Discussion on “Value-Added Exchange Rates for China: Facts and Implication

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Summary of the paper

• This paper calculates value-added EER for RMB and
  • Compare the data by industry level
  • Compare the data between “ Tradable” and “Non-tradable”
  • Compare the data between VEER and IMF –EER & BIS-EER.

• As a results, the authors confirmed as follows:
  • Manufacturing industries’ VEERs and service industries’ VEERs are quiet different in China.
  • The appreciation levels for tradables are much higher than non-tradables.
  • By comparing VEER with conventional EER, RMB appreciates 7-8% more after adjusting weights by GVC.

• It is the first industry-level VEER calculation for RMB.
  • This paper’s observations will be the very good indications when we debate the proper level of RMB exchange rates.
Back ground to consider Value-added REER

• With the widely spread of Global Value Chains (GVCs) in the world, the trade in intermediate goods has an important implication to measure the competitiveness by REER.
  • The conventional REER is based on the assumption that goods traded are final goods only.
  • If we consider the intermediate trade, then a change in exchange rate is more complex. For example, a nominal appreciation makes goods more expensive to export, but also intermediate inputs cheaper to import.

• Therefore, we need to measure the effects of changes on demand for value-added, since demand for value added translates into demand for workers and capital. There are some other related researchs:
  • Value-Added Real Effective Exchange Rates, VAREER (Bems and Johnson, 2012)
  • Integrated Effective Exchange Rate, IEER (Thorbecke, 2011)
  • Goods Real Effective Exchange Rates, GOREER (Bayoumi, Saito, Turunen, 2013)
Comparison with RIETI’s NEER and VEER by industry for China

China's Nominal Effective Exchange Rate by Industry

Source: Website of RIETI (Authors’ calculation).
Comparison with RIETI’s NEER and VEER by industry

- Basically, VEERs’ appreciations are larger than RIETI’S NEERs.
  - The differences might be explained by “value-added”.
  - Among industries, the difference in Textile is the largest. It means that the Textile industry is the most value-added industry in China. Is it OK?

Comparing with RIETI NEER by Industry and VEER by Industry for RMB

<table>
<thead>
<tr>
<th></th>
<th>Food</th>
<th>Textile</th>
<th>Wood</th>
<th>Paper</th>
<th>Petroleum</th>
<th>Chemical</th>
<th>Rubber</th>
<th>Non-Metal</th>
<th>Metal</th>
<th>General Machinery</th>
<th>Electrical Machinery</th>
<th>Optical Instruments</th>
<th>Transport Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>RIETI EER Change from Jan 2001 to April 2014</td>
<td>14.4%</td>
<td>18.0%</td>
<td>15.4%</td>
<td>20.0%</td>
<td>9.1%</td>
<td>19.6%</td>
<td>19.6%</td>
<td>18.0%</td>
<td>19.8%</td>
<td>16.2%</td>
<td>17.0%</td>
<td>14.7%</td>
<td>17.1%</td>
</tr>
<tr>
<td>VEER Change from Jan 1999 to April 2014</td>
<td>31.0%</td>
<td>49.0%</td>
<td>34.0%</td>
<td>31.0%</td>
<td>34.0%</td>
<td>33.0%</td>
<td>31.0%</td>
<td>35.0%</td>
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<td>29.0%</td>
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<td>30.0%</td>
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</tbody>
</table>
Comment1. “Tradable” and “Non-tradable”

• How do they calculate the country weights of “Non-Tradable” industries?
  • Table 5 shows Top 5 countries’ weights for each industry. For example, in the case of “Education”, Top5 countries weights are Euro 36.99%, USA 15.61%, AUS 14.84%, JPN 8.16%, GBR 6.02%. What do these figures stand for?
Comment 2. VEER and conventional EER weights comparison

• Table 6 shows the differences between Value-added weight and BIS weight.
  • The smallest differences in USA 28.48% (VEER) → 22.01% (BIS)
  • Almost same weights in EURO 22.4% (VEER) and 22.49% (BIS)
  • The largest differences in Asian countries
    • KOREA 5.04% (VEER) → 9.11% (BIS)
    • Japan 14.21% (VEER) → 18.45% (BIS)
    • Taiwan 1.67% (VEER) → 6.76% (BIS)

• Value-added weights adjusts the final goods trading partner countries more important than GVC partner countries.
  • GVC partner countries exchange rates’ large movement might affect the GVC itself. We need to consider such a regional trade linkage.
Comment 3. Difference between VEER and VREER

- The authors mentioned that this paper focus on EER because they examine “pure” effect of value-added in constructing EER, rather than the price effect.
  - In calculating VEER, only country’s weight matters.
  - Bems and Johnson (2012), who calculated 42 countries value-added REER by using GDP deflator, decomposed the gaps into components due to differences between gross and value-added trade weights v.s. differences between CPIs and value-added prices, and they confirmed that the changes in weights do not play a large role.

- Comparing the both graphs, VREER captured the GVC expansion’s effect on trade since 2003 in China more clearly.
  - It might be so difficult to capture such a structural change by only country weights but any price effects.
The Difference between Value-added and conventional data (RMB VEER and RMB VREER)

Figure 5 in this paper

Bems and Johnson (2012)
Thank you!