G. Corsetti P. Martin P. Pesenti

Productivity Spillovers, Real Exchange Rates, and the Home Market Effect: Elements for a General Equilibrium Analysis

Comments by Hafedh Bouakez, HEC Montréal

November 5, 2004

The paper

- Interesting paper

- Contributes to an emerging literature that merges trade theory and new open-economy macroeconomics

  [Bergin and Glick (2003) and Ghironi and Melitz (2004)]

- Question: macroeconomic effects of productivity gains and their international transmission

- Approach: static general-equilibrium model with trade costs and endogenous entry of firms

Main Findings

- The effects of productivity shocks depend on their nature
- Conventional productivity gains (in manufacturing) increase GDP and consumption but **deteriorate** terms of trade
- Efficiency gains (lower cost of entry) also increase GDP and consumption but **improve** terms of trade

Comments

- Results hinge on the assumption that the elasticity of substitution b/w domestic and foreign goods (σ) is high ($\psi \leq 1 < \sigma$)

  The paper assumes that $C_t = \left[\int_0^{n_t} C_t(h)^{\frac{\sigma-1}{\sigma}} dh + \int_0^{n_t^*} C_t(f)^{\frac{\sigma-1}{\sigma}} df\right]^{\frac{\sigma}{\sigma-1}}$

  The resulting demand function: $C_t(h) = \left(\frac{p_t(h)}{P_t}\right)^{-\sigma} C_t$

  $\Longrightarrow$ So σ is also the elasticity of demand in the model

  (typically calibrated to large values)

  Should distinguish b/w these two elasticities [Betts and Devereux (2001)]

Comments

- There is a lot of uncertainty regarding the value of the elasticity of substitution b/w domestic and foreign goods
  - Backus, Kehoe, and Kydland (AER 1994) suggest a value of $\mathbf{1.5}$
  - Bergin (2004) reports an estimate of $\mathbf{1.13}$
  - Heathcote and Perri (JME 2002) report an estimate of $\mathbf{0.9}$
  - Dib (2003) reports an estimate of $\mathbf{0.79}$

Comments

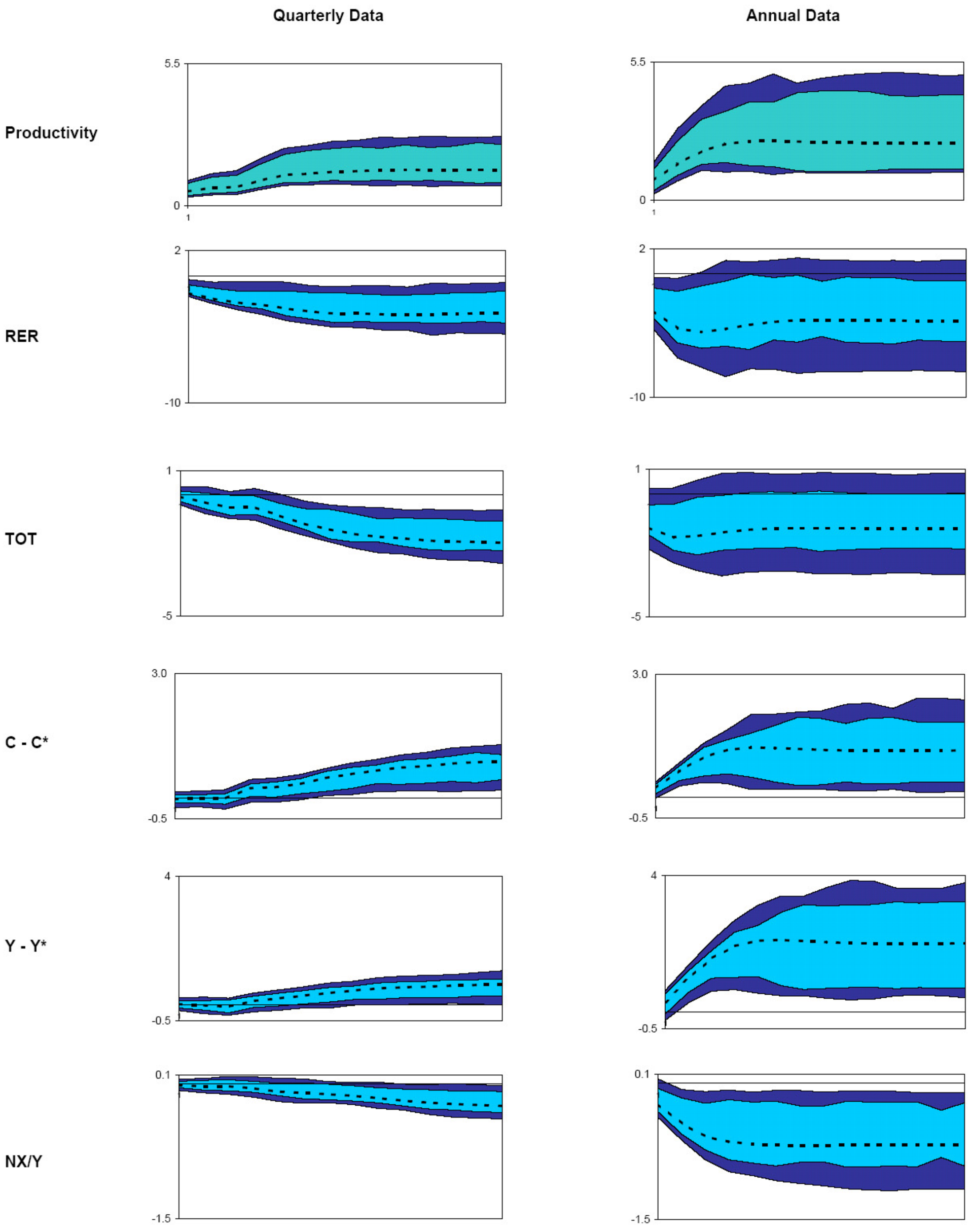
- Corsetti, Dedola, and Leduc (2003):
  - If $\sigma = 0.97$, conventional productivity shocks **improve** the TOT
  - If $\sigma = 1.13$, they **deteriorate** the TOT

  The second result is consistent with the paper's findings

- **But** it seems to contradict empirical evidence

  In the 'data', technology shocks improve the terms of trade

Impulse Responses to a Technology Shock in the Traded Goods Sector (Source: Corsetti, Dedola, and Leduc (2003))



Comments

- The VAR results may reflect the effects of efficiency gains in creating new varieties

  $\Longrightarrow$ But how can we identify these shocks empirically ?

- In the paper, efficiency gains do not affect product prices (TOT move one for one with the nominal exchange rate)

  $\Longrightarrow$ How should we interpret these shocks ?

Comments

- The paper motivates departures from PPP through *iceberg* trade costs

  Assuming $\sigma = 5$ (as in the paper):

	Trade Costs				
	10%	20%	30%	40%	50%
$\frac{Volatility(RER)}{Volatility(NER)}$	0.19	0.35	0.48	0.58	0.66

- Even with trade costs as high as 50%, the real exchange rate is only 2/3 as volatile as the nominal exchange rate

- In the data, the RER is as volatile as the NER

Comments

- Alternative mechanisms to generate departures from PPP
  - Local currency pricing
  - Distribution costs + home bias in consumption

Comments

- The model is static and abstracts from international lending and borrowing

- What happens if we introduce trade in international bonds ?