

The Global Capital Flows Cycle: Structural Drivers and Transmission Channels

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- Proposes a new global risk measure → Global Stock Market Factor (GSMF) → summarizes co-movement of stock market returns across 60 economies.
- Establishes a connection between global capital flows cycle and the GSMF.
- Explores structural drivers of GSMF → horse race between financial shocks & US Monetary Policy.
- Trilemma re-emerges with respect to "other capital" flows.

Main Idea

- Recognize that US monetary policy shocks would need to pass through global risk to impact capital flows.
- Also, recognize that other shocks could impact global risk—financial shocks, geo-political risk.
- Quantify the contributions of these different shocks.

Key: Exogenous changes in the risk bearing capacity of the financial sector, matter more than US monetary policy shocks in driving global risk.

Roadmap for Discussion

- 1 Extracting the GSMF.
- 2 Parsimony and it's impact on the identification scheme:
 - Cross-country and regional linkages.
 - Dynamic stochastic volatility model.
- 3 Exogeneity of Financial Shocks:
 - Sign Restrictions & External Instruments.
- 4 Concluding Remarks.

Extracting the GSMF

$$r_{i,j,t} = \lambda_{if_t}^{global} + \boxed{\lambda_{i,jf_{j,t}}} + \zeta_{i,j,t} \quad (1)$$

$$\bar{r}_{j,t} = \bar{\lambda}_{jf_t}^{global} + \epsilon_{j,t} \quad (2)$$

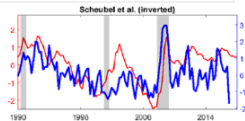
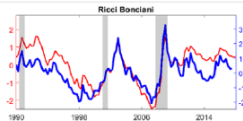
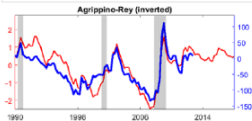
Main idea: When the transient component of capital flows adjusted by averaging across countries & portfolios, a visible relationship with global risk emerges.

How does GSMF differ from the alternatives?

Historical comparison, GSMF vs other indicators

– Global Stock Market Factor (GSMF), lhs

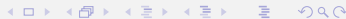
– alternative indicator, rhs



Is Parsimony Over-Simplifying the Identification of the Global Factor?

- Is the GSMF isomorphic to cross-industry and regional linkages?
- Regional component. Exogenous clustering based on even geography could drive stock-price co-movement across countries.
- Cross-country industry-linkages averaged out. Eg. Oil stocks co-move across countries. Within country averages
- Quarterly data (1990-2017)—do not run into parameter proliferation problem by adding one or two more parameters.
- Have sufficient data to get the cross-country & cross-industry correlations.

Alternative specifications are not isomorphic unless the global factor is completely orthogonal → Do we extract the same GSMF series without additional controls?



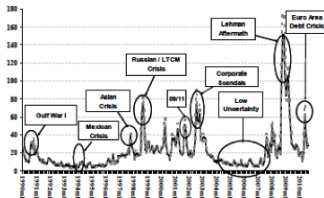
Is Parsimony Over-Simplifying the Identification of the Global Factor?

- A large class of asset pricing models, the global factor in risky asset prices \rightarrow aggregate volatility (σ_g^2) scaled by the aggregate degree of effective risk aversion in the market (γ_g).

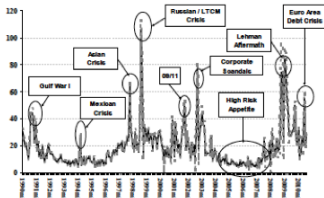
Bekaert, Hoerova & Lo Duca (2013)

FIGURE 2: VIX² DECOMPOSITION INTO UNCERTAINTY AND RISK AVERSION

Panel A: Conditional variance ("uncertainty")



Panel B: Difference between implied and conditional variance ("risk aversion")



Is Parsimony Over-Simplifying the Identification of the Global Factor?

- Abstracting from complex dynamics of stochastic volatility changes.
- Is the GSMF isomorphic to volatility effects?
- Volatility pieces especially relevant to financial prices.
- Factor loadings on aggregate effective risk aversion & volatility are time-varying.

Factor-Stochastic Volatility Models

$$\eta_t = \left[\eta_t^{global}, \eta_t^{regional}, \eta_t^{industry} \right]$$

$$\Delta r_{i,t+1} = \mu_r^i + \beta_i \eta_t + e^{h_{it}/2} \varepsilon_{i,t+1}^r$$

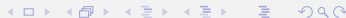
$$h_{it} = (1 - \phi_h) \mu_h^i + \phi_h h_{i,t-1} + \rho \sigma \varepsilon_{it}^r + \sigma_\sigma \sqrt{1 - \rho^2} \varepsilon_{it}^h \quad (3)$$

$$\eta_t^j = \phi_\eta^j \eta_{t-1}^j + e^{h_{j,t-1}^f/2} \varepsilon_{jt}^\eta$$

$$h_{jt}^f = (1 - \phi_h^\eta) \mu_h^j + \phi_h^\eta h_{j,t-1}^f + \rho_j \sigma_j \varepsilon_{jt}^\eta + \sigma_j \sqrt{1 - \rho_j^2} \varepsilon_{jt}^h, \quad j=G,R,I$$

$$\left[\varepsilon^r, \varepsilon^\eta, \varepsilon^h \right] \sim N \left[\mathbf{0}, \mathbf{I}_{2 \times (N+3)} \right]$$

Adapted from Global Long-run Risk and International Business Cycles: A Factor-Stochastic Volatility approach, Figueiredo (2018)



Exogenous Financial Shocks?

- Stress the role of structural shocks and pure financial shocks → overshadowed by a monetary policy centric view of the global financial cycle.
- What are the exogenous financial shocks that impact the risk bearing capacity of the financial sector?
- Cesa Bianchi and Sokol (2017) focus on credit spreads. This paper?
- Crucial because they discipline the sign restrictions in the FAVAR.

Sign Restrictions with External Instruments

- Suggestion: Run financial shocks series against a host of external instruments and show that they are exogenous.
- Proxies for risk-bearing capacity determine sign-restrictions that pin down the impulse response functions.
- General critique: different responses to different channels?
- Example: Portfolio Rebalancing & Confidence channels deliver different signs on MP shocks. Could dampen results or affect significance.

Global Factor Z-Score–Asis and Chari (2018)

- Composite measure of exposure to global financial conditions
- Global Factor $Z_i = \sum_j \frac{X_{ij} - \mu_j}{\sigma_j}$, $\forall j \in \{\Delta\text{Sovereign spread}, \Delta\text{FX}, \text{5-year US Treasury}, \text{Fed funds}, \text{VIX}, \text{TED spread}\}$.
 - A higher Global Z-Score proxies for a "risk-off" environment, i.e. difficult financing conditions.
 - ...risk-off environment increases corporate default risk in EM...
 - ...and the impact is greater for firms most exposed to such global conditions.

Conclusion

- I really like the premise of this paper.
- Important to widen scope of structural drivers of global financial cycle away from exclusive focus on US monetary policy.
- Regarding the trilemma, exchange rate regimes matter for banking flows.
- Are emerging markets simply bystanders to the forces of globalization and financial conditions in advanced economies? (IMF WEO (October 2018) Ch. 3).