Discussion of “Uncertainty and Economic Activity: a multi-country perspective” by A. Cesa-Bianchi, M. H. Pesaran and A. Rebucci

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Summary of the paper: QUESTION

• Question addressed: What are the sources of the negative correlation between uncertainty (realized stock market volatility) and real GDP growth that can be observed for several countries?

Figure 2 Country-specific Correlations Between Volatility and Growth Innovations

Panel A: Unconditional

Note. Panel A displays the unconditional correlations between (log) realized stock market volatility and real GDP growth. The dots represent the contemporaneous correlations. The lines represent 95-percent confidence intervals. Sample period: 1993:Q1-2016:Q4.
Summary of the paper: APPROACH

- **Theoretical framework**
  - multi-country version of the Lucas (1978) tree model
  - explicit theoretical relationships for output growth and realized volatility

- **Measure of volatility**: realized volatility of equity returns computed from squares of daily returns within a quarter

- **Empirical model**
  - factor-augmented multi-country panel VAR model
  
  \[
  e_{iv,t} = \lambda_i \zeta_t + \theta_i \xi_t + \eta_{it}, \\
  e_{iy,t} = \gamma_i \zeta_t + \varepsilon_{it},
  \]

- Growth as fn of common factor (global growth shock)
- Volatility also fn of 2nd common factor (global financial shock)

Assumptions needed for identification and estimation
Conditioning on the common growth shock captures most of the correlation.
Summary of the paper: RESULTS

Panel B: Conditional on $\hat{\xi}_t$ only

Panel C: Conditional on $\hat{\xi}_t$ and $\hat{\xi}_t$
Overall assessment:
✓ Interesting question
✓ Very good idea to adopt a theoretical framework to guide the empirical analysis
✓ Advanced econometric analysis
✓ Extensive robustness analysis
✓ Lots of interesting results

Questions:
- theoretical framework
- interpretation of shocks
- empirical issues
Questions: theoretical framework

- Why this particular theoretical framework?
  - *complete markets* assumption
  - *granularity* assumption

- Could it be that different types of economies may need different types of background theoretical frameworks?
  - Large (open) economies → Basu-Bundick (2017), Bloom et al. (2018), …
  - Advanced small open economies
  - Emerging small open economies → Open economy extensions of BB17 or BFJSET18
  - Fernandez-Villaverde et al. (2011), …
Questions: interpretation of shocks

- **Global growth shock**
  - correlation with global TFP measures, global capacity-adjusted TFP measures, global natural interest rates measures, global long-run risk measures,…

- **Global financial shock**
  - “common factor combining all common factors other than the common growth factor”, labelled as common (or global) financial shock as it reflects second and higher order moment innovations
  - “can also include any additional factors that may influence realized equity market volatilities, such as market imperfections, bubble effects, or time-varying risk preferences”

- No structural identification: cannot interpret them!
Questions: empirical issues

- Discuss more in detail results, ex for US, DE and China
- Link to literature on volatility and growth (Ramey and Ramey AER 1995, Kose et al. IMF SP 2005, etc.)
- Differentiate components of uncertainty: global, regional, domestic, idiosyncratic (Kose et al. AER 2003, Mumtaz and Musso ECB WP 2018)
- Allow for possible time-variation in co-movement/relationships: extend to time-varying parameters
Concluding remarks

Overall assessment:
✓ Interesting question
✓ Very good idea to adopt a theoretical framework to guide the empirical analysis
✓ Advanced econometric analysis
✓ Extensive robustness analysis
✓ Lots of interesting results

For follow-up work:
➢ Move towards a more structural approach
Thank you