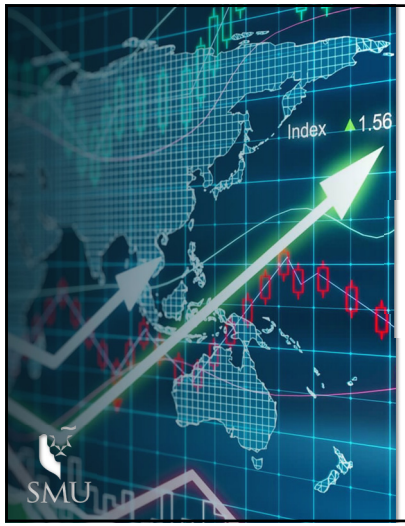


Kosmas Marinakis, Ph.D.

Lecture 8

Economic Growth

Economics & Society

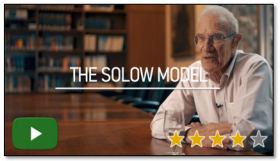
1

Previously in E&S…

- Definition of macroeconomics
- Measuring GDP
  - production, expenditure, income
- Real vs. Nominal GDP
  - CPI, PPP
- GDP flaws
- Global inequality
- National productivity

2

Economic Growth



Lecture 8

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Economic growth

- ***Economic growth*** refers to the increase in a country's ***GDP*** over time
- The ***growth rate*** is the ***percentage change in GDP*** from one period to another:

$$Growth_{2022} = \frac{GDP_{2022} - GDP_{2021}}{GDP_{2021}}$$

- Over the ***last 2 centuries***, GDP around the world tends to ***increase***:
  - The long-term trend is ***clearly increasing***
  - But there are some short-run ***fluctuations***.
- In this lecture, we will focus on the ***long-term trend*** of GDP.

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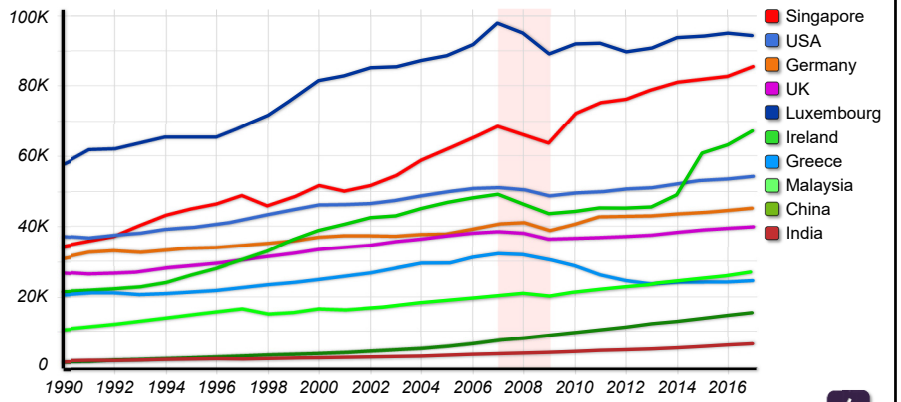
GDP per capita PPP (2005 Int $)



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Growth is not linear

- If GDP grows at an approximately ***constant rate***

  new growth builds on top of past growth and its effects ***compound***
- Thus, the increase in GDP is ***exponential***:

Growth / year	1%	3%	5%	10%
years for GDP to double	71 years	25 years	15 years	8 years
years for GDP to triple	112 years	38 years	24 years	13 years

- ***Slim differences*** in growth rates translate into ***large GDP gaps*** after years:
  - A GDP of 100 with yearly ***growth 2%*** after 40 years becomes
  - A GDP of 100 with yearly ***growth 3%*** after 40 years becomes

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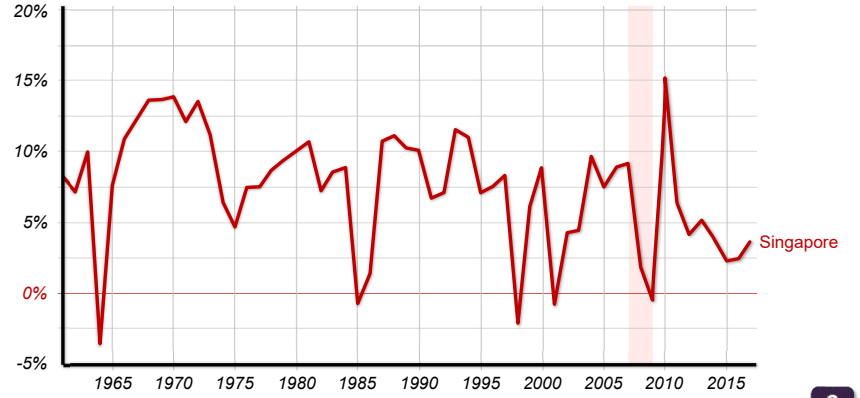
Growth rate GDP pc PPP (2005 Int $)



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Average annual GDP growth (2005 $)

	GDP pc 1960	GDP pc 2010	Annual Growth
United States	15,398	41,365	2.00%
UK	11,204	34,268	2.26%
France	10,212	31,299	2.27%
Spain	6,316	27,332	2.97%
Greece	534	26,918	8.16%
South Korea	1,656	26,609	5.71%
Singapore	4,383	55,862	5.22%
China	772	7,746	4.72%
India	720	3,477	3.20%
Haiti	1,513	1,410	−0.14%
D. R. Congo	696	241	−2.10%

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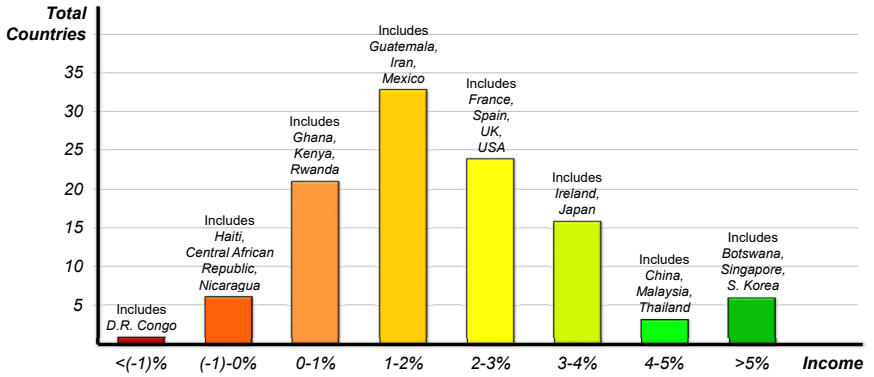
World distribution of average growth rates



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Sustained vs. Catch-up growth

- There are ***2 entirely different processes*** of economic growth:

1. **Sustained growth**: sourced in the country's ***own advancement***:
   - From ***technological innovation*** and ***development in human capital***
   - Those grow ***slowly*** but can keep improving ***forever***.
2. **Catch-up growth:** due to ***technological spillovers*** from ***more developed countries***:
   - **a)** Because of abundance of local ***underutilized human capital***
   - **b)** Because of influx of ***foreign investment***
   - **c)** Because of supporting foreign investment by developing ***infrastructure*** and improving local ***efficiency of labor***.

- ***Not all*** economies in the world were able to experience catch-up growth

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Growth before the 1800s

- Before the industrial revolution (1760), no nation exhibited sustained growth
- Babylon, Egypt, ancient China, ancient Greece, Persia, Rome, Venice, experienced ***prolonged periods*** of prosperity
  but yearly growth of output was ***minuscule*** and could easily ***come to an end***
- There are ***3 reasons*** for the lack of sustained growth before the 1800s:
  1. The ***pace of technological change*** was much slower than today
  2. New wealth was claimed ***by the few*** and was rarely put in productive uses
  3. ***Leaders*** did not aim to lift people out of poverty

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Malthusian limits to growth

- In 1798, Thomas Malthus published his theory about ***fertility***
  fertility: the number of children per woman
- Malthus observed that ***fertility would adjust*** so that income per capita would always remain close to the ***subsistence level***
- When GDP pc climbed above the subsistence level, people would use it to have ***more kids***, lowering GDP pc back to subsistence
- When the GDP pc fell below the subsistence level, famine, child mortality or war would decrease the ***population***, increasing GDP pc back to subsistence

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Breaking away from the Malthusian cycle

- The Malthusian model was a ***good representation*** for population till the 1800s
  still is for ***non-human populations*** (e.g. locust swarms, wild rabbits, pigeons, rats)
- Before 1800, most labor was employed on the production of ***necessities***
- After 1800, ***technology*** freed a large portion of workers from the production of necessities allowing them to move to ***other more productive sectors***:
  - This ***boosted economic growth*** to unprecedented levels
  - Caused the ***demographic transition*** to the ***urban economy*** as we know it today.
- Modern families ***did not rely*** on the labor of children for prosperity:
- ***Technology*** enabled humanity to ***break away*** from the Malthusian cycle

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Prosperity in the future

- The most developed countries of today, were the ones that actively ***participated*** in the Industrial Revolution 250 years ago
  US, UK, Germany, France, The Netherlands, Belgium, Canada, Japan etc.
- The prosperous countries of the future will be the ones that ***invest in the future***:
  - Research and development of new ***technology***
  - Train their ***human capital*** for the challenges of the future.

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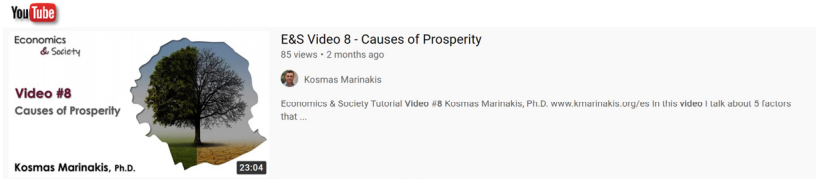
Internal video

In this video I talk about the 5 factors that affect the prosperity of nations but mostly are out of their control: Climate and Ecology, Geography, Culture, Institutions and History and Luck.



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External video

A short but really interesting video on why Africa is still poor and the effect of "End Poverty in Africa" initiatives from the wealthier parts of the world.

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Thank you!

(you are welcomed to stay for *consultation* or *discussion*)

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WARNING!

The slides in this handout are created with the intention to serve a visual aid for the audience during the live presentation of the material in the lecture. As such, **they are not designed to be standalone reading material** and should be used strictly as **reference**, side by side with notes taken in the lecture. Studying solely from the slides **is not recommended** and might in some cases **mislead** those who have not attended the relevant lecture. **Less than 20% of tasks in test and exam can be answered solely from the slides**.