The Wealth of Nations and Economic Growth

PRINCIPLES OF ECONOMICS (ECON 210)

BEN VAN KAMMEN, PHD
Introduction, stylized facts

• Taking GDP per capita as a very good (but imperfect) yard stick to measure standard of living, one may compare economies and ask “how did we get here?”

• There was no Bureau of Economic Analysis to calculate GDP 1000 years ago, but estimates confirm that until recently every economy was “poor” by modern standards.
  • Angus Maddison, recently deceased English economic historian, is the most prominent author.

• At the beginning of the common era (year 0), GDP estimated (in $2010) about $700-$1000 per capita per year.

• This figure did not change much in any economy at any time until about 1500 C.E.
Highly stylized facts

• What it was like to be born in virtually any other time in human history.

• Being king was roughly equivalent to the standard of living your typical homeless person today.

• Source.
Stylized facts (continued)

• After uniformly negligible (practically zero) economic growth over most of human history, an exceptional divergence in growth rates occurred in the last 250 years or so.

• This brings us to the present, in which enormous variation in GDP per capita across economies is observed.

• Some economies, e.g., the U.S. and some Western European countries, began growing relatively earlier and grew steadily up to the present.
The modern era: divergence in incomes

GDP per capita, real U.S. dollars (1990)

Years (AD)

United States
Western Europe
Latin America
Former USSR
China
India
Africa
Stylized facts (concluded)

• Unfortunately there are counterfactual examples such as Argentina (a “Growth Disaster”) that was one of the earlier economies to begin growing. But per capita income growth has stalled, and it is currently not much higher than 200 years ago.

• Others, such as Japan and South Korea, began growing later but grew faster to arrive at their current relatively high standards of living (“Growth Miracles”).

• Then there is the other kind of Growth Disaster, typified by Nigeria, in which growth continues to be zero or even negative!
Miracles on the right; disasters on the left

Bad news: most of the world is still “poor” (ogive graph)

About 8% of the world’s population, 0.48 billion people, lives in a country with an annual GDP per capita less than $1,000.

80% of the world’s population, 4.8 billion people, lives in a country with an annual GDP per capita less than the world average.
Good news: they don’t have to be

- The current “rich” economies became that way.
  - Not accidentally.
  - England, late 17th and 18th Centuries, the Industrial Revolution.

- With the “blueprint” and the right conditions, countries can become rich rapidly.
  - Faster than the current rich countries did? They don’t have to “re-invent” existing technology . . .

- Growth miracles are especially encouraging.
  - China after 1976.
Recent trends: growth and convergence

Recent growth rates, selected countries

But nothing is inevitable . . . reasons for income differences

• Having more factors of production, i.e., inputs and technical knowledge.
  • These are “immediate” or “proximate” causes: more on these next week.

• What does an economy need to accumulate more factors of production?
  • The “ultimate” or “fundamental” causes of growth.
Fundamental causes of growth

• Organizing factors of production according to their most valuable uses increases output for a given amount of inputs and technology.
  • This gives agents incentives to accumulate (“invest in”) more inputs and technology.

• The origins of the incentives are less obvious, but they are the ultimate causes that lead to accumulation of:
  • capital (via investment or education) and
  • technology (via research and development).
Incentives and institutions

• Why rich countries have better technology and more productive inputs.

• Accumulating human and physical capital and technology involves delaying gratification and risk-taking.
  • The payoffs (higher wages, dividends, innovations) are received in the future and are uncertain.

• Risks (in)decrease with(out) strong property rights, honest government, political stability, a dependable legal system, or competitive and open markets.
  • Daron Acemoglu and James Robinson, in their momentous book, Why Nations Fail, distinguish between inclusive institutions like those above and extractive institutions—designed by politically powerful elites to extract resources from the rest of society.
Incentives

- Risks that detract from the benefits or add to the costs of economic activity:
  - confiscation,
  - property crime (especially un-punished and without restitution),
  - upheaval that destroys lives, capital and demand for goods,
- Especially entrepreneurial and investment activity.
  - The risks of loss wreck the incentives to invest.
Modern day blat

- So does the time wasted jumping through bureaucratic hoops and money wasted buying favors from corrupt government agents.
Incentives (continued)

• The right to compete freely against rival producers is a subtle yet vital condition for good incentives.

• When established firms use artificial barriers to entry, e.g.,
  • superfluous licensure requirements or
  • subsidies that give them a cost advantage,

  to keep competitors out.

• It’s less attractive to innovate in an industry with a powerful incumbent firm.
Extractive institutions pervert incentives

“Power is a lot like real estate. It's all about location, location, location. The closer you are to the source the higher your property value.”
Extractive institutions

- Barriers to competition and trade,
- Corruption of government agents with political favoritism as currency,
- (most visibly) Direct seizure or confiscation of assets by the government.
- Aspiring outsiders are repressed by incumbent
  - elites,
  - magnates,
  - autocrats.
Economic development suffers

- The vertical axis is GDP per capita.
- Horizontal is an index of corruption, in which higher scores are less corrupt countries.
- Size of the bubbles is population of the country.
- Just a correlation . . . but a revealing one.
- From gapminder.org.
“Prior to seventeenth-century England, extractive institutions were the norm throughout history.”

- Acemoglu and Robinson, p. 184.

- In many nations, they stubbornly persist in the present.

- The dynamics of institutional change is still an unresolved question in economics.
  - Acemoglu summarizes several promising theories, and the interested student is directed to his writings as a starting point for further study.
“Breaking the mold”

• The Glorious Revolution (1688) preceded “. . . economic and political institutions much more inclusive than those in any previous society.” (p. 102).
  • Enforcement of property rights,
  • Arbitrary taxation ceased and monopolies abolished,
  • Banking, access to loans for anyone with collateral,
  • Public investment in roads, canals, navy.

• Starting in 1978 (China’s 11th Party Committee):
  • “. . . a significant move away from one of the most extractive sets of economic institutions . . . .” (426)
  • Market incentives, openness to foreign investment and technology,
  • Rapid economic growth.
Incentives and institutions: “Why not always choose prosperity?”

- Incumbent firms illustrate how extractive institutions perpetuate.
- Growth and creative destruction create winners and losers.
- Growth-inhibiting political and economic institutions come about because of incumbents’ fear of creative destruction.
Losers from creative destruction

• The infamous Luddites, destroying the weaving machinery in a textile factory at which their employment was threatened.

• I always picture the “landed aristocrats” looking like this guy.
How would each side fare under more inclusive institutions?

North Korean dictator Kim Jong Un (left). The Korean Peninsula at night (right).
Conclusion

• Extractive institutions and stagnant economic growth have been the historical norm.

• Inclusive institutions (democracy and free market capitalism) have been recent exceptions.

• Institutions that align individual incentives (profit and utility maximization) with investment, education, and research and development are growth’s ultimate causes.
  • Growth results from individuals investing in physical and human capital, as well as technological innovation.

• The next topic examines the process by which capital and technology accumulation increase output in more detail.
Applications

ECON 210
The world’s average (mean) GDP per capita is $9,133. There are roughly 6 billion people in the world.

a. What is the world’s total GDP?

**ANS:** $9,133 \times $6 \text{ billion} = $54,798 \text{ billion} = $55 \text{ trillion}

b. About 20 percent of the world’s population produces 50 percent of the world’s total GDP. (Notice the use of “produces,” not “consumes.” In popular discussion, you are more likely to hear about the people at the top “consuming” more than their share, not “producing” more than their share. But remember what the last letter of GDP stands for!)

How much GDP does the top 20 percent produce?

**ANS:** $27.5 \text{ trillion}

c. What is the average GDP per capita of the most productive 20 percent of the world’s population?  
(*Hint*: 20\% of 6 billion people equals how many people?)

**ANS:** $22,800
Cowen and Tabarrok Facts and Tools #4

Now let’s look at the productivity of the world’s least productive 80%.

a. How much GDP do they produce? *(Hint: You’ve already calculated this number in the previous question.)*

**ANS:** $27.5 trillion

b. What is the average GDP per capita of the least productive 80% of the world’s population?

**ANS:** About $5,700. \[
\frac{27.5\text{ trillion}}{0.8 \times 6\text{ billion}}
\]

c. Now, the payoff: How productive is the average person in the top 20% compared with the average person in the bottom 80% of the planet? Answer this by dividing your answer to question 3c by your answer to question 4b.

**ANS:** The average person in the top 20% is four times as productive as a person in the bottom 80%. This chapter and the next are devoted to explaining why this ratio is so large.