



## LECTURE ELEVEN - PART THREE



### #3: Capital Formation

- A modern economy requires a vast array of capital goods.
- Countries must abstain from current consumption to rapidly accumulate capital.
- When you are poor to begin with, reducing current consumption to provide for future consumption seems impossible.

## **The Importance of Capital**

- Growth leaders invest at least 20% of output in capital formation.
- The poorest agrarian countries often save and invest only 5 percent of their national income.
  - Much of the low level of savings goes to provide the growing population with housing and simple tools.

### **The Result**

Too little investment in the productive capital so indispensable for rapid economic progress.

## **#4: Technological Change**

- Developing countries have one potential advantage here:
  - They can benefit by relying on the technological progress of more advanced nations.

## **Technological Duplication**

- Poor countries do not need to find modern Newtons to discover the law of gravity.
- Nor do they have to repeat the slow, meandering inventions of the Industrial Revolution.
- Japan and the United States clearly illustrate this pattern in their historical developments.



## **The Japanese Miracle**

- Japan joined the industrial race late, and only at the end of the 19th century did it send students abroad to study Western technology.
- The Japanese government has taken an active role in stimulating the pace of development and in building infrastructure such as railroads and utilities.



## The United States



- The case of the United States likewise provides a hopeful example to the rest of the world.
- The key inventions involved in the automobile originated almost exclusively abroad.
- Nevertheless, Ford and General Motors applied foreign inventions and rapidly became the world leaders in the automotive industry.

## An Easy Recipe?



- From the histories of Japan and the United States, it might appear that adaptation of foreign technology is an easy recipe for development.
- You might say:

- Just go abroad.
- Copy more efficient methods.
- Put them into effect at home.
- Sit back and wait for the extra output to roll in!”

## It's Not That Simple

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- You can send a textbook on chemical engineering to Bangladesh or Somalia.
- Without skilled scientists, engineers, entrepreneurs, and adequate capital, these countries can't even begin to think about building a working petrochemical plant!