Discussions of "Informed and Strategic Order Flow in the Bond Markets" by Paolo Pasquariello and Clara Vega

Kathy Yuan

Ross School of Business, University of Michigan

May 3, 2006

Bank of Canada Economic Conference 2006: Fixed Income Markets

Summary

▶ Research question:

- How do trade-free information and trade-generated information affect daily price changes?

▶ Presented a generic one-period trading model with heterogenous information and a public signal (S)

- Closed-form, simple, elegant, intuitive.
- Generated several testable hypotheses on order flow (ω) and prices.

  1. Market liquidity (λ^{-1}) is ~~increasing in the number of informed investors (M) and~~ decreasing in the information heterogeneity (γ).

  2. A public signal increases λ^{-1}, but this increase is smaller if the public signal is noisy.

  3. Market liquidity (λ^{-1}) is decreasing in the information hetero-geneity (γ) only if public signal is noisy.

▶ Mapping the model to the Treasury bond market

- Variables: Daily (2-,5-,10-year on-the-run) bond <u>yield change</u> (r_t), <u>transactions</u> (NT), and <u>aggregate order flow</u> (Ω); 25 macro announcements (A), <u>information heterogeneity</u> (γ): σ of the forecasts (E), <u>News</u>: $S = (A - E)/\sigma$; <u>Noise</u>: |A-Revision|

- Tests: Conditional on information heterogeneity and controlling for inventory effects

$$r_t = a + \Lambda\Omega_t + \epsilon_t \qquad r_t = a + \Lambda_p\Omega_t + \Lambda_s S_t + \epsilon_t$$

- Major empirical findings

(1),(3) On non-A or A dates, Λ (λ^{-1}) is significantly larger (smaller) on days with more heterogenous information.

(2a) Λ is not significantly different between A and non-A days, indicating news is either noisy or induces information heterogeneity.

(2b) However, impulse-response analysis indicates the order flow impact may be transitory during A-days.

Comment 1

▶ There are features of the model that are unexplored.

- In the theoretical model, there is an asymmetric prediction for negative and positive γs, but empirically $\sigma > 0$.

- Difficult to test – lack of individual analysts' forecasts
  * Indirect but easy: (1) when $E = A$ and σ is extremely large, (2) periods of exogenous shocks
  * Direct but difficult: linguistic analysis of the frequencies of pessimistic versus optimistic views.

- Question: Is information more or less heterogenous when γ is negative? If it is more, then Corollary 1 needs to be qualified.

Comment 2

▶ There are features unique to the bond market that are not explored.

- On-the-run 2-, 5-, 10-year bonds are issued by the same issuer, unlike stocks which are issued by different issuers.

- Order flows in 5-year bonds may affect yield changes in 2- and 10-year bonds and vice versa.

- Slope or curvature of the term structure may matter as well.

Comment 3

▶ There are other aspects of the data that are unexplored.

- I assume that GovPX provides not only best bid and offer quotes. If this is the case, market depth could be computed and could be used as a robustness check for λ^{-1}.

- I assume that short-sale constraints and borrowing constraints potentially exist. If this is the case, there should be an asymmetric order flow impact in response to good versus bad news.

Comment 4

▶ σ of analysts' forecasts has been used in the literature to measure difference in opinion rather than information heteorgeneity (See Diether, Malloy and Scherbina 2002).

▶ It may be useful to relate to this literature. For example, the authors can argue against using σ as a measure of difference in opinion. Typically more trading would occur when difference in opinion is higher. Authors have shown trading is higher when σ is lower, which goes against the difference in opinion view.

Comment 5

▶ Tests in the paper

$$r_t = a + \Lambda\Omega_t + \epsilon_t$$

▶ Price as an endogenous public signal

$$\Omega_t = b + \delta_t r_t + \varepsilon_t$$

▶ Emphasize: disjointed time intervals, less endogeneity during non-A days, using past yield changes as an instrument for Ω

Conclusion

▶ This is a very interesting paper!

▶ Frontier work on bond market microstructure!