Comments on: Cheng and Rajan’s ‘Monetary Trilemma, Dilemma or Something in Between?’

Helen Popper
Santa Clara University

Prepared for the Asian Bureau of Finance and Economic Research
7th Annual Conference, May 2019, Singapore
1. Trilemma: not dead yet
2. What is being measured?
3. Objectives, N, & endogeneity
1. **Trilemma: not dead yet.**

   “...the report of my death was an exaggeration.”

   –Mark Twain to U.S. Journalist
Popper comments on ‘Trilemma, Dilemma, or . . . ’

1. Trilemma: not dead yet
   – Klein & Shambaugh, *AEJ Macro* 2015
   – Obstfeld, Ostry, & Qureshi, *RE Stat* 2017
   – Bekaert & Mehl, *JIMF*, 2019
   – Ligonnière, *JIMF* 2018
   – Han & Wei, (some life left) *JIE* 2018
1. **Trilemma: not dead yet.**

   —Cheng & Rajan

   • Regimes matter.
   • Semi-regimes matter.
   • Regimes matter asymmetrically.

   *(Direction differs from Han & Wei)*
1. **Trilemma: not dead yet.**

   – Cheng & Rajan
   
   • Regimes matter.
   • Semi-regimes matter.
   • Regimes matter asymmetrically.

   *(Direction differs from Han & Wei)*

Overall message is important, and the pieces are interesting.
1. Trilemma: not dead yet
2. What is being measured?
3. Objectives, N, & endogeneity

Popper comments on ‘Trilemma, Dilemma, or...’
1. Trilemma: not dead yet

2. What is being measured?

3. Inferences about sovereignty

A simple story & this strand of the literature.
The Little Boat that Sailed to Cat Cay
The Little Boat that Sailed to Cat Cay

Destination: North Cat Cay
The Little Boat that Sailed to Cat Cay

Destination
North Cat Cay
The Little Boat that Sailed to Cat Cay

Wind

Destination
North Cat Cay
The Little Boat that Sailed to Cat Cay

Wind

Gulf Stream Current

Destination
North Cat Cay
The Little Boat that Sailed to Cat Cay

Destination: North Cat Cay

Wind

Gulf Stream Current
Review the Context

Sailing

1. The Great Bahama Bank, with Cat Cay, is a popular destination.
2. Boats, small and large, share headwinds & currents.
3. Big boats are faster than small ones, other structural differences.
Individual boats moving in a similar pattern across the Gulf Stream at different speeds, with many correlated, small corrections along the way.
The Econometrics Exercise
1. Calculate $\Delta R_{i,t}$ and $\Delta R_{B,t}$.
The Econometrics Exercise

1. Calculate $\Delta R_{i,t}$ and $\Delta R_{B,t}$.

2. Estimate $\Delta R_{i,t} = \alpha + \beta \Delta R_{B,t} + u_{i,t}$. 
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2. Estimate $\Delta R_{i,t} = \alpha + \beta \Delta R_{B,t} + u_{i,t}$.

3. Interpret $\beta > 0$. 

The Econometrics Exercise
1. Calculate $\Delta R_{i,t}$ and $\Delta R_{B,t}$.

2. Estimate $\Delta R_{i,t} = \alpha + \beta \Delta R_{B,t} + u_{i,t}$.

3. Interpret $\beta > 0$.

$\beta$ reflects related destinations, and common headwinds & currents.
1. Was the captain of the little boat (or any boat) constrained by the actions of the Big Boat? (No.)
\[ \beta > 0 \]

1. Was the captain of the little boat (or any boat) constrained by the actions of the Big Boat? (No.)

2. Could the captain choose the destination? (Yes.)
1. Was the captain of the little boat (or any boat) constrained by the actions of the Big Boat? (No.)
2. Could the captain choose the destination? (Yes.)
3. Can the captain respond individually to changing conditions? (Yes)
1. Was the captain of the little boat (or any boat) constrained by the actions of the Big Boat? (No.)

2. Could the captain choose the destination? (Yes.)

3. Can the captain respond individually to changing conditions?

4. So, did the captain have an independent policy? (Yes.)
The Little Central Bank that Sailed to its Target
1. A stable inflation rate is a popular objective.
2. Economies share headwinds & currents.
3. Some monetary authorities move faster than others; and there are other structural differences.
The Econometrics Exercise

1. Calculate $\Delta R_{i,t}$ and $\Delta R_{B,t}$.

2. Estimate $\Delta R_{i,t} = \alpha + \beta \Delta R_{B,t} + u_{i,t}$.

3. Interpret $\beta > 0$.

$\beta$ reflects related objectives, and common headwinds & currents.
1. Is the monetary authority constrained by the actions of the base?
1. Is the monetary authority constrained by the actions of the base?

2. Can the monetary authority choose the objective?

$\beta > 0$
$\beta > 0$

1. Is the monetary authority constrained by the actions of the base?
2. Can the monetary authority choose the objective?
3. Can the monetary authority respond individually to changing conditions?
1. Is the monetary authority constrained by the actions of the base?
2. Can the monetary authority choose the objective?
3. Can the monetary authority respond individually to changing conditions?
4. Does the monetary authority have its own sovereign policy?
1. Is the monetary authority constrained by the actions of the base?
2. Can the monetary authority choose the objective?
3. Can the monetary authority respond individually to changing conditions?
4. Does the monetary authority have its own sovereign policy?

Does $\beta$ measure monetary sovereignty? (No.)
Not merely a conceptual problem
Not merely a conceptual problem

- UK after the sterling crisis
  Sovereignty rose,
  But, $\beta$ says it fell.
Not merely a conceptual problem

• UK after the sterling crisis
  Sovereignty rose,
  But, $\beta$ says it fell.

• HKMA vs. New Zealand’s 90s inflation target
  Sovereignty glaringly different,
  But, $\beta$ says roughly the same.
Other approaches

- Identify in a full model or an empirical system.
  
  Dedola, Rivolta, & Stracca, *Journal of International Economics* 2017  
  Davis & Presno, *Journal of Monetary Economics* 2017  
  Dees & Galesi, Working Paper, 2018

- Include an objective function.  
  (More on that…)
  
  Han & Wei, *Journal of International Economics* 2018  
  (& Cheng and Rajan)

- Focus on policy *effectiveness*.
  

- Use the trilemma to measure sovereignty.
  
1. Trilemma: not dead yet
2. What is being measured?
3. Objectives, N, & endogeneity

Popper comments on ‘Trilemma, Dilemma, or...’
1. Trilemma: not dead yet
2. What is being measured?
3. – Central bank objective function
   – N
   – Endogenous regime choice

Popper comments on ‘Trilemma, Dilemma, or. . .’
Central bank objective function

Including one is a step in the right direction, but
Central bank objective function

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Macroeconomics is all about simultaneity.
Central bank objective function

Including one is a step in the right direction, but

Macroeconomics is all about simultaneity.

A single equation estimate is misleading. Use a model or empirical system or both. (Parsley & Popper, JIMF 2014)
– Central bank objective function
– N
– Endogenous regime choice
Table 2. Two by Two Classification of Exchange Rate and Capital Control Regimes (First-difference)

<table>
<thead>
<tr>
<th>CAPITAL CONTROLS</th>
<th>PEG</th>
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<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>N</td>
<td>Coef.</td>
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<tr>
<td></td>
<td>(s.e.)</td>
<td>[R^2]</td>
<td>(s.e.)</td>
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<tr>
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<td>0.31***</td>
<td>426</td>
<td>0.09</td>
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<td></td>
<td>(0.09)</td>
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Note: Cluster-robust standard errors are reported.
*** Significantly different from 0 at the 99% level. ** At 95% level. * At 90% level.
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**Small-N cells**

- Say something about individual countries.
- How does what we know about them, as economists rather than statisticians, jive with this?
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Standard errors: Off the shelf clustering?

Converges at \( \sqrt{N} \)

(not \( \sqrt{NT} \), Villacortaga Gonzales, 2014)
– Central bank objective function
– Inferences:  $\sqrt{N}$ vs. $\sqrt{NT}$
– Endogenous regime choice
Central bank objective function

Inferences: $\sqrt{N}$ vs. $\sqrt{NT}$

Endogenous regime choice

- Choices to peg or control capital are related to objectives, conditions, & base country fundamentals.
- So, observed $\beta$ differences conflate sovereignty and the choice landscape.
Conclusion

*This paper—not dead yet & more*

- Regimes matter.
- Semi-regimes matter.
- Regimes matter asymmetrically.

**Challenges in the literature**

- Correlation isn’t sovereignty.
- Small $N$,
  - Opportunity to examine individual countries
  - Off-the-shelf clustering is challenging.
- Regime choice is endogenous.