

Kosmas Marinakis, Ph.D.

Lecture 8

Economic Growth

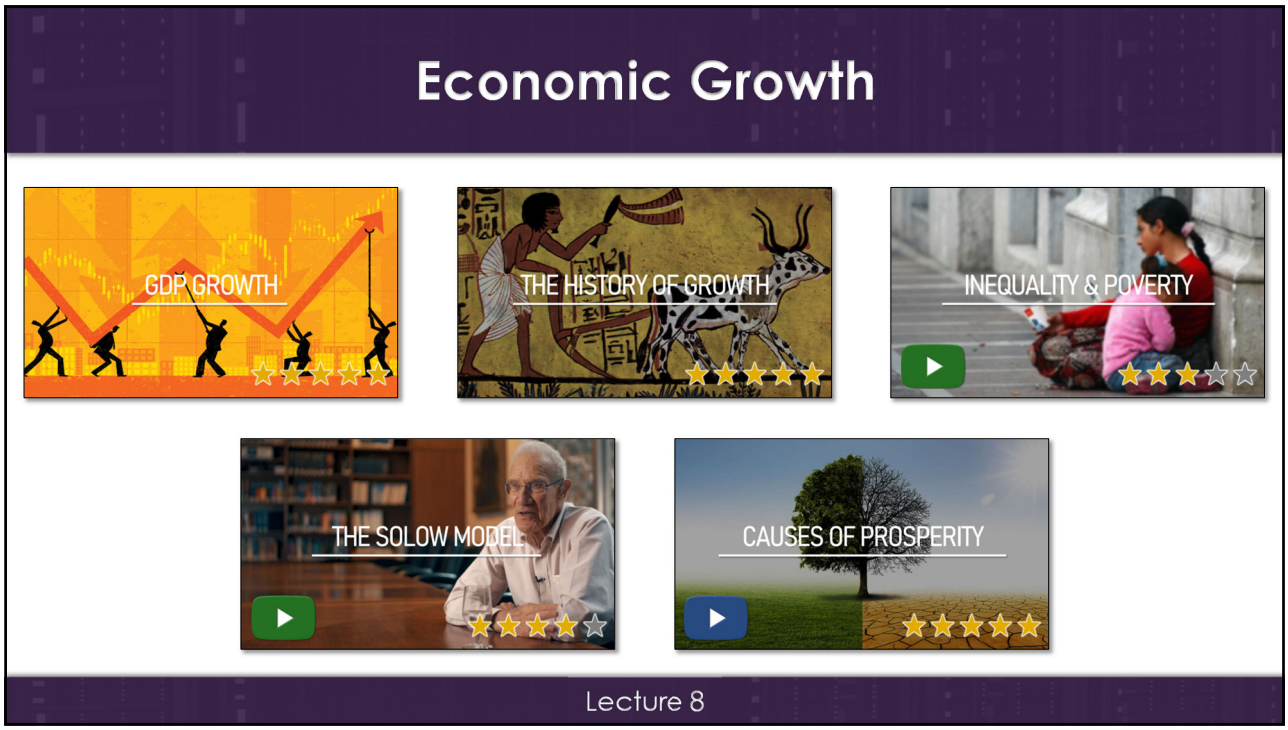
Economics & Society

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Previously in E&S…

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

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Economic Growth
GDP GROWTH
THE HISTORY OF GROWTH
INEQUALITY & POVERTY
THE SOLOW MODEL
CAUSES OF PROSPERITY
Lecture 8

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GDP GROWTH

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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:

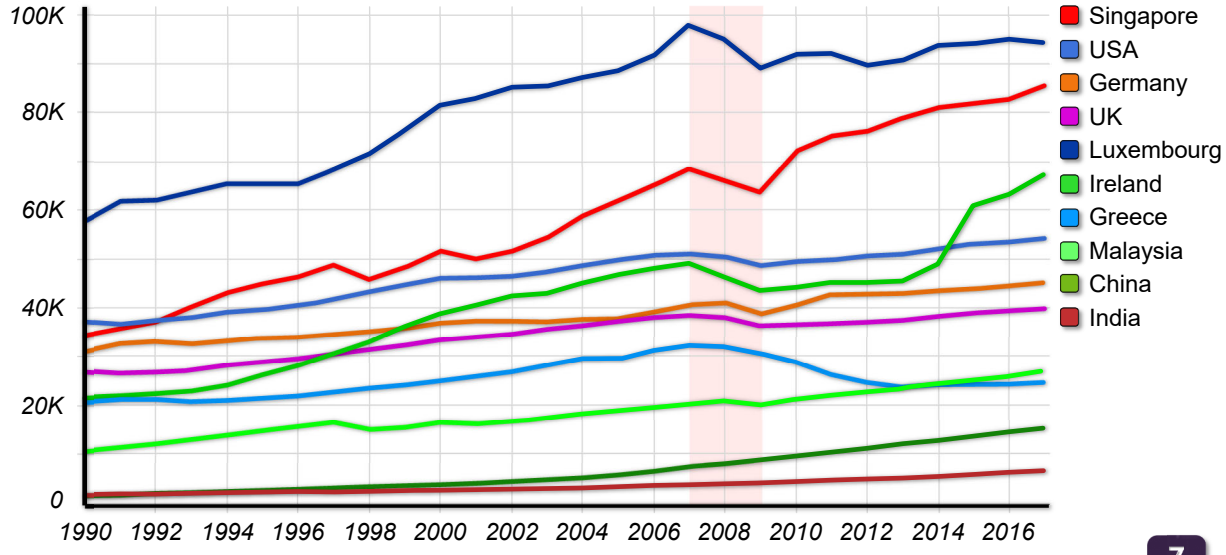
$$Growth_{2022} = \frac{GDP_{2022} - GDP_{2021}}{GDP_{2021}}$$

- 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

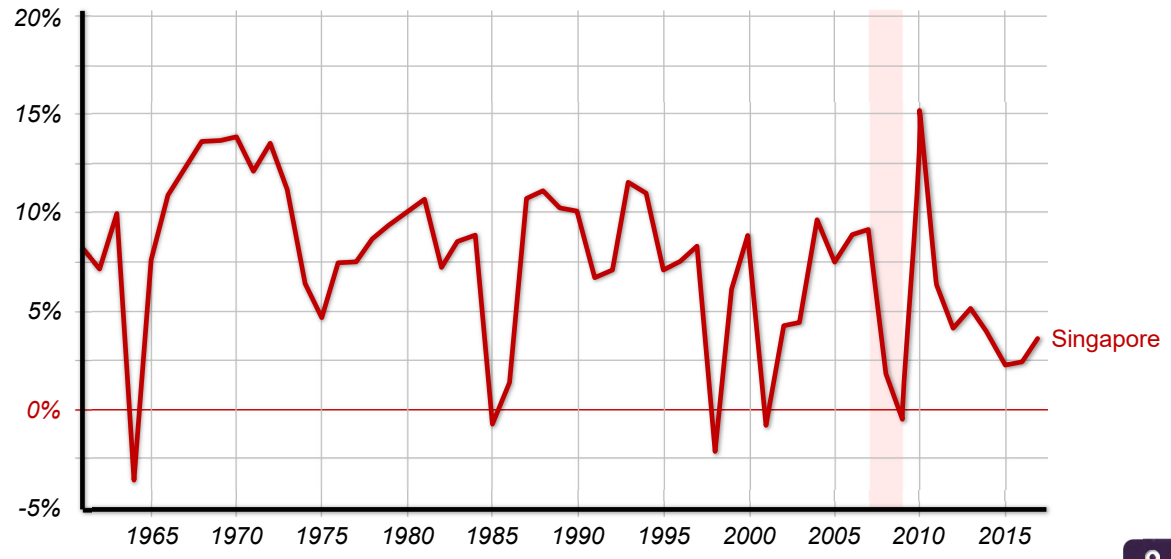
- If GDP grows at an approximately ***constant rate***
  new growth builds on top of past growth and its effects
- Thus, the increase in GDP is ***exponential***:

Growth / year	1%	3%	10%
years for GDP to double			

- ***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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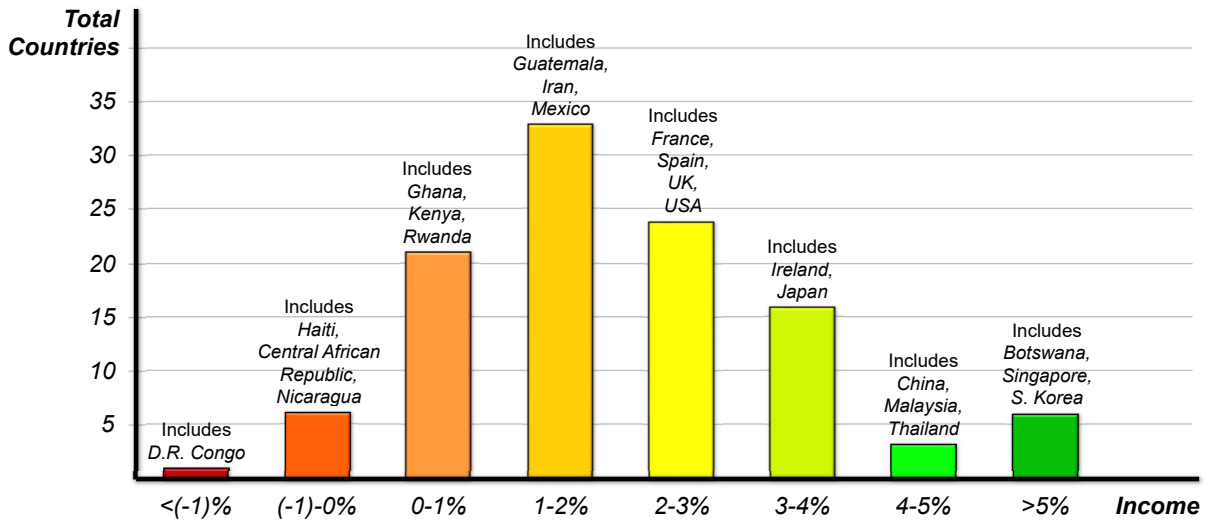
Average annual GDP growth (2005 $)

	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 ***foreign direct 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 and could easily
- ***Three factors*** explain the ***absence*** of sustained growth before the 1800s:
  1. ***Technological*** change was
  2. New wealth was captured by elites
  3. Rulers had ***no interest***

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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
  even till recently, children was the main source
- 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*** to unprecedented levels
  - Caused the ***demographic transition*** to the ***economy*** as we know it today.
- Modern families ***did not rely*** on the labor of children for prosperity:
  - Children turned of a family,
  - The ideal was ***displaced*** by a model.
- ***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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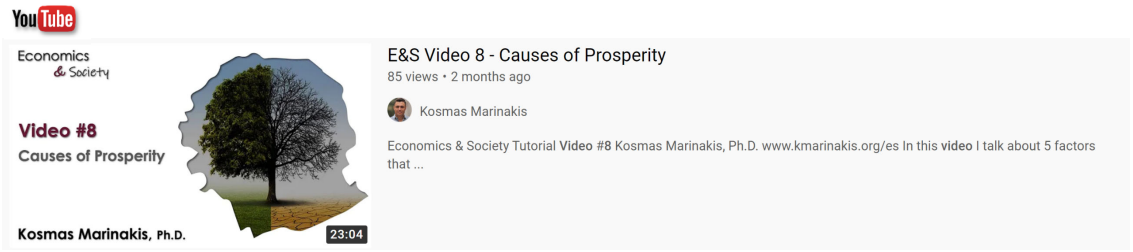
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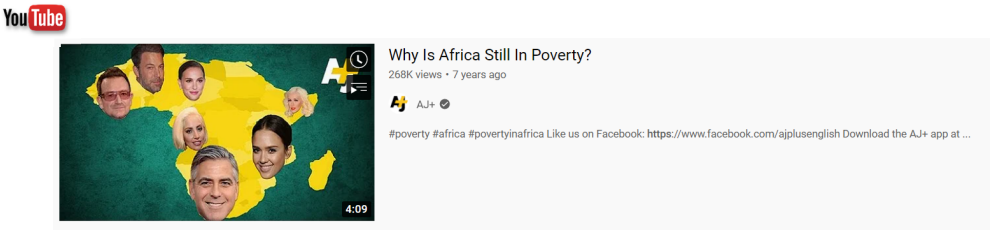
Internal video

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.



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.



Thank you!

(you may stay for *consultation*)

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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**.

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