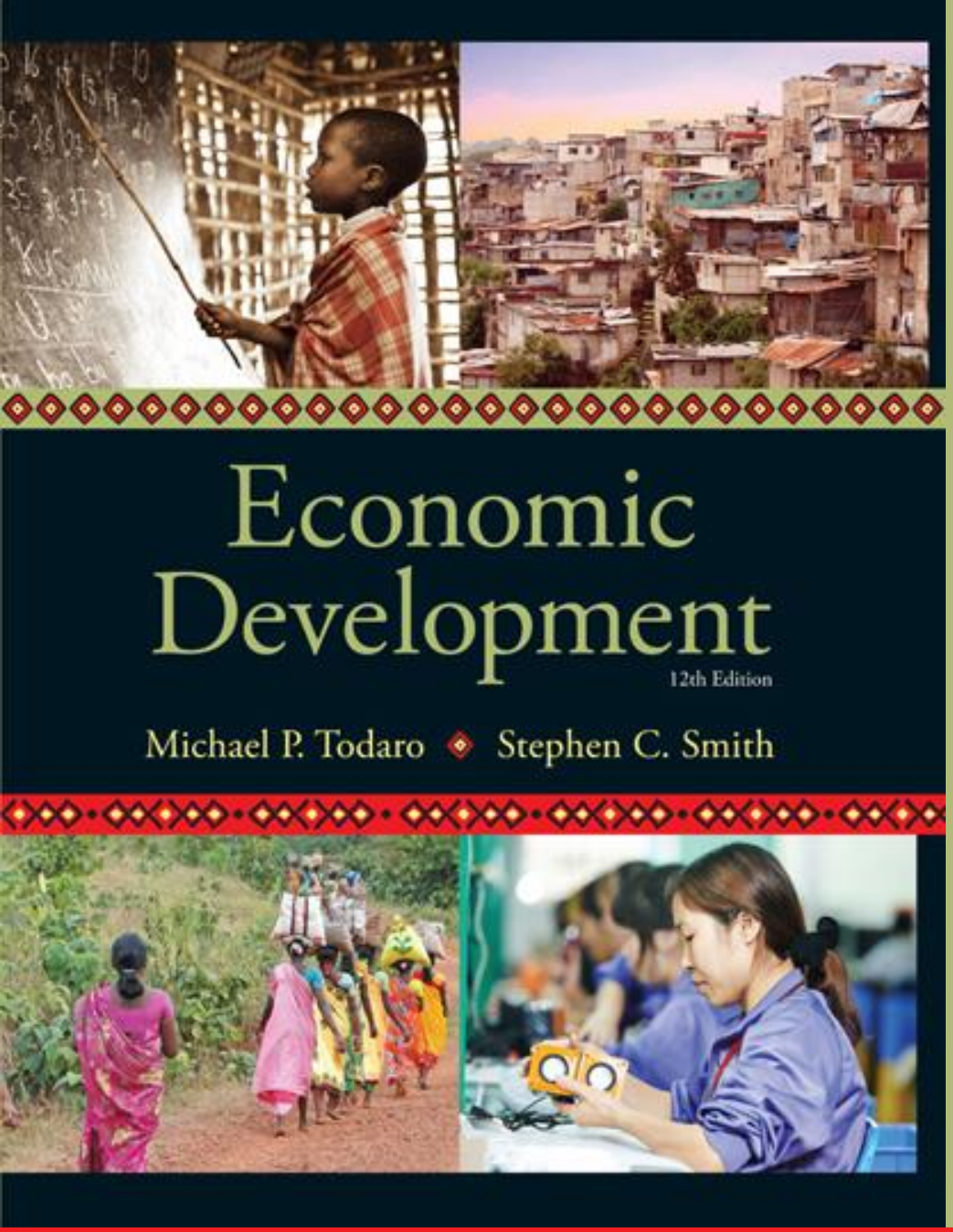


Chapter 4

Contemporary Models of Development and Underdevelopment

Beautiful Mind

- https://www.youtube.com/watch?v=2d_dtTZQyUM&t=82s

Underdevelopment as a Coordination Failure

- Coordination failures occur when agents' inability to coordinate their actions leads to an outcome that makes all agents worse off.
- When complementarities are present, an action taken by one firm, worker, organization or government increases the incentives for other agents to take similar action;

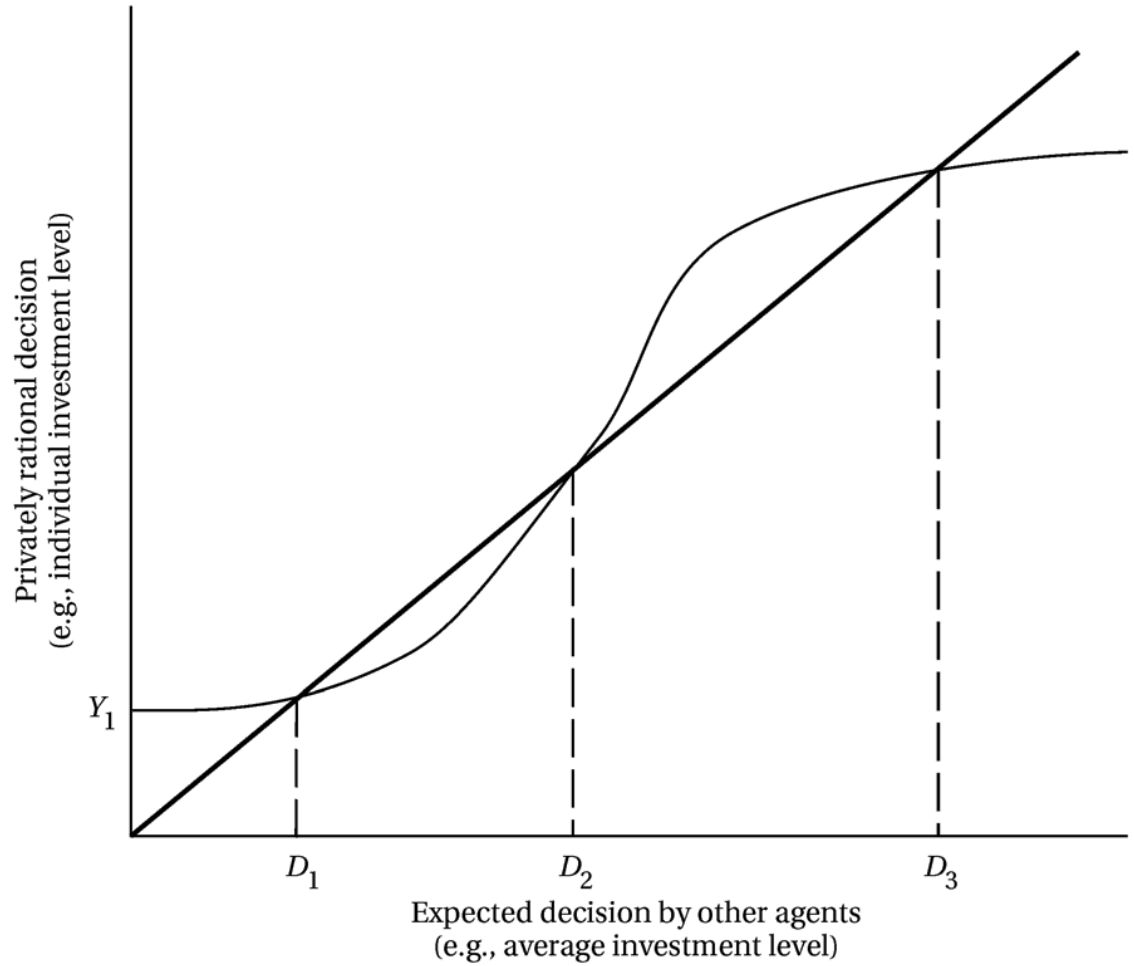
- big push model;

-O-ring model.

Multiple Equilibria: A Diagrammatic Approach

- Generally, these models can be diagrammed by graphing an S-shaped function and the 45º line
- Equilibria are
  - Stable: function crosses the 45º line from above
  - Unstable: function crosses the 45º line from below

Figure 4.1 Multiple Equilibria



Explanation of Figure 4.1

- The basic idea reflected in the S-shaped function of Figure 4.1: benefits an agent receives from taking an action depend positively on how many other agents are expected to take the action or on the extent of those actions
- D1 and D3 are stable; D2 is unstable
- The S-shaped function first increases at an increasing rate then at a decreasing rate; this reflects the typical nature of complementarities
- Value of the various equilibria is not the same; it is possible that everyone is better off in the equilibrium in which more people use the network: Pareto improvement
- Example: coordinating investment

Starting Economic Development: The Big Push, introduction.

- Whether an economy has already been growing sustainably for some time or has been stagnant seems to make a very big difference: it is very difficult to get modern economic growth under way in the first place and much easier to maintain it once a track record has been established;
- Market failures make economic development difficult to initiate

The Big Push: A Graphical Model

- 6 assumptions:
  - One factor of production: labor
  - Two sectors: traditional & modern
  - Same production function for each sector; the workers in modern sector are more productive, but cost more;
  - Consumers spend an equal amount on each good
  - Closed economy
  - Perfect competition with traditional firms operating, limit pricing monopolist with a modern firm operating

The Big Push: A Graphical Model (continued)

- Conditions for Multiple Equilibria:

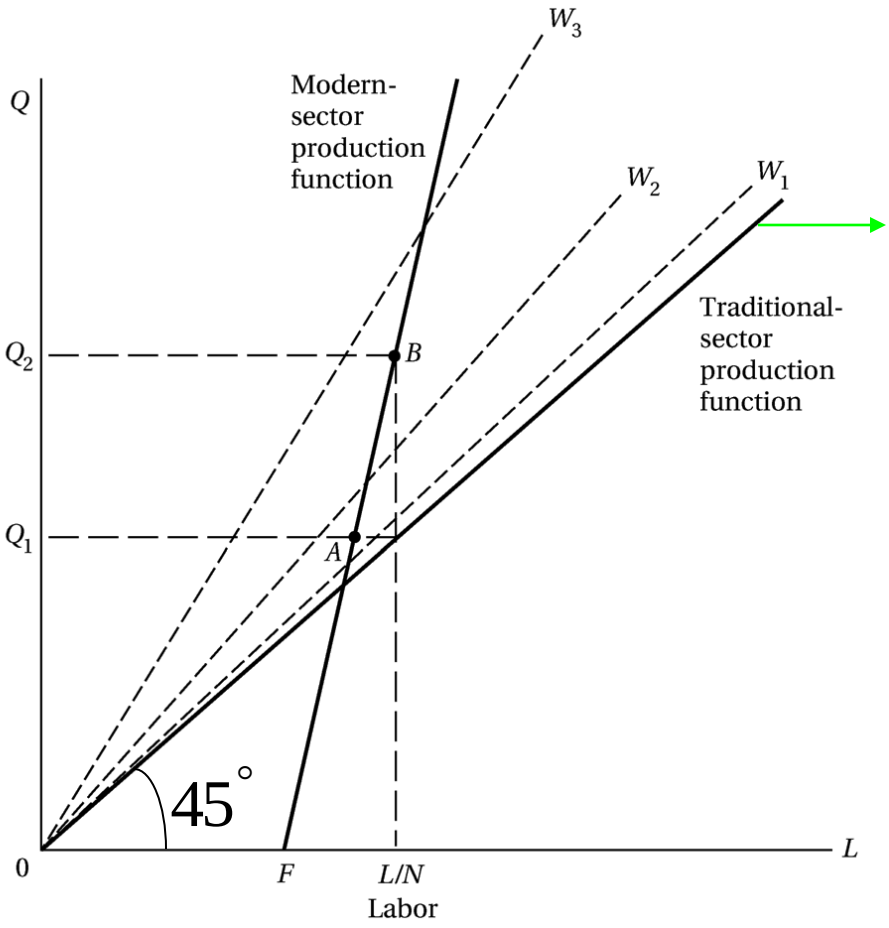
-to begin, suppose that we have a traditional economy with no modern production in any market; the potential producer with modern technology considers two questions

(1) how much more efficient the modern sector is than the traditional one;

(2) how much more wages are in the modern sector than in the traditional one.

-Figure 4.2

Figure 4.2 The Big Push



Wage line coincides with this!

About the Figure 4.2

- Whenever the wage line passes below A, the market will lead the economy to modernize, and whenever it passes above A, it will not;
- The steeper the modern-sector production technique or the lower of the fixed cost, the more likely that wage line passes below A;
- If wage line passes between A and B, there two equilibria: one in which there is industrialization and the society is better off (B) and one without industrialization (A); the market will not get us from A to B because of coordination failure.

Other cases in which a big push may be necessary

- Intertemporal effects
- Urbanization effects
- Infrastructure effects
- Training effects

Why the Problem Cannot be Solved by a Super-Entrepreneur

- Super Entrepreneur?
  - Capital market failures
  - Cost of monitoring managers- Asymmetric Information
  - Communication failures
  - Limits to knowledge
  - Lack of empirical evidence

Further Problems of Multiple Equilibria

- Inefficient advantages of incumbency
- Behavior and norms
- Linkages
- Inequality, multiple equilibria, and growth

Kremer's O-Ring Theory of Economic Development

- The O-Ring Model
  - Production is modeled with strong complementarities among inputs
  - Positive assortative matching in production
- Implications of strong complementarities for economic development and the distribution of income across countries

Further Problems of Multiple Equilibria

- Economic development as self-discovery

-there is uncertainty about what products a country can produce efficiently

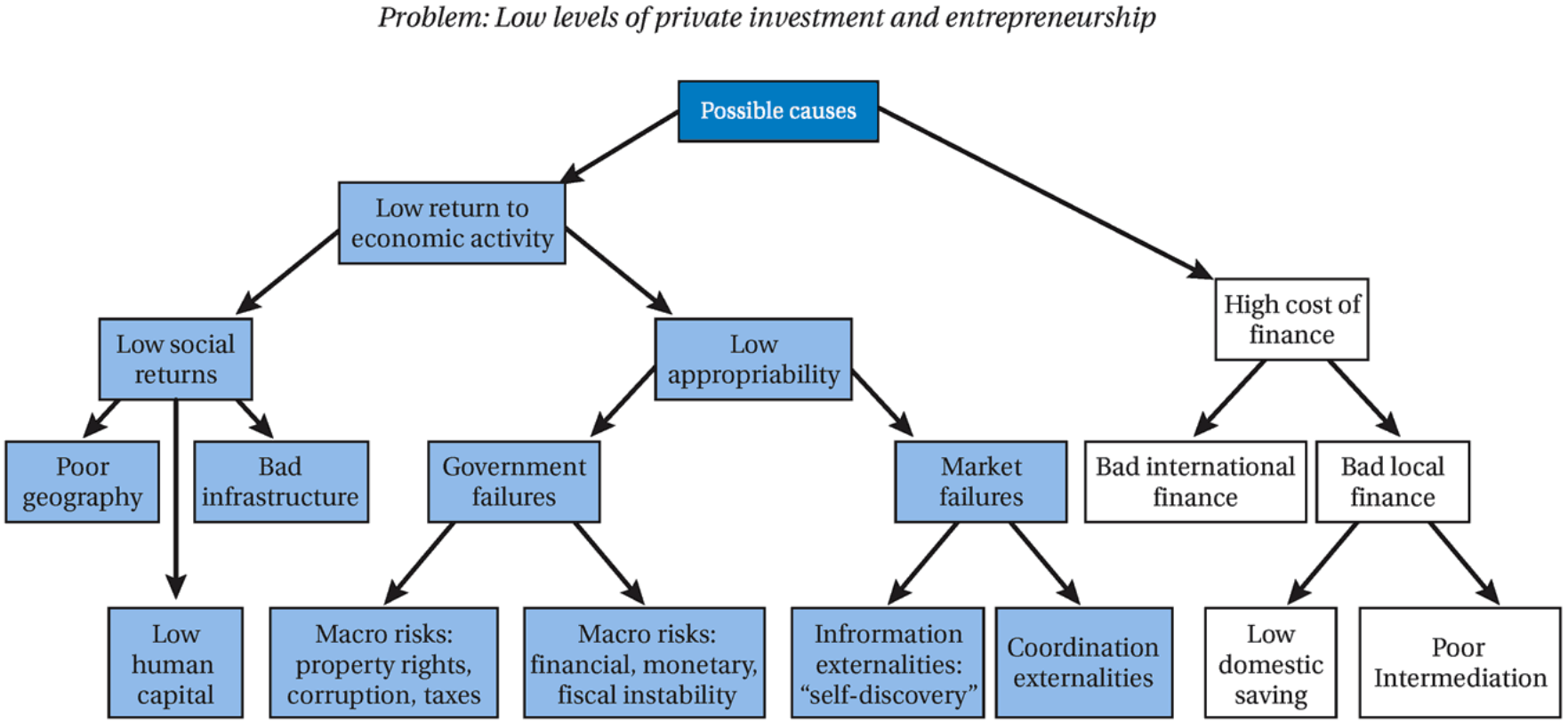
-there is a need for local adaption of imported technology so that it cannot be used productively “off the shelf”

-imitation is often rapid once the two obstacles have been overcome

The Hausmann-Rodrik-Velasco Growth Diagnostics Framework

- No “one size fits all” in development policy
- Focus on a country’s most binding constraints on economic growth
- Not simple to find the binding constraint. Uncertainty leads to probabilistic assessments

Figure 4.3 Hausmann-Rodrik-Velasco Growth Diagnostics Decision Tree



Source: Ricardo Hausmann, Dani Rodrik, and Andrés Velasco, "Getting the diagnosis right," *Finance and Development* 43 (2006), available at http://www.inf.org/external/pubs/ft/fandd/2006/03/hausmann.htm. Used with permission.

conclusions

- People keep doing inefficient things because it is rational to keep doing them, and it will remain rational as long as others keep doing inefficient things.
- The purpose of economic development theory is not only to understand underdevelopment but also devise effective policies to redress it.
- Both government and market failure are real, but public and private sector contributions to development are also vital.

The Hausmann-Rodrik-Velasco Growth Diagnostics Framework

- Growth diagnostic:

The Hausmann-Rodrik-Velasco Growth Diagnostics Framework

- Growth diagnostic:

Case Study: China

Concepts for Review

- Agency costs
- Agent
- Aid failure
- Asymmetric information
- Big push
- Complementarities
- Complementary investments
- Congestion
- Coordination failure
- Deep intervention
- Linkage
- Multiple equilibria
- O-ring model

Concepts for Review (cont'd)

- O-ring production function
- Pareto improvement
- Pecuniary externalities
- Poverty trap
- Prisoners' dilemma
- Public good
- Growth diagnostic
- Technological externalities
- Underdevelopment trap
- Where-to-meet dilemma