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Workshop on

"Money, Finance and Banking in East Asia"

Training Centre of the Deutsche Bundesbank, Eltville
5-6 December 2011

Enzo Weber
University of Regensburg and IAB

Discussion of

"Modelling East Asian economies in a small open economy VECM: the influence of international and domestic shocks"

Institute for Employment Research

The Research Institute of the Federal Employment Agency

IAB

M. Dungey / T. Vehbi: Modelling East Asia economics in a small open economy VECM: The inferences of international and domestic shocks

3rd Workshop on Money, Finance, and Banking in East Asia

December 6, 2011, Eltville

Enzo Weber

IAB and Universität Regensburg

Why should you read this paper?

- Theory-based framework
- Empirical modelling with minimal assumptions
- Both long-run and short-run structure
- Consideration of history of currency regimes
- Comparison between South-East Asian countries
- Comparison between US and Chinese shocks

Why should you read this paper…

… only after some revisions?

Theoretical Model

- Real interest rate parity

$$E_t \Delta q_{t+1} = (r_t - E_t \pi_{t+1}) - (r_t^* - E_t \pi_{t+1}^*) - \epsilon_{RER_t}$$

- Risk premium?
- Shock to *expected* RER change?

Regimes

- Output and Phillips equations:

$$y_t = \mu E_t y_{t+1} + (1-\mu) y_{t-1} - \emptyset(r_{t-1} - E_{t-1}\pi_t) + \theta_2 y_t^* +$$

$$I_t[\mu E_t y_{t+1} + (1-\mu) y_{t-1} - \emptyset(r_{t-1} - E_{t-1}\pi_t) + \theta_1 \Delta q_t + \theta_2 y_t^*] + \varepsilon_{AS_t} \qquad (18)$$

$$\pi_t = \delta_1 E_t \pi_{t+1} + (1-\delta_1)\pi_{t-1} + \lambda_1 y_t + I_t[\delta_1 E_t \pi_{t+1} + (1-\delta_1)\pi_{t-1} + \lambda_1 y_t + \theta_3 \Delta q_t] + \varepsilon_{AS_t}$$

- Indicator only for q-term?
- Why do *reactions* of output and inflation to RER depend on exchange rate regime?

Regimes II

- Taylor rule and interest rate parity

$$r_t = I_t[\rho r_{t-1} + (1-\rho)(\beta E_t \pi_{t+1} + \gamma y_t)] + \varepsilon_{MP_t}$$

$$E_t \Delta q_{t+1} = I_t[(r_t - E_t \pi_{t+1}) - (r_t^* - E_t \pi_{t+1}^*) - \varepsilon_{RER_t}$$

- Fixed FX regime: r = policy shock?
- If exchange rate constant then r=r*!
- Solution to regime change: structural break in parameters – rather only for r and q equations? Test?

(Co-) Integration

- Unit root tests with break
  (e.g. RER in Asian crisis)
- Test for cointegration (between q, y, y*)
- Inflation and interest rates treated as I(0) –
  RER clearly I(1)?

Empirical Model

$$\begin{bmatrix} 1 & 0 & 0 & 0 & 0 \\ b_{21}^0 & 1 & 0 & 0 & 0 \\ 0 & b_{32}^0 & 1 & 0 & 0 \\ 0 & b_{42}^0 & b_{43}^0 & 1 & 0 \\ b_{51}^0 & b_{52}^0 & b_{53}^0 & b_{54}^0 & 1 \end{bmatrix} \Delta Y_t = \begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & \alpha_{32} & 0 \\ 0 & \alpha_{42} & \alpha_{43} \\ \alpha_{51} & \alpha_{52} & \alpha_{53} \end{bmatrix} \begin{bmatrix} \beta_{11} & 1 & 0 & 0 & \beta_{51} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \end{bmatrix} Y_{t-1}$$

$$+ \begin{bmatrix} b_{11}^l & 0 & 0 & 0 & 0 \\ b_{21}^l & b_{22}^l & b_{23}^l & b_{24}^l & b_{25}^l \\ 0 & b_{32}^l & b_{33}^l & 0 & b_{35}^l \\ 0 & b_{42}^l & b_{43}^l & b_{44}^l & 0 \\ b_{51}^l & b_{52}^l & b_{53}^l & b_{54}^l & 1 \end{bmatrix} \Delta Y_{t-1} + \begin{bmatrix} 0 \\ 0 \\ c \\ 0 \\ 0 \end{bmatrix} Oil + \begin{bmatrix} \varepsilon_t^{AD^+} \\ \varepsilon_t^{AD} \\ \varepsilon_t^{AS} \\ \varepsilon_t^{MP} \\ \varepsilon_t^{RER} \end{bmatrix}$$

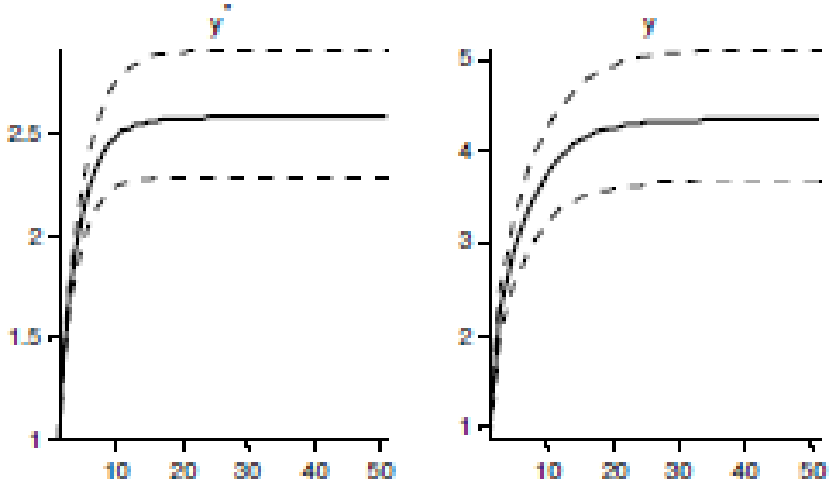
- In general: Discuss links between theoretical and empirical model more in detail.

Empirical Model II

- Contemporaneous structure recursive
  ➔ no long-run identification needed!?
- Many restrictions testable
- Meaning of 3rd cointegration relation?
- Lag length selection?
- Taylor rule: RER?
- Effect of y*-shock only on y –
  but r* correlated with y*-shock
  => in fact direct effect of y*-shock on r!

Singapore

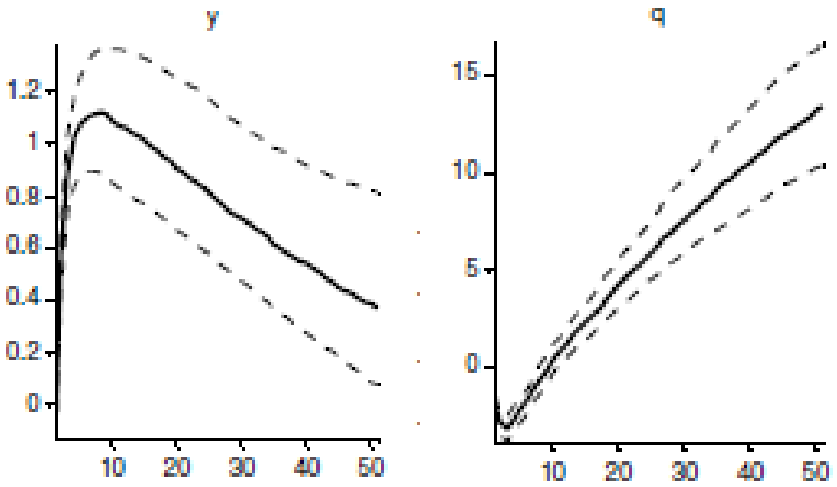
- Foreign shock:



- Extremely high multiplier!
- 2008/9: Reason for high contribution of domestic inflation shock?

Philippines, Malaysia, Indonesia

- Foreign shock (domestic shock mirrored):



- Divergence? Check cointegration relation!
- Reason for negative inflation reaction?