Comment on Trade and the Global Recession by Jonathan Eaton, Sam Kortumz, Brent Neimanx, and John Romalis

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Focus of paper I

- **Target**
  - Fall of trade/GDP during 2008-2009.
- **Model**
  - Multi-country.
  - Multi-sector with I-O matrix (Cobb-Douglas).
  - Labor is the only primary input, and mobile across sector but not across country.
  - Utility function is not explicitly specified.
- **Shocks**
  - Demand shocks.
  - Deficit shocks
  - Productivity shocks
  - Trade friction shocks (e.g., Jacks et al, 2009).

Focus of paper II

- **Simulation procedure**
  - Feed through the four shocks into the carefully calibrated model to obtain the endogenous movement of trade volume.
  - Transmission of shocks through cross-country linkage and cross-sector linkage are both captured.

- **The paper found**
  - Demand shock, particularly for durables, account for 70% of trade reduction.
  - Trade friction shocks explain 15% of trade reduction.
- **Other views**
  - Vertical linkage (Levchenko, Lewis, Tesar, 2010)
  - Trade credit (Amiti and Weinstein, 2009; Chor and Manova, 2010)
  - Inventory adjustment (Alessandria, Kaboski, Midrigan, 2010)

Comment

- Important paper that quantitatively shows that given the demand change, cross-sectoral and cross-country transmission mechanism through input-output linkage is sufficiently large to deliver a sizable portion of the trade decline.

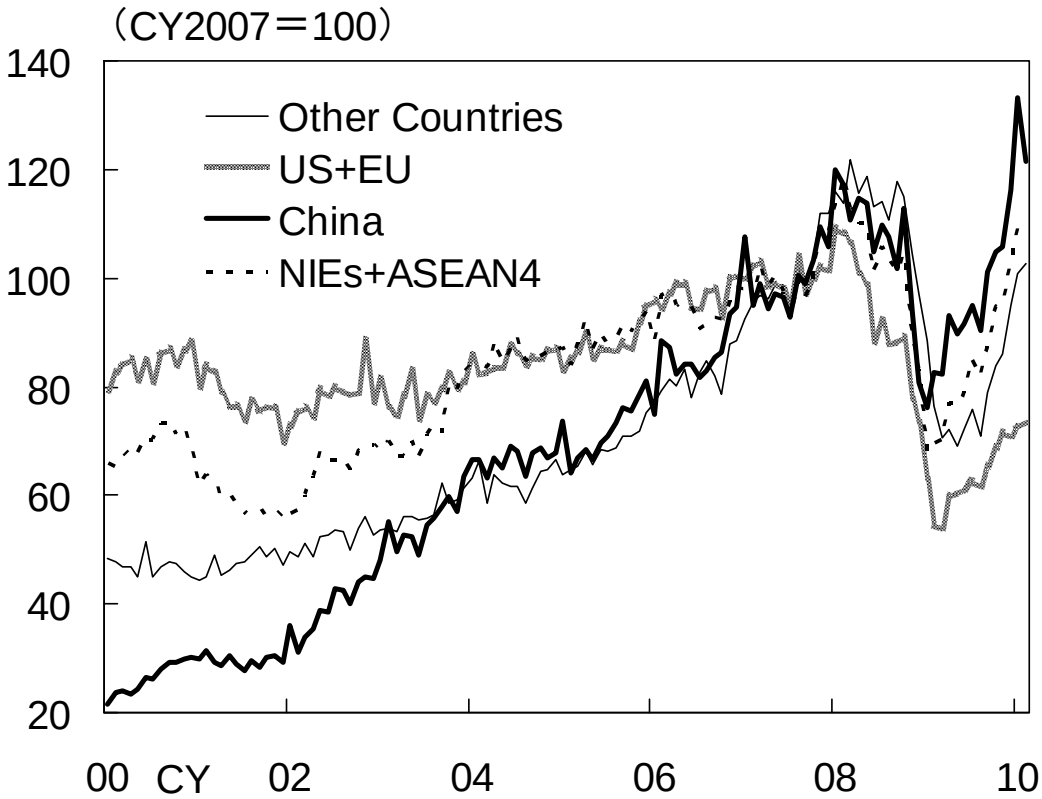
- **Comment I**
  - IO matrix and joint realization of demand shocks.

- **Comment II**
  - Trade costs.

- **Comment III**
  - Durability of goods.

Comment I: IO matrix and shocks

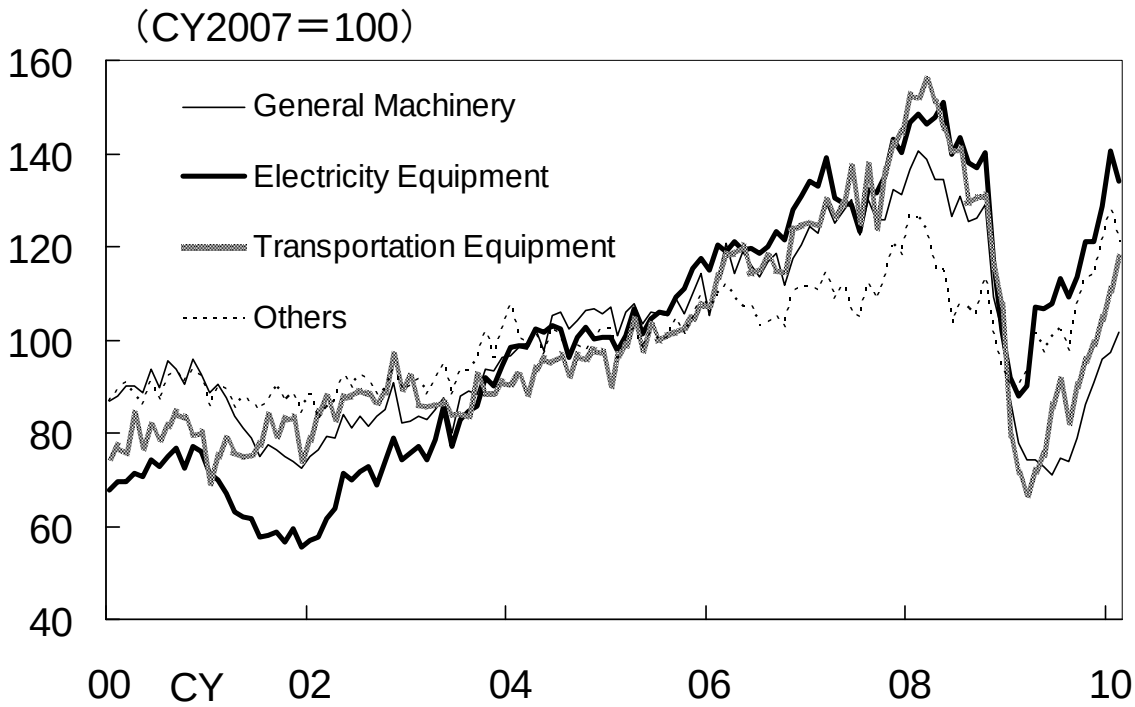
- Real Japanese export by destination.
- Simultaneous decline of export to all of the countries.



- source: Endo and Hirakata (2010).

Comment I: IO matrix or shocks

- Real Japanese export by type of goods.
- Simultaneous decline of export to all of the goods.



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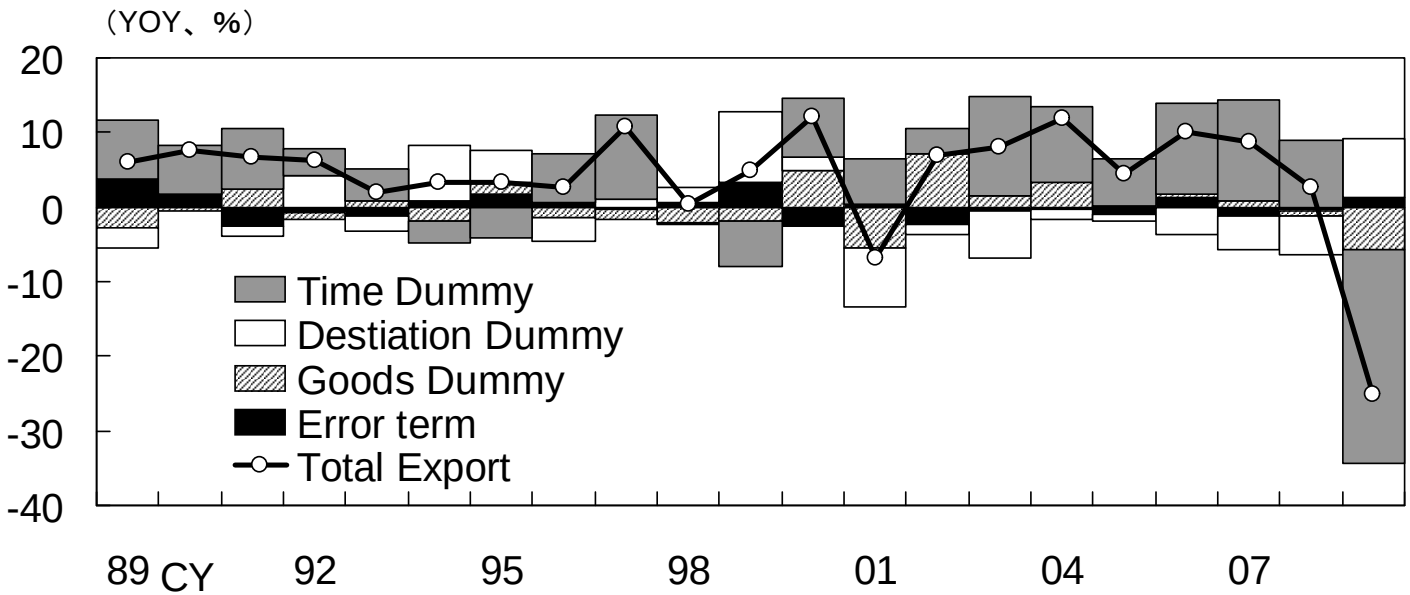
Comment I: IO matrix or shocks

$$\overbrace{ex_{i,d,t}}^{\text{Real Export}} = \overbrace{t}^{\text{Time Dummy}} + \overbrace{\sigma_{i,t}}^{\text{Goods Dummy}} + \overbrace{\omega_{d,t}}^{\text{Destination Dummy}} + \overbrace{\varepsilon_{i,d,t.}}^{\text{Error term}}$$



source: Endo and Hirakata (2010).

Comment I: IO matrix or shocks

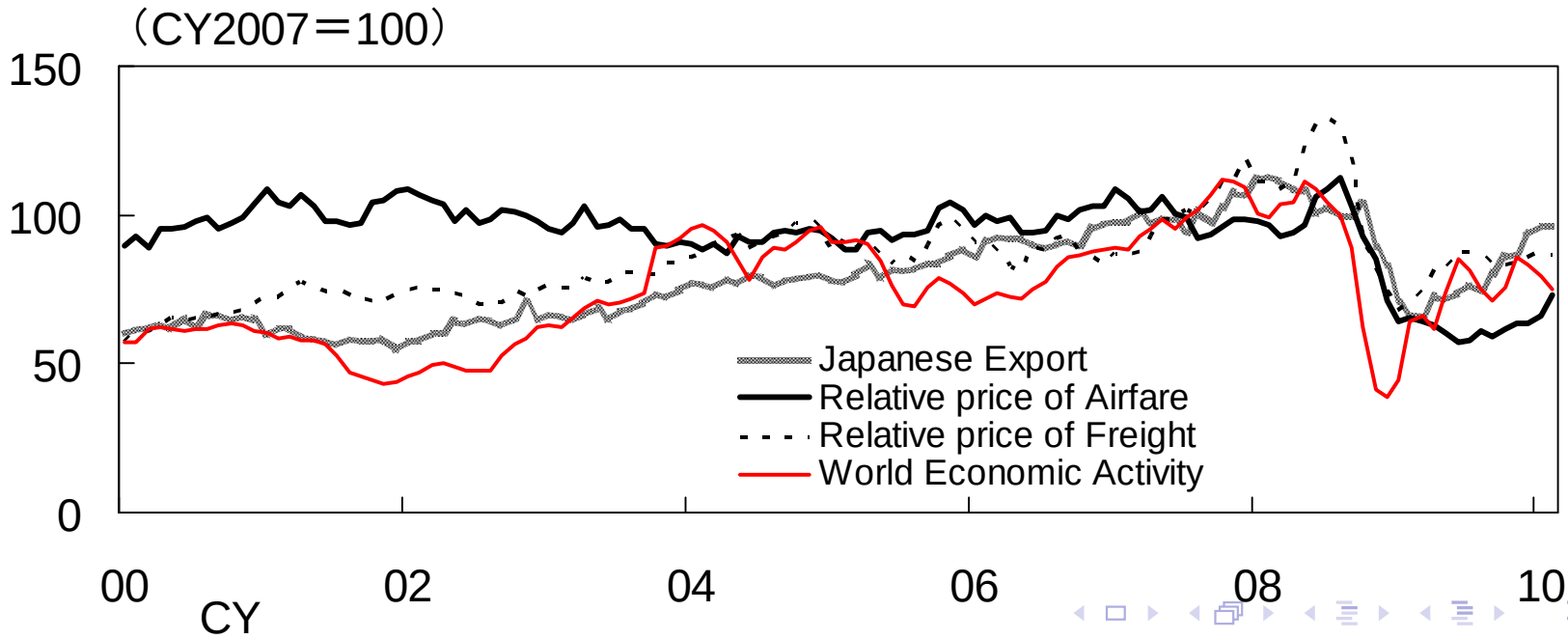
- Main driving force of the fall in Japanese export seems to come from a shock occurred in 2008 rather than structure (goods or destination).

- **Does input-output matrix play role?**
  - Dupor (1999), studying domestic economy, points out that broad class of IO structure has poor amplification mechanism when sectoral iid shocks are considered.
  - Hornstein and Praschnik (1997) emphasis the role of I-O in generating sectoral co-movement.
  - Can we see more of the relative importance of country-or-goods-specific demand shocks in trade volume and compare them with the size of actual shocks?

- **Price elasticity of intermediate inputs**
  - Cobb-Douglas: Dupor (1999), Horvath (2000).
  - Leontief production technology: Bems, Johnson, and Yi (2010).
  - Estimated Elasticity: Bouakez, Cardia, and Ruge-Muria (2005).

Comment II: Trade Cost

- High frequency component of trade costs and $\left(X_{in}^{j}X_{nn}^{j}\right)\left(X_{nn}^{j}X_{ii}^{j}\right)^{-1}$.
- Are obtained costs series consistent with ordinary measure such as shipping cost?
- Based on Japanese PPI, non-domestic shipping cost relative to domestic shipping cost dropped sharply, indicating trade friction may not be important.



Comment III: Durable Goods

- **No durability is modeled.**
- **Durability in consumer theory**
  - $\Delta\alpha_i^D$ and $\Delta\alpha_i^N$ are treated as shocks (similarly to Bems *et al*, 2010).
  - Some DSGE model delivers $\Delta\alpha_i^D$ and $\Delta\alpha_i^N$ as endogenous choice of agents in response to income or relative price change, based on the utility function such as

$$U = \frac{\left(\left(D_{stock}^{\phi_d}\right)\left(N^{\phi_S}\right)\right)^{1-\sigma}}{1-\sigma}.$$

  - **Income shock and durability:** Bils and Klenow (1999) point out that household demand for goods is positively related to durability of goods (smaller δ) in the boom.
  - **Relative price shock and durability:** Barsky, House, and Kimball (2009) point out that durable demand can drop during the boom if its relative price is temporarily high.

Comment III: Durable Goods

- **Implication from consumer theory**
  - Endogenous response of $\Delta\alpha_i^D$ and $\Delta\alpha_i^N$ to a small shock to technology or trade friction may be large whenever goods is durable.

- **Durables and input-output matrix**
  - According to I-O table, durables serve as capital (durable input) as well as intermediate inputs (perishable input).
  - Bouakez, Cardia, and Ruge-Muria (2005) : durables are both capital & intermediate inputs.
  - Hornstein and Praschnik (1997) : durables are used only as capital.
  - Having durable production input invokes intertemporal decision of firms.