Comments on Renminbi Internationalization and the International Monetary Regime

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Agenda

1. Title of the paper (A more effective title)

2. The CIDI (Currency Internationalization Degree Index)

3. The CIPI (Currency Internationalization Prospect Index)

4. Concluding remark
Summary of the paper

- This paper uses the PCA (Principal Component Analysis) to construct a CIDI (Currency Internationalization Degree Index) and a CIPI (Currency Internationalization Prospect Index) to measure the degree of internationalization and the prospect of internationalization, respectively, for the Renminbi and other currencies.

- The 7 components of the CIDI are listed in page 3 and the 12 components of the CIPI are listed in Table 2 of page 5. Each of these components is assigned a weight using the PCA and their points are aggregated to an index.
1. Title of the paper

When I was asked by Dr. Scott Y. Lin to comment on this paper (Renminbi Internationalization and the International Monetary Regime), I thought this would be an easy task. I could simply go to the panel and share my thoughts on how the RMB internationalization might affect the International Monetary Order and how the International Monetary Order might look like 10 or 30 years from now. Therefore, I jumped for the offer. As soon as I had a look at this paper, I hated myself for accepting this assignment too hastily. This paper turns out to be very technical, dealing with many economic indicators, weightings, Principal Component Analysis, Common Factor Analysis, Eigenvalue and Eigenvector. To find a scapegoat for my misjudgment, I decide to take issue with the title of this paper. I believe it would be more effective to convey the message of this paper if the title were changed to “Measuring the Internationalization of the Renminbi: A Principal Component Analysis (or Approach)”.
2. CIDI (Currency Internationalization Degree Index)

The CIDI is similar to an index of the market share. By definition, the sum of the CIDIs of all currencies must be 100%. But from table 7 (page 12) and table 9 (page 13), the sum of the CIDIs is much larger than 100%! **This cannot be right.**

The following two components are worrisome.

- TICR (trade invoicing currency ratio)
- FETCR (foreign exchange transaction currency ratio).
2. CIDI: TICR

 ✓ TICR (trade invoicing currency ratio) is defined in page 3 as the amount of local currency invoiced in international trade divided by the total amount of this country’s external trade. (The authors might want to rephrase “the amount of local currency invoiced in international trade” as “the amount of external trade invoiced in local currency”.)

 ➢ The TICR constructed in this way cannot correctly measure the degree of internationalization for a currency. Let me use two examples to illustrate this point.
2. CIDI: TICR (Example A)

Suppose the amount of China’s foreign trade is 100 apples and 20% of which are invoiced in the RMB. The amount of the US’s foreign trade is 1,000 apples and 10% of which are invoiced in the USD. Which currency is more international? By intuition, the USD is more international. But the TICR tells us otherwise as TICR(USD) < TICR(RMB).

✔ TICR (RMB)

= (China’s foreign trade invoiced in the RMB: 20 apples)/(China’s foreign trade: 100 apples) = 20%

✔ TICR(USD)

= (US’s foreign trade invoiced in the USD: 100 apples)/(US’s foreign trade: 1000 apples) = 10%
2. CIDI: TICR (Example B)

Let us follow Example A and further suppose that the amount of the foreign trade of the rest of the world is 1 million apples and 60% of which are invoiced in the USD. Which currency is more international? Obviously, the USD is much more international. But the TICR tells us otherwise as $\text{TICR(USD)} < \text{TICR(RMB)}$.

- TICR (RMB)
  
  $= (\text{China’s foreign trade invoiced in the RMB: 20 apples})/(\text{China’s foreign trade: 100 apples}) = 20\%$

- TICR (USD)
  
  $= (\text{US’s foreign trade invoiced in the USD: 100 apples})/(\text{US’s foreign trade: 1000 apples}) = 10\%$
2. CIDI: FETCR

FETCR (foreign exchange transaction currency ratio)

- The sum of FETCR of all currencies totals 200% as two currencies are involved in each transaction.

Example:

Suppose 100 USD is exchanged for 600 RMB. Then the FETCR(USD) is 100%, FETCR(RMB) is 100% and the sum of them is 200%!

- But the sum of the FETCRs for all currencies should be 100%.

- It is not clear if the paper has dealt with this issue.
2. CIDI: Do we have to use the PCA?

- Weighting by the PCA (confer table 6 of page 11):
  1 component of the CIDI has a weight of 15% and each of the other 6 components has a weight of 14%.

- Weighting by the Naïve method:
  Each of the 7 components is assigned an equal weight: $100\%/7 = 14.286\%$.

- Okun’s Law:
  Can we make our life easier by using the Naïve method rather than the PCA?
3. CIPI (Currency Internationalization Prospect Index):
Can it measure the internationalization prospect of a currency?

➢ The 12 components of the CIPI are the determinants of a currency serving as a reserve currency. However, the function of the reserve currency is only 1 of the 6 functions of an international currency (confer table 1 of page 3). The CIPI in this paper might measure the prospect of a currency as a reserve currency. **Can it measure the prospect of a currency serving the other 5 functions of an international currency?**
3. CIPI: Can it measure the internationalization prospect of a currency?

- 9 out of the 12 components are measurements of market share and the other 3 components (inflation ratio, exchange rate volatility and capital account openness) are not. Can we aggregate these 12 components as an Index which, I assume, is to measure the prospective market share of a currency?

- One technical issue: exchange rate volatility should be calculated as the standard deviation of *the changes in exchange rates* rather than the standard deviation of *the exchange rates*.
3. CIPI: Can it measure the prospect of a currency as an international currency?

- How does the CIPI perform in measuring the internationalization prospect of a currency? (A stock market guru has kept telling me that this stock or that stock will give me a x% or y% of returns next year for the past 20 years. How good is his forecast?)
4 Concluding remark

The paper is ambitious in evaluating the current status and the prospect of internationalization for the major currencies. I believe it is worthwhile to look into the proper indicators for constructing the indices and how they perform, apart from the technical manipulation.