Unbalanced Trade

Discussion by

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Global Rebalancing with Gravity: Measuring the Burden of Adjustment
Discussion of Dekle, Eaton and Kortum

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Outline

- Simplified version of the model
- Comments
\[ Y_i (i) = A_i L_i \]

\[ Y^i (i) = \sum_{k=1}^{N} d^{ki} C^k (i) \]

\[ P^i (i) = W^i / A^i \]

\[ P^i (k) = d^{ik} P^k (k) \]
Intratemporal preferences

\[
C^i = \left[ \sum_{k=1}^{N} C^i(k)^{\frac{\eta - 1}{\eta}} \right]^{\frac{\eta}{\eta - 1}}
\]

\[
P^i = \left[ \sum_{k=1}^{N} P^i(k)^{1-\eta} \right]^{\frac{1}{1-\eta}}
\]

\[
C^i(k) = \left[ \frac{P^i(k)}{P^i} \right]^{-\eta} C^i
\]

- with \( \theta = \eta - 1 \) and \( T_i = s_i A_i^{\eta - 1} \)
Equilibrium given absorption patterns

\[ P^i C^i - P^i (i) Y^i (i) = D^i \]

\[ P^i = \left[ \sum_{k=1}^{N} \left[ \frac{d^{ik} W^i}{A^i} \right]^{1-\eta} \right]^{\frac{1}{1-\eta}} \]

\[ A^i L^i = \left[ \frac{W^i}{A^i} \right]^{-\eta} \sum_{k=1}^{N} \left[ \frac{d^{ki}}{P^k} \right]^{1-\eta} \left[ D^k + W^k L^k \right] \]
Quantitative exercise of this paper

\[ P^i C^i - P^i (i) Y^i (i) = 0 \ \forall i \]

\[ P^i = \left[ \sum_{k=1}^{N} \left[ \frac{d^{ik} W^i}{A^i} \right]^{1-\eta} \right]^{\frac{1}{1-\eta}} \]

\[ A^i L^i = \left[ \frac{W^i}{A^i} \right]^{-\eta} \sum_{k=1}^{N} \left[ \frac{d^{ki}}{P^k} \right]^{1-\eta} \left[ 0 + W^k L^k \right] \]
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- Comments
Intertemporal preferences

\[ U^i = \sum_{t=0}^{\infty} \sum_{s^t} \beta^t \pi_t (s^t) L_t^i u \left( \frac{C_t^i (s^t)}{L_t^i} \right) \]
Intertemporal comparative advantage

- A process for $A_t^i(s^t)$
Sequential budget constraint

\[ P^i_t (s^t) C^i_t (s^t) - P^i_t (i, s^t) Y^i_t (i, s^t) \]

\[ = \left[ R^i_t (s^t) + Q^i_t (s^t) \right] B^i_{t-1} (s^t) - Q^i_t (s^t) B^i_{t+1} (s^t) \]

\[ B^i_{t+1} (s^t) \in B^i (s^t, B^i_t (s^{t-1})) \]

- Example: An Eaton-Gersovitz world
Intertemporal first order condition

\[ P_t^i (s^t) = \frac{1}{\mu_t^i (s^t)} u_C (C_t^i (s^t)) \]

- With log utility

\[ P_t^i (s^t) C_t^i (s^t) = \frac{1}{\mu_t^i (s^t)} \]
Other potential complications

- Capital accumulation
- Endogenous labor supply
Trade in services

- Focus on manufacturing
- Services are an increasing share of US trade, especially exports
- Data on bilateral service trade for OECD countries (doesn’t include China)
Service share of US trade

Source: US Department of Commerce