regard to US versus major emerging market economies?

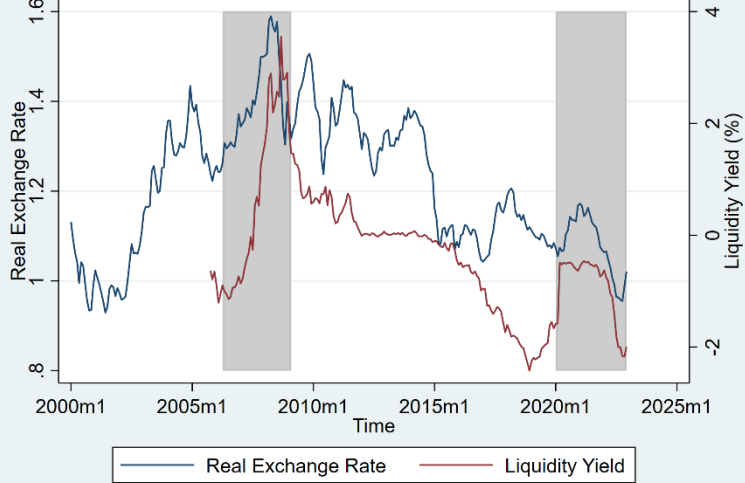- Does it hold in more recent periods (including the Covid recession)?

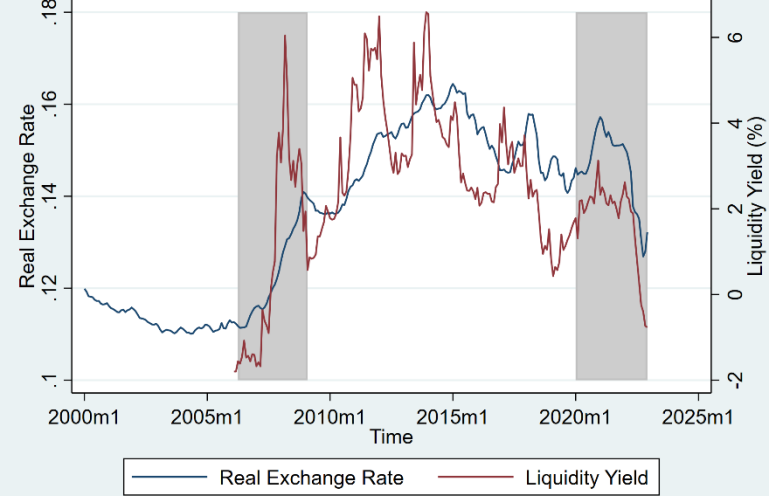Exchange Rate and Liquidity Yield: U.S. vs rest of G10
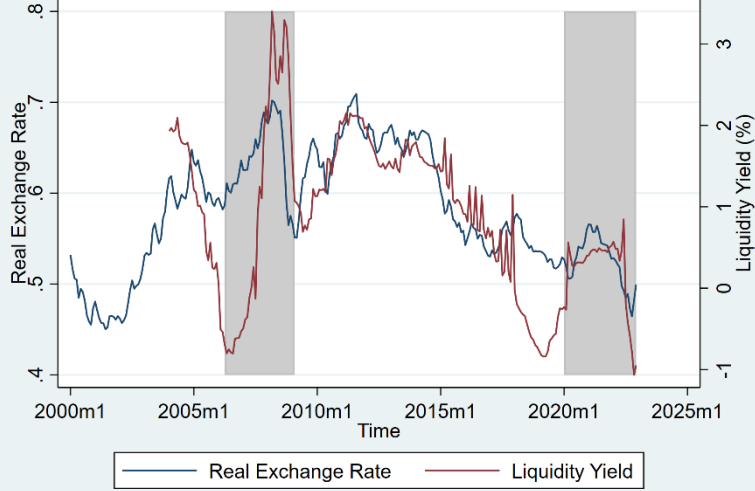
Exchange Rate and Liquidity Yield: U.S. vs India

Exchange Rate and Liquidity Yield: U.S. vs Germany

Exchange Rate and Liquidity Yield: U.S. vs China

Comment 2: Can you tame the devil in the details?

Banks' problem

- Banks' value function is

$$V_t = E_t \Omega_{t+1}[(1 - \theta)N_{t+1} + \theta V_{t+1}]$$

- Maximize value function by choosing the four assets (K_h, K_f, D_h, D_f)
- Subject to Gertler-Kiyotaki, Gertler-Karadi type of incentive constraint
- Banker can abscond κ amount of the assets so

$$V_t \geq \vartheta\left[\left(\kappa_{K,h}Q_t K_{h,t+1} + \boxed{\kappa_h}D_{h,t}\right) + \left(\kappa_{K,f}S_t Q_t^* K_{f,t+1} + \kappa_f S_t D_{f,t}\right)\right]$$

- The lower the parameter κ, the less it is divertible, or the more it is pledgeable
- **Key assumption:**

Home bond is the best collateral $\boxed{\kappa_h} < \kappa_f \leq \kappa_{K,h} \leq \kappa_{K,f}$

The same for the foreign banks $\underline{\kappa_h^*} < \kappa_f^* \leq \kappa_{K,f}^* \leq \kappa_{K,h}^*$

Which devil is in the details?

- Key assumption:

- US government bonds

- Not only …
- are regarded by US banks as better collateral than Japanese gov bonds

- But also
- **regarded by Japanese banks as better collaterals than Japanese gov bonds**

- Reasonable

- Is it obvious conceptually?
- Is there any empirical support?

Calibration table

Symbol	Meaning	Value	target
$\overline{D_h} = \overline{D_f}$	Total govt debt	2.7	Debt to GDP of 83%
θ	Bank survival prob.	0.95	Leverage of 3
κ_h	**Home constraint cost of holding home bond**	**0.025**	**Convenience yield = 1%**
κ_h^*	**Foreign constraint cost of holding home bond**	**0.05**	**Net foreign income / GDP = 0.0013**
κ_f	**Home constraint cost of holding foreign bond**	**0.40**	**Foreign holding of US Treasury of 45%**
κ_f^*	**Foreign constraint cost of holding foreign bond**	**0.32**	**-ve NFA 18.5%**
$\kappa_{Kh}^* = \kappa_{Kf}$	Constraint cost of holding external capital	0.49	Equity premium of 6%
$\kappa_{Kh} = \kappa_{Kf}^*$	Constraint cost of holding own capital	0.41	Home bias of equity of 70%

Japanese banks' view Of US bonds

Japanese banks' view of Japanese bonds

Could there be a 3-country version of the model that delivers the desired conclusion?

- Perhaps US banks regard US governments as the best collateral
- Japanese banks regard Japanese government bonds as the best collateral

- But banks in all other countries may regard US government bonds as a better collateral than Japanese government bonds

- Even though the Japanese banks may still prefer the Japanese bonds to the US bonds, non-Japanese banks in the world collectively vastly outnumber the Japanese banks, generating a big collateral advantage for the US gov bonds.
- Could this be enough to generate the desired result?

Comment 3: A deeper "micro-foundation"?

- The main claim of the paper: If US gov bonds are assumed to be better collateral than the bonds of any other countries (or any private sector bonds), then the "convenience yield" of US bonds could be a consequence.

- Because the paper does not put US government bonds artificially into the utility function, the authors call their model a microfoundation of the convenience yield.

- Note: The collateral advantage of US government bonds itself is not explicitly an outcome of optimization problems/equilibrium but exogenously assumed.

- Perhaps a picky reader might be looking for a model with only things that are more primitive (e.g., the size of the US economy and capital market, and the governance quality) that can then generate both a collateral advantage of US gov bonds and the convenience yield simultaneously

My "theory": presence of multiple strengths by the US underpins both the collateral advantage and convenience yield for US bonds

	USA	China	Euro-zone	Japan	Other countries
Super-sized and unified economy	**yes**	yes	?	?	no
High quality institutions (rule of law)	**yes**	no	yes	yes	no
Liquid/deep financial(especially gov bond) market	**yes**	?	?	?	?
Domestic financial institutions that are dominant global players	**yes**	no	?	?	no
Presence of multiple strengths	**yes**	no	no	no	no

Comment 4: A puzzle about some model parameters

- The double roles of Θ

- Θ = fraction of households that become a bank

- And (?!)

- Θ = the probability that a bank can survive after one period

- What value do DEW assume for their calibrations?

- Θ = 0.95

- Why do the two fractions have to be bundled together?

- No explanation given in the paper

- In Gertler and Karadi (2001), they are two separate parameters

- If the two are unbundled, could the authors also relax their assumption on the very stark advantage of US gov bonds relative to those from other high income countrie?

Summary

- A well-written paper that gets us to think about what could generate both a collateral advantage and the convenience yield for US gov bonds

- Highlights the role of financial intermediaries (relative to standard open-economy macro models)

- May benefit from a micro-foundation one level down – what primitives in the US economy could endogenously generate both a collateral advantage of US gov bonds and the convenience yield