

AREC 345: Global Poverty & Economic Development

Lecture 8:

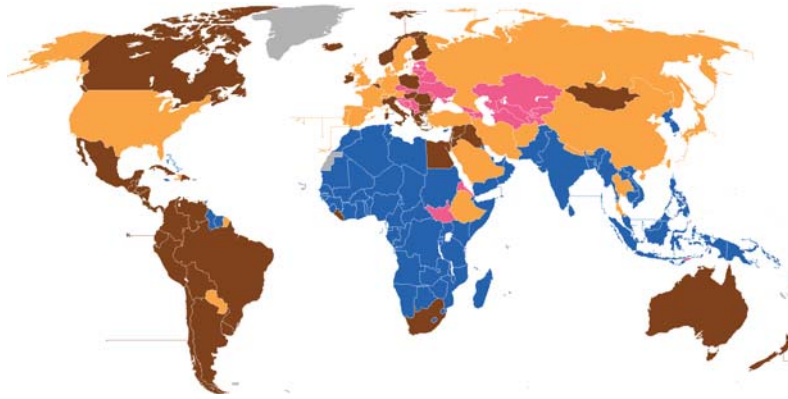
Development Policy in the Post-War Period

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Economic Policy after Independence

Economic Choices After Independence



Choices Facing Post-Independence Leaders

Production Functions

Production function:

$$Y_t = F(L_t, K_t)$$

Factors of production:

- Labor (L)
- Capital (K)
- Land (in agricultural production)

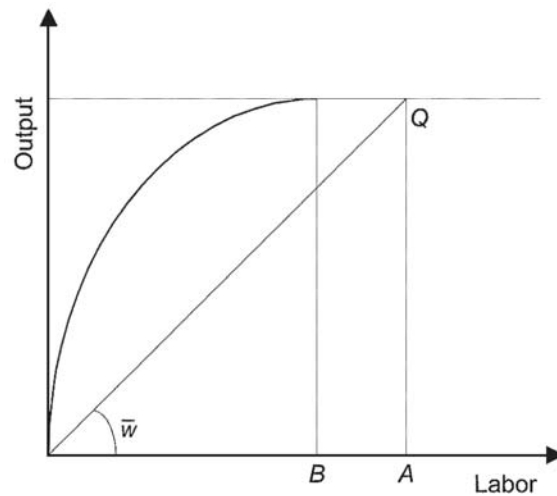
Factors are combined to generate total output Y (i.e. GDP)

Labor Supply

Arthur Lewis' **dual sector** model:

- Economy comprises traditional (farm), modern (industry) sectors
- Traditional sector not organized to maximize profits
 - ▶ Family members "hired" to work on subsistence farms even when they contribute little (potentially nothing) to total agricultural output
 - ▶ **Disguised unemployment:**

Theory: the Lewis Model



Marginal product of labor:

Capital Accumulation: the Macro Perspective

Harrod-Domar model of capital accumulation, growth:

- Predicts increases in savings lead to increases in GDP growth
- Model proposed separately by Sir Roy Harrod, Evsey Domar
 - ▶ Intended to explain business cycles, later disavowed by Domar
 - ▶ But the model is still used in some circles today
- Intuition: output proportional to capital stock, saving and accumulating capital leads automatically to increased growth

Harrod-Domar Model Setup

Assumptions of the Harrod-Domar model:

- Income (GDP) proportional to capital stock: $Y_t = \theta K_t$
 - ▶ θ is a country's level of technology
- Income split between consumption, investment: $Y_t = C_t + I_t$
 - ▶ C_t is the amount of output immediately consumed
 - ▶ I_t output that is not consumed is assumed to be invested
 - ▶ Savings rate: $s = I_t/Y_t$
- Capital stock evolves over time: $K_{t+1} = (1 - \delta) K_t + I_t$

This leads to a simple formula for economic growth!

The Simple Formula for Economic Growth

1. Start with the formula describing the evolution of the capital stock

$$K_{t+1} = (1 - \delta) K_t + I_t$$

2. Use the formula for total output ($Y_t = \theta K_t$) to replace the K_t and K_{t+1} terms with expressions in terms of total output

$$\frac{Y_{t+1}}{\theta} = (1 - \delta) \frac{Y_t}{\theta} + sY_t$$

3. Multiply both sides of the equation by θ

$$Y_{t+1} = Y_t - \delta Y_t + s\theta Y_t$$

4. First subtract Y_t from both sides, then divide both sides by Y_t

$$\underbrace{\frac{Y_{t+1} - Y_t}{Y_t}}_{\text{GDP growth}} = s\theta - \delta$$

Implications of the Harrod-Domar Model

Model predicts increased savings/investment implies increased growth

- Poor countries may not be able to increase their savings rate
- Foreign aid can be another source of increased investment
 - ▶ **Financing gap:**
- Theory: aid → buys industrial capital → increases output

Recent history consistent with the Harrod-Domar model

- Marshall Plan: disbursement of \$13 billion in aid, technical assistance led to rapid re-emergence of industrial Europe

Trade and Industrial Policy

Infant industries not initially competitive on global market

- Gov't needed to protect, subsidize firms until they got big enough
- Justified trade protection to promote **import substitution**
- East Asian countries tended to favor **export promotion** strategies

Paul Rosenstein-Rodan: industrialization requires coordinated **big push**

- Positive **spillovers** from investment in industrial firms
- Potential for coordination failure in absence of gov't intervention
- Example: car plant requires ready supply of steel, rubber tires, etc.

Theories support major government involvement in the industrial sector

Trade and Industrial Policy

Did Industrialization Work?

Post-independence industrial policy:

- Focused on pulling resources out of agriculture to fund industry
- Gov't subsidies, trade protection for "infant industries"
- Many firms actually owned directly by state governments
- Growing share of workforce employed by public sector

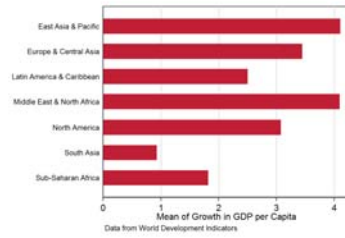
Physical capital accumulated but typically not used efficiently, most protected industries never became self-sustaining

- 1967–1968: manufacturing firms in Ghana using 35% capacity
- 1960s: 12 of 44 Kenyan industries "reasonably full" capacity

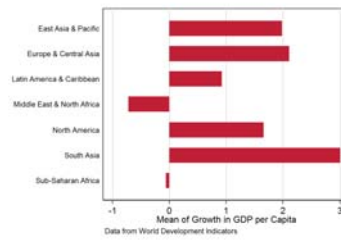
Industrial policy cost gov't in subsidies, consumers in high prices

Did Industrialization Work?

Growth in the 1970s



Growth in the 1980s



Study Guide: Key Terms

- production function
- Lewis' dual sector model
- disguised unemployment
- Harrod-Domar model
- Financing gap