Discussion of

Exchange Rate Movements, Firm-Level Exports and Heterogeneity
by Antoine Berthou (BdF) and Emmanuel Dhyne (NBB)

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Summary

A well-thought paper on a topical theme: exchange rate elasticity (ERE) and exports

- **Macro.** Weak link (Goldstein and Khan, 1985; Hooper et al., 1998). There is a substantial cross-country heterogeneity of this elasticity (Morin and Schwellnus, 2014; IMF, 2015).

- **Micro.** Heterogenous firms: incomplete ER pass-through into export prices by large productive firms (Rodriguez-Lopez, 2011; Berman et al., 2012).

  1. **IM.** Greater concentration of aggregate exports into more productive firms is expected to attenuate the ERE;

  2. **EM.** Differences in the shape of productivity distribution among the population of exporters.

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Using *CompNet data* on 11 countries, this paper connects the micro and macro literatures on ERE and exports and shows that:

• the average ERE across firms is quite weak but highly heterogeneous;
• the least productive firms within each country and sector tend to react more to real ER movements.
  • This is common to all countries in the sample.

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General comments

A more systematic, “agnostic”, approach to the analyzing the effects of ER movements on trade margins:

\[ EX_{ijt} = n_{ijt} \times \bar{x}_{ijt} \]

Exports from \( i \) to \( j \) EM=Number of exporters IM=Average value of exports

But if the destination country is unknown:

\[ EX_{it} = n_{it} \times \bar{x}_{it} \]

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Estimating a gravity-like (log) linear model, the effect of the ER (or any other trade determinant) is equal to the sum of the coefficients on the two margins.

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- quantification: ER-induced contributions of each margin to TT;
- the “right” amount of lags.

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Phasing-in

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Once the you have an idea of the “right” number of lags, using authors’ notation one can estimate (the analogy is with the literature on the phasing-in of trade agreements, e.g. Baier et al., 2014):

$$\Delta \ln EM_{fitk+m/t-n} = g[\Delta \ln \bar{REER}_{itk+m/t-n}] + ...$$
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This should help in coming up with a more precise picture of:

- *how long* the two margins take to react;
- *for how long* they react (when does the effect die out?);
- *how much* they react.

Perhaps, build a simple “counterfactual” to look at how large the shock must be for the EM to react more quickly.

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Dynamics

Exports affected by entry, survival and deepening (Besedeš and Prusa, 2011). Re-arrange their decomposition at the firm level (e.g. by productivity type) and check how the ER affects each component:

\[ EX_t = n_t \times \bar{x}_t \]

Exports at time \( t \) \( \text{EM} \times \text{IM} \)

\( EX_{t+1} - EX_t = n_{t+1}ex_{t+1} - n_tex_t = s_{t+1}[ex_{t+1} - ex_t] - d_tex_t + \varepsilon_{t+1}ex_{t+1} = \)

\[ = \sum_{\text{years}}[(1 - h_{t+1}^y)n_t][ex_{t+1}^y - ex_t^y] - \sum_{\text{years}}[(h_{t+1}^y n_{\theta,t})ex_t^y] + \varepsilon_{t+1} + ex_{t+1}^0 \]

- \( s_{t+1} \) is the number of surviving firms;
- \( [ex_{t+1} - ex_t] \) is the export growth of surviving firms;
- \( d_t \) is the \# of exiters at time \( t \) (the value of their exports is \( d_tex_t \));
- \( \varepsilon_{t+1} \) is the number of new exporters; \( h \) is the hazard rate.

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Firm productivity type

Three productivity groups within each country and sector:

\[ P^z_{kt} : \text{Cat1} = \{1, 2\}; \quad \text{Cat2} = \{3, 4, 5, 6, 7, 8\}; \quad \text{Cat3} = \{9, 10\} \]

Where:

- Cat1 corresponds to the bottom 20% of firms;
- Cat2 corresponds to the 60% of firms with an intermediate productivity level;
- Cat3 corresponds to the top 20% of firms.

Digging in: 8626 firms, distributed across 11 countries, over 22 sectors. On average this means 35 firms within each 2-digit sector, 7 in Cat1 and Cat3 and 21 in Cat2. How much do you trust the within-group variation used to estimated interactions’ coefficients?

- Go at one digit?
- A breakdown of how many observations by country and sectors (only the latter is available in the paper) would help.

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Miscellanea

More stories:

- Imports
- FDI
- Multiproduct firms

From micro to macro: any implication for macro modeling?

- Permanent/temporary/unticipated/unanticipated ER shock;
- Is a permanent shock to the ER equivalent to a ToT shock (Linde and Pescatori, 2017; Erceg, Prestipino and Raffo, 2017), or does the distribution have implications for this literature too?

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