

# The Propagation of Shocks Across International Equity Markets: A Microstructure Perspective

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# Summary

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- Specifically, they examine the relation between shocks to price, liquidity and trading activity within each market and across markets.
- Use trade and tick-by-tick data from TRTH at 5-minute frequency for 12 countries spread across 3 regions.
- Sample countries include both developed as well as emerging ones.
- Use a modified version of the Barndorff-Nielsen and Shephard jump measure, which helps the authors pinpoint the 5-minute interval in which the jump occurs.

## Summary ... 2

- Findings:

- Jumps are more frequent in prices, percentage quoted spreads and order imbalance than in percentage effective spreads and turnover.
- Close relationship between jumps in prices and order imbalances, while jumps in percentage quoted spreads are independent of these jumps.
- Jumps in prices and simultaneous jumps in prices and order balances are driven by information and not liquidity.
- Jumps in funding liquidity are not related to jumps in prices, percentage quoted spreads and order imbalance.
- Only jumps in prices and order imbalance have strong spillover effects across markets during the same 5-minute interval.
  - These spillover effects are stronger for countries within the same region and for developed country pairs.

# Causality

- It appears that the authors are trying to establish the channels through which shocks to price propagate across markets.
- They conjecture that it is through shocks to liquidity and trading activity.
- However, the authors show only contemporaneous correlation between shocks to prices and order imbalance.
- In their conclusions, the authors do note that estimating a VAR would help establish causality but they have not done so.
- They should consider doing the VAR analysis and establishing some sort of causality.

## Simultaneous jumps

- Simultaneous jumps in price and OIB are more frequent in developed markets rather in emerging markets.
- Do the authors have any conjecture about why this is so?
- One way to think about it is that if shocks are due to liquidity then such simultaneous jumps are more likely in emerging markets, whereas if they are due to information then they are more likely in developed markets.

# Identifying jumps

- Do they find that jumps are permanent because they use a very stringent condition (significance at 0.1%)?
- Will there be temporary jumps if the condition is relaxed to 1% or 5%?
- In magnitude, temporary jumps are likely to be smaller.

## Clustering of jumps over time

- Since algo trading and HFT has increased dramatically over the sample period, are these jumps clustered in time?
- If the reason for looking at propagation of shocks at a high frequency (intraday) is the increase of algo trading and HFT, then we would expect most of these jumps to occur after 2005 or 2006.
- So some descriptive statistics of how the number of jumps vary across years and also control for year fixed effects in the regressions would be useful.



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- So some descriptive statistics of how the number of jumps vary across years and also control for year fixed effects in the regressions would be useful.
- It is possible that all these shocks occurred during the financial crisis in 2008.
- How many of the jumps are in 2008 and what happens to the results if they are dropped from the sample?

# Time-of-day effects

- Are there any time-of-day effects?
- Liquidity varies over the day (U-shaped liquidity during the day).
- How quickly the shocks propagate within and across markets is likely to depend on the time of the day the jump occurs.

## Other comments

- 1 One hour may be too short a period of time for price reversal in emerging markets.

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- 2 If the focus is on propagation of shocks across markets and Asian markets are closed when U.S. markets are open, should Asian markets be a part of the sample?

# Conclusion

- The paper provides deeper insights into why markets are integrated at a microstructure level.
- It will be useful to provide causal inferences.
- Overall, an interesting paper!