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

BY P. BACCHETTA AND E. VAN WINCOOP

Kenneth Kasa¹

¹Department of Economics
Simon Fraser University

November 6, 2006
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!

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

2. Develops a new and interesting theory of the forward discount puzzle.
EXPLANATIONS OF THE FORWARD DISCOUNT PUZZLE

1. Time-Varying Risk Premia


EXPLANATIONS OF THE FORWARD DISCOUNT PUZZLE

1. Time-Varying Risk Premia

EXPLANATIONS OF THE FORWARD DISCOUNT PUZZLE

1. Time-Varying Risk Premia


EXPLANATIONS OF THE FORWARD DISCOUNT PUZZLE

1. Time-Varying Risk Premia


EXPLANATIONS OF THE FORWARD DISCOUNT PUZZLE

1. Time-Varying Risk Premia
EXPLANATIONS OF THE FORWARD DISCOUNT PUZZLE

1. Time-Varying Risk Premia
EXPLANATIONS OF THE FORWARD DISCOUNT PUZZLE

1. Time-Varying Risk Premia
EXPLANATIONS OF THE FORWARD DISCOUNT PUZZLE

1. Time-Varying Risk Premia
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?

\[ \text{COV}_t(\Delta s_{t+k}, f d_t) \]
Findings

To fully account for the puzzle you need to combine

1. Risk Aversion \( (\gamma = 10) \).

2. Transaction Costs \( (\tau = 0.27\% \text{ of wealth}) \).

3. Incomplete Information (only use current interest rates)
Transactions costs likely understated

- Investors must precommit
- High risk aversion

Implications for Trading Volume? Order flow correlations.

Evans & Lyons (2002).

Cite Evans & Lyons (JIMF, 2005), "Do Currency Markets Absorb News Quickly?"

Multiple Equilibria?

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)).
Comments and Suggestions

1. Transactions costs likely understated
   - Investors must precommit
   - High risk aversion

1. Transactions costs likely understated
   • Investors must precommit
   • High risk aversion


KASA

COMMENTS ON Incomplete Information Processing: A Solution to the...
Transactions costs likely understated
- Investors must precommit
- High risk aversion


Multiple Equilibria?
COMMENTS AND SUGGESTIONS

1. Transactions costs likely understated
   - Investors must precommit
   - High risk aversion


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))

\[
s_t = \int_0^1 E_t^i s_{t+1} di - (i_t - i^*_t)
\]

\[
= \int_0^1 E_t^i s_{t+1} di - f_t
\]

\[
f_t = a_1(L)e_{1t} + a_2(L)e_{2t} + a_3(L)e_{3t}
\]

Suppose \( \exists 3 \) trader types. Type-\( i \) observes \((s_t, f_t, e_{it})\).
Theorem: If there exists a unique $|\lambda| < 1$ such that

$$\lambda = 2 + \frac{a_i(1)}{a_i(\lambda)} \quad i = 1, 2, 3$$

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