Discussion of Dong He and Wei Liao: 'Asian Business Cycle Synchronization'

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What they do

- Paper develops a multi-level structural factor model of world business cycles
  - factors: global, regional (Asian and G7)+ idiosyncratic
  - structural: theory-based distinction between 'demand' and 'supply' factors
  - Multi-level: factors extracted from international cross-section of structural shocks identified at the country-level
- Very nice, very topical, wealth of results

What they find

- Over the last decade, global factors have become more important overall
  - This is true even leaving out the Great Recession
- For G7 countries, regional factors are in decline whereas for Asian economies, they are on the rise (at the expense of purely idiosyncratic movement)
- Structural identification:
  - G7 economies are driven by both demand and supply factors both of which are mainly global
  - Asian economies driven mainly by supply factors, most of which are regional
- Findings strong support for increased role of vertical trade linkages within Asia and of real shocks affecting regional supply chains.

How they do it

Decompose

$$x_{it} = \lambda_i^g \times g_t + \lambda_i \times f_t^k + \varepsilon_{it}$$

with

$$\begin{bmatrix} I - \Phi_g(L) & 0 \\ 0 & I - \Phi_k(L) \end{bmatrix} \begin{bmatrix} g_t \\ f_t^k \end{bmatrix} = \begin{bmatrix} \eta_t^g \\ \eta_t^k \end{bmatrix}$$

Here x_{it} can stand for either output (growth), y_{it}, in country i or for a country i supply or demand shock (u_{it}^s or u_{it}^d).

- Model I: $x_{it} = y_{it}$
- Model II: $x_{it} = u_{it}^s \text{ and } x_{it} = u_{it}^d$ where u_{it}^s and u_{it}^d are identified from a Blanchard-Quah / Bayoumi-Eichengreen SVAR in output and prices for country i. Plugging the factor-structure back into the MA-representation of the SVAR then amounts to a 4-factor structure for y_{it}

Some comments (I)

Some of the results concerning IC may be outcome of the particular model setup

- Is the IC regional factor really 'regional'?
  - USA, CAN are plausibly part of one region (load negatively on IC factor!)
  - GER, FRA, ITA, UKD are all European Union
  - But are the G7 really one 'region' (and therefore: a paragon to East Asia)
  - E.g. shouldn't JAP be part of the Asian regional factor?

Some comments (II)

- The definition of regions could have far-reaching consequences for the relative importance of regional and global factors in ICs
  - The global recessions of the recent past all emerged from the US.
  - Recessions tend to be global. Since US is also part of the IC 'regional' factor, that necessarily lowers the contribution of the regional factor because it shifts everything that is non-US (but possibly regional) to the purely idiosyncratic factor.
  - US still by far the single largest economy – may have a single US / global factor and various regional factors around that.
  - Also, because trade is largely determined by distance, your interpretation (vertical trade integration / shocks along the supply chain) heavily relies on factors corresponding to geographical regions

Some comments (III)

- Recall: regional supply shocks key driver of Asian BC comovement
- Paper interprets this result as evidence that vertical trade integration matters significantly
- Agree, but would be nice to make that point a bit more tightly, e.g. by trying to relate the loadings of the regional supply factor to trade weights.
- If regionalization of Asian BC's is driven by vertical specialization along the supply chain – what about the IC's?
  - We would expect to see the same effects there (IC's are vertically linked – think of NAFTA, EU)
  - Evidence of regional business cycles (e.g. in Europe)
  - Reiterates the importance of specifying truly 'regional' factors as paragons

Some comments (IV)

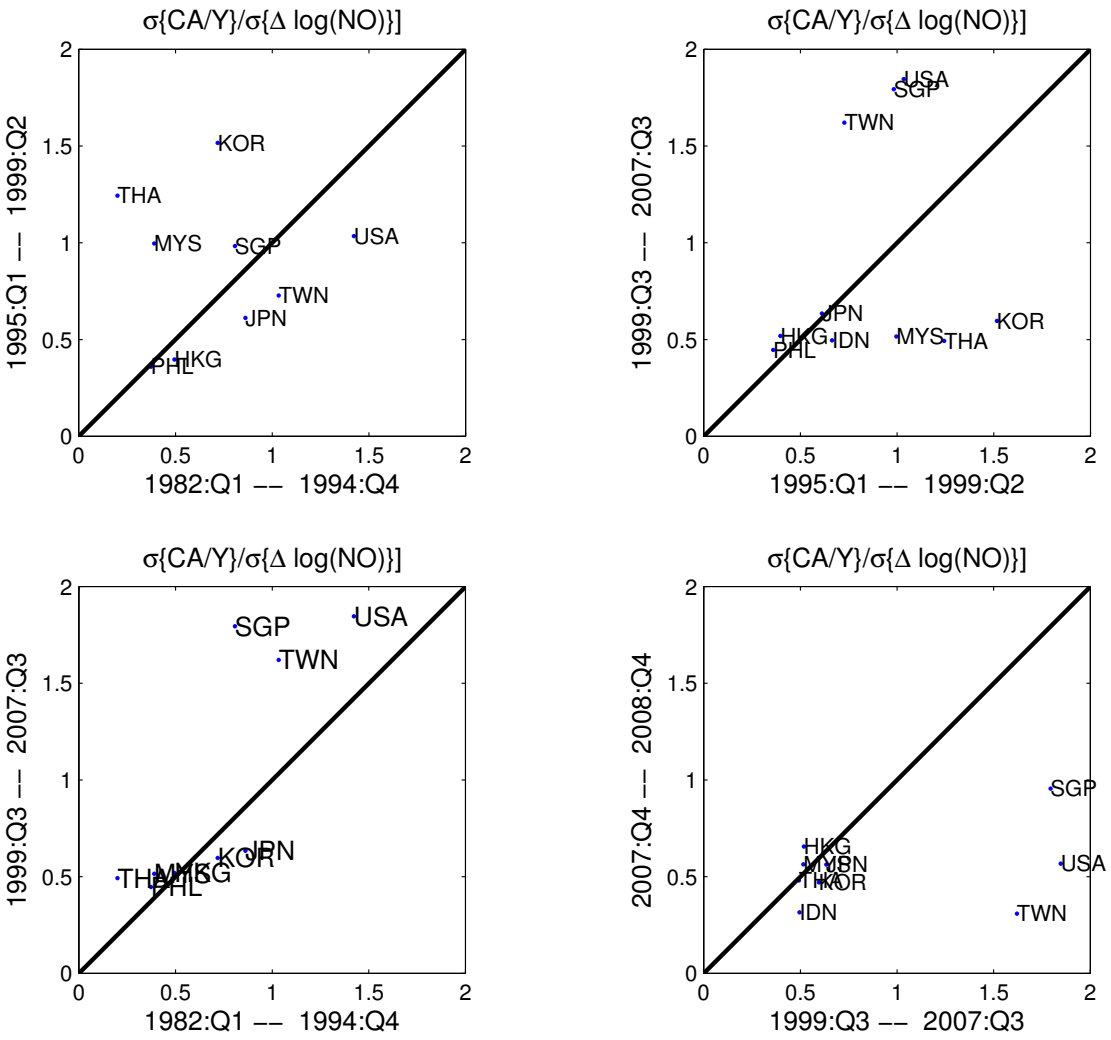
- Agree that regional supply factors probably play a growing role.
- But authors should be careful in interpreting their results as favoring a 'regional trade' story over a 'global demand' story. The two may in fact be linked:
  - Virtually all countries loading on the Asian regional factor effectively peg their exchange rates to the dollar. That automatically limits the demand-side independence and therefore the influence that demand shocks can have on regional output developments in the demand / supply decomposition used in the paper.

Some more comments (V)

- Would be nice to see what the factor decomposition yields for prices.
- Long-run recursive identification schemes for SVAR's may have a hard time identifying the true long-run responses. May want to look at common trend and common cyclical components in output instead? –> Decoupling in the cycles, commonality in the trends?

Cross-check from a simple theory-based identification

- Would be nice to see if results are robust in the sense that they would also be borne out by simple alternative identifications
- Idea: Average current account reaction to a global shock is zero (e.g. Glick and Rogoff (JME 1995))
  - $->\sigma(CA/GDP)/\sigma(\Delta log(GDP))$ may be a useful indicator of how 'global' shocks to output are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