Import Prices and Invoice Currency: Evidence from Chile

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Discussion by Joaquin Blaum (Brown)

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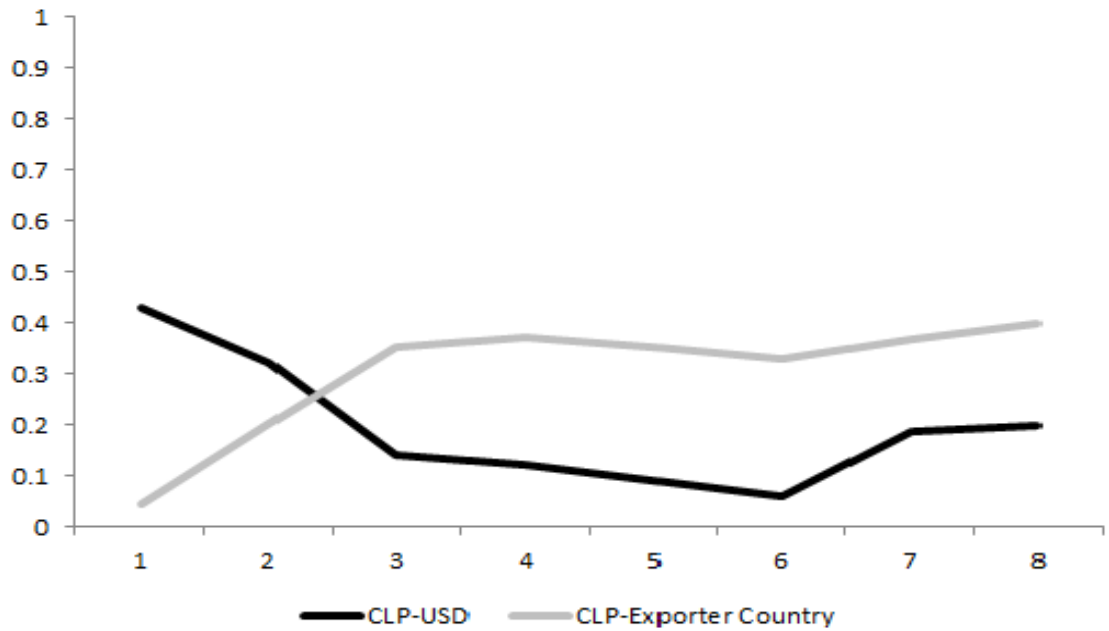
- Document pattern of invoicing of Chilean imports:
  - Majority of import transactions invoiced in USD
  - Mismatch between trade from the US and trade invoiced in USD
- Revisit measurement of ERPT into import prices:
  - Including both bilateral and invoice currency
  - Dynamic lag specifications:
    - For two quarters: invoice currency (usd) ERPT is higher
    - Afer two quarters: bilateral ERPT takes over
  - Specifications in annual differences with no lags (medium-term)
    - Both USD and bilateral ER seem to matter
    - Pattern is less clear and depend on origin country

Main Finding

For imports invoiced in USD:

$$\Delta p_{gct} = \sum_{i=1}^{7} \beta_i^{ber} \Delta ber_{c,t-(i-1)} + \sum_{i=1}^{7} \beta_i^{usd} \Delta usd_{t-(i-1)} + \gamma' x_{ct} + \alpha_g + \alpha_c + \varepsilon_{cgt},$$

where g is 8-digit product, c is country of origin, ber_{ct} is bilateral ER with country c, usd_t is dollar ER, Δ are quarterly changes and p is in domestic currency



(Standard errors? Levels?)

#1 Connection to Literature

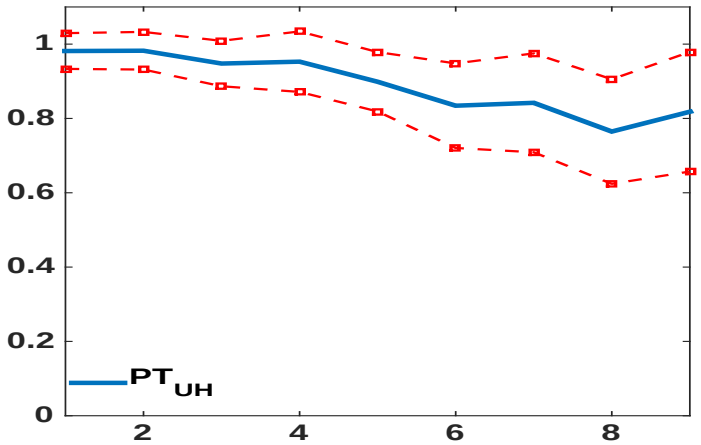
- Closely related paper: Casas et al (2017) - henceforth CDGG
- GL state that their findings are somewhat contradictory
  - Intuitively, for CDGG the usd is important in the medium and long run, while for GL not.
- Are the two papers actually inconsistent? Not immediate since they run quite different specifications.
- CDGG run

$$\Delta p_t = \sum_{i=1}^{9} \beta_i^{usd} \Delta usd_{t-(i-1)} + \gamma' x_t + \alpha + \varepsilon_t$$

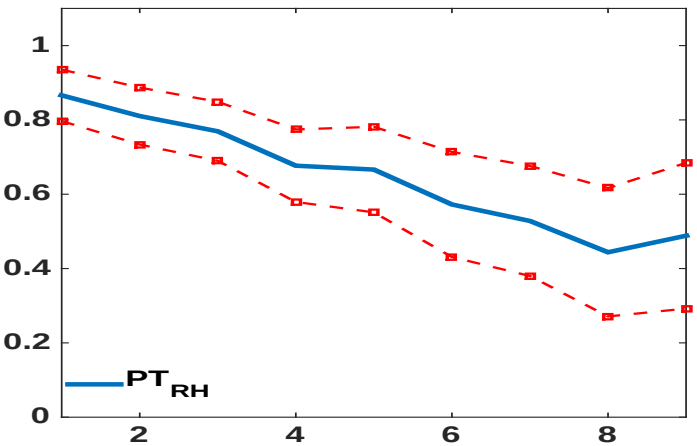
  and distinguish by dollar vs non-dollar country of origin.
- Another key difference: CDGG work at the transaction level, with firm-industry-country FE
- For dollar origins, usd is both invoice and bilateral currency. For non-dollar origins, usd is only invoice currency.

Connection to Literature (Ctd)

- CDGG findings:



(b) *Import prices (dollar origin)*



(d) *Import prices (non-dollar origin)*

- Two regularities:
  1. ERPT is higher from dollar origins relative to non-dollar, at all horizons.
  2. ERPT falls faster with horizon from non-dollar relative dollar origins.
- This is broadly consistent with GL findings
  - Think of left plot above as the sum of two lines in GL, while right plot is just the GL line for usd.
  - As for level of right plot, the bilateral ER is omitted and likely correlated with usd ER.

#2: Medium-term ERPT

Run at the annual frequency:

$$\Delta p_{gcrt} = \beta_r^{ber} \Delta ber_{ct} + \beta_r^{usd} \Delta usd_t + \alpha + \gamma' x + \varepsilon_{cgrt},$$

where r is the curreny of invoicing (either exporter or usd).

Pooling Europe + Japan:

Currency	Invoice USD	Invoice Exporter Currency
USD (β^{usd})	0.456	-0.285
	(0.241)	(0.204)
Exporter (β^{ber})	0.475*	0.910***
	(0.197)	(0.148)
Observations	14512	

Result: **Even with USD invoicing, the exporter currency ERPT dominates**

#2: Medium-term ERPT: By Country

Table : Medium-term ERPT and Invoice Currency: Europe + Japan.

Currency	Germany	Spain	France	Italy	Japan	UK	Sweden
Panel A: Invoice USD.							
USD (β^{usd})	−0.211	−0.282	0.840	−0.411	0.0795	0.525	1.087
	(0.497)	(0.711)	(0.708)	(0.700)	(1.256)	(1.046)	(0.794)
Exporter (β^{ber})	1.089**	1.030*	−0.326	1.684**	−0.468	0.478	-0.225
	(0.381)	(0.495)	(0.503)	(0.547)	(0.767)	(0.967)	(0.616)

- Pooled results driven by 3 euro countries (GER, ITA, SPA)
  - But FRA, JPN, UK, SWE look different,
  - JPN: 60% invoicing in USD & 40% in Yen, so statistical power should be ok
- Explore what explains country heterogeneity.

#2: Medium-term ERPT: Country Variation (Ctd)

	Germany	Spain	France	Italy	Japan	UK	Sweden
Panel B: Invoice Exporter Currency.							
USD (β^{usd})	−1.158**	−0.0841	−0.439	−0.892	−0.370	−0.356	1.329
	(0.428)	(0.575)	(0.644)	(0.574)	(1.309)	(0.979)	(0.876)
Exporter (β^{ber})	1.427***	1.254***	0.761*	1.385***	-0.107	1.462	-0.941
	(0.279)	(0.312)	(0.370)	(0.419)	(0.793)	(0.876)	(0.682)
Observations	4434	2804	2423	1873	1271	896	811

- Similar picture for transactions invoiced in exporter currency
  - Pooled results driven by 3 euro countries (GER, SPA, ITA)
  - For UK, SWE and JPN exporter currency not significant, sometimes even negative coefficient.
- Similar picture for pooled vs country-level results for LATAM.

Other Suggestions

1. Elaborate on how aggregation helps with bias from using unit values to proxy prices.

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3. What about export prices? Similar forces could apply.

4. One way to address all of above: apply methodology of Amiti, Itskhoki, Konings

$$\Delta p_{Xigct} = \left(\beta^{ber} + \delta^{ber} s_i\right) \Delta ber_{ct} + \left(\beta^{usd} + \delta^{usd} s_i\right) \Delta usd_t + \alpha + \gamma' x + \varepsilon_{igct}$$

   where p_X are export prices, i denotes a firm and s_i is the import share.