

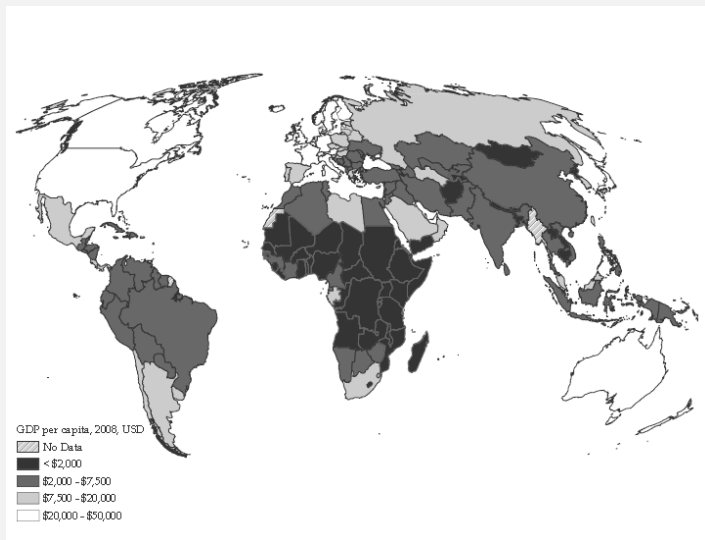
# 14.452 Economic Growth: Lecture 1, Stylized Facts of Economic Growth and Development

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# Cross-Country Income Differences



# Cross-Country Income Differences (continued)

- There are very large differences in income per capita and output per worker across countries today.

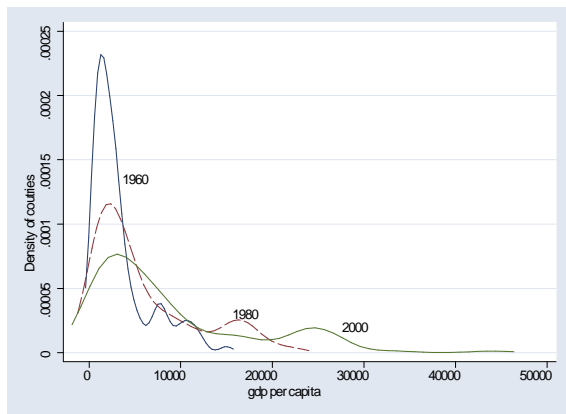


Figure: Distribution of PPP-adjusted GDP per capita.

## Cross-Country Income Differences (continued)

- Part of the spreading out of the distribution in the Figure is because of the increase in average incomes.
- More natural to look at the log of income per capita when growth is approximately proportional:
  - when  $x(t)$  grows at a proportional rate,  $\log x(t)$  grows linearly,
  - if  $x_1(t)$  and  $x_2(t)$  both grow by 10%,  $x_1(t) - x_2(t)$  will also grow, while  $\log x_1(t) - \log x_2(t)$  will remain constant.
- The next Figure shows a similar pattern, but now the spreading-out is more limited.

# Cross-Country Income Differences (continued)



**Figure:** Estimates of the distribution of countries according to log GDP per capita (PPP-adjusted) in 1960, 1980 and 2000.

## Cross-Country Income Differences (continued)

- Theory is easier to map to data when we look at output (GDP) per worker.
- Moreover, key sources of difference in economic performance across countries are national policies and institutions.
- The next Figure looks at the unweighted distribution of countries according to (PPP-adjusted) GDP per worker
  - “workers”: total economically active population according to the definition of the International Labour Organization.
- Overall, two important facts:
  - 1 Large amount of inequality in income per capita and income per worker across countries.
  - 2 Slight but noticeable increase in inequality across nations (though not necessarily across individuals in the entire world).

# Cross-Country Income Differences (continued)

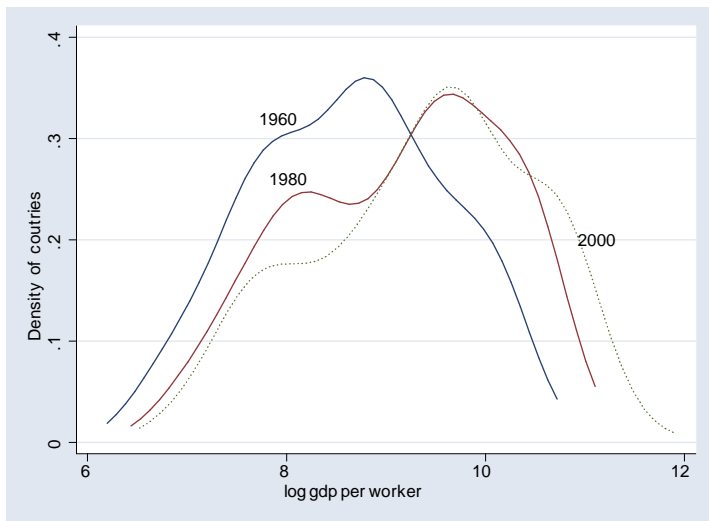


Figure: Distribution of log GDP per worker (PPP-adjusted).

# Economic Growth and Income Differences

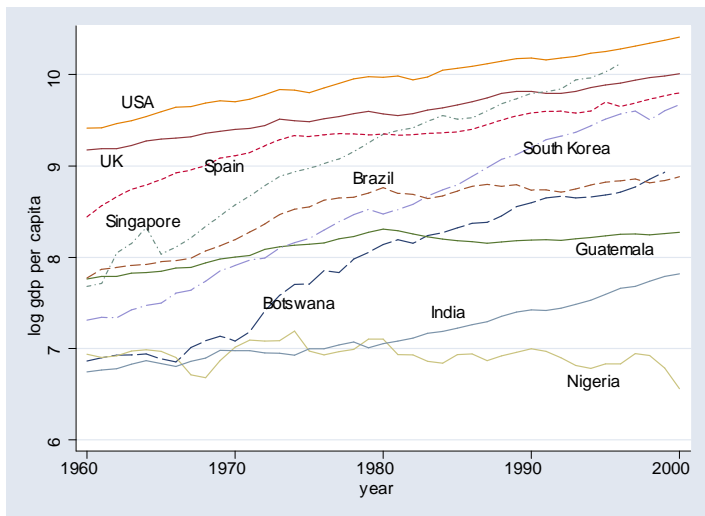


Figure: The evolution of income per capita 1960-2000.



# Economic Growth and Income Differences

- Why is the United States richer in 1960 than other nations and able to grow at a steady pace thereafter?
- How did Singapore, South Korea and Botswana manage to grow at a relatively rapid pace for 40 years?
- Why did Spain grow relatively rapidly for about 20 years, but then slow down? Why did Brazil and Guatemala stagnate during the 1980s?
- What is responsible for the disastrous growth performance of Nigeria?
  - Central questions for understanding how the capitalist system works and the origins of economic growth.
  - Central questions also for policy and welfare, since differences in income related to living standards, consumption and health.
- Our first task is to develop a coherent framework to investigate these questions and as a byproduct we will introduce the workhorse models of dynamic economic analysis and macroeconomics.

# Origins of Income Differences and World Growth

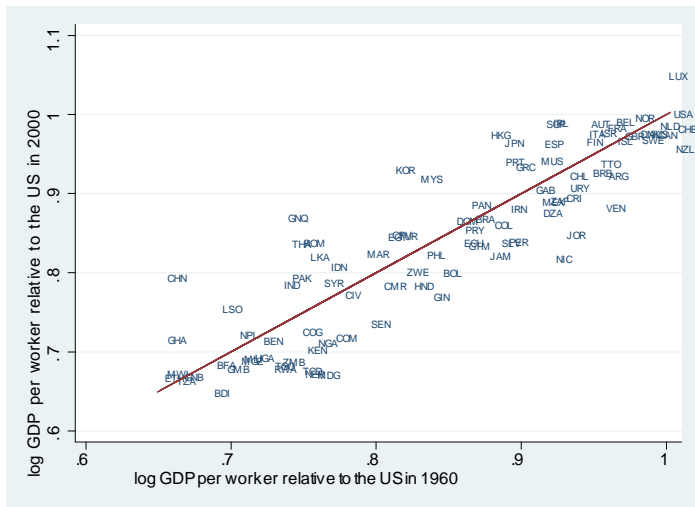


Figure: Log GDP per worker in 2000 and 1960.

# Origins of Income Differences and World Growth

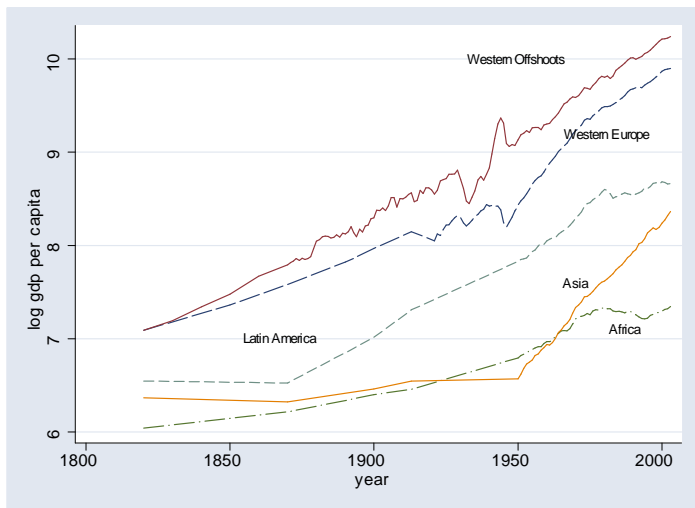


Figure: Evolution of GDP per capita 1820-2000.

# Origins of Income Differences and World Growth

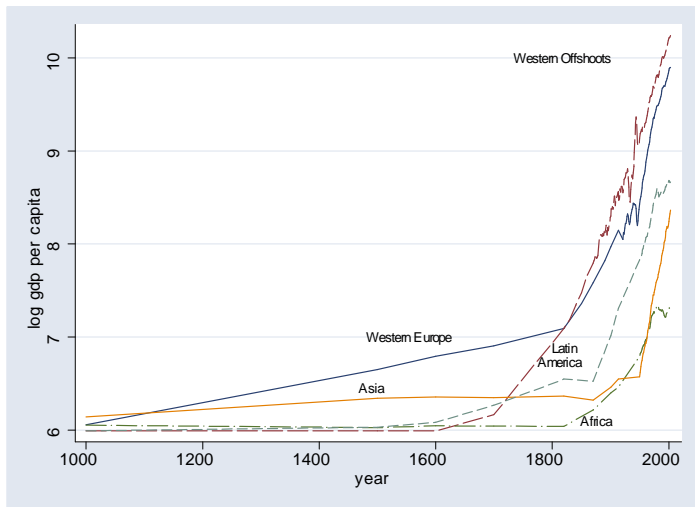


Figure: Evolution of GDP 1000-2000.

# Origins of Income Differences and World Growth

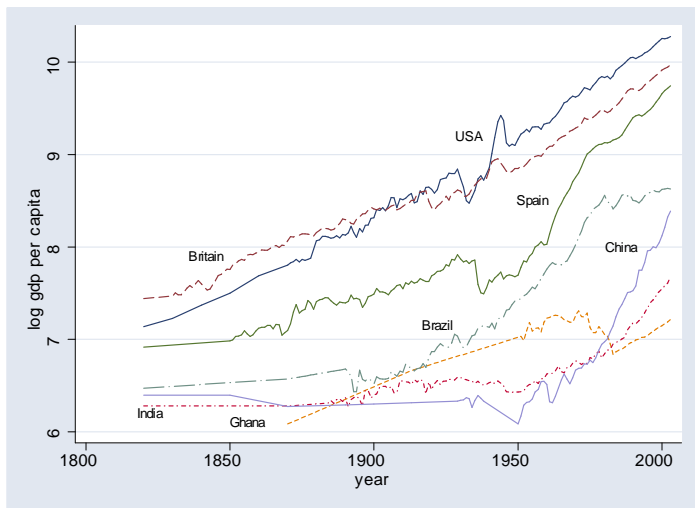


Figure: Evolution of income per capita in various countries.

# Correlates of Economic Growth



Figure: Average investment to GDP ratio and economic growth.

# Correlates of Economic Growth

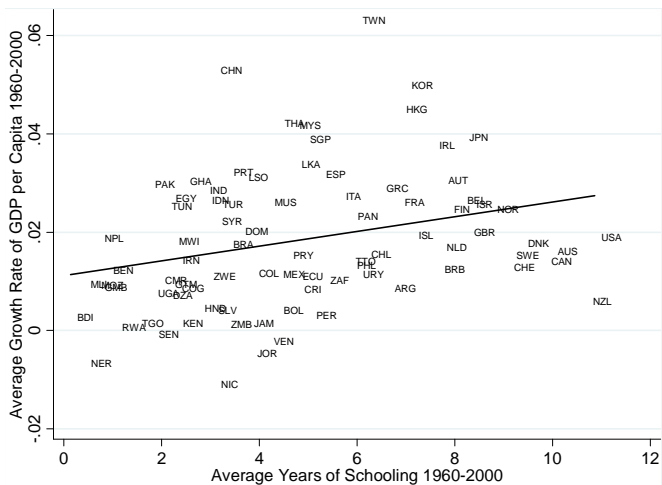


Figure: Schooling and economic growth.