# Lecture notes 1: Evidence and Issues

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1. A world of rich and poor:

• 6 billion people live under enormously varying economic circumstances.

• DEVC, 790m do not have enough food, 1.3b without access to safe water.

• In DC, diseases caused by too much food are a major health problem.

• LE=74 years among the 1.2b in DC, =57 for 1.8b who live in UN defined
  low level of human development.

• In sub-Saharan Africa, a woman is 30 times more likely to die in childbirth than in
  the DC.


The differences in living standards are striking:

• In DC, 405 cars per 1000 people, in DEVC 16.

• In the US, 626 telephone lines per 1,000 people, in DC 414, in DEVC 39, in India 13.

•  %20of world's pop lives in DC, accounts 65% of world's C .

• 50% lives in DEVC accounts for only 15%.

• Almost 25% survive on less than 1$ per day.

**These differences pose a mystery:**

- Why are some so rich and others so poor? Does have to be this

  way?

- Are there factors that we can change that lead to these gaps?

- Is enjoyment of the rich dependent on suffering of the poor?

**Questions emerged from evidence on how countries developed over time:**

• Large difference in living standards over time - US male LE in 1850=37; today=over 75.

• Why SL improved over time? Has it always been true? Will it remain true in the future?

• Why countries grow at a different rate?

• Argentina, was roughly equal in y with US, but failed to prosper.

• Japan, for a long time poorer than the US, converged to US SL.

• South Korea making the transition to an industrial power in a single generation.

• African HH consumed 20% less in 1998 than it did 25 years earlier.


• What differences b&w countries that have led to these divergent experiences?

• Will the richest continue to grow richer? Will the poor continue to trail behind?

• Will limitations on resources prohibit the poor countries to catch up?

• What role will new technologies play in this process?


**This course address these questions of why countries differ in their SL, and why countries grow, or fail to grow, richer over time.**

## 2. Differences Between Countries Today

- GDP per capita as a measure of a country's wealth or poverty.

- There are many aspects of economic well-being that are not measured by GDP.

**Figure 1**: enormous differences in income between:

- US GDP per capita - $18,054, Venezuela - $6,055, Sri Lanka - $2,096, Zambia -$689

**Figure 2**: large within country as well as between country income variation.


## 3. Differences in growth rate

**Figure 3**: large variation in growth rates.

- The "growth miracles,": South Korea, Taiwan, Singapore, and Hong Kong, g => 6%

- The "growth disasters,": Chad, Madagascar, Somalia, and Mozambique g < 0

- Growth rates translate into differences in countries' levels of income: in 1960, South Korea and the Philippines had roughly equal levels of income per capita ($904 and $1,133, respectively). In 1988, $5,607 in Korea and $1,676 in the Philippines.


**Figure 4**: A long term perspective, growth of US over time. GDPC in 1994 was nine times as large as GDPC in 1870. Average g only 1.8% per year but a striking regular growth process.

# Growth versus business cycles

## Trend versus short term fluctuations:

- Deep recessions in 1907 and 1982,
- The Great Depression of the 1930s
- The boom in output during World War II.

**Figure 6:** long term g in the US, the UK, and Japan, between 1870 and 1994, UK=1.3%, USA=1.8%, led to reversal in relative income levels of the two countries, Japan GDPC in 1988= a third of US, by 1994 85% US level.

**Trend growth in y**: only about 300 years old.

- LS did not change from 2000 BC to the beginning of the 18 century.
- Fluctuations (plague, famine, and war) and long-term cycles.
- Sustained increase in living standards started, at first slow, in Europe sometime after the year 1500. The average growth rate of y in 1500-1700 was 0.1% per year. It implies that over two centuries - only 22%.

- 1700- 1820: g of PCI in EU = 0.2% a year, UK = 0.4%
- Growth accelerated only in the 19 century. UK 1820-1870 = 1.2% per year, France =  0.8%

- From 1500 onward - rest of the world was stagnated - widening of the cross-country income distribution.
- Prior to 1700 – country differences by a factor of two, today by a factor of 25. Therefore: current inequality across countries is a result of growth over the last 300 years, perhaps last 100-150

**4. Overtaking, Convergence, and Divergence**

• Movements of countries over the distribution provide compelling evidence on growth.

• The rise and fall of countries – economically and politically:

  Ottomans, Incas, and Aztecs empires.

  In the Middle Ages Islamic world was center of knowledge.

  China 8-12 century, a burst of ED, world industrial leader until end 18th century,

  invention of gunpowder, printing, use of coal in smelting iron, and a water-powered

  spinning wheel, digging of canals and building locks for waterways, formed a 30,000 mile

  long network of navigable waterways. But stagnation set in even before the Mongol

  invasions of the 13th century. By the 19th century, China defenseless versus

  Industrialized Europe. In post-WW II China one of the poorest countries in  the world.


• In last 200 or 300 hundred years: sustained growth of LS, a decline in relative position

  without also experiencing a decline in absolute position (UK).

• Disparities between growth rates have also grown – **Figure 6**

• An systematic tendency toward *convergence? is* there  a tendency for poor countries to grow

  faster than rich countries. NO. **Figure 7**

## 5. Total GDP vs GDP per Capita

How to define if a country is rich: GDP vs GDP per Capita:

• India GDP per capita  - $1,400, France -  $21,030.

• India GDP - $1,301 billion, France - $1,221 billion, roughly equal.

Most of us will prefer high GDP per capita to high GDP.


## 6. Measuring and Comparing GDP

• Converting different measures of GDP (Yen, dollars) into same units: using exchange rates.

• Problems: exchange rates fluctuate daily, differences in prices on non traded goods, equal price of traded goods, therefore GDP at market exchange rates systematically understate the relative income of developing countries.

**Framework of Analysis** :

• Goal: understand why some countries are rich and others poor ?

     why countries become richer or poorer over time?

 • What is the set of answers?


# 1. Factors of Production and factor accumulation

• Source of differences in income between countries?

• Different quantities of capital.

• Differences in other "factors of production".

• What determines the quantities of these factors that countries accumulate?

• Example: what determines the quantity of capital in a country: saving, foreign investment,

• Number of workers and how fast they grow.

• Other forms of capital: skills and knowledge of people

## 2. Productivity, Technology, and Efficiency

• Productivity: a measure of how much output can be produced with a given quantity of factors of production.

• Productivity: technology (inventions) and efficiency.

• Why technology differs between countries?

• How new technologies are created and disseminated?

• How technological progress has contributed to growth historically?

• Extent differences in technology explain differences in income?

- The part of income variability that is left over, once technological differences have been taken into account, is given the label efficiency. Efficiency is hard to describe and measure, but nonetheless quite important.

# 3. Fundamentals

• Searching for "fundamental" determinants of income and development: form of government, geography and climate, institutions.

• The degree to which something is "fundamental" will vary from factor to factor, and will often be open to debate.

• The problem of the "endogeneity" of fundamental factors

# 4. What about Growth?

• Turning the model of the determinants of income *levels* into a    model of the determinants of income *growt*h:

- If two countries are the same in their fundamentals (or more generally, if we would expect them to have equal levels of income based on their fundamentals),

- Then the country with a lower level of income will be expected to grow faster.

- This could either be because the poorer country has income below the level that we would expect, given its fundamentals

- Or because the richer country has income above the level that we expect from its fundamentals.