Price Formation and Liquidity Provision in Short-Term Fixed Income Markets

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Important Concepts

Price Formation

- How does information get incorporated into prices?

Perfect market: Instant quote adjustment

Liquidity Provision

- How easily and at what transaction cost can we buy and sell securities?

Perfect market: Instant transactions, zero spread

Are they related?

Variables under investigation

- Price change
  - ➤ Thirty-minute midquote change
- Signed Orderflow
  - ➤ Buy market volume – sell market volume
- Order book imbalance
  - ➤ Buy quote $volume – sell quote $volume
- Bid-ask spread
  - ➤ Inside quote

Ingredients

- trader arrivals
- market/quote decisions

Results: Autocorrelation

- Autocorrelation in market order & quote imbalance
  - Sellers react to buy market orders by submitting sell quotes
- Autocorrelation in midquote
  - Persistence in liquidity; driven by:
    - Persistence in uncertainty
    - Liquidity clustering
    - Market rules
- Negative autocorrelation in price
  - Midquote can be mean-reverting; think bid-ask bounce

Results: Impulse Response

- Market order imbalance permanently increases prices

- Quote imbalance temporarily decreases prices

- Spread permanently reduces prices in Canada

Results: Information

- Information affects prices, and in some cases market order & quote imbalances and spread

- Effect can be long-lived