Comments on:
Hwee Kwan CHOW
"Is the RMB Asia's Dominant Reference Currency? A Reconsideration

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Chow identifies problems with the Frankel-Wei regression with RMB on the RHS

$$\Delta e_t^{\,i} = \gamma + \delta_{USD}\Delta e_t^{\,USD} + \delta_{EUR}\Delta e_t^{\,EUR} + \delta_{YEN}\Delta e_t^{\,YEN} + \delta_{RMB}\Delta e_t^{\,RMB} + \varepsilon_t$$

- Un-orthogonalized RMB creates a multi-collinearity problem
- Orthogonalized RMB is still subject to a simultaneity problem due to common shocks affecting the movements of the RMB and other Asian currencies

- *Comments: Common factors do not create simultaneity problems*
- *Perhaps, Chow is concerned about the possibility that the RMB movement is influenced by other Asian currencies' movements (i.e., the RMB basket includes currency i)*

Chow uses two sets of VAR models for each Asian currency

$$\Delta e_t = \beta_0 + \sum_{k=1}^{p} \beta_k(L)\, \Delta e_{t-k} + \varepsilon_t$$

where $\beta_k(L)$ is a 4×4 matrix of lag polynomials

(1): $\Delta e_t = (\Delta e_{\frac{us}{rmb},t}, \Delta e_{\frac{eur}{rmb},t}, \Delta e_{\frac{jpy}{rmb},t}, \Delta e_{\frac{i}{rmb},t})$

(2): $\Delta e_t = (\Delta e_{\frac{rmb}{usd},t}, \Delta e_{\frac{eur}{usd},t}, \Delta e_{\frac{jpy}{usd},t}, \Delta e_{\frac{i}{usd},t})$

Chow obtains impulse responses of currency i to a shock to the US dollar and a shock to the RMB exchange rate

- Obtain impulse responses of $\Delta e_{\frac{i}{rmb},t}$ to a shock to $\Delta e_{\frac{us}{rmb},t}$ in the VAR equation under (1)
- Also obtain impulse responses of $\Delta e_{\frac{i}{usd},t}$ to a shock to $\Delta e_{\frac{rmb}{usd},t}$ in the VAR equation under (2)
- Chow finds that a US dollar shock had a significant impact on Asian currencies before the GFC, but its impact declined after the GFC, and that the a RMB shock had either a stronger or a similar impact on Asian currencies, in comparison to a US dollar impact, in the post-GFC period
- Chow concludes a de facto RMB bloc has not emerged in Asia
- *But are the two impulse responses really comparable?*

Suggestions (1)

- To address the issue of common shocks, the VAR should include some exogenous global or regional shocks (z_j = oil prices, VIX, etc):

$$\Delta e_t = \beta_0 + \sum_{k=1}^{p} \beta_k(L)\, \Delta e_{t-k} + \sum_{j=1}^{r} \alpha_j z_j + \varepsilon_t$$

- To verify potential simultaneity problems for the RMB, run the F-W equation for the RMB by including other Asian currencies on the RHS and show that at least some emerging Asian currencies are statistically significant

$$\Delta e_t^{RMB} = \gamma + \delta_{USD}\Delta e_t^{USD} + \delta_{EUR}\Delta e_t^{EUR} + \delta_{YEN}\Delta e_t^{YEN} + \delta_{WON}\Delta e_t^{WON} + \cdots + \delta_{NTD}\Delta e_t^{NTD} + \varepsilon_t$$

Suggestions (2)

- The VAR equation to be estimated may be:

$$\Delta e_t = \beta_0 + \sum_{k=1}^{p} \beta_k(L)\, \Delta e_{t-k} + \sum_{j=1}^{r} \alpha_j z_j + \varepsilon_t$$

where $\beta_k(L)$ is a 5×5 matrix of lag polynomials,

$$\Delta e_t = (\Delta e_{\frac{us}{sdr},t}, \Delta e_{\frac{eur}{sdr},t}, \Delta e_{\frac{jpy}{sdr},t}, \Delta e_{\frac{rmb}{sdr},t}, \Delta e_{\frac{i}{sdr},t})$$

- Here the RMB variable is either orthogonalized (residuals from a F-W regression using the US dollar, euro and yen) or un-orthogonalized
- Then conduct impulse response analysis for a US dollar shock or a RMB shock
- Also obtain variance decomposition of $\Delta e_{\frac{i}{sdr},t}$ and find the contribution of variation of US dollar shocks and RMB shocks to the variation of $\Delta e_{\frac{i}{sdr},t}$

Is there a RMB bloc in Asia in the post-GFC period?

	US dollar	RMB
Hong Kong	◎	--
Indonesia	--	○
India	--	○
Korea	--	○
Malaysia	--	○
Philippines	○	○
Singapore	○	○
Thailand	○	○
Taiwan	○	○

- Chow concludes that the results do not support the claim that a de facto RMB bloc has already emerged in Asia
- However, it is hard to arrive at this conclusion, given the current results
- She may get a different result by using the suggested VAR with orthogonalized RMB

Thank you

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