ECONOMIC DEVELOPMENT

Chapter 4: Contemporary Models of Development and Underdevelopment

GRAIN OF SALT

"If you don't read a newspaper you are uninformed. If you do read a newspaper, you are misinformed."

- Mark Twain, an American author.

*Top Economics Blogs

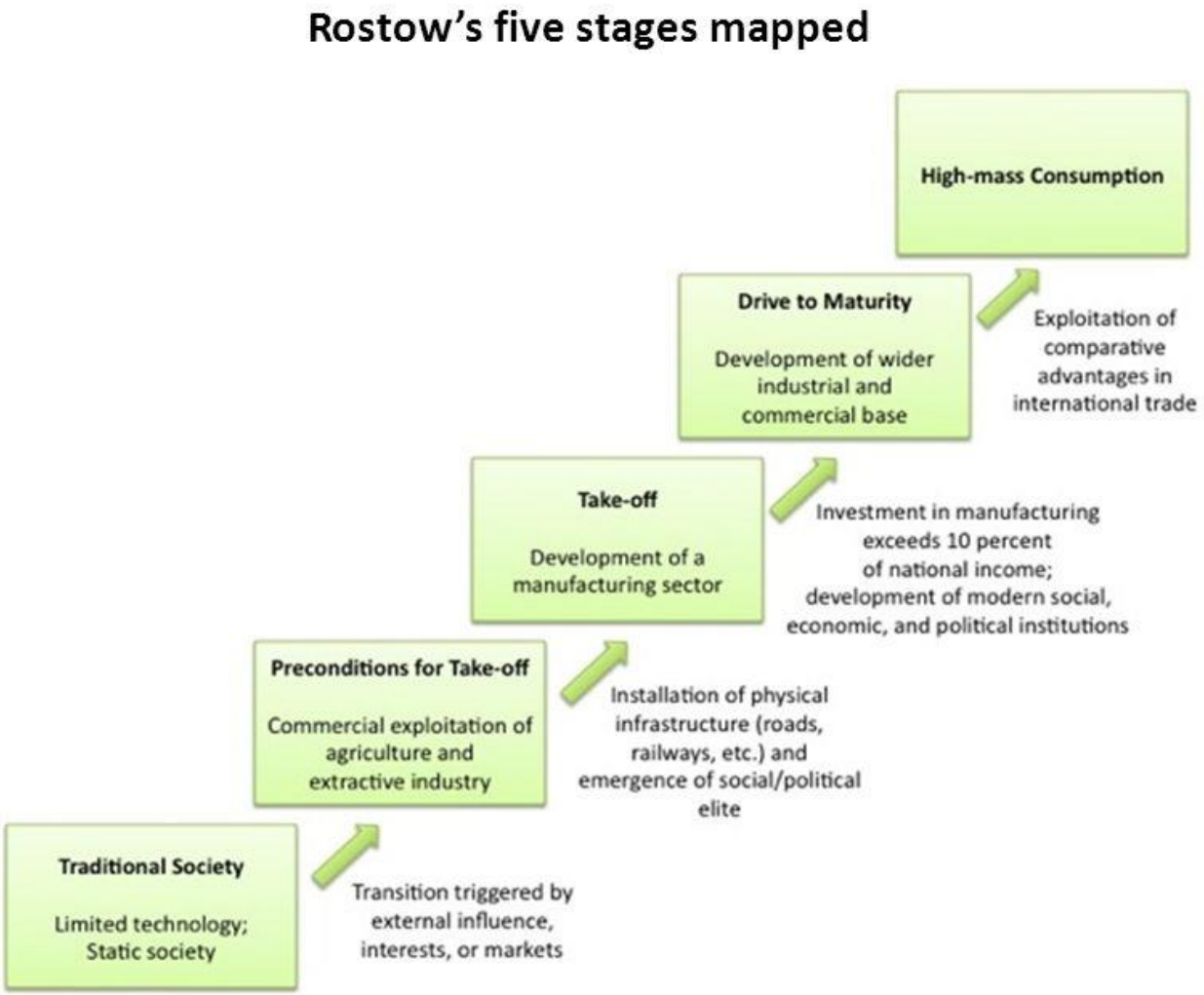
ANNOUNCEMENT

- HW/Problem Set 1 due on this Thursday
- In class Submission
- Hard copy, typed, 12 pt. font
- No late submission accepted.

REVIEW
Classic Theories Of Economic Development: Four Approaches

1. Linear stages of growth model
   i. Rostow's Stages of Growth
   ii. The Harrod-Domar (AK) Model
2. Theories and Patterns of structural change
   i. The Lewis Theory of Development
   ii. Patterns of Development
3. International-dependence Revolution
   i. The Neocolonial Dependence Model
   ii. The False-Paradigm Model
   iii. The Dualistic-Development Thesis
4. Neoclassical, free market counterrevolution
   i. Solow Growth Model
   ii. Endogenous(Romer) Growth Model

1. LINEAR-STAGES THEORIES



The Harrod-Domar Model

Equating 1-4; GDP growth rate is given by

$$S = sY = I = \Delta K = c\Delta Y$$

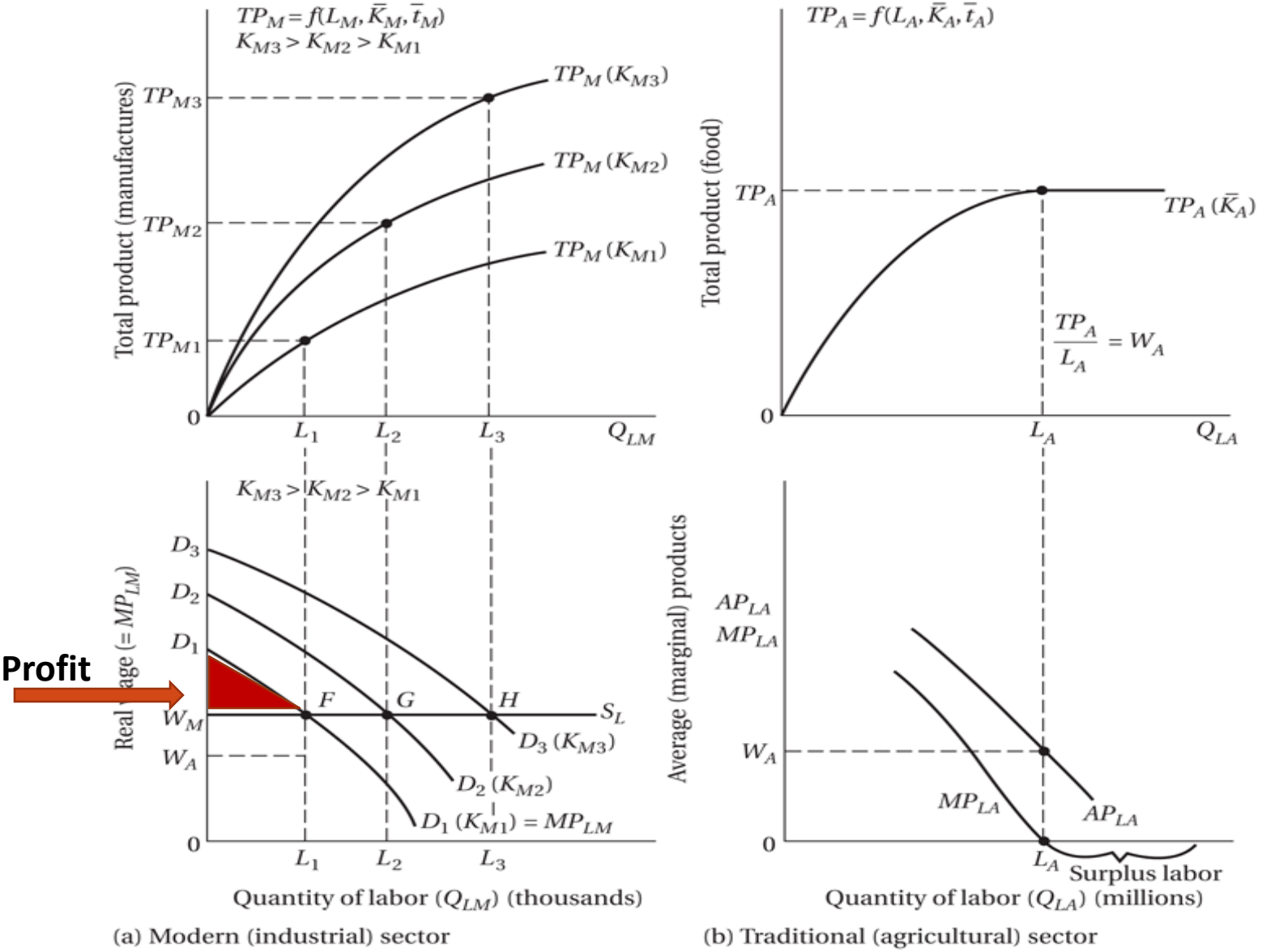
$$sY = c\Delta Y$$

$$\frac{\Delta Y}{Y} = \frac{s}{c}$$

S: national saving
Y: national income or output
s: saving ratio
K: capital stock
c: capital-output ratio
I : net investment

- The growth rate of national income is **positively** related to **the savings ratio** and **negatively** related to the economy's **capital output ratio**.
- In order to grow, economies must save and invest a certain proportion of their GDP.

THE LEWIS MODEL OF MODERN-SECTOR GROWTH IN A TWO-SECTOR SURPLUS-LABOR ECONOMY



2.STRUCTURAL-CHANGE MODELS
Empirical Patterns of Development

- Patterns of development theorists
  - increased savings and investment as necessary but not sufficient for economic development
  - In addition to capital accumulation, **transformation of production, composition of demand, and changes in socio-economic factors** are all important.
- Chenery and colleagues identified several characteristic features of economic development:
  - Shift from agriculture to industrial production
  - Steady accumulation of physical and human capital
  - Change in consumer demands from food to manufactured products
  - Increased urbanization
  - Decline in family size

3.THE INTERNATIONAL-DEPENDENCE REVOLUTION

- **The dualistic-development thesis**
  - represents the **existence and persistence of increasing divergences between rich and poor nations** and rich and poor peoples at all levels.
  - **Prebisch-Singer Hypothesis** suggests that over the long run the price of primary goods such as coal, coffee cocoa declines in proportion to manufactured goods such as cars, washing machines and computers.

- The concept embraces four key arguments:
  1. Superior and inferior conditions can coexist in a given space at given time.
  2. The coexistence is chronic and not transitional
  3. The degrees of the conditions have an inherent tendency to increase due to increasing of productivity gap.
  4. Superior conditions serve to "develop under development"

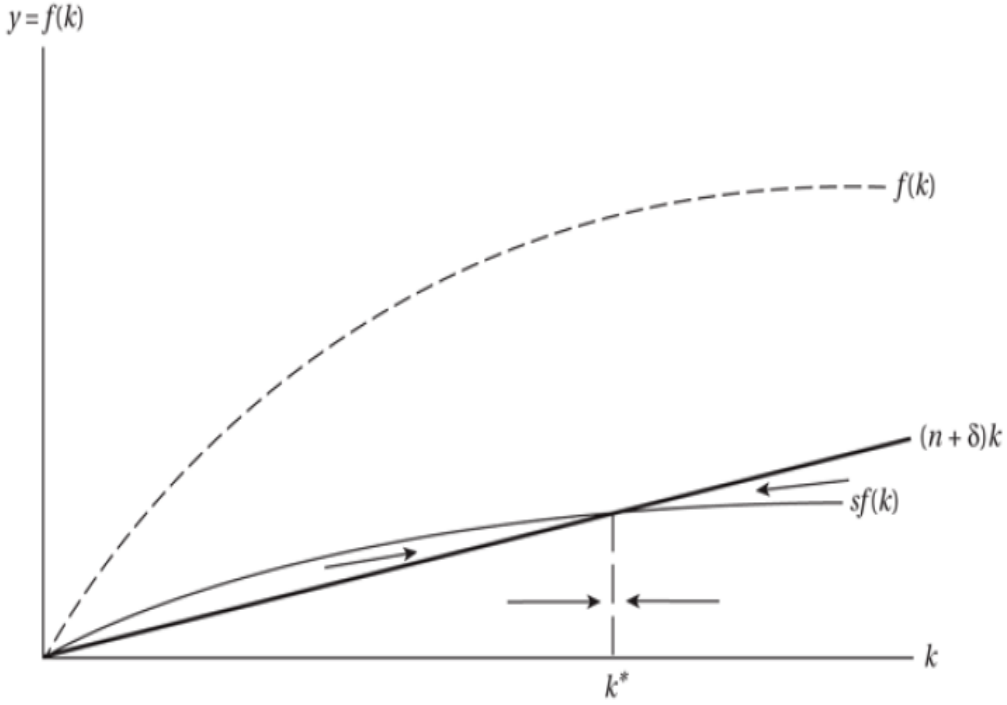
The Solow Neoclassical Growth Model

- $\Delta k = sf(k) - (\delta + n)k$

- Per capita capital stock is affect by **investment, depreciation, and population growth**

- **The steady state** value of capital k that maximizes consumption is called the **Golden Rule level of capital**.

- In the steady state, where savings investment equals investment required by population growth and depreciation.



$$\Delta k = 0$$
$$0 = sf(k) - (\delta + n)k$$
$$sf(k^*) = (\delta + n)k^*$$

OUTLINE
Contemporary Models of Development

1. **Coordination failure** as an explanation for underdevelopment
2. The existence and implication of **multiple equilibria.**
   - The Big Push Theory
3. **Kremer's O-Ring Theory**
4. Hausmann-Rodrick-Velsco growth diagnostic framework

INTRODUCTION

- In this lecture, we review a sample of some of the most influential of the new models of economic development.
- The new research has broadened considerably the scope for **modeling a market economy in a developing-country context.**
- One of its major themes is **incorporating problems of coordination among economic agents**, such as among groups of firms, workers, or firms and workers together.

INTRODUCTION

- These new theories depart from conventional neoclassical economics, at least in its assumptions of
  - 1. perfect information;
  - 2. the relative insignificance of externalities;
  - 3. and the uniqueness and optimality of equilibria.

UNDERDEVELOPMENT AS A COORDINATION FAILURE

- A newer school of thought on problems of economic development
  - Influential in 90s
- **Coordination failures** occur when agents' inability to coordinate their actions leads to an outcome that makes all agents worse off.
- This can occur when actions are **complementary.**
  - Actions taken by one agent reinforces incentives for others to take similar actions
- Several things must work well enough, at the same time, to get sustainable development under way.
  - This circumstance can lead to multiple equilibria.

UNDERDEVELOPMENT AS A COORDINATION FAILURE

- This framework may also be used in analyses of the **middle-income trap**
  - Countries develop to a degree but chronically fail to reach high-income status, often **due to lack of innovation capacity.**
- Firms will not enter a market if workers do not possess the skills the firms need, but workers will not acquire the skills if there are no firms to employ them.
  - This coordination problem can leave an economy stuck in a **bad equilibrium**.
  - The complementary investments must come at the same time, through coordination.
    - i.e role of government policy in coordinating.

UNDERDEVELOPMENT AS A COORDINATION FAILURE

- **Deep interventions** can move an economy to a preferred equilibrium or even to a higher permanent rate of growth in which there is no incentive to go back to the behavior associated with the bad equilibrium.
  - Government has no need to continue the interventions, because the better equilibrium will be maintained automatically.
- This **onetime-fix character** of some multiple equilibrium problems makes them worthy because they can make **government policy much more powerful** in addressing problems of economic development.

UNDERDEVELOPMENT AS A COORDINATION FAILURE

Where would you like to meet in LA if you did not know the exact location?

UNDERDEVELOPMENT AS A COORDINATION FAILURE

- Coordination failure can arise for several reasons;
  - ***the where-to-meet***
  - ***prisoner's dilemmas***.
  - In the **where-to-meet dilemma**, agents will all be better off if they coordinate their actions, and there is no incentive to cheat once they do.

  - In the **prisoner's dilemma**, agents will also be better off coordinating their actions, however, cheating will lead to a better personal outcome
  - The result is that this form of coordination will tend to break down over time.
    - *Prisoner's Dilemma

UNDERDEVELOPMENT AS A COORDINATION FAILURE

Costs 2 to produce;

Get 7 in revenue if produce and other produces

B's decision \ A's decision	Produce	Not Produce
Produce	A gets 5 B gets 5	A gets 0 B gets -2
Not Produce	A gets -2 B gets 0	A gets 0 B gets 0

Equilibrium

- An economy of two people A and B
  - A makes roads (and nothing else)
  - B makes cars (and nothing else)
- Cars are not much good without roads and Roads are a waste without cars (assume charge tolls)
- A and B must decide to produce or not to produce, and how much each produces affects the profits of the other.
- Costs 2 to produce, get 7 in revenue if other produces.

UNDERDEVELOPMENT AS A COORDINATION FAILURE

Costs 2 to produce;

Get 7 in revenue if produce and other produces

B's decision \ A's decision	Produce	Not Produce
Produce	A gets 5 B gets 5	A gets 0 B gets -2
Not Produce	A gets -2 B gets 0	A gets 0 B gets 0

Equilibrium

- **Problem:** if both A and B start out not producing, then neither finds it profitable to produce by themselves
  - **(Not Produce, Not Produce) is a Nash Equilibrium**
- But if both agree to produce, both better off and willing to produce the next period.
  - **Trapped by lack of coordination.**
- A poor country starts out with no roads, so has no cars, so no incentive to build roads, so no one builds cars.

UNDERDEVELOPMENT AS A COORDINATION FAILURE

- **Why can't they just both agree to produce?**
  - Perhaps they can (or A and B can merge, so they endogenize the externality).
  - But there may be reasons why they cannot agree, or merge.

Can you name any reason?

UNDERDEVELOPMENT AS A COORDINATION FAILURE

When will coordination be a problem?

- Poorly functioning capital markets
- Lots of individuals firms
- Lots of linkages (need gas stations as well as roads and cars, and tire makers, and trucks to ship the gas, and people need places to put the cars)
- Information is costly to obtain
- Courts function poorly, poor enforcement (corruption)
- Many possible equilibria (which one choose?)

UNDERDEVELOPMENT AS A COORDINATION FAILURE

- Coordinator is called the "**super entrepreneur"**
- The super-entrepreneur gets A and B to agree, or merges A and B, or does both A and B
  - Builds both cars and roads

UNDERDEVELOPMENT AS A COORDINATION FAILURE

Why doesn't the Super-entrepreneur exist?

- **Capital market imperfections:** maybe A can't buy B. or bankers are unwilling to provide loans to a single firm
- **Agency Problem and asymmetric information**:
  - Maybe A can't monitor B effectively. Or maybe A and B are from different ethnic groups—don't trust each other.
- The super-entrepreneur may not have the cash to do both A and B.
- Communication and information problems
  - How do you know who will be the super-entrepreneur?
  - How do you communicate who is producing what?

UNDERDEVELOPMENT AS A COORDINATION FAILURE

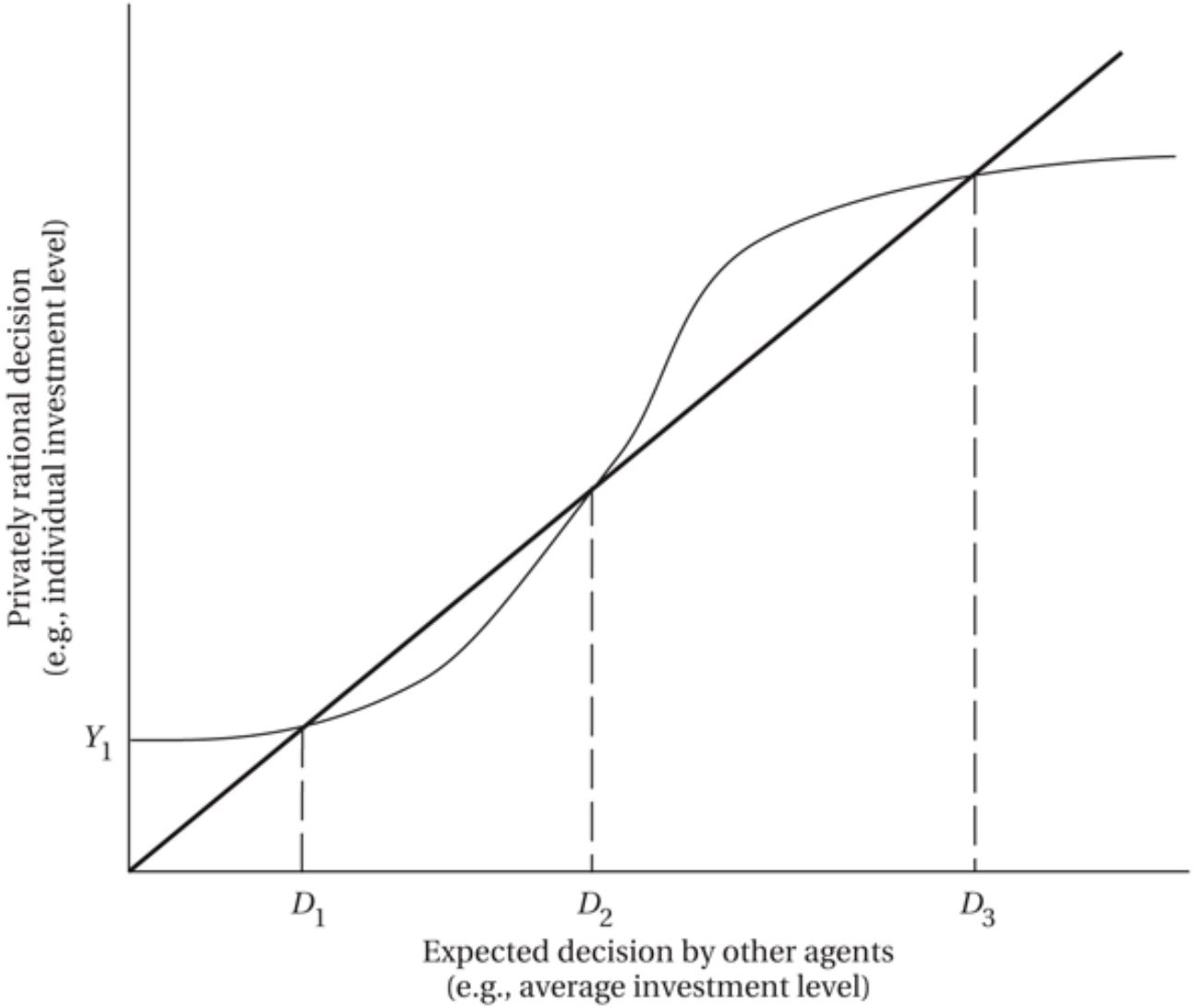
Why doesn't the Super-entrepreneur exist?

- Sometimes it does (large firms in developing countries tend to do many things)
  - Backward and forward linkages
  - But difficult to do all of the things needed (cars need steel, roads, rubber, glass, oil.)
- Government action may be needed
  - Large state firms.
  - But governments not very good at directing production
- Always need some coordination.

MULTIPLE EQUILIBRIA: A DIAGRAMMATIC APPROACH

- Often, 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 (D1 and D3)
    - Here firms adjust their investment decisions in coordination with average investment in the industry.
  - **Unstable:** function crosses the 45º line from below(D2)
    - As firms coordinate their investment decisions, equilibrium moves to D1 (decrease investment) or D3 (increase investment).

MULTIPLE EQUILIBRIA



MULTIPLE EQUILIBRIA: A DIAGRAMMATIC APPROACH

- **Lower stable equilibrium** occurs when only a few agents take a complementary action and spillovers are minimal
- **Higher stable equilibrium** occurs at a stage when many agents have taken the complementary action that they all enjoy the positive benefits of the spillovers
- To achieve stable equilibrium, firms must be able to coordinate their investment decisions such that all firms benefit from each other's investment.
- Government intervention can change expectations of individuals and thus move the economy from low to high stable equilibrium
- Technological availability is a necessary but not a sufficient condition for development

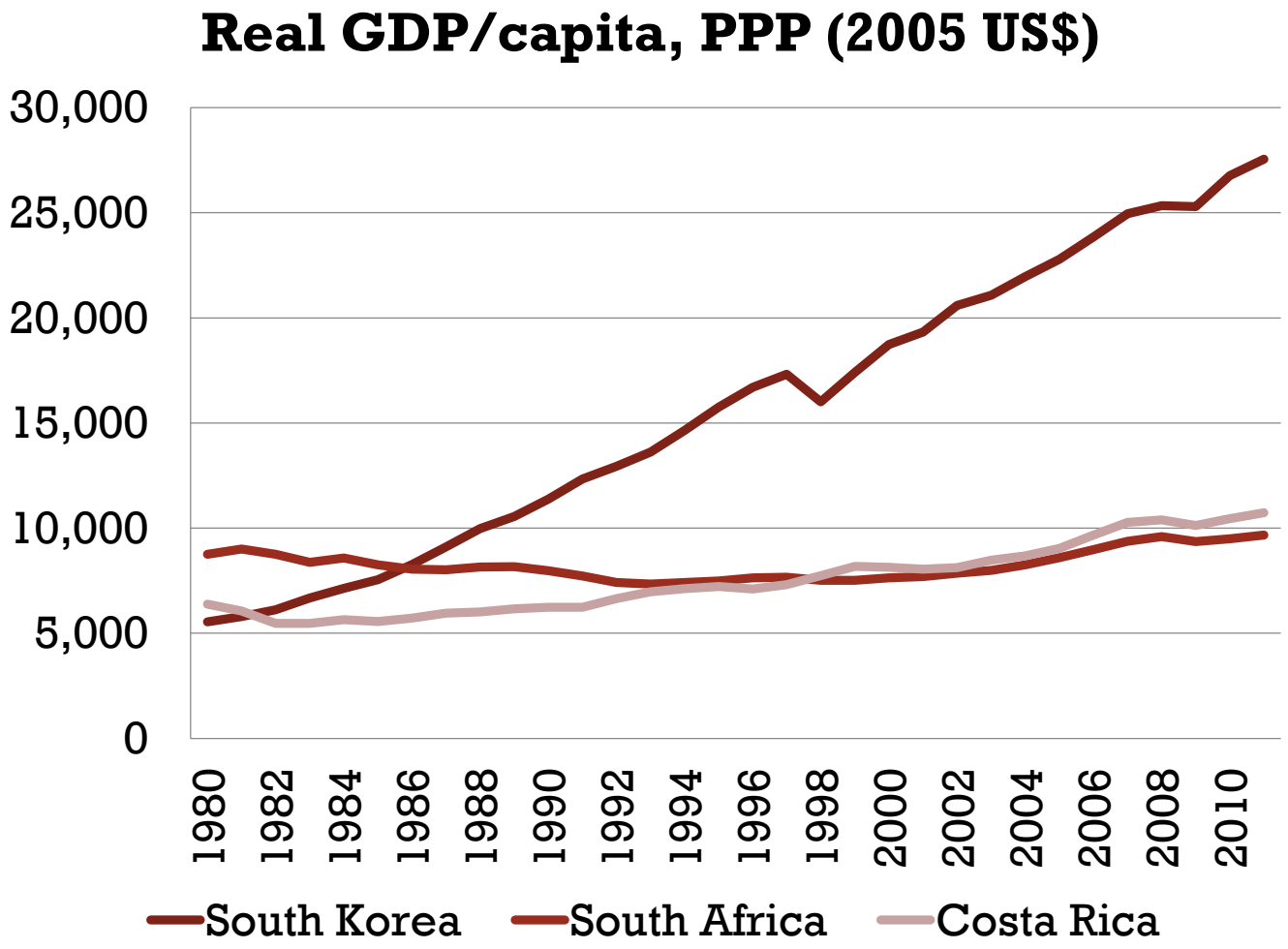
STARTING ECONOMIC DEVELOPMENT: THE BIG PUSH

- Whether an economy has been growing sustainably for some time or has been stagnant seems to make a very big difference for subsequent development.
- If growth can be sustained for a substantial time, it is much more unusual for economic development to later get off track for long.
- Moreover, it is very difficult to get modern economic growth under way the first place and much easier to maintain it once a track record has been established.

Why should it be so difficult to start modern growth?

- Coordination failure is an important factor.

Economic growth rates vary a lot across countries.



Source: World Bank, Development Indicators

STARTING ECONOMIC DEVELOPMENT: THE BIG PUSH

- ”Big push" pioneered by **Paul Rosenstein-Rodan**, who first raised some of the basic coordination issues.
- He pointed out several problems associated with initiating industrialization in a subsistence economy.
- **The big push** is a model of how the presence of market failures can lead to a need for a concerted economy-wide and probably public-policy-led effort to get the long process of economic development under way or to accelerate it.
  - Coordination failure problems work against successful industrialization, a counterweight to the push for development.

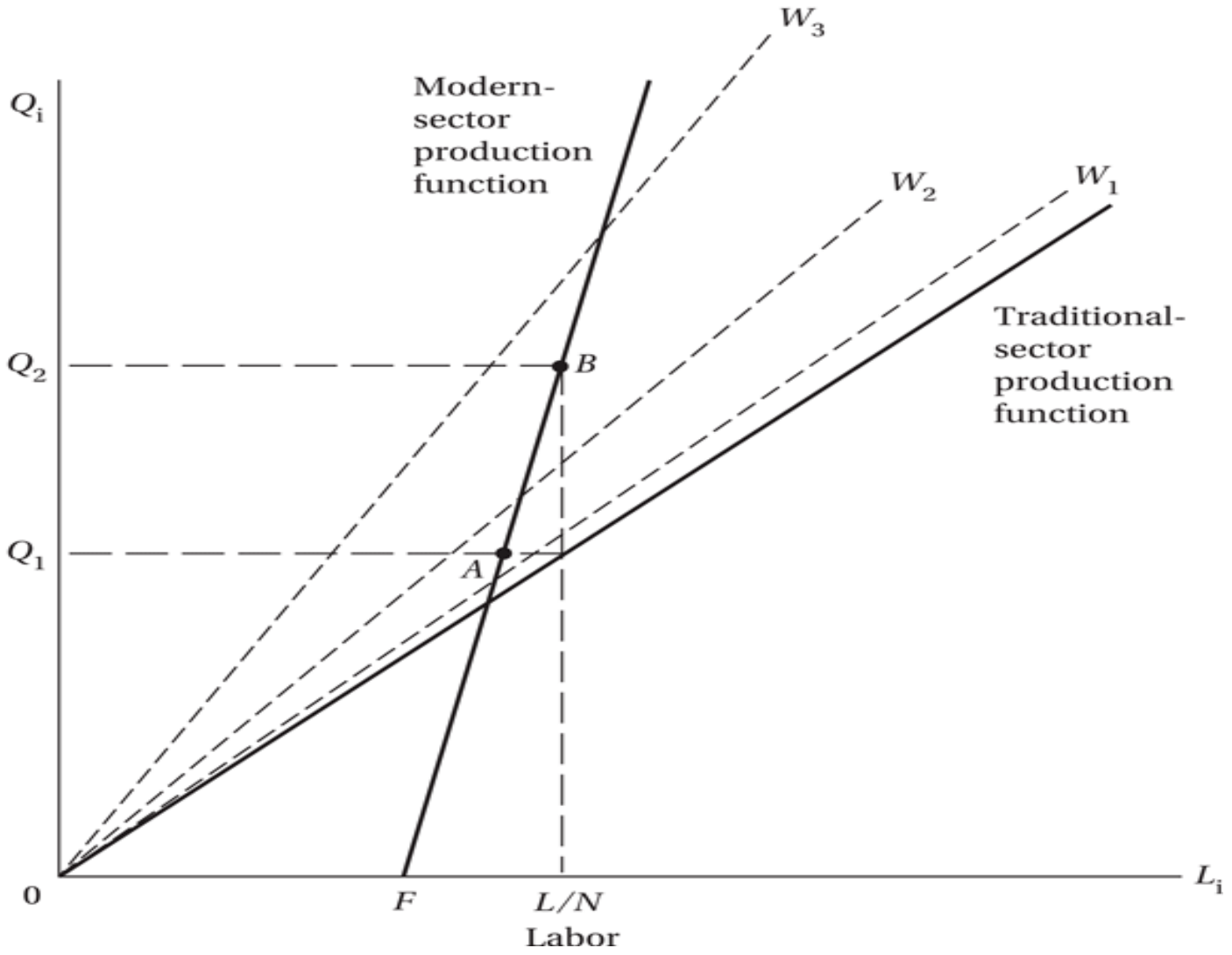
THE BIG PUSH: DERIVATION

- Sometimes market failures lead to a need for public policy intervention
- The Big Push: A Graphical Model, **6 assumptions**
  1. One factor of production: Labor, with fixed total supply L;
  2. Two sectors: A traditional receiving wage of 1, and a modern sector with wage W > 1;
  3. Technology
     - N types of products
     - Traditional sector(DRS): one worker produces one unit of output
     - Modern sector(IRS): Linear production function of the form L = F + cQ;
  4. Consumers spend an equal amount on each good, Y/N, on each good;
  5. Closed economy
  6. Perfect competition

STARTING ECONOMIC DEVELOPMENT: THE BIG PUSH

- Production functions are represented for the two types of firms for any industry.
  - **The traditional producers** use a linear technique with slope 1, with each worker producing one unit of output.
  - **The modern firm** requires F workers before it can produce anything, but after that, it has a linear technique with slope 1/c>1.
- For the traditional firm, the wage bill line lies coincident with the production line (both start at the origin and have a slope of 1).
- For the modern firm, the wage bill line has slope W > 1.
- At point A, we see the output that the modern firm will produce if it enters, provided there are traditional firms operating in the rest of the economy.

THE BIG PUSH


W_3
Modern-sector production function
W_2
W_1
Q_i
Q_2
Q_1
B
A
Traditional-sector production function
0
F
L/N
Labor
L_i

STARTING ECONOMIC DEVELOPMENT: THE BIG PUSH

- Suppose that we have a traditional economy with no modern production in any market.
- A potential producer with modern technology considers whether it is profitable to enter the market.
- The answer depends on two considerations:
  - how much more efficient the modern sector is than the traditional sector;
  - how much higher wages are in the modern sector than in the traditional sector.

THE BIG PUSH

Case 1

- If the prevailing wage is given by a bill line like **W1, passing below point A**, revenues exceed costs, and **the modern firm will pay the fixed cost F and enter the market.**
- By assumption, production functions are the same for each good, so if a modern firm finds it profitable to produce one good, the same incentives will be present for producing all goods, and the **whole economy will industrialize** through market forces alone.
- Demand is now high enough that we end up at **point B** for each product.
- This shows that a coordination failure need not always happen.

STARTING ECONOMIC DEVELOPMENT: THE BIG PUSH

Case 2

- If a wage bill line like W2 holds, **passing between points A and B**, the firm would not enter if it were the only modern firm to do so in the economy because it would incur losses.
- But if modern firms enter in each of the markets, then wages are increased to the modern wage in all markets, and income expands.
- With a prevailing wage like W2 , there are two equilibria
  1. one in which producers with modern techniques enter in all markets, and profits, wages, and output are higher than before;
  2. and one in which no modern producer enters, and wages and output remain lower.
- As W2 > W1, other firms enter the modern sector to share the profit. Coordination between these firms is now needed for the economy to adopt modern technology
- The market by itself will not get us from A to B because of a coordination failure.

THE BIG PUSH

Case 3

- A final possibility is found in a wage bill line like **W3, passing above point B.**
- In this case, even if a modern producer entered in all product sectors, all of these firms would still lose money, so again the traditional technique would continue to be used.
- At a high wage like W3, investment in modern technology is not profitable.
- In general,
  - whenever the wage bill line passes below point A, the market will lead the economy to modernize, and whenever it passes above A, it will not.
  - If the line passes above B, it makes no sense to industrialize.
  - if the wage line passes between points A and B, it is efficient to industrialize, but the market will not achieve this on its own.

STARTING ECONOMIC DEVELOPMENT: THE BIG PUSH

- Point A is a stable equilibrium as low profits discourage firms to invest in modern technology (no industrialization)

- Point B is an unstable equilibrium because it requires the principal to provide incentive to invest and agents to coordinate their decision of investment in modern technology (industrialization)

STARTING ECONOMIC DEVELOPMENT: THE BIG PUSH

A big push may also be necessary when there are:

1. **Intertemporal effects**: investment in the modern sector becomes profitable over-time as the market size increases
   - Ex. Initial cost of investment is high

2. **Urbanization effects:** demand for manufactured goods increases with urban population growth

3. **Infrastructural effects:** improvement in transportation, communication, and distribution systems reduces the cost of investment

4. **Training effects:** the labor force becomes more productive and skilled with education

IN A NUTSHELL: BIG PUSH MECHANISMS

- Raising total demand
- Reducing fixed costs of later entrants
- Shifting demand toward manufacturing goods (usually produced in urban areas)
- Help cover costs of essential infrastructure (a similar mechanism can hold when there are costs of training, and other shared intermediate inputs)

FURTHER PROBLEMS OF MULTIPLE EQUILIBRIA

- Inefficient Advantages of Incumbency
  - The presence of increasing returns in modern industries can create another kind of bad equilibrium.
  - Once a modern firm has entered, it has an advantage over any rivals because its large output gives it low average costs.
  - If an even better modern technology becomes available to potential rival, it may not be easy for the new technology to supplant the old.

FURTHER PROBLEMS OF MULTIPLE EQUILIBRIA

- Behavior and Norms
  - Movement to a better equilibrium is especially difficult when it involves many individuals changing their behavior from one of rent seeking or corruption to honest. (e.g., with business partners).
  - Only by cooperating with other good-willed cooperators may you reach the best outcome.
  - Past experience may lead people to expect opportunistic behavior, which in turn raises the incentives for the potential partners to cheat.

FURTHER PROBLEMS OF MULTIPLE EQUILIBRIA

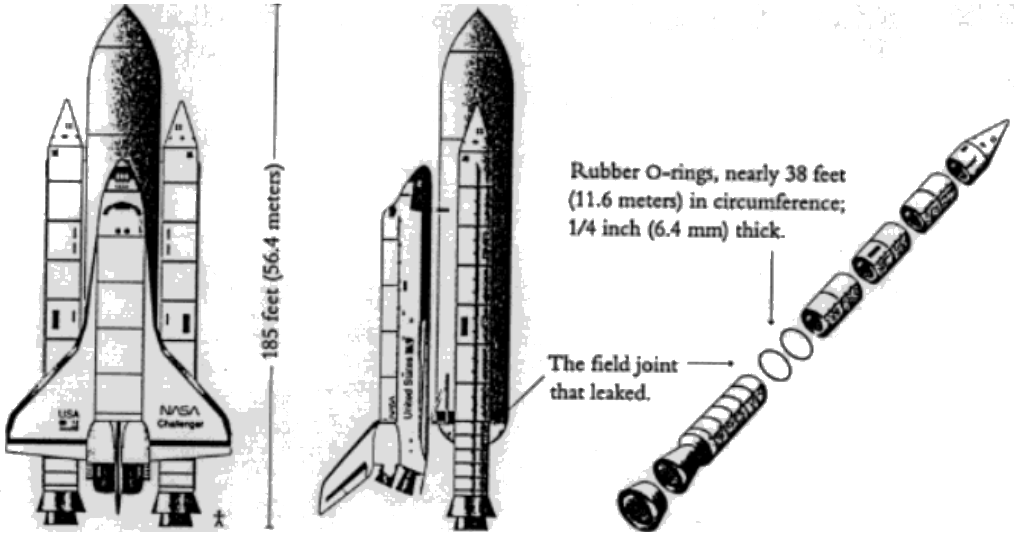
- Linkages
  - **The theory of linkages** stresses that when certain industries are developed first, their interconnections or linkages with other industries will induce the development of new industries.
  - One strategy for solving coordination problems is to focus government policy on encouraging the development of industries with key linkages.
    - Ex. Subsidies South Korea, Incentives for MNCs Singapore..
- Inequality, Multiple Equilibria, and Growth
  - trickle-up growth (flow of the wealth from poor to rich), Whenever there are multiple equilibria it is possible for there to be a poverty trap since Poor cant get loans from credit markets.

*Space Shuttle Challenger Disaster

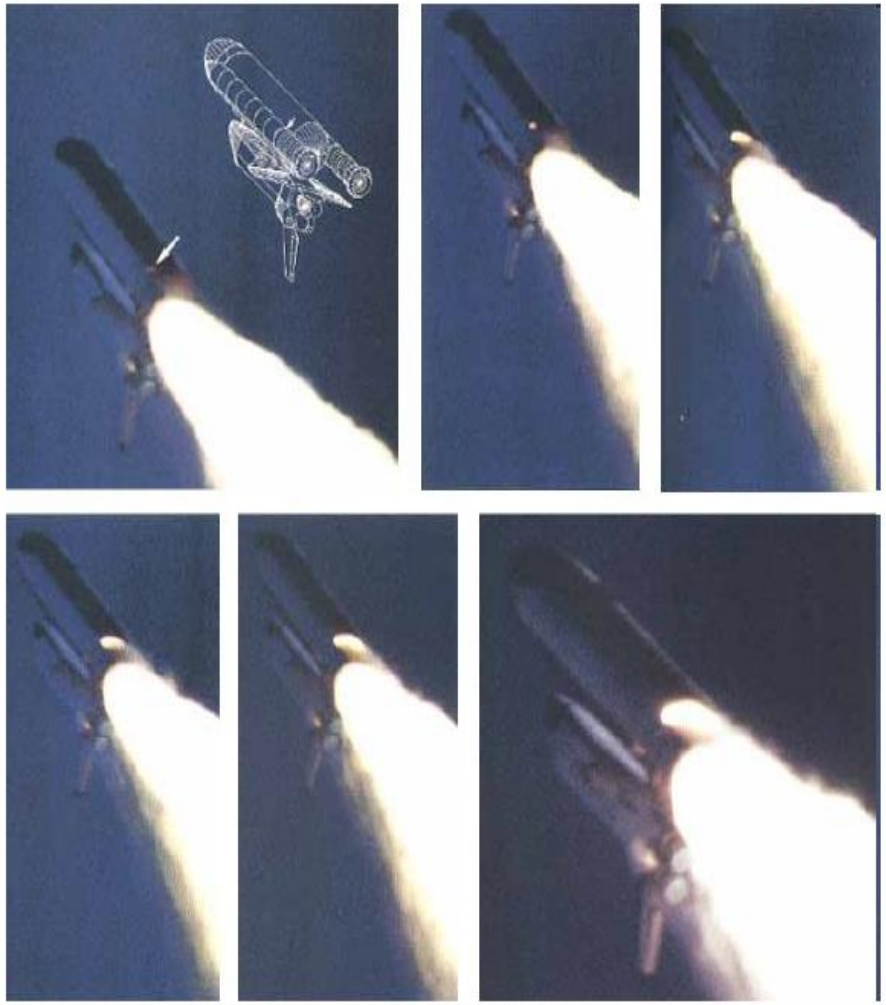
What does this have to do with economic development?

- The cause of the disaster was traced to an O-ring, a circular gasket that sealed the right rocket booster.
- This had failed due to the low temperature (31°F / -0.5°C) at launch time
- The O-rings had no test data.
- The cost of Challenger Shuttle 1.7 Billion
- Cost of Oring no more than $500

Challenger O-Rings



MICHAEL KREMER'S O-RING THEORY



Source: http://www.aerospaceweb.org/question/investigations/q0122.shtml

1986 Challenger disaster: a faulty O-ring

- The problem with the Challenger highlights that many systems (especially complex ones) are only as good as their weakest link.
- Although with less disastrous consequences, same is true for most industrial/services products
- They require many steps, and a good product at the end requires all of the steps to be completed successfully or at least reasonably well
- Kremer O-ring model highlights how the quality of different inputs relates to the output

MICHAEL KREMER'S O-RING THEORY

MICHAEL KREMER'S O-RING THEORY

positive assortative matching.

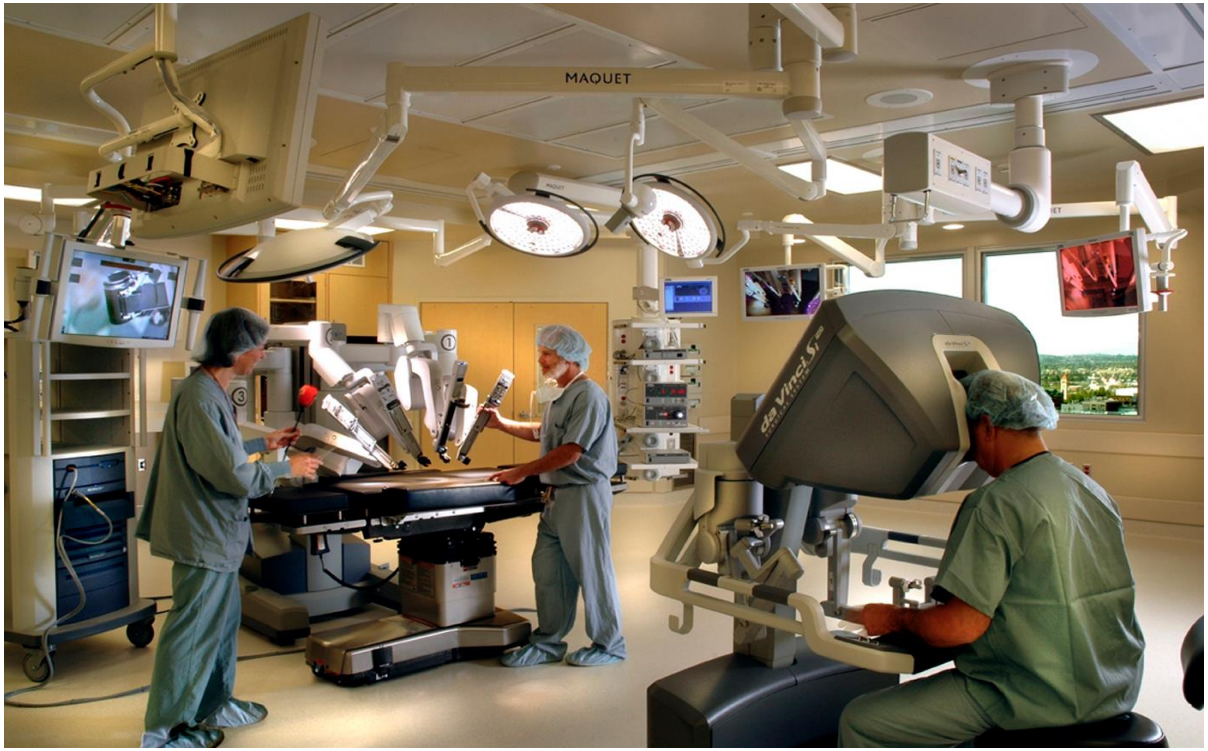
- The World's Most Expensive Taco Is a $25,000 Delight, Served at Grand Velas Los Cabos in Mexico
- Gold flake–infused soft corn tortilla filled with Kobe beef, lobster, black truffle brie cheese, and, of course, Almas Beluga caviar.

MICHAEL KREMER'S O-RING THEORY

- The O-Ring Model
  - Production is modeled with strong complementarities among inputs
  - Positive assortative matching in production

- Basic idea:
  - Each product or activity needs several inputs
  - The probability that the product will fail depends on the multiple of the probability of each input failing.

MICHAEL KREMER'S O-RING THEORY



- You cannot just substitute more of one thing to get output, need all things
  - A good surgeon requires:
    - Good assistants, high tech equipment, Lights, Good postoperative care
  - Without the complementary inputs, a good surgeon will not do good surgeries

MICHAEL KREMER'S O-RING THEORY

- The O-ring theory is interesting
  - It explains not only the existence of poverty traps but also the reasons that countries caught in such traps.
  - The key feature of the O-ring model is the way it models production with strong complementarities among inputs.

MICHAEL KREMER'S O-RING THEORY

- Production function is ***positive assortative matching***.
- This means that workers with high skills will work together and workers with low skills will work together.
  - E.g., the highest quality secretaries will work with the best CEOs. Or Barcelona FC ☺

MICHAEL KREMER'S O-RING THEORY

- Suppose that a production process is broken down into "n" tasks.
- Assume
  - Firms are risk neutral
  - Labor competitive
  - Workers always work
- The higher the skill (q), the higher the probability that the task will be "successfully completed".
- Failure of any of these tasks will lead to lower output.
- Cannot substitute quantity for quality.

MICHAEL KREMER'S O-RING THEORY

MICHAEL KREMER'S O-RING THEORY

- To see this, imagine a four-person economy.
  - Suppose that this economy has two high-skill q_H workers and two low-skill q_L workers.
- The four workers can be arranged either as matched skill pairs or unmatched skill pairs
- Total output will always be higher under a matching scheme because

$$q_H^2 + q_L^2 > 2q_H q_L$$

Numerical Example:

- $q_H=7$
- $q_L=3$
- Matching can be as
  1. High productive workers together q_Hq_H and q_Lq_L

     Total Output= 7*7 +3*3=58
  1. Mixes q_Hq_L and q_Hq_L

     Total Output= 7*3 +7*3=42

MICHAEL KREMER'S O-RING THEORY

$$q_H^2 + q_L^2 > 2q_H q_L$$

- Because total value is higher when skill matching rather than skill mixing takes place, the firm that starts with high-productivity workers and it is profitable to do so.
- **In economy-wide terms, high quality workers will earn higher wages when working with high quality co-workers.**
- After the high-productivity workers pair off, they are out of the picture. **The less productive workers are then stuck with each other.**
- If there are many classes of skill or productivity
  - First the highest skill workers get together, then the next highest, and so on, such that skill matching results as a cascading process.
- **The result in the business world is that some firms and workers, even an entire low-income economy, can fall into a trap of low skill and low productivity, while others escape into higher productivity.**

IMPLICATIONS OF THE O-RING THEORY

- Firms tend to employ workers with **similar skills for their various tasks.**
- Workers performing the same task earn higher wages in a high-skill firm than in a low-skill firm.
- Wages will be more than proportionally **higher in developed countries** since wages increase in q at an increasing rate.
- When those around you have higher average skills, you have a greater incentive to acquire more skills.

IMPLICATIONS OF THE O-RING THEORY

- One can get caught in economy wide low-production-quality traps.
- O-ring effects magnify the impact of local production bottlenecks because such bottlenecks have a multiplicative effect on other production.
- *Bottleneck Effect
- Bottlenecks reduce the incentive for workers to invest in skills by lowering the expected return to these skills.
- The choice of technology depends on skill level of workers.
- Developed countries have **high skilled worke**rs and therefore large specialized production processes.
- **International brain drain** occurs because a worker from a developing country receives a higher wage for the same skills.

ECONOMIC DEVELOPMENT AS SELF-DISCOVERY

- Hausmann and Rodrik: A Problem of Information
- Each country must learn what activities are most advantageous to specialize in.
  - it is a complex task—and one prone to market failure.
  - Not enough to say developing countries should produce "labor intensive products," because there are thousands of them.
- Industrial policy should aim;
  - Encourage exploration in the first stage.
  - Leads to movement out of inefficient sectors and into more efficient sectors in the second stage

ECONOMIC DEVELOPMENT AS SELF-DISCOVERY

- Three building blocks of the theory:
  - **Uncertainty** about what products can be produced efficiently
    - Evidence: India's success in information technology was unexpected;
    - Reasons for Bangladesh's efficiency in hats vs Pakistan's in bedsheets is not clear.
  - Need for **local adaptation** of foreign technology
    - Shipbuilding in South Korea.
  - **Imitation** can be rapid
    - the spread of cut flower exporting in Colombia.

THE HAUSMANN-RODRIK-VELASCO GROWTH DIAGNOSTICS FRAMEWORK

- "one size fits all" in development policy is a myth.
- Different countries face different **binding constraints** on achieving faster rates of growth and economic development.
- A key mission is to help determine the nature of the constraints for each country.
- Ricardo Hausmann, Dani Rodrik, and Andrés Velasco (HRV) propose a **growth diagnostics decision tree** framework for zeroing in on a country's most binding constraints on economic growth.

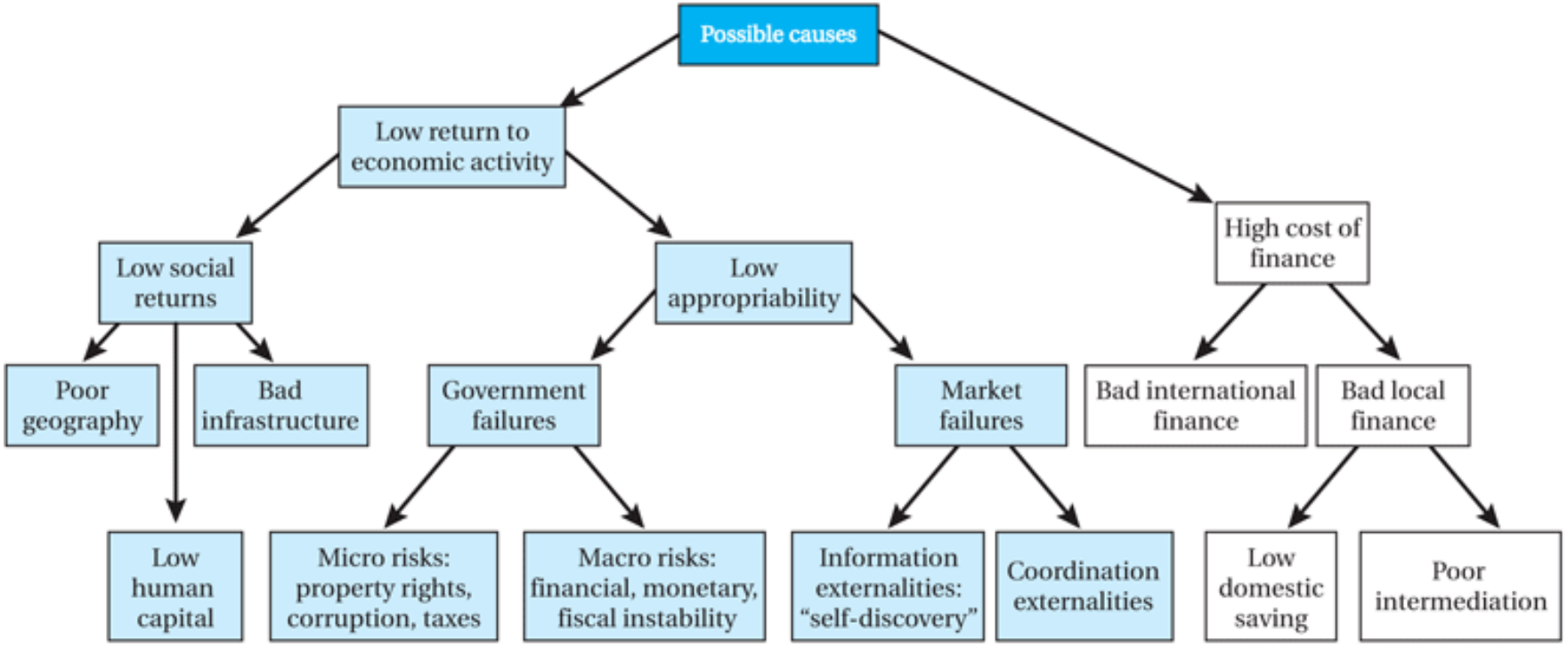
*What is growth Diagnostics?

THE HAUSMANN-RODRIK-VELASCO GROWTH DIAGNOSTICS FRAMEWORK

- Focus on a country's most binding constraints on economic growth:
  - low rate of return on investment and
  - high cost of financing
- Insufficient investment in physical, social, environmental, and human capital
- Requires careful research to determine the most likely binding constraint
- **Development strategy** that determines one policy priorities on this diagnostic basis will be more effective than pursuing a long laundry list of institutional and governance reforms.
- …More art than science!

HAUSMANN-RODRIK-VELASCO GROWTH DIAGNOSTICS DECISION TREE

Problem: Low levels of private investment and entrepreneurship



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. Reprinted with permission.

HAUSMANN-RODRIK-VELASCO GROWTH DIAGNOSTICS

Growth diagnostic

- **El Salvador:** The binding constraint is a **lack of innovation** and **demand for investment** to replace the traditional cotton, coffee, and sugar sectors, or low "self-discovery."
  - Best strategy - encourage more entrepreneurship and development of new business opportunities

Growth diagnostic

- **Brazil:** The country's binding constraint as **lack of sufficient funds** to invest despite an abundance of productive ideas.
  - Best strategy-higher taxes and user fees and lower infrastructure and human capital subsidies might work to increase funds available.

CONCLUSIONS

- We reviewed the contributions of the new theories of development including;
  - the causes and effects of poverty traps,
  - roles of different types of strategic complementarities and expectations,
  - importance of externalities,
  - the potential scope for deep interventions,
  - both the potential role of government and the constraints on the effectiveness of that role.

CONCLUSIONS

- Both government failure and market failure (including coordination problems and information externalities) are real, but public and private-sector contributions to development are also vital.
- Onetime-fix character of some multiple-equilibrium problems can make government policy much more powerful in addressing problems of economic development, but bad policy today could push an economy into a bad equilibrium for years to come.

CONCEPTS FOR REVIEW

- Agency costs
- Asymmetric information
- Big push
- Complementarity
- Congestion
- Coordination failure
- Deep intervention
- Economic agent
- Growth diagnostics
- Information externality
- Linkage
- Middle-income trap
- Multiple equilibria
- O-ring model
- Pareto improvement
- Pecuniary externalities
- Poverty trap
- Prisoners' dilemma
- Social returns
- Technological externality
- Underdevelopment trap
- Where-to-meet dilemma