Introduction to Economic Growth: Data and Theory

Pedro de Araujo

Department of Economics & Business
Colorado College

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Growth vs. Business Cycles

Economic Growth Facts

Growth Theory

Introduction to Economic Growth
Figure 1.8. The evolution of income per capita in the United States, United Kingdom, Spain, Singapore, Brazil, Guatemala, South Korea, Botswana, Nigeria and India, 1960-2000.
Figure 1.10. The evolution of average GDP per capita in Western Offshoots, Western Europe, Latin America, Asia and Africa, 1820-2000.
Figure 1.11. The evolution of average GDP per capita in Western Offshoots, Western Europe, Latin America, Asia and Africa, 1000-2000.
Three Important Questions

1. What causes **sustained** increases in living standards?

2. Can policy affect growth paths?

3. Are there limits to growth?
**Figure 1.1.** Estimates of the distribution of countries according to PPP-adjusted GDP per capita in 1960, 1980 and 2000.
World’s Real GDP per person Distribution 1960

The chart shows the distribution of real GDP per person in 1960 across various countries, ranging from countries with very low GDP per capita (such as Bangladesh, Haiti, Thailand, Zambia) to countries with high GDP per capita (such as Switzerland). The countries are grouped into categories based on their GDP per capita levels:

- **Very Low**: ≤ 400
- **Low**: 401-1100
- **Medium**: 1101-3000
- **High**: 3001-8100
- **Very High**: ≥ 8100

The countries are listed in descending order of GDP per capita within each category.
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Growth Paths

Convergence

Introduction to Economic Growth
Figure 1.13. Annual growth rate of GDP per worker between 1960 and 2000 versus log GDP per worker in 1960 for the entire world.
Figure 1.14. Annual growth rate of GDP per worker between 1960 and 2000 versus log GDP per worker in 1960 for core OECD countries.
One More Question

1. Why are some countries catching up, while others are not?
What Determines Growth?

The Solow Growth Model (Solow, 1957)

1. Output determined by labor input, physical capital - infrastructure (machines, buildings, roads, etc...), and technology (residual parameter).

2. Hence, growth of output also depends on the growth rate of all three inputs.

3. All inputs affected by policy - population growth, savings rate, investments in research and development (broadly defined).

4. However, only technical progress can grow without bounds → the cause of sustained growth.
What determines technology?

Accounting for the Solow Residual:

1. Human Capital Accumulation (Education)
2. Health Status of Population
3. Openness to Trade
4. Research and Development
Education (Human Capital)

**Figure 1.16.** The relationship between average growth of GDP per capita and average years of schooling, 1960-2000.
Figure 1.6. The association between income per capita and life expectancy at birth in 2000.
DEEPER CANDIDATES
Fundamental Causes

1. Geography:
   - Societies of warmer climates are less productive (Montesquieu (1748), Marshall (1890))
   - Warmer climates reduce agricultural productivity (Myrdal (1968), Diamond (1997))
   - Warmer climates increase the propagation of diseases (Sachs (2000), Bloom and Sachs (1998))

2. Culture:
   - Different societies have distinct cultures because of different shared experiences and religion (Weber (1930)).

3. Institutions (Rules of the Game):
   - Good institutions (inclusive economic and political) create processes (rule of law and political process) that generates virtuous cycles (Acemoglu and Robinson (2012)).
   - Examples: the Korean experiment and the colonial experiment (reversal of fortune)
Figure 4.2. Relationship between latitude (distance of capital from the equator) and income per capita in 1995.
Institutions

**Figure 4.1.** Relationship between economic institutions, as measured by average expropriation risk 1985-1995, and GDP per capita.
Institutions: Koreas

Institutions Matter:
Real Per Capita GDP in North and South Korea
(1990 International Dollars)
References

  - All other references found in above book