Economic Interdependence and Regional Monetary Convergence

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IPES | University of Pittsburgh
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Motivation 1:
Increased regional interdependence

- More regional policy
  - Mansfield & Milner 1999; Baccini & Dür 2011

- More regional trade
  - Esp. East Asia, Europe
  - Petri 2006; World Economic Forum 2021

- New: more friendshoring/nearshoring
Motivation 2: Studies on monetary convergence

- Prediction: capital market integration → fiscal/monetary convergence

Source: Bearce 2007
Motivation 2:
Studies on monetary convergence

• Findings: states maintained autonomy in fiscal and monetary policy
Motivation 2:  
... and “fear of floating”

• More economic interdependence between states leads to...
  – Implementation of de facto pegs to anchors
    – Plümper and Neumayer (2011)
  – Loss of de facto monetary autonomy
    – Plümper and Troeger (2008)
This paper:

• Given increased regional interdependence, let’s revisit convergence and fear of floating literature
• Has increased regional interdependence led to a loss of monetary autonomy?
• Are regions converging on monetary policy?
Research Design:

1. “Fear of floating” replication exercise
   - interdependence $\rightarrow$ de facto peg
   - interdependence $\rightarrow$ loss of monetary autonomy
     - monthly (w/o controls), annual (w/ controls)

2. Monetary convergence
   - interdependence $\rightarrow$ $|\text{ir}_{\text{anchor}} - \text{ir}_i|$
     - same for $x_r$ and inflation
     - monthly (w/o controls), annual (w/ controls)

3. Explore explanations for China results
Data:

2000-2022, monthly, 130 countries

• **DV: Monetary Convergence:**
  - Interest rates, overnight (IMF)
  - Inflation rates (IMF)
  - Exchange rates, SDR, REER (IMF, BIS)

• **IV: Interdependence (bilateral)**
  - Import share (IMF)
  - Gravity index (relative trade) (IMF)
  - Global value chain trade (annual)

• **Controls (annual):**
  - FDI, CBI, FX reserves, gov’t ideology, inflation history, etc.
  - Bilateral swap agreement (IMF)
1. “Fear of floating” replication

Interdependence $\rightarrow$ Pr(de facto peg)?

YES: USA, Euro Area  NO: China

<table>
<thead>
<tr>
<th>Import Share USA</th>
<th>USA</th>
<th>Euro Area</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import Share USA</td>
<td>0.18***</td>
<td>−0.52***</td>
<td>0.14***</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.02)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Import Share Euro</td>
<td>−0.31***</td>
<td>2.20***</td>
<td>−0.22***</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.05)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Import Share China</td>
<td>−0.00</td>
<td>−0.03</td>
<td>−0.16***</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(0.03)</td>
<td>(0.02)</td>
</tr>
</tbody>
</table>

Num. obs. 28,125 28,125 28,125

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$
1. “Fear of floating” replication

Interdependence $\rightarrow$ Pr(de facto peg)?

YES: USA, Euro Area  \hspace{1cm} NO: China
## 2. Monetary convergence

Interdependence $\rightarrow | i_{anchor} - i_i |$

**YES:** China, Euro Area  
**NO:** USA

<table>
<thead>
<tr>
<th></th>
<th>USA</th>
<th>Euro Area</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import. Share&lt;sub&gt;USA&lt;/sub&gt;</td>
<td>0.10***</td>
<td>0.04***</td>
<td>0.12***</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
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<tr>
<td>Import. Share&lt;sub&gt;China&lt;/sub&gt;</td>
<td>-0.09***</td>
<td>-0.04***</td>
<td>-0.27***</td>
</tr>
<tr>
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## 3. Monetary convergence

Interdependence $\rightarrow |x_{r_{\text{anchor}}} - x_{r_i}|$

**YES:** USA, Euro Area  
**NO:** China

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<th>China</th>
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<tbody>
<tr>
<td><strong>Import.Share</strong>&lt;sub&gt;USA&lt;/sub&gt;</td>
<td>$-0.08^{***}$ (0.01)</td>
<td>$-0.08^{***}$ (0.01)</td>
<td>$-0.09^{***}$ (0.01)</td>
</tr>
<tr>
<td><strong>Import.Share</strong>&lt;sub&gt;EURO&lt;/sub&gt;</td>
<td>$-0.14^{***}$ (0.01)</td>
<td>$-0.14^{***}$ (0.01)</td>
<td>$-0.11^{***}$ (0.01)</td>
</tr>
<tr>
<td><strong>Import.Share</strong>&lt;sub&gt;CHINA&lt;/sub&gt;</td>
<td>$0.18^{***}$ (0.00)</td>
<td>$0.18^{***}$ (0.00)</td>
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</tr>
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4. Monetary convergence

Gravity Measure $\rightarrow |x_{r_{\text{anchor}}} - x_{r_i}|$

YES: USA, Euro Area  NULL: China

<table>
<thead>
<tr>
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</tr>
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<tbody>
<tr>
<td>Relative.Gravity$_{\text{USA}}$</td>
<td>$-0.08^{***}$</td>
<td>$-0.07^{***}$</td>
<td>$-0.08^{***}$</td>
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<tr>
<td></td>
<td>(0.01)</td>
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<tr>
<td>Relative.Gravity$_{\text{Euro}}$</td>
<td>$-0.07^{***}$</td>
<td>$-0.08^{***}$</td>
<td>$-0.06^{***}$</td>
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Quick Summary

1. USA and Euro Area maintained de facto pegs; still anchor currencies
2. China not an anchor currency (yet?)
3. Interdependence $\rightarrow$ IR convergence
   - Yes: China & Euro Area
   - No: USA
4. Interdependence $\rightarrow$ XR convergence
   - Yes: USA & Euro Area
   - No: China (but…NULL for most interdependent)
     - What explains this?
5. Bilateral Currency Swaps

Gravity x China BSA $\rightarrow$ | $x_{r_{anchor}} - x_{r_{i}}$ |

<table>
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<td>Relative.Gravity$_{USA}$</td>
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<tr>
<td></td>
<td>(0.08)</td>
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<tr>
<td>Relative.Gravity$_{Euro}$</td>
<td>$0.68^{***}$</td>
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<td>(0.13)</td>
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<td>Relative.Gravity$_{China}$</td>
<td>$0.60^{***}$</td>
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<td>(0.08)</td>
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<tr>
<td>BSA.Share.GDP$_{China}$</td>
<td>$-0.09^{*}$</td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
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<tr>
<td>Relative.Gravity$<em>{China}$ $\times$ BSA.Share.GDP$</em>{China}$</td>
<td>$-0.17^{**}$</td>
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<tr>
<td></td>
<td>(0.06)</td>
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<td>Num. obs.</td>
<td>648</td>
</tr>
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5. Bilateral Currency Swaps

Gravity x China BSA → | x_{r_{anchor}} - x_{r_{i}} |
What does this all mean?

Findings add to resurgent debate about US currency power

Is the US Dollar’s Global Hegemony at Risk?

May 5, 2022

The Big Question is a new feature in which Project Syndicate commentators provide compelling answers to a timely question.

With Russia’s invasion of Ukraine and the resulting Western sanctions likely to fragment the global economy further, some think the US dollar’s long reign as the world’s favored reserve currency may be coming to an end. But, with no plausible alternatives to the greenback on the horizon, how realistic is such a scenario?

In this Big Question, we ask Barry Eichengreen, Şebnem Kalemli-Özcan, Paola Subacchi, and Yu Yongding to address the latest doubts about the dollar’s global supremacy.

MONKEY CAGE

Jack Dorsey is wrong. The dollar is still a global reserve currency.

There are reasons the dollar is still king

Analysis by Mark Copelovitch
June 2, 2022 at 7:00 a.m. EDT
Thank you!

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t: @RyanWeldzius
Economic Interdependence:

Import Share

Sample average (black); average of regional trading partners (red)