

# Production and Growth

Why do some societies have a higher standard of living than others?

## 1) Productivity

Productivity is defined as the amount of goods and services produced from each hour of a workers time.

Productivity = Output per worker per hour  
(sometimes quoted as per day or per year)

## How is Productivity Determined?

A country will have higher productivity and a higher standard of living if it has access to four important factors of production:

- i) Physical capital: the more capital (buildings, machines, tools) that a worker has available to him/her, the more productive he/she will become.  
(a backhoe is much more productive than a shovel)
  
- ii) Human capital: the knowledge and skills that workers acquire through education and training.  
(the know-how through training and education to use the physical capital).
  
- iii) Natural Resources: Inputs into production that are supplied by nature, such as minerals, water, trees, forests etc.
  
- iv) Technological Knowledge: Societies understanding of the best ways to produce goods and services.

# Economic Growth and Public Policy

What can governments do to raise productivity and living standards?

Promote the following.

## 1) Saving and Investment

If a country has a higher level of savings, it also has a higher level of investment into its capital stock. If more money is made available to consumers and businesses, more investment can take place.

## 2) Investment from Abroad

Investors from abroad that invest their financial capital into a country (like Canada) increase the standard of living for Canadians.

(Alberta: Tar Sands by Imperial Oil, Nexen's Opti Project and others,

### 3) Property Rights and Political Stability

Adam Smith wrote in his famous book “The Wealth of Nations” that for a free market system to work efficiently, the country would have to have well-defined property rights and that these rights (and hence contracts) would be enforceable in a court of law.

Examples:

(The USA: natural gas pipeline from Alaska through Canada. American oil companies want to invest in Alberta).

Firms such as Canadian Pacific were relocating out of Quebec due to the political instability of that province after Bill 101 in the 1970's.

#### 4) Catch-up Effect and Diminishing Returns

**Catch-up:** The property whereby countries that start off poor tends to grow more rapidly than rich countries. Therefore governments can promote investment.

China (21% of world's population) and India (17% of world's population) have had rapid growth rates because they were very poor to start off with.

Other Examples: South Korea (over 31 years – 7% annual growth, Singapore (6.8%) etc.

**Diminishing Returns Effect:** The property whereby the benefit from an extra unit of an input declines as the quantity of the input increases.

As a country's capital stock rises (machines, tools, buildings), the extra output increases at a decreasing rate.

Yet, this might take a very long time.

## 5) Education

Investment into human capital is as important as investment into physical capital.

Need people who can keep pace with changes in technology and innovation.

Education creates positive externalities, which in turn creates innovation and creates new ideas.

## 6) Health and Nutrition

People who are healthy are more productive than people who are malnourished.

Fogel found that as nations became more prosperous – people ate more and were healthier.

(Between 1775 – 1975, the average caloric intake in Great Britain rose by 26% and the average height increased by 5.08 centimetres)

## 7) Free Trade

Free trade allows us to trade goods and services in which we have a comparative advantage.  
(Gains from Trade)

(Therefore, increasing the variety of goods and services that we are able to purchase)

Many countries that restrict free trade have a much lower standard of living than Canada

(e.g. Argentina, Cuba, North Korea)

## 8) Research and Development

Technological advancement comes from private research from firms.

Policies to promote R&D promote innovation and product advancement.

(Examples: telephone, CANDU reactor, computers, internal combustion engine etc.)

## 9) Stable and Efficient Financial System

The financial system is like the gasoline in an engine. Without it, modern economies cannot function efficiently. Therefore, governments must set up a framework of banking regulations so that banks do not take on excessive risks.

We saw recently in the US (and other parts in the world), that an unstable financial system has a pervasive effect on personal consumption and investment spending. If firms and households cannot access financial capital to fund their consumption or business expenses, aggregate demand will fall dramatically – causing a fall in economic activity and rising unemployment.

## Thomas Robert Maltus (1766 – 1834) English Minister

Book:

“An Essay on the Principle of Population as It Affects  
the Future Improvement of Society”

He argues that an increasing population would  
continually strain society’s ability to provide for itself.

And therefore, mankind was doomed to forever live in  
poverty and starvation.