

Growth Facts

Prof. Lutz Hendricks

Econ520

March 30, 2023

The Facts: Economic Growth

We want to understand two sets of facts:

1. Level gaps: Countries like the U.S. are about 25 times richer than countries like Bangladesh.
2. Growth: Rich countries today about about 60 times richer than they were in 1700.

Concepts

How do we measure living standards across countries / over time?

GDP

- ▶ what does it measure?
- ▶ what does it fail to measure?

One measure that is commonly used: GDP per worker

- ▶ or GDP per capita (when data on workers is hard to get)

Where to get this data?

Countries collect data on GDP and its components

- ▶ consumption, investment, government spending, net exports

National Income and Product Accounts

United Nations collects and harmonizes that data

Level Gaps: First Look

Number of countries with population $> 1\text{m}$: 148

Richest 5 countries:

- ▶ United Arab Emirates Switzerland United States Japan Norway
- ▶ Mean gdp per worker: \$36,269

Poorest 5 countries:

- ▶ Ethiopia Burundi Tajikistan Sierra Leone Malawi
- ▶ Mean gdp per worker: \$140

Ratio: 259 (!)

Problem: prices differ across countries.

PPP Prices

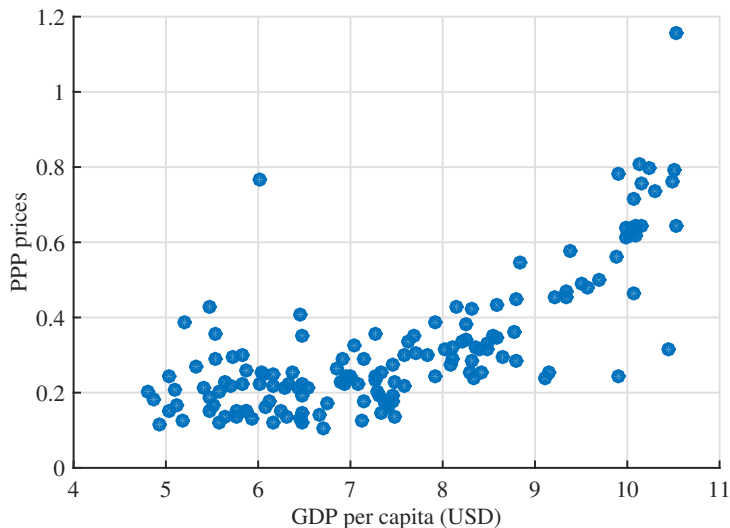
A better way: adjust for differences in local prices

ICP (International Comparison Project)

- ▶ collects prices for a common set of goods in many countries

Finding: prices are much lower in poor countries

Relative Prices and GDP



Source: I am plotting the ratio of GDP per capita in USD to GDP per capita at PPP (UN data)

Level Gaps: With Common Prices

Richest 5 countries:

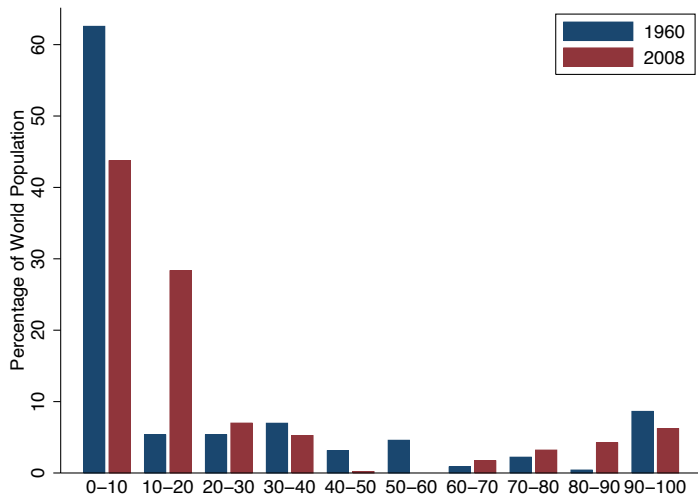
- ▶ Switzerland Singapore Norway Kuwait United Arab Emirates
- ▶ Mean gdp per worker: \$69,253

Poorest 5 countries:

- ▶ Liberia Congo, Dem. Rep. Mozambique Ethiopia Malawi
- ▶ Mean gdp per worker: \$559

Ratio: 124

Level Gaps



Source: Jones (2013b)

Level Gaps

Fact

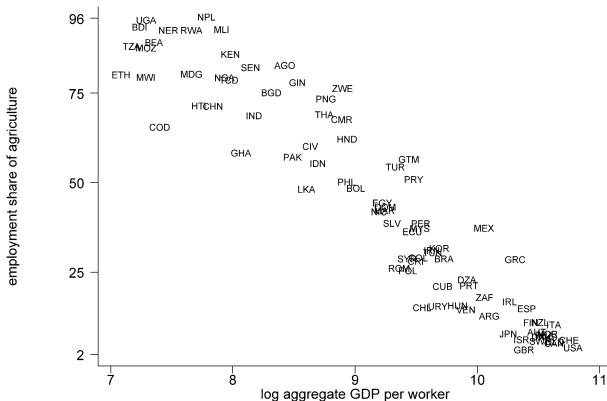
More than half of the world population earns less than 10% of U.S. income per worker.

Fact

The gap between rich and poor countries has not decreased at least since 1960.

Agriculture

Many developing countries push agriculture.



Source: Caselli (2005)

Is that a good idea?

Table 1: Agriculture and Labor-Productivity Accounting

Panel A: Labor Productivity Differences

Sector	Ratio of 90th-10th Percentile
Aggregate	22
Agriculture	45
Non-Agriculture	4

Panel B: Percent of Labor in Agriculture

Country Income Percentile	Percent
90th	2.8
10th	78.3

Source: Caselli (2005)

Agriculture

Fact

*Low income countries have a massive **comparative disadvantage** in agriculture.*

Comparative advantage means...

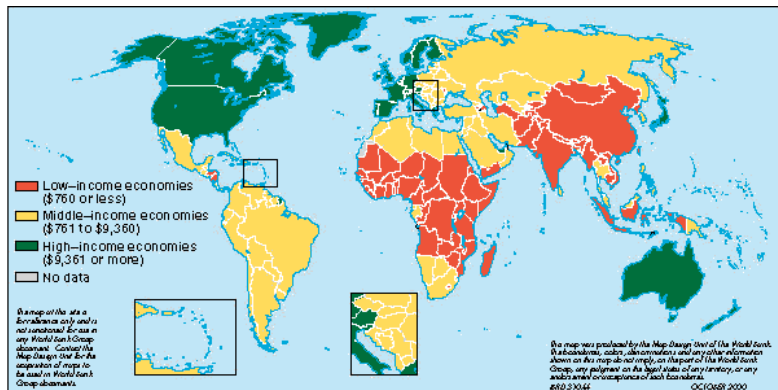
Do low income countries employ too much labor in the “wrong” sector (ag)?

Agriculture

An important insight

It is difficult to draw cause-effect conclusions from just looking at data.

Poverty is geographically concentrated



What does this suggest about the origins of income differences?

See [Acemoglu and Robinson \(2001\)](#) for more.

Growth Facts

Questions:

- ▶ Where do the enormous differences in income come from?
- ▶ How long have the rich been rich and the poor been poor?

Poor Countries Do Not Grow Faster

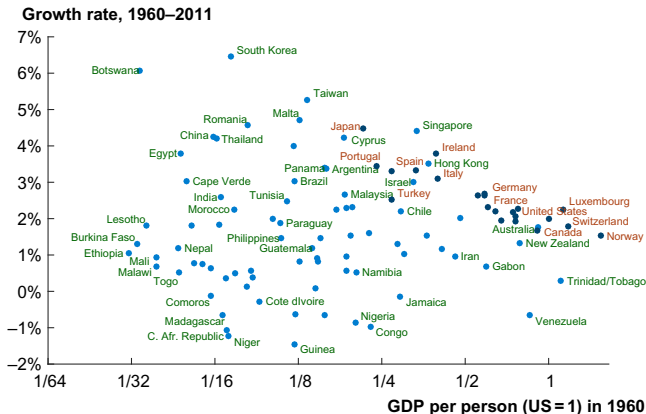


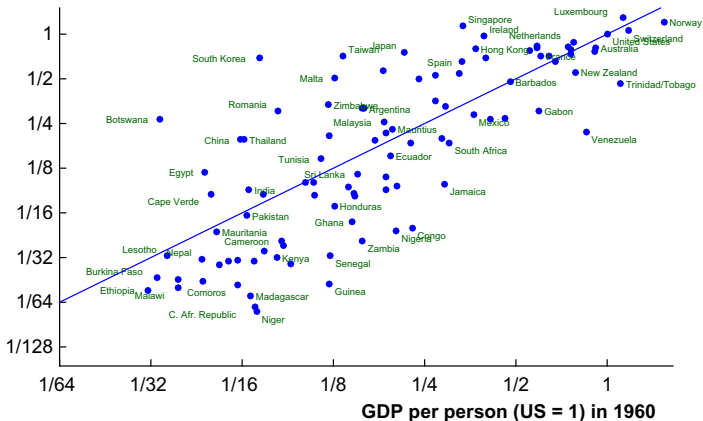
Fig. 26 The lack of convergence worldwide. Source: *The Penn World Tables 8.0*.

Source: Jones (2016)

No “convergence.”

Persistence Over Time

GDP per person (US = 1) in 2011



Source: Jones (2016)

There is mobility, but also a lot of persistence over time.

Summary

Enormous level gaps:

- ▶ Rich countries are 25 times richer than poor countries.
- ▶ Big productivity gaps in agriculture.
- ▶ Poor countries seem to specialize in the “wrong” sector.
- ▶ Poor and rich countries cluster geographically.

Postwar growth:

- ▶ **No convergence:** poorer countries do not generally grow faster.

Questions to think about

1. Why are the rich countries so much richer than the poor ones?
2. How could one answer such a question?
E.g.: “How much does lack of capital contribute to low incomes?”

Reading

- ▶ Jones (2013b), ch. 1
- ▶ Blanchard (2018), ch. 10
- ▶ Blanchard and Johnson (2013), ch. 10

A good place to access data on long-run growth: [The Penn World Tables](#)

At [knoema](#), users can generate graphs using data from a wide range of sources.

For further reading:

- ▶ Jones (2013a), ch. 3 (explains logs and ratio scales)
- ▶ Acemoglu (2009), ch. 1 (summarizes the facts)
- ▶ Jones (2016) contains an exhaustive list of growth facts

References I

- Acemoglu, D. (2009). *Introduction to modern economic growth*. MIT Press.
- and Robinson, J. A. (2001). The colonial origins of comparative development: An empirical investigation. *The American Economic Review*, **91** (5), 1369–1401.
- Blanchard, O. (2018). *Macroeconomics*. Boston: Pearson, 8th edn.
- and Johnson, D. (2013). *Macroeconomics*. Boston: Pearson, 6th edn.
- Caselli, F. (2005). Accounting for cross-country income differences. In P. Aghion and S. N. Durlauf (eds.), *Handbook of Economic Growth*, vol. 1B, 9, Elsevier.
- Jones, C. I. (2013a). *Macroeconomics*. W W Norton, 3rd edn.
- (2016). The Facts of Economic Growth. In J. B. Taylor and H. Uhlig (eds.), *Handbook of Macroeconomics*, vol. 2, 1, Elsevier, pp. 3–69.

References II

Jones, D., Charles; Vollrath (2013b). *Introduction To Economic Growth*. W W Norton, 3rd edn.