RIETI-CASS-CESSA Joint-Workshop

Industry-level Exchange Rate and Asian Integration

– Focus on the relation between China and Japan –

18 November 2013

Comment on Xu and Yang (2013) "East Asia Currencies: Moving towards Stable Basket Anchors"

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Main feature of this paper

- Purpose:
  - To analyze whether RMB's influence has been growing in the implicit basket weight of Asian currencies.

- Approach:
  - Basically, Frankel-Wei (1994) regression.
  - But, the autonomous RMB component is included in RHS.
  - Present the time-varying basket weight by employing the Kalman filter technique.
  - Daily data: July 21, 2005 – Oct. 20, 2013.

Overall Evaluation

- Very interesting to check:
  - Whether or not RMB's influence has been growing in Asian currencies.
  - But, my concern is whether to use an appropriate method of estimation.
- Time-varying parameter (TVP) estimation:
  - This is not a new approach in the literature of the implicit basket weight.
    - See Esaka (2003, *Journal of Asian Economics*).
  - The result of TVP estimation is not convincing to me.

Comment 1

- RMB autonomous component:
  - <**1st-stage**> To avoid multi-collinearity, RMB/CHF is first regressed on USD/CHF, EUR/CHF and JPY/CHF by OLS.
  - <**2nd-stage**> Then, residual series are treated as "RMB/CHF autonomous component", and it is included in RHS of the TVP model and estimation.
  - But, the 1st-stage regression is a constant parameter estimation.
  - Can we use the RMB/CHF autonomous component (obtained from the constant parameter estimation) as an explanatory variable in the TVP estimation?

Comment 2

- State Equation (4):

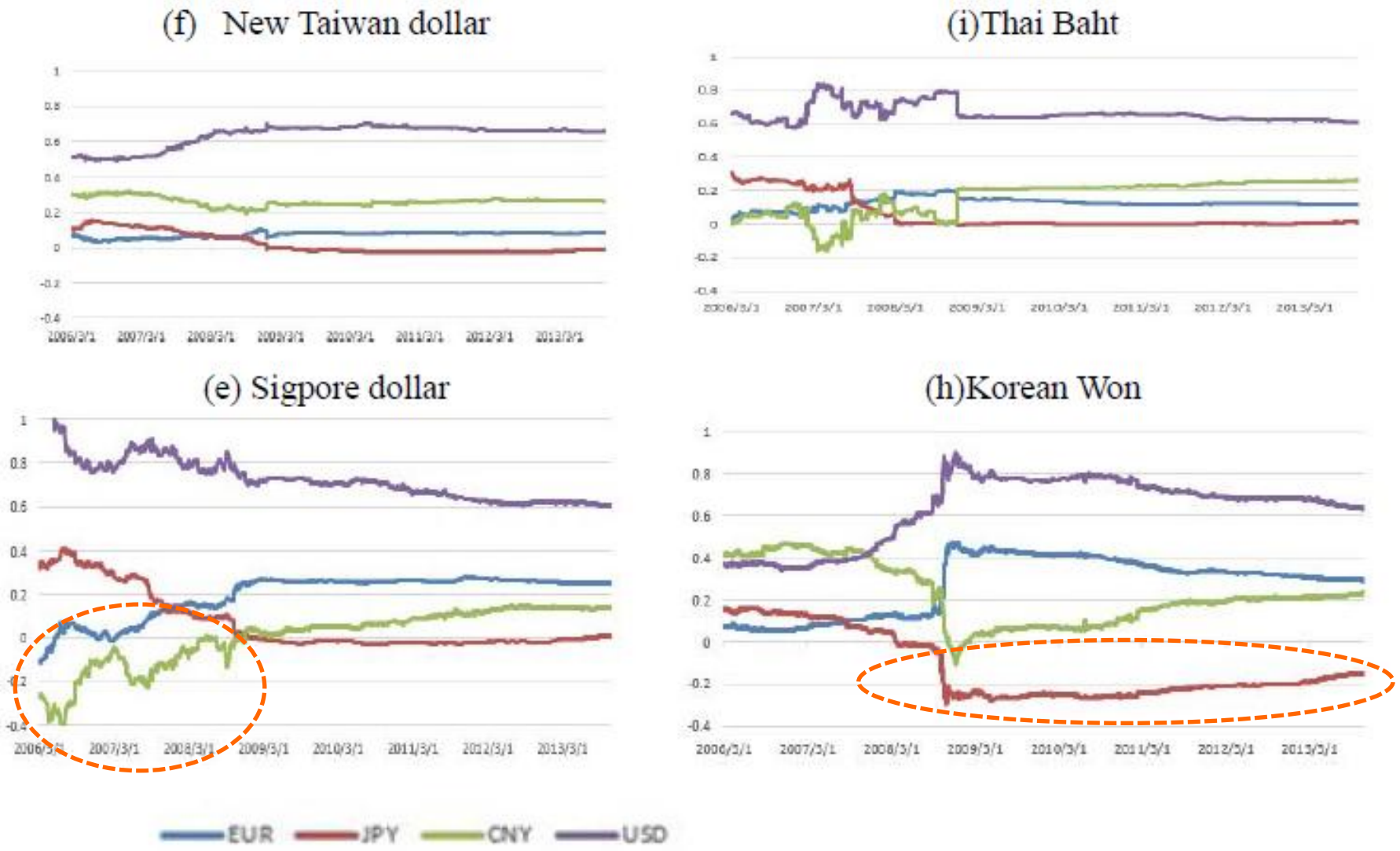
$$w_t = \lambda w_{t-1} + \upsilon_t$$

  - How the hyperparameter (λ) is set in this estimation?
  - Need more explanation on the recursive method.
  - Stationary AR(1) model ($|\lambda| < 1$) should not be used, and it is better to assume that w_t follows a random walk process ($\lambda = 1$).
  - Initial value can be estimated by using the first one or two year sample by ML method.

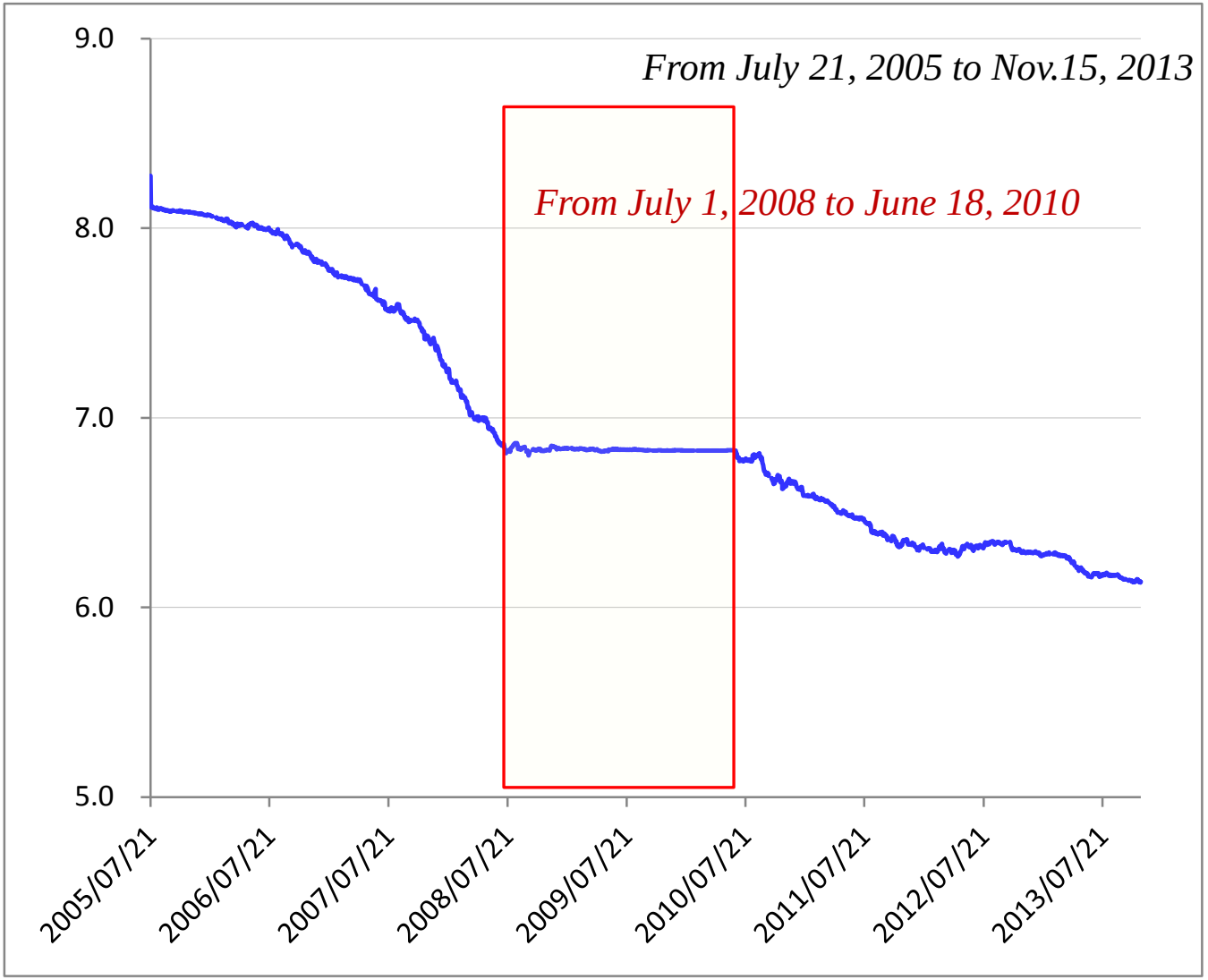
Comment 3

- How to interpret the result of PVT estimation.
  - Korean Won:
    - The initial share of RMB is higher than that of USD. Is it correct?
    - The share of JPY is negative. Is it reasonable?
  - Thai Baht:
    - Asymmetric response of USD share and RMB share between Korean Won and Thai Baht.
  - Singapore Dollar:
    - Initial share of EUR and RMB is negative. Is it reasonable?

Figure 1


(f) New Taiwan dollar
(i)Thai Baht
(e) Sigpore dollar
(h)Korean Won
EUR
JPY
CNY
USD

Nominal Exchange Rate of the RMB vis-à-vis the US Dollar



Comment 4

- TVP estimates = significant?
  - Need to present the information on whether the estimates of TVP coefficients are statistically significant.
  - Again, some of the initial values are obviously not appropriate.
    - Need to reconsider the method of TVP estimation.

Comment 5

- Cointegration?
  - Why do we need to perform cointegration test?
    - Note: All variables (1st-difference of the natural log of exchange rates) are stationary (supported by ADF test result).
    - In this case, we have no reason to conduct the cointegration test.
    - Since all variables are stationary, we do not have to worry about spurious regression.

Comment 6

- Any findings or contribution?
  - Empirical findings are weak.
    - It is quite natural that USD accounts for the largest share in the implicit basket of Asian currencies.
    - As long as RMB are highly correlated with the USD at a daily basis, it is hard to find anything from the Frankel-Wei regression.
    - Other empirical approach may be necessary for far more rigorous investigation.