# Risk-Off is Already Priced In: Average and Tail Capital Flows to Small Open Economies

Seojin Jung, University at Albany/Economics

## INTRODUCTION

### Motivation

- How do portfolio inflows to SOEs respond to a US financial uncertainty (FU) shock?
- Are the effects disproportionately large during low-flow episodes?
- Do responses differ between risk-on/off states?

### The SOE block

- 15 highly open economies with advanced financial markets, including emerging market benchmarks.

### Measuring FU

- Extracted from S&P 500 returns via a local level model with stochastic volatility.

### Regime Classification

$$S_t = 1\{\mathrm{GFCy}_{t-d_s} \le z^*\}, s \in \{0,1\}$$

- $z^*$ = 25th percentile of $GFCy_{t-1}$
- $s = 1$: **risk-off**, elevated risk aversion
- $s = 0$: **risk-on** , investors willing to take risk

### Measuring Portfolio Flows (1995q1: 2019q4)

- Aggregate portfolio inflows (PI):

$$\mathrm{GCA}_t = \frac{\sum_{i\in\mathcal{I}} \mathrm{PI\ Liab}_{i,t}}{\sum_{i\in\mathcal{I}} \mathrm{GDP}_{i,t}}$$

- Portfolio composition:

$$\mathrm{GRA}_t = \sum_{i\in\mathcal{I}} \frac{\mathrm{GDP}_{i,t}}{\sum_{j\in\mathcal{I}} \mathrm{GDP}_{j,t}} \left( \frac{\mathrm{PI\ DebtLiab}_{i,t}}{\mathrm{GDP}_{i,t}} - \frac{\mathrm{PI\ EquityLiab}_{i,t}}{\mathrm{GDP}_{i,t}} \right)$$

- PI to SOE i:

$$y_{i,t} = 100 \times \frac{\mathrm{PI\ Liab}_{i,t}}{\mathrm{GDP}_{i,t}}$$

- Portfolio reallocation to SOE i:

$$y_{i,t}^{alloc} = 100 \times \left( \frac{\mathrm{PI\ DebtLiab}_{i,t}}{\mathrm{GDP}_{i,t}} - \frac{\mathrm{PI\ EquityLiab}_{i,t}}{\mathrm{GDP}_{i,t}} \right)$$

## EMPIRICAL MODELS

### Study 1: Threshold VAR

- Generalized impulse responses (GIRF)

$$\Psi^{s}_{GIRF}(h,\delta,\Theta) = E\left|Y_{t+h}\right|\Theta,\mathcal{F}_{t-1},S_t,\varepsilon_t = \delta\right| - E\left|Y_{t+h}\right|\Theta,\mathcal{F}_{t-1},S_t,\varepsilon_t = 0\right|$$

### Study 2: Panel Quantile Regression

- Baseline QR

$$Q_{y,i,t+h}(\tau|X_{i,t}) = \alpha_i(\tau) + \gamma_t(\tau) + \beta_h(\tau)FU_t + \beta_h^{OFF}(\tau)(FU_t \times S_t)$$

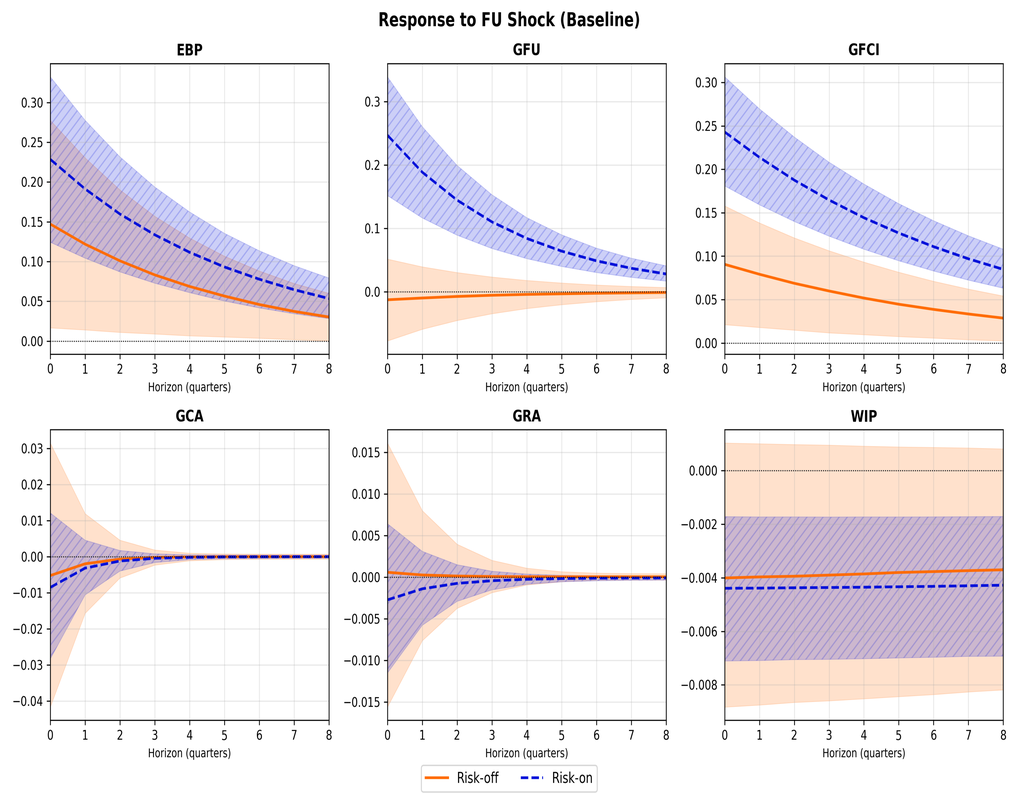


Table : Baseline Quantile Regression Results

| | $\tau = 0.05$ | $\tau = 0.25$ | $\tau = 0.50$ | $\tau = 0.75$ | $\tau = 0.95$ |
|---|---|---|---|---|---|
| Panel A: Portfolio inflows to SOEs (% of GDP) | | | | | |
| FUt | -236.322*** | -243.445*** | -190.112*** | -174.723*** | -124.307** |
| | (55.822) | (44.543) | (41.294) | (51.383) | (62.806) |
| FUt x St | 51.909*** | 10.261 | 18.698 | -2.169 | -4.741 |
| | (17.877) | (11.550) | (11.819) | (12.618) | (16.103) |
| $N$ | 1443 | 1443 | 1443 | 1443 | 1443 |
| Panel B: Portfolio allocation to SOEs (% of GDP) | | | | | |
| FUt | -152.640* | -77.795* | -75.882* | -28.453 | -78.416 |
| | (81.178) | (43.560) | (41.654) | 50.290 | (62.409) |
| FUt x St | -9.741 | 11.386 | 8.796 | -5.071 | -20.238 |
| | (22.311) | (14.218) | (11.510) | (12.949) | (16.432) |
| $N$ | 1327 | 1327 | 1327 | 1327 | 1327 |

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

## REFERENCES

- For further questions or to request the full paper and reference list, please contact: ***sjung9@albany.edu***

## RESULTS: AVERAGE AND TAIL

### Study 1: Average dynamics (figure)

- A one-standard-deviation FU shock significantly tightens global financial conditions, with effects larger and more persistent in the risk-on state.
- Global uncertainty (GFU) spillovers are entirely absent in the risk-off regime, suggesting FU shocks are already priced in during stress periods.
- Aggregate inflows (GCA) and portfolio composition (GRA) show no significant average response in either state, motivating the tail-risk analysis in Study 2.
- World industrial production (WIP) declines negatively and persistently across both states, exhibit the most sluggish adjustment in the system.

### Study 2: Tail risk (table)

- FU shocks generate the largest negative effects at the 5th percentile ($\tau = 0.05$), providing direct evidence of tail risk in SOE capital flows.
- Risk-off amplification ($FU_t \times S_t$) is statistically significant only at the fifth percentile — tail risk is concentrated in low-flow episodes.
- Debt-equity composition shows no significant response, suggesting investors reduce overall SOE exposure symmetrically in both regimes.

## CONCLUSION

- **Shock effects are short-lived**: capital flows adjust rapidly at the impact horizon, while real activity declines are smaller but far more persistent.
- Risk-off amplification is concentrated in low-flow episodes, not the mean. **Standard frameworks systematically understate SOE vulnerability.**
- In risk-off episodes, FU shocks generate limited repricing— consistent with an "**already priced in**" mechanism where elevated uncertainty is largely incorporated into asset prices before the shock arrives.