

GLOBALIZATION AND THE INEQUALITY OF NATIONS

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Outline

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Theory Controversy

- Growing concern in the advanced nations over the impact of globalization on their ability to sustain high living standards.
- Integration of world markets produced "uneven development," a rise in the living standards of rich nations at the expense of the poor

Empirical

- Before 1974, failure of development efforts to narrow the North-South gap
- 20 years later, rapid growth of East Asian economies and the economic troubles of the advanced nations

Key idea

- Globalization \rightarrow transportation cost fall gradually over time \rightarrow equilibrium path

Basic Assumptions

- A world consisting of two regions, North and South
- Each region can produce two kinds of goods: "agricultural" goods and "manufactured" goods
- Manufacturing sector produces both final goods and intermediate goods
- North and South are identical in endowments, preferences, and technology.

Representative consumer

receives only labor income, and has Cobb-Douglas preferences between agriculture and manufacturing

consumer solves $\max V_i = \left(\frac{A}{1-\gamma}\right)^{1-\gamma} \left(\frac{M}{\gamma}\right)^\gamma \quad s.t. Q_A A + Q_M M \leq w$

$$\Rightarrow wL = Q_A^{(1-\gamma)} Q_M^\gamma V \quad (1)$$

where $Q_A = 1, \quad Q_M = [np^{1-\sigma} + n^*(p^*t)^{1-\sigma}]^{\frac{1}{1-\sigma}}$

Agriculture

- Perfectly competitive
- Uses only labor with constant returns to scale.

$$w \geq 1 \quad (2)$$

The wage rate equals one if the economy produces agriculture, and exceeds it only if agricultural production is zero

Manufacture Firm

- Labor and the intermediate are combined with a C-D technology
- Simplifying assumption: the price index of the intermediate is Q_M
- Each firm produces output for domestic sale y and export x

Each firm's total cost function is therefore $TC = w^{1-\mu}Q_M^\mu[\alpha + \beta(y + x)]$.

Firms mark up price by MR=MC:

$$p(1 - 1/\sigma) = w^{1-\mu}Q_M^\mu\beta \quad (3)$$

Zero profit condition(TC=TR):

$$y + x = (\sigma - 1)\alpha/\beta \quad (4)$$

Now note that total value of expenditure on manufactured goods in the Northern economy defined as:

$$E = \gamma wL + \mu(x + y)pn \quad (5)$$

Northern and Southern demand for a single variety take the form:

$$y = p^{-\sigma} Q_M^{\sigma-1} E, \quad x = p^{-\sigma} t^{1-\sigma} (Q_M^*)^{\sigma-1} E^* \quad (6)$$

combined with zero profit condition $y + x = (\sigma - 1)\alpha/\beta$ then we have

$$1 = p^{-\sigma} [Q_M^{\sigma-1} E + t^{1-\sigma} (Q_M^*)^{\sigma-1} E^*] \quad (7)$$

Equilibrium is now characterized by equations

$$Q_M = [np^{1-\sigma} + n^*(p^*t)^{1-\sigma}]^{\frac{1}{1-\sigma}} \quad (8)$$

$$w \geq 1 \quad (9)$$

$$p(1 - 1/\sigma) = w^{1-\mu} Q_M^\mu \beta \quad (10)$$

$$E = \gamma w L + \mu(x + y)pn \quad (11)$$

$$1 = p^{-\sigma} [Q_M^{\sigma-1} E + t^{1-\sigma} (Q_M^*)^{\sigma-1} E^*] \quad (12)$$

which can be used to find equilibrium values of variables Q_M , w , p , n , and E .

Output and employment

- Agriculture is active in the other country
- The equilibrium is symmetric with each economy having a wage equal to unity and producing both agricultural and manufacturing output.

$$L = L^*, \gamma = 0.6, \mu = 0.5, \sigma = 5$$
$$t = 3$$

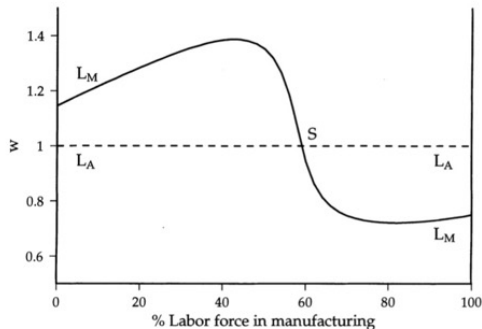


FIGURE II
Labor Demand: High Trade Costs

Output and employment

- Equilibrium at U is unstable, and there is another equilibrium at point S .
- North specializes in manufacturing and has a wage above the value marginal product of labor in agriculture. All agricultural output is produced in South.

$$L = L^*, \gamma = 0.6, \mu = 0.5, \sigma = 5$$

$$t = 1.5$$

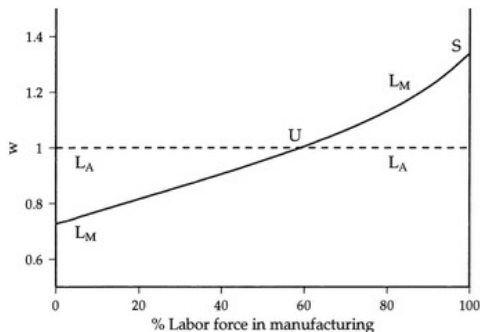


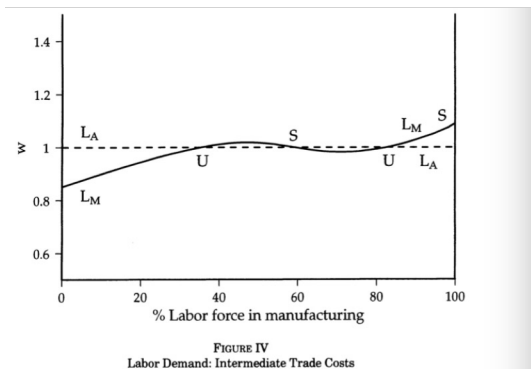
FIGURE III
Labor Demand: Low Trade Costs

Output and employment

$$L = L^*, \gamma = 0.6, \mu = 0.5, \sigma = 5$$

$t = 2$

- Four equilibria are illustrated
- The presence of linkages between manufacturing firm create forces for agglomeration of manufacturing in a single location



The critical level of t

$$\frac{d\tilde{w}}{dL_M} = \left(\frac{\tau - 1}{\tau \gamma L} \right) \frac{(\mu - 1)[\sigma(\mu - 1) + 1] - \tau(\mu + 1)[\sigma(\mu + 1) - 1]}{2\sigma(\sigma - 1)(1 - \mu) + (\tau - 1)[\sigma(\mu + 1) - 1]}$$

$$t^{\sigma-1} = \left(\frac{1 + \mu}{1 - \mu} \right) \left(\frac{\sigma(1 + \mu) - 1}{\sigma(1 - \mu) - 1} \right).$$

$$\mu = 0.5, \gamma = 0.7, \sigma = 5$$

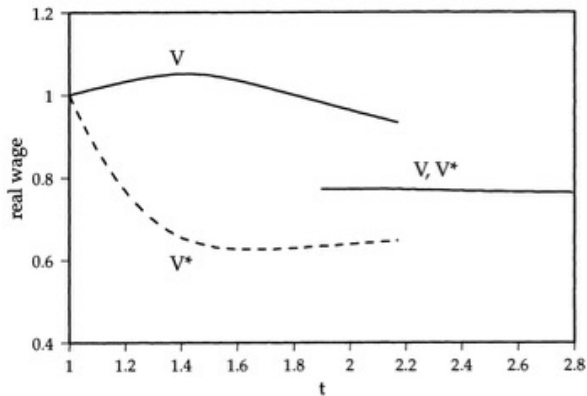


FIGURE V
Trade Costs and Real Wages

$$\mu = 0.55, \gamma = 0.6, \sigma = 5$$

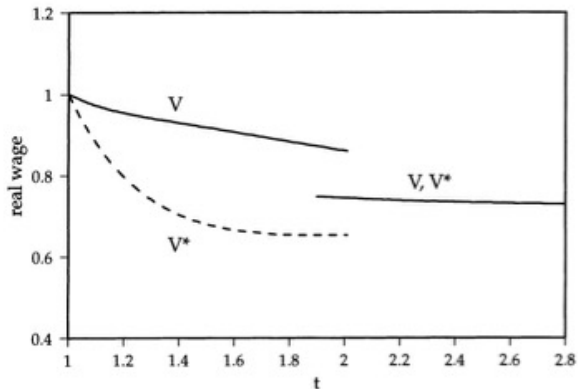


FIGURE VI
Real Wages: High γ

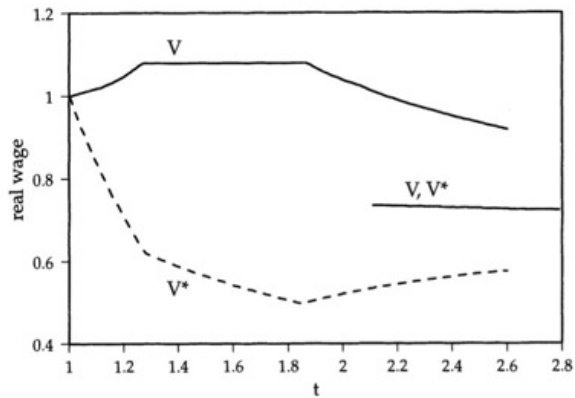


FIGURE VII
Real Wages: High μ

Trade Policy

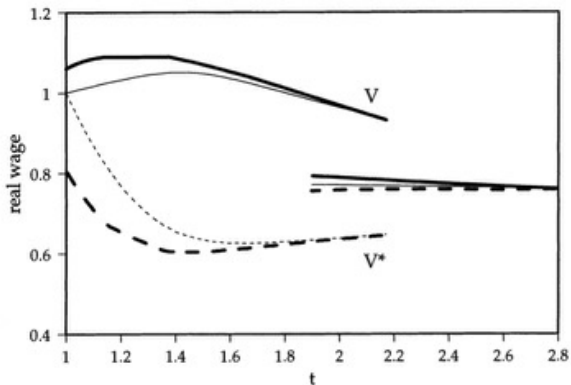


FIGURE VIII
Real Wages with a Northern Tariff

Conclusion

The world economy must achieve a certain critical level of integration before the forces that cause differentiation into core and periphery can take hold. When that differentiation occurs, the rise in core income is partly at peripheral expense. As integration proceeds further, however, the advantages of the core are eroded, and the resulting rise in peripheral income may be partly at the core's expense.

Thank You