

8TH JACQUES POLAK ANNUAL RESEARCH CONFERENCE NOVEMBER 15-16,2007

Unbalanced Trade

Discussion by

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Presentation given at the 8th Jacques Polak Annual Research Conference Hosted by the International Monetary Fund Washington, DC—November 15-16, 2007 Please do not quote without the permission from the author(s).

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Global Rebalancing with Gravity: Measuring the Burden of Adjustment

Discussion of Dekle, Eaton and Kortum

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November 2007

Outline

- Simplified version of the model
- Comments

Technology

$$Y_{i}(i) = A_{i}L_{i}$$

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

$$P^{i}(i) = W^{i}/A^{i}$$

$$P^{i}(k) = d^{ik}P^{k}(k)$$

Intratemporal preferences

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

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

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

lacksquare with $heta=\eta-1$ and $T_i=s_iA_i^{\eta-1}$

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

$$P^{i}C^{i} - P^{i}(i) Y^{i}(i) = 0 \forall i$$

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

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

Outline

- ► Simplified version of the model
- **▶** Comments

Intertemporal preferences

$$U^{i} = \sum_{t=0}^{\infty} \sum_{s^{t}} \beta^{t} \pi_{t} \left(s^{t} \right) L_{t}^{i} u \left(C_{t}^{i} \left(s^{t} \right) / L_{t}^{i} \right)$$

Intertemporal comparative advantage

▶ A process for $A_t^i(s^t)$

Sequential budget constraint

$$egin{aligned} P_t^i\left(s^t
ight)C_t^i\left(s^t
ight)-P_t^i\left(i,s^t
ight)Y_t^i\left(i,s^t
ight) \ &=\left[\mathbf{R}_t\left(s^t
ight)+\mathbf{Q}_t\left(s^t
ight)
ight]\mathbf{B}_t^i\left(s^{t-1}
ight)-\mathbf{Q}_t\left(s^t
ight)\mathbf{B}_{t+1}^i\left(s^t
ight) \ &\mathbf{B}_{t+1}^i\left(s^t
ight)\in\mathcal{B}_i\left(s^t,\mathbf{B}_t\left(s^{t-1}
ight)
ight) \end{aligned}$$

Example: An Eaton-Gersovitz world

Intertemporal first order condition

$$P_{t}^{i}\left(s^{t}\right) = \frac{1}{\mu_{t}^{i}\left(s^{t}\right)} u_{C}\left(C_{t}^{i}\left(s^{t}\right)\right)$$

▶ With log utility

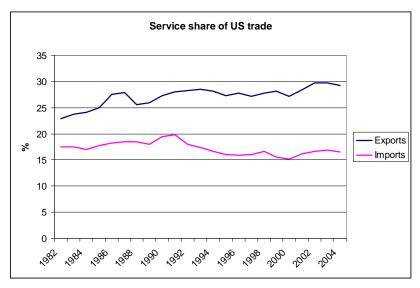
$$P_{t}^{i}\left(s^{t}
ight)C_{t}^{i}\left(s^{t}
ight)=rac{1}{\mu_{t}^{i}\left(s^{t}
ight)}$$

Other potental complications

- Capital accumulation
- ► Endogenous labor supply

Trade in services

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



Source: US Department of Commerce