Discussion: Industry-specific effects of geopolitical risk on the volatility of the Johannesburg Stock Exchange: A GARCH-MIDAS approach

Finstab Research Symposium: Maintaing financial stability amid global volatility and uncertainty

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Purpose

- A focus on the effect of geopolitical risk (GPR) on the volatility of industry returns in the Johannesburg Stock Exchange (JSE)
- Particularly, industry-specific effects for 9 sector indexes (e.g. financials, health, industrials, etc.)
- Using the popular Caldara and Iacoviello (2022) GPR index
- Applied GARCH-MIDAS (mixed data frequency) approach
- Briefly, the paper aims to understand how GPR shocks affect the volatility of industry returns

Key findings

- Finding 1: Confirmed a industry effect
- Finding 2: Only the healthcare index showed a higher return volatility due to GPR shocks
- Finding 3: The rest demonstrated lower volatility response
- Finding 4: Similar global and local GPR effects

Comment 1: Strenghs

- Well presented paper
- Consideration of the literature
- Careful implementation of the GARCH-MIDAS approach (not common)

Comment 2: Centrality of investor behaviour

- Why study industry effect in the first place?
  - We expect investors to **react** differently to GPR shocks across industries
- What does it mean for investors to react differently?
  - It means that investors can overreact to information (De Bondt and Thaler 1985)
  - It means that investors substitute private information for market information (Devenow and Welch 1996)
  - It means that investors may have different risk preferences across industries (Plastun et al. 2020)
  - etc.

Comment 2: Centrality of investor behaviour cont.

- The literature has shown in differentiated industry impact in other areas (for example, Sibande et al. 2024)
- Lastly the debate on the literature as to the centrality of investor behaviour of investor behaviour is largely settled (Fakhry 2016)
- The paper does not take a clear stand on the investor behaviour aspect
  - It is not clear why the healthcare index is more affected by GPR shocks
  - It is not clear why the other industries are less affected

Comment 3: Volatility is difficult to explain

- Volatility is difficult to explain because it is non-linear
- More returns volatility is not necessarily better or worse (not necessarily indicative of crises)
- Markets have become more **efficient** over time (Plastun et al. 2019)
- In addition the concept of GPR can be difficult to pin down (e.g. wars, elections, etc.)
- For robustness, the paper could have considered other measures of GPR or specific events (crises periods)
- Therefore, difficult to draw policy conclusions

Comment 4: Understanding volatility is important for financial stability

- However, understanding the drivers of volatility is important for financial stability
- It can be helpful to first understand the effect of returns volatility on real economic variables, for example employment (Sibande, Gupta, and Wohar 2019)
- Then from the decomposition of volatility, short and long term policy implications can be drawn
- That is, in addition, the paper could have considered the effect of GPR shocks on real economic variables

Conclusion

- Great paper - beneficial area of work for EMs!

References I

Caldara, Dario, and Matteo Iacoviello. 2022. "Measuring Geopolitical Risk." *American Economic Review* 112 (4): 1194–1225.

De Bondt, Werner FM, and Richard Thaler. 1985. "Does the Stock Market Overreact?" *The Journal of Finance* 40 (3): 793–805.

Devenow, Andrea, and Ivo Welch. 1996. "Rational Herding in Financial Economics." *European Economic Review* 40 (3-5): 603–15.

Fakhry, Bachar. 2016. "A Literature Review of the Efficient Market Hypothesis." *Turkish Economic Review* 3 (3): 431–42.

References II

Plastun, Alex, Xolani Sibande, Rangan Gupta, and Mark E Wohar. 2019. "Rise and Fall of Calendar Anomalies over a Century." *The North American Journal of Economics and Finance* 49: 181–205.

———. 2020. "Halloween Effect in Developed Stock Markets: A Historical Perspective." *International Economics* 161: 130–38.

Sibande, Xolani, Vassilios Babalos, Riza Demirer, and Rangan Gupta. 2024. "Presidential Politics and Investor Behavior in the Stock Market: Evidence from a Century of Stock Market Data."

Sibande, Xolani, Rangan Gupta, and Mark E Wohar. 2019. "Time-Varying Causal Relationship Between Stock Market and Unemployment in the United Kingdom: Historical Evidence from 1855 to 2017." *Journal of Multinational Financial Management* 49: 81–88.