Growth, Trade, and Inequality

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  - Poor households face credit constraints (Galor and Zeira)
  - Greater inequality generates more redistribution via political process (Alesina and Rodrik; Persson and Tabellini)

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- Choice of numeraire: $q_t = 1$ for all t.

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- Demand for intermediate ω

$$x(\omega) = Xp(\omega)^{-\sigma}$$

Pricing and Profits

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- Profits:

$$\pi(\varphi) = \sigma^{-\sigma} (\sigma - 1)^{-(\sigma-1)} X \left\{ \underbrace{\frac{w[m(\varphi)]}{\psi[\varphi, m(\varphi)]}}_{\text{MARGINAL COST}} \right\}^{1-\sigma}$$

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- Allow free entry into innovation:

$$\frac{\int_{\varphi_{\min}}^{\varphi_{\max}} \pi(\varphi) \, dG(\varphi)}{\rho + g_M} = \frac{w(a)}{T(a) \theta_K M} \text{ for all } a \in L_R.$$

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Sorting: Assumption implies $\exists\ a_R$ ("cutoff") such that $a < a_R \Rightarrow a \in L_M$ and $a > a_R \Rightarrow a \in L_R$ (like "occupational choice" in Lucas 78)

Labor-Market Equilibrium

- Labor market clearing: Supply of workers of type $m(\varphi)$ equals demand for workers by firms of type φ

$$m'(\varphi) H'[m(\varphi)] = \frac{MX}{N}\left(\frac{\sigma}{\sigma-1}\right)^{-\sigma} \frac{w[m(\varphi)]^{-\sigma}}{\psi[\varphi, m(\varphi)]^{1-\sigma}} G'(\varphi)$$

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$$\begin{aligned}\frac{m''(\varphi)}{m'(\varphi)} &= (\sigma-1)\frac{\psi_{\varphi}[\varphi, m(\varphi)]}{\psi[\varphi, m(\varphi)]} - \frac{\psi_{a}[\varphi, m(\varphi)]\, m'(\varphi)}{\psi[\varphi, m(\varphi)]} \\ &\quad + \frac{G''(\varphi)}{G'(\varphi)} - \frac{H''[m(\varphi)]\, m'(\varphi)}{H'[m(\varphi)]}\end{aligned}$$

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- Boundary conditions

$$m(\varphi_{\min}) = a_{\min}, \qquad m(\varphi_{\max}) = a_R$$

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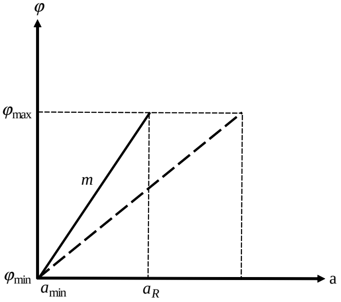
- 

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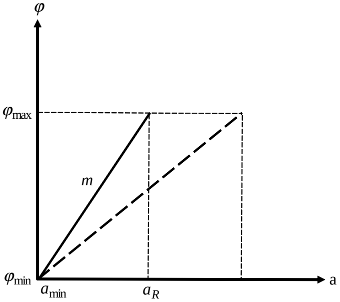

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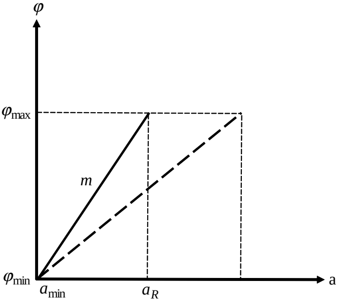
- 

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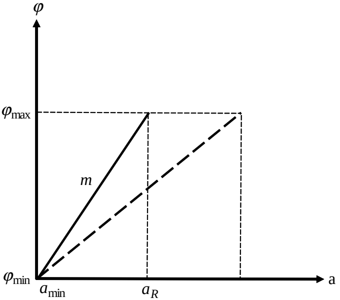

- So, $a_R \uparrow \Rightarrow$ (inverse)-matching function shifts down
  - every worker matches with lower productivity firm
  - due to log supermodularity of $\psi(\cdot)$, log wage profile on $[a_{\min}, a_R]$ must flatten (steepen) when a_R increases (decreases)

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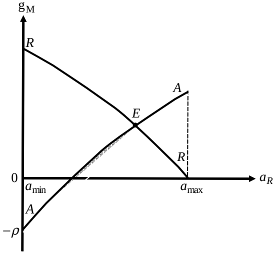
- These two conditions yield a solution for (a_R, g_M):



Analysis of Balanced Growth Paths

- Two Types of Results
  - Autarky
    - How do cross-country differences generate differences in autarky (steady-state) growth rates and wage inequality?
  - Integration
    - How does trade integration affect countries' growth rates and inequality?
    - How do growth and inequality compare across countries in a trade equilibrium?

Cross-country Comparisons in Autarky

Manufacturing Productivity

- Hicks-neutral technology differences: $\psi_c(\varphi, a) = \theta_{\psi c}\psi(\varphi, a)$

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    - Same long-run growth and inequality
- Hicks-neutral technology differences generate income level differences, but do not affect growth and inequality

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  - $\Rightarrow$ More inequality overall

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- $\Rightarrow$ Faster growth and more wage inequality in i

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Cross-country Comparisons in Autarky

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