Discussion of

Real Exchange Rate Adjustment In and Out of the Eurozone

by

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Discussion Plan

- Quick Review of Results
- The Model and Trade Structure
  - PCP at the Dock
  - Real Rigidites
  - How Big is this Cost?
- Robustness and Next Steps on Empirics
  - Differences In and Out of the Eurozone
  - Quick Empirical Suggestions
- Corroborative Results from Micro Data
- Summarize and Conclude

Result 1: "Good q and Bad q"

- Consider the Engel (1999) decomposition of the RER:

$$q = (1-\varrho)\underbrace{(p_N^* - p_T^* - (p_N - p_T))}_{q_n \text{ or "Good q"}} + \underbrace{(p_T^* + s - p_T)}_{q_T \text{ or "Potentially Bad q"}}$$

- $q_T \neq 0$ captures LOOP violations. What can cause these?:
  1. Transport costs or different sourcing patterns
  2. Non-traded inputs included in price of traded good
  3. Heterogeneity in desired markups across markets
  4. Local currency pricing and NER movements

- 1-2 are innocuous, while 3-4 imply inefficiencies ("bad q")

- q_T in floaters reflects all 4, but q_T for pegs *only reflect 1-3*.

- q_T variation much more prominent in q variation in floaters. Gain from eliminating 4 with peg is quantitatively meaningful.

Result 2

- On its own, doesn't prove which q movement was better.
- What if q adjustment in Eurozone lacked LOP deviations but was slow/tiny, while q_n and q_T adjusted a lot in floaters?
- Simulations of flexible model shows an increasing relationship between q and A_T, a benchmark for efficient adjustment.
- Eurozone exhibits this relationship more strongly than floaters.

Result 3

- If Non-traded inputs matter, we can (with symmetry) write:

$$q_T = (1 - \tilde{\varrho}) \underbrace{(p_N^* - p_T^* - (p_N - p_T))}_{q_n \text{ or "Good q"}} + \underbrace{(\tilde{p}_T^* + s - \tilde{p}_T)}_{\tilde{q}_T},$$

  where q_n is the same term as from before.

- Movements in q_n generate movements in q_T for Eurozone countries, implying non-tradeds might in fact matter.

- Gives us more confidence that q_T movement is in fact the "bad" kind

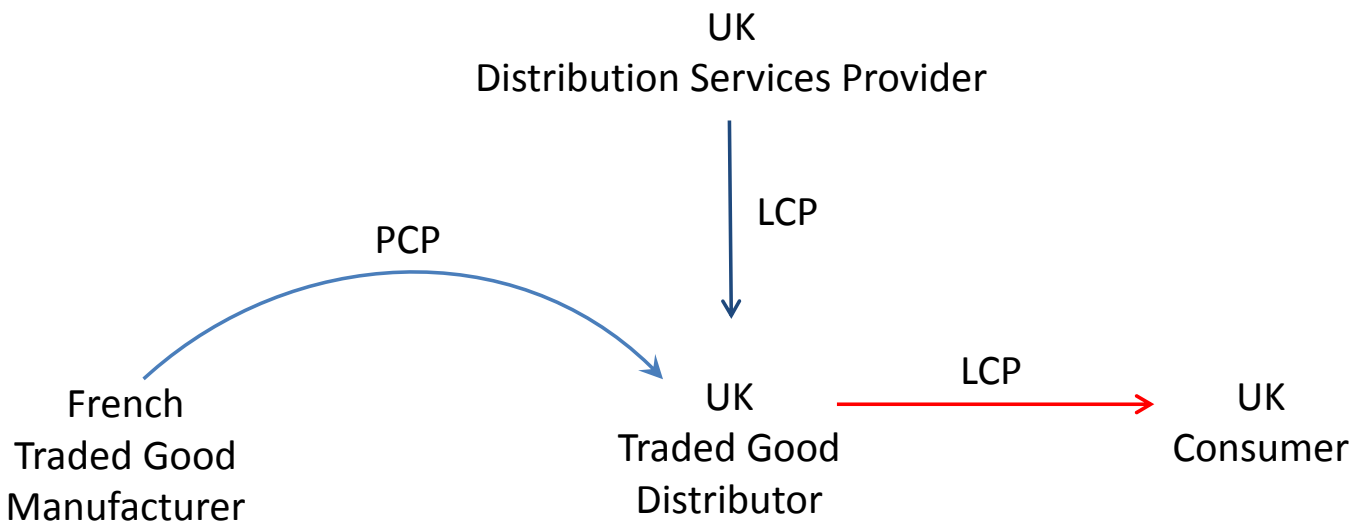
PCP at the dock and Substitutability

- Authors acknowledge that PCP at the dock is commonplace.
- BLS export data shows $> 90\%$ of U.S. exports are PCP
- Under what conditions in the model and in the world will this not matter?

PCP at the dock and Substitutability

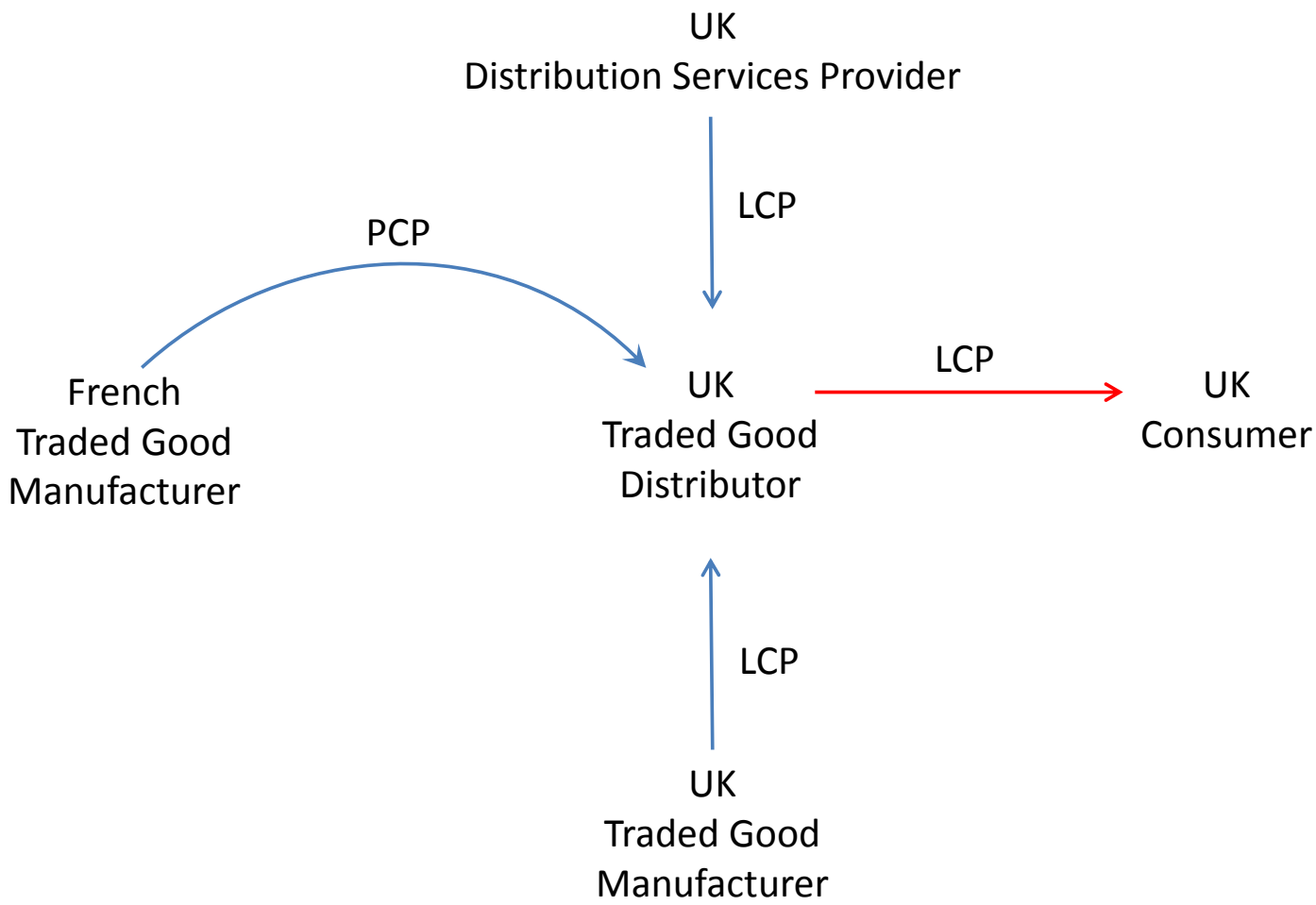
- While UK consumer price is fixed, ER doesn't matter
- Distributor profits/losses are returned with complete markets

PCP at the dock and Substitutability



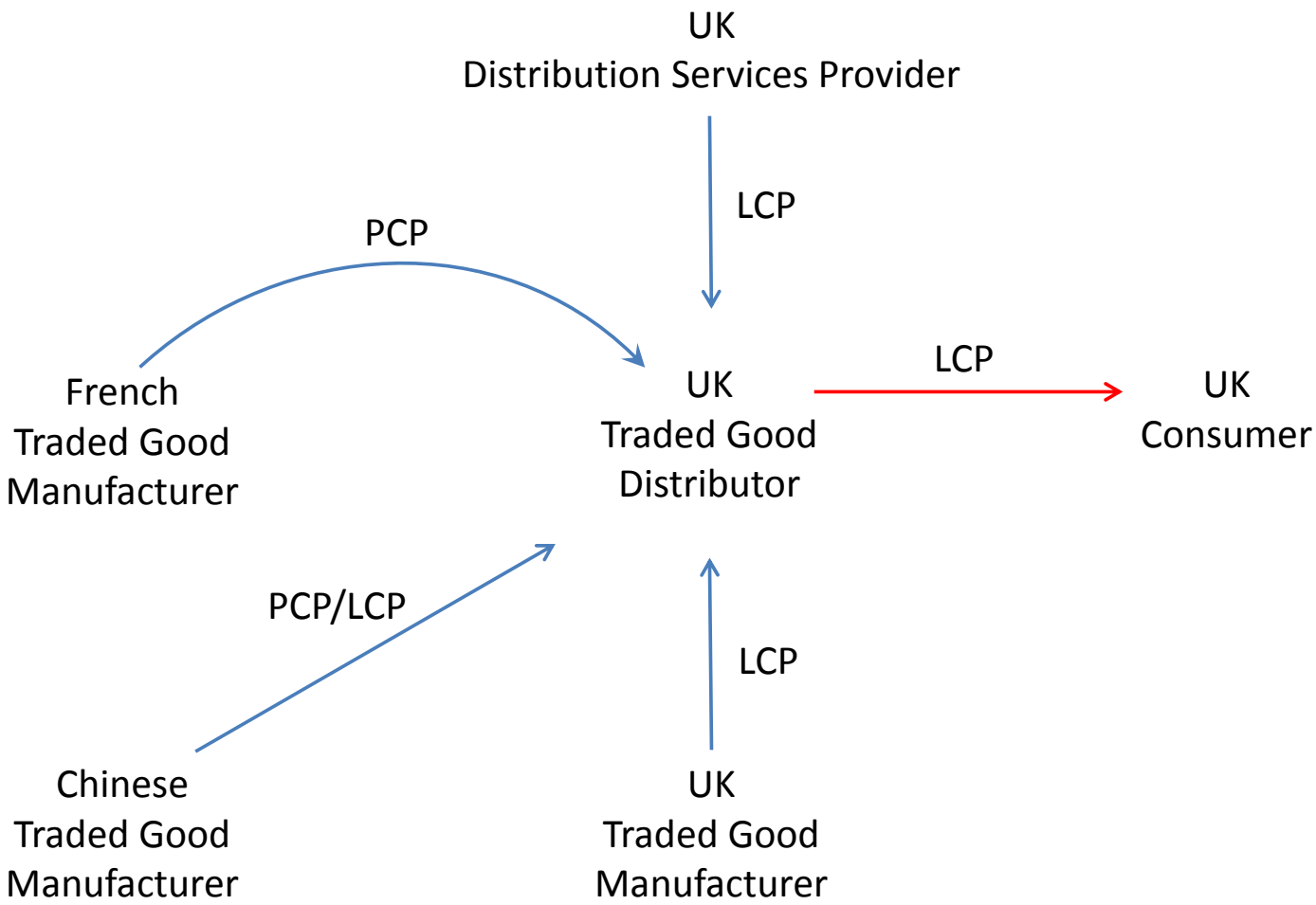
- What if we add those non-traded components?
- In model, very low substitutability, so little changes

PCP at the dock and Substitutability



- What if we add substitutability with local producers?
- Most trade, I believe, is in differentiatied manufactured inputs

PCP at the dock and Substitutability



- And what about outside substitutes?
- China's price could be fixed or adjusting

PCP at the dock and Upstream/Downstream Stickiness

- Consider decentralized structure where importers take PCP trade prices and set LCP retail prices with pricing power
- Again, as LCP price is fixed, nothing happens
- But when LCP price changes, influenced by the PCP price
- What if world is state-dependent, not Calvo? Distributor adjusts stickiness of LCP price as a function of PCP price.

PCP at the dock and Upstream/Downstream Stickiness

- When would this matter most? When trade prices stickier than retail (or retail pricing state-dependent).

- Evidence that Upstream is Stickier than Downstream
  - Gopinath and Rigobon (2008) vs. Bils and Klenow (2004)
  - Nakamura Steinsson (2008)
  - Goldberg and Hellerstein (2008) on beer prices

Real Rigidites?

- Gopinath et al.(2008, 2011), among others, given evidence of real rigidities and state-dependencies in international pricing
- If there is some share of traded prices which in fact are sticky and PCP, the benefits of flexibility will be amplified
- If PCP at dock example from previous slides is correct, FX movement ameliorates concern of distributor that other distributors did not receive shock
- Charles, over email, felt strongly that consumer-good PCP is very rare in practice. I thought hard and think he's right. But if pushed, a few possible candidates:
  - Travel services (1/4 of services exports; 7% of merchandise exports; probably higher shares of traded final consumption)
  - Goods over the Internet where repricing is done automatically

How Big is this Particular Cost?

- LOOP deviations caused by LCP+NER are bad in way analogous to arguments about cost of inflation
- If there's cost shock but only some prices can change, this produces excess or inefficient relative price changes
- As authors acknowledge, only 1 component of decision to peg
- So, how big is it?
  - Calvo pricing: Probably large. e.g. Levin et al. (2005).
  - State-dependent pricing: Probably small. e.g. Burstein and Hellwig (2008)
- Some examples of evidence of state-dependent pricing, particularly in tradable sector
  - Gopinath and Itskhoki 2010
  - Gagnon 2009
  - Gopinath, Itskhoki, and Neiman 2011

Empirics: Differences In and Out of Eurozone?

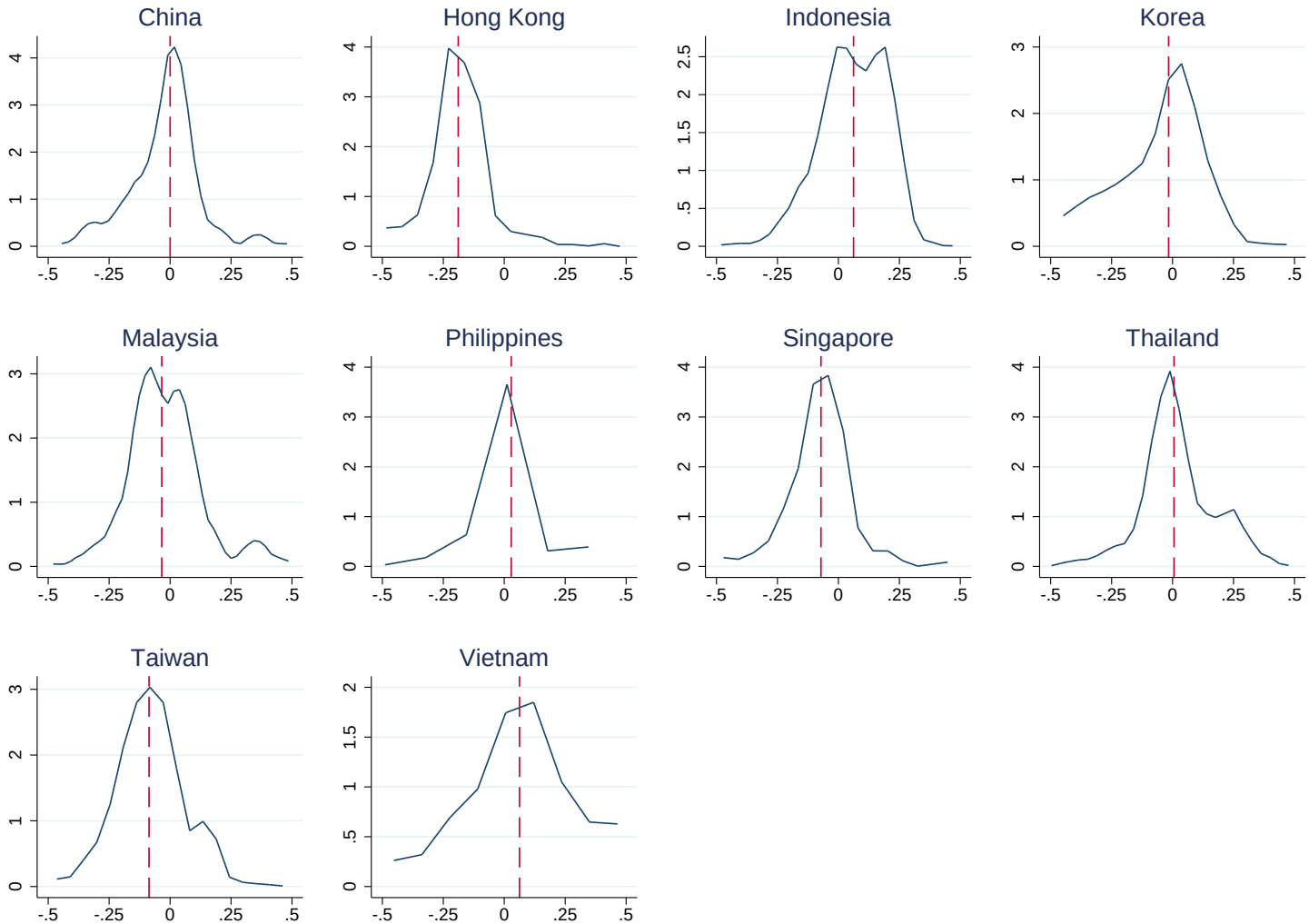
- Harder to find true matches of products?
  - Chain stores with centralized pricing more prevalent in Eurozone?
  - Eurozone regulations influence production cost (labels, etc.)?
  - Eurozone regulations explicitly influence LOOP deviations?
- Measurement error larger outside the Eurozone?
- Differences in stickiness in and out of Eurozone?
- Why does "mixed" look "somwhere in-between" Eurozone and floaters, instead of just like floaters?
- Perhaps details elsewhere, but little said about the data

Empirics: Quick Ideas

- Can we look to other countries to see if peg or if Eurozone? Denmark would be good example
- Can compare results for long horizon changes vs. short horizon changes? Large-scale changes vs. small-scale changes?
- Can focus on country pairs which switched regimes in 1999?

LOP Deviations in Internet Prices of Identical Good

- Data from Cavallo, Neiman, and Rigobon (2012) in Asia
- Prices relative to Japan for 1000s of goods



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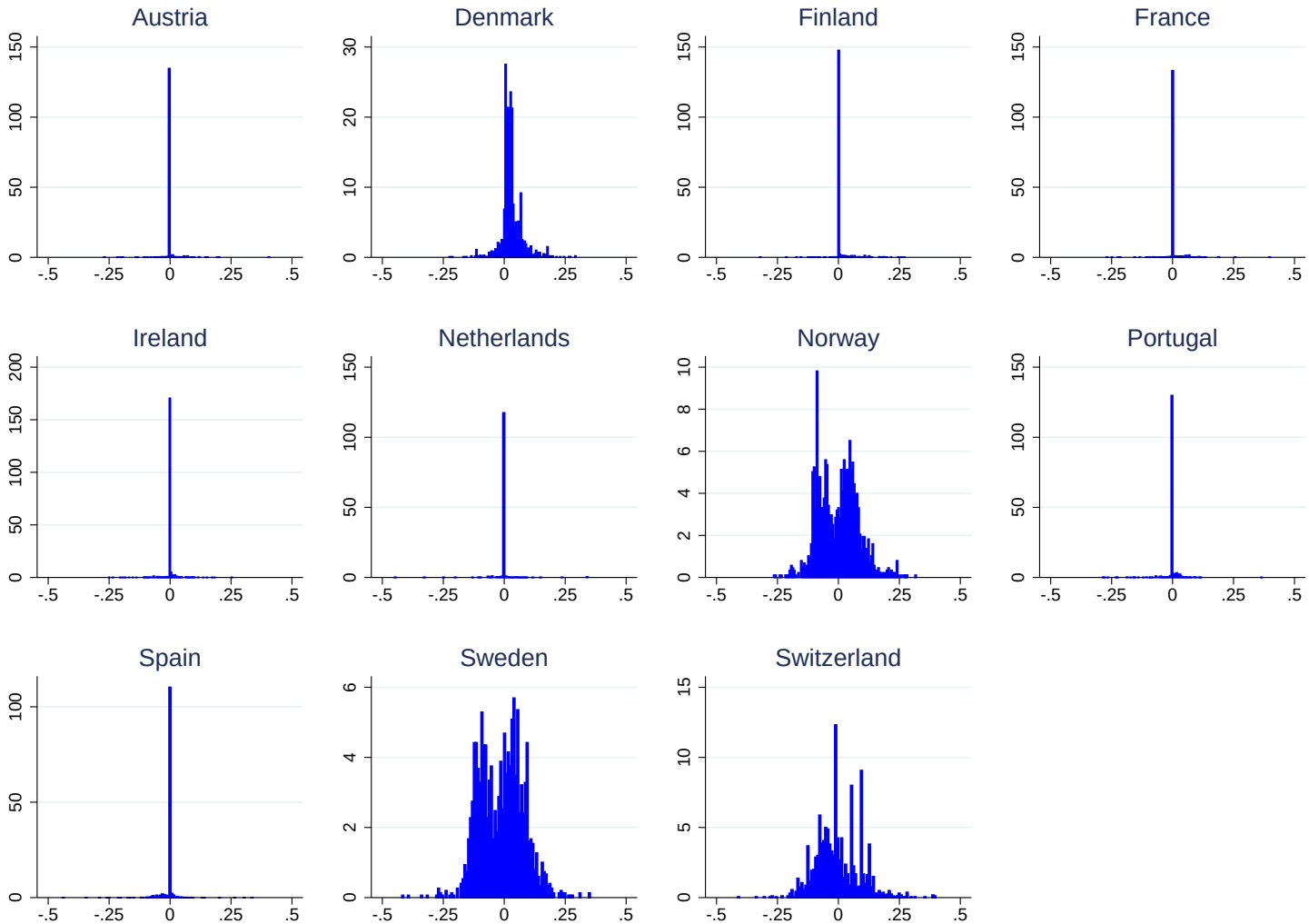

Summarize and Conclude

- A simple point (here and in their other work) proves powerful and data bears it out with surprising strength.
- Results in Engel (1999) might have been attributed to measurement issues or non-traded costs.
- True LOOP deviations from NER are huge relative to total RER adjustment: A very interesting result!
- Authors are careful about 2 claims worth repeating:
  - More "bad q" $\neq$ "worse" – entire GE adjustment changes
  - Many other costs and benefits of pegging