COMMENTS ON *Incomplete Information Processing: A Solution to the Forward Discount Puzzle*

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CONTRIBUTIONS

This paper makes contributions on 2 fronts:

1. Solves a dynamic portfolio problem with heterogeneous agents, transactions costs, and an endogenous time-varying investment opportunity set. Not easy!

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1. Solves a dynamic portfolio problem with heterogeneous agents, transactions costs, and an endogenous time-varying investment opportunity set. Not easy!

2. Develops a new and interesting theory of the forward discount puzzle.

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8. Parameter Uncertainty + Perpetual Learning. Chakraborty & Evans (2006).

INGREDIENTS

1. Exogenous noise traders, calibrated to produce a volatile and near random walk exchange rate process.

2. Exogenous forward discount process

So what is endogenous?

$$\text{cov}_t(\Delta s_{t+k}, fd_t)$$

Findings

To fully account for the puzzle you need to *combine*

1. Risk Aversion ($\gamma = 10$).
2. Transaction Costs ($\tau = 0.27\%$ of wealth)
3. Incomplete Information (only use current interest rates)

Comments and Suggestions

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4. Multiple Equilibria?
5. Connections to information processing literature are loose at best. This literature does not really support the idea of completely omitting variables. Maybe a better motivation would be the notion of a *Restricted Perceptions Equilibrium* (Evans & Honkapohja (2001)), or model *complexity* (Cho and Kasa (2006)).

An Alternative: Higher-Order Belief Dynamics

"Asset Prices in a Time Series Model with *Perpetually* Disparately Informed, Competitive Traders" (Kasa, Walker, & Whiteman (2005))

$$
\begin{aligned}
s_t &= \int_0^1 E_t^i s_{t+1} di - (i_t - i_t^*) \\
&= \int_0^1 E_t^i s_{t+1} di - f_t \\
f_t &= a_1(L)\varepsilon_{1t} + a_2(L)\varepsilon_{2t} + a_3(L)\varepsilon_{3t}
\end{aligned}
$$

Suppose $\exists$ 3 trader types. Type-i observes $(s_t, f_t, \varepsilon_{it})$.

Theorem: *If there exists a unique* $|\lambda| < 1$ *such that*

$$\lambda = 2 + a_i(1)/a_i(\lambda) \quad i = 1, 2, 3$$

then $\exists$ *a nonrevealing REE with pricing functions*

$$\pi_i(L) = \pi_i^s(L) - \frac{a_i(\lambda)(1+\lambda)}{1 - \lambda L}$$

where $\pi_i^s(L)$ *are the standard symmetric information RE pricing functions*