

Companion for Chapter 4

Why some countries developed and others stayed poor

SUMMARY

- Just as medical doctors use a differential diagnosis to treat ill patients, development practitioners (or “clinical economists”) use a differential diagnosis to treat poor countries. The effective clinical economist should make a diagnosis that is accurate and effective for the conditions, history, geography, culture, and economic structure of the country in question.
- In the differential diagnosis of extreme poverty, we should consider the following checklist of economic diseases:
 - Poverty traps (when the country is too poor to make the investments needed to kick start economic growth)
 - Bad economic policies
 - Financial insolvency
 - Physical geography (the conditions for trade, resources, disease burden, natural disasters, etc.)
 - Poor governance (corruption, inefficiency, incompetence, etc.)
 - Cultural barriers (e.g. discrimination against women and girls)
 - Geopolitics (a country's political and security relations with neighbors, foes and allies)
- These seven factors do not apply equally to every country and there is no single explanation of the persistence of extreme poverty. Local circumstances, history, and context are all important.
- There are two main ways to break a poverty trap: 1) The government can borrow, make critical investments and count on future economic growth to repay debts, or 2) Foreign and international actors can provide temporary private or official development assistance (ODA) to finance urgent needs and then scale down assistance as growth occurs.
- Though the physical environment can present a heavy burden on growth, geography is not a country's fate; instead it points to the critical investments that need to be undertaken. Energy is at the core of every economic activity, and countries with abundant fossil fuel resources can more easily achieve economic growth. However, some resource-rich countries have badly mismanaged their natural resource wealth. They fall into a *resource curse* where large financial flows from resources become diverted into massive corruption.
- Modern economic growth began in the temperate climate of England and diffused according to “climate proximity,” which means growth quickly spread to locations in America and Oceania that has climates similar to that of Britain.
- Climate has a huge effect on crop productivity, disease, water scarcity and vulnerability to environmental hazards. The Köppen-Geiger climate classification system distinguishes several eco-zones by types of climates, precipitation and temperature. Malaria is an important case of a climate-dependent disease, where the disease is transmitted only when the air temperatures

are above around 18 degrees Celsius. Malaria debilitates economies. Children are repeatedly absent from school, many grow up with long-term physical and cognitive difficulties, and households have large numbers of children out of fear that many will die.

- Cultural attitudes toward family size, educational attainment, and the role of women are the most important cultural beliefs that affect sustainable development. The total fertility rate (TFR) measures the average number of children a woman will have during her lifetime. In some of the poorest countries, TFRs are above four. Fertility rates affect economic development because in large families, it is difficult to provide each child with the necessary human capital (health, nutrition, education, etc.). Thus many children grow up perpetuating the cycle of poverty.
- A critical step towards breaking this cycle is to help young girls stay in school. If they attend school consistently, they will likely be more oriented toward the workforce, marry later, and have fewer children. Over time, fertility rates shape the population dynamics and the age structure of the population, as illustrated by age-population pyramids. Under the scenario of a gradual decline in fertility rates, sub-Saharan Africa's population will reach almost 4 billion by 2100.
- Attitudes toward education vary across countries. The Program for International Student Assessment (PISA) published country rankings on education. These rankings reflect not only the level of public investments in education, but also differences in parental support for the educational attainment of their children.
- There are also big differences around the world in attitudes toward gender equality. This limits economic development because a country that blocks women from fully participating in economic and political life is running on half its brain power and talents.
- The role of government in economic development is crucial. It is essential for building infrastructure for human capital development and ensuring economic opportunity for all. Government is vital for the rule of law, to avoid anarchy and violence, to ensure that other institutions (e.g. financial and banking institutions) operate according to the law, and to ensure that contracts are enforced. If the government is corrupt, it might fail to deliver broad-based economic development. In addition, corporate lobbying can result in failures of the regulatory process.
- Governments differ significantly in their levels of social expenditures as a share of national income. Such investments usually go to help children in poor families, and therefore encourage social intergenerational mobility. The ability to fund social expenditures depends on tax collection, and countries vastly differ in their willingness to do this.
- The colonial legacy played adverse roles in the economic development of former colonies. Notably, at the Berlin conference of 1884-1885, European politicians divided Africa up, often cutting across ecological areas or through ethnic groups. The artificial country divisions made it hard for many populations to easily access the coasts, and as a result Africa has many landlocked countries. Another colonial legacy with adverse impacts was the lack of investment from European powers in education or infrastructure. Therefore, at the time of independence around 1960, African countries found themselves with very few educated people and a deficient physical infrastructure.

MODELING COMPANION

To go further, we invite you to read through modeling companion D and E. In modeling companion D, we explain one of the most famous growth model: the Solow model. In modeling companion E, we investigate how poverty traps can form within the Solow model.

REVIEW

Concepts and Definition

Can you define or explain the significance of these concepts?

Clinical economics	Total fertility rate
Differential diagnosis	Age-population pyramids
Poverty traps	Corruption
Poor governance	Rule of law
Official development assistance	Social expenditure
Resource curse	Berlin conference 1884-1885
Köppen-Geiger climate classification	Colonial legacy
Malaria	

Check your facts

- 1) True or false: A differential diagnosis of why a country is stuck in poverty needs to consider the impacts of the country's physical geography and governance.
- 2) How many sub-Saharan Africa countries are landlocked?
- 3) True or false: Large continental countries, such as Russia, have a big economic advantage due to their transport conditions.
- 4) What percentage of the world's remaining oil does the Middle East control?
- 5) Under what temperature is malaria no longer transmitted?
- 6) What is the range of TFRs of many high-income countries today?
- 7) If fertility rate declines only gradually, what level would the population of sub-Saharan Africa reach in 2100?
- 8) Which set of countries usually score highest in the PISA rankings?
- 9) Which country has the highest proportion of women in the parliament?
- 10) Which set of countries have the highest public social expenditure as a share of GDP?
- 11) What is the level of public social expenditure as a share of GDP in the countries with highest public social expenditure (approximately)?
- 12) What is the level of tax collection as a percent of GDP in the US and in Denmark (approximately)?

Answers: 1)16; 2) False; 3)True; 4) more than 60%; 5)18 Celsius; 6)below 2; 7)almost 4 billion; 8)East Asian; 9)Rwanda; 10)Scandinavian countries; 11) around 30%; 12)around 25% and 50% resp.

Review questions

- Why did some countries' economies take off earlier than others?
- What are some ways a poverty trap be broken?
- Why is it more difficult for landlocked countries to develop?
- Why does natural resource wealth sometimes lead to worse economic performance?
- How does the climate factor into the diffusion of economic growth?
- How can cultural attitudes affect economic development?
- How does total fertility rate (TFR) impact economic growth?
- How can discrimination against women interfere with economic development?
- What role do institutions play in economic development?
- How can politics affect economic development? Is there a consensus on a minimum role that the government has to fulfill?
- How does Africa's colonial legacy impact its current economic performance?

DATA ACTIVITIES

EASY

A. Suitability for Malaria Transmission

Go to the Map Room of the International Research Institute for Climate and Society at Columbia University: <http://iridl.ldeo.columbia.edu/maproom>. Select the "Climate and Health" section, and then the "Climate and Malaria" section.

- 1) What are the necessary conditions suitable for malaria transmission?
- 2) In which countries it is possible to be infected with malaria for all 12 months? (Hint: Look into the seasonal climatic suitability for malaria transmission.)

Answers: 1) Coincidence of precipitation accumulation greater than 80 mm, average temperature between 18°C and 32°C, and relative humidity greater than 60%; 2) Democratic Republic of Congo, Congo, Equ. Guinea, Cameroon, Kenya, Madagascar

EASY

B. Nordhaus G-Econ data and night lights

- 1) Go to <http://gecon.yale.edu/large-pixeled-contour-globe>. Navigate the website and use any information provided to explain what the data plotted on the globe is and what the level of resolution is. What advantage does this resolution offer relative to national data?
- 2) Go to the NASA website <http://visibleearth.nasa.gov/view.php?id=55167>, and take a look at the file entitled earth_lights_lrg.jpg. Explain what is plotted on this map. How does this map relate to economic development?
- 3) Looking at the globe and map from above, does economic development seem to be correlated to any geographical features? How would you explain these patterns?

EASY

C. Age-Population Pyramids

Go to <https://www.cia.gov/library/publications/the-world-factbook/index.html>. Once you select a country to view, you will find the population pyramid of the selected country under the category "People and Society." Take a look at the population pyramid of Japan and India.

- 1) How are they similar? How are they different? Make sure you mention what "type" of pyramid they are (i.e. constrictive, stationary, or expansive).
- 2) Which age group is largest in each country? What challenges might this age distribution create for each country?

MEDIUM

D. Transparency International Corruption Perception Index

Go to the Transparency International Corruption Perception Index (CPI) for 2014:

<http://cpi.transparency.org/cpi2014/results>.

- 1) Using the anti-corruption glossary available on the website, explain the difference between petty corruption, political corruption and grand corruption.
- 2) Explain what the CPI captures and what it does not.
- 3) Which countries are perceived the least as corrupt?
- 4) List the countries with a CPI score below 15.
- 5) Using the Transparency International website, download Corruption Perception Index data for each country. Using the World Development Indicators database (data.worldbank.org/indicator), download GDP per capita (PPP) data for each country. Plot GDP per capita on the Y axis and CPI on the X axis.
- 6) Describe and comment on the graph. In particular, do you observe any pattern? Are there any interesting outliers?

3) Denmark; 4) Afghanistan, Sudan, North Korea, Somalia

HARD

E. Geography and Economic Development

On the G-econ platform (<http://gecon.yale.edu/>), download the 2011 spreadsheet with data sorted by country.

- 1) Use data on "Distance to ice-free ocean or to navigable river" to investigate the relationship between economic development and access to trade routes.
- 2) Similarly, investigate whether there is any correlation between latitude and economic development.
- 3) For each country, construct a measure of the average distance to major navigable river or ice-free ocean. (Try to aggregate and average the value of each cell within the country.)
- 4) Investigate the relationship between the country-level measure of "Distance to river or ice-free ocean" and GDP per capita. You can use the World Bank WDI to download data for each country.

Use www.emdat.be to download data for each country on the occurrence of natural disasters.

Download data on coal, natural gas and petroleum reserves from the Energy Information

Administration's International Energy Statistics

(<http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm>). For each indicator, download data for the most current year. Compare with GDP per capita (PPP) data from the WDI database.

- 5) Based on your analysis of these datasets, what can you say about the relationship between economic development and the physical environment? Support your answer with appropriate graphs.

DISCUSS AND DEBATE

- 1) As discussed in the chapter, consider the cases of Bolivia in the 1980s, Poland in the 1989, and African countries such as Zambia in the 1990s. Discuss how these cases are similar or different. Which of the seven economic malaises discussed in Chapter 4 are relevant factors in the cases of Bolivia, Poland and Zambia? In light of the seven categories of economic diseases laid out in the chapter, explain which ones are relevant for each country.
- 2) We have seen in this chapter how geography can seriously impede economic development. What can the countries suffering from a geographic disadvantage do about it? Is geography a fate?
- 3) Table 4.1, "Geography and Policy Implications," suggests possible public policies to alleviate unfavorable geographic conditions. Choose one country and one of its geographic conditions, and discuss the policies that the country has implemented.
- 4) "Malaria cannot be an impediment to economic development; the United States and Europe had malaria in the past and eliminated it as incomes increased. Therefore, arguing that malaria hinders development is incorrect." Discuss why you agree or disagree with this statement.
- 5) Discuss the patterns and implications of figure 4.2, "Settlements with a population of 500,000 and larger."
- 6) Using the case study below, discuss the various forms that corruption can take both in developing and developed countries.

CASE STUDY

The revolving door between business and politics in Europe

In Portugal, of the past 19 finance ministers, 14 have previously worked in banks or financial institutions. Bankers have also been the most represented professional group in cabinet, amounting to 54 per cent of government positions since the establishment of the democratic state. 230 members of parliament have taken up 382 positions in financial institutions before or after holding a government role. These close links between business and politics also extend to the regulator's office. Since 1986, all heads of the Central Bank have gone on to jobs in banking. The financial sector's influence over political decision-making is perceived as extensive and commonplace.³⁶ Similarly, in Spain, serious concern has been raised about former members of the executive branch transitioning to the business world and conversely, business executives transitioning to regulatory agencies. This has been characterised by the Council of Europe's Group of States against Corruption (GRECO) as "a serious threat to the credibility of the nation's institutions". Some examples of former politicians, with impressive networks of former colleagues and unrivalled access to decision-makers, are former presidents of Spain, Felipe González, who became a Gas Natural Fenosa Board Member and José María Aznar, whom Endesa (the largest utility company in Spain) hired as an external consultant and who has served as a board member in five other multinational corporations, including as advisor to the global VicePresident of KPMG and President of KPMG in Spain. In the Netherlands, the revolving door also swings freely. One example of many is the case of Jack de Vries, former state-secretary of the Ministry of Defence. De Vries was an advocate of the purchase of the Joint Strike Fighter (JSF) airplane, which because of its increasing costs has been severely disputed. De Vries resigned from public service in 2010, but in 2011 he joined Hill and Knowlton, a communication and advisory agency, which also represented the Dutch airline industry and backed the JSF purchase. When asked if he would be the contact person with the Ministry of Defence, De Vries stated that he did not know but he also did not see "any objections or problems" in contacting the Ministry. A regulation specific to this sector prohibits the Ministry from engaging with ex-governmental officials until two years after their employment, if they represent the business community.

Transparency International, Lobbying in Europe. Hidden Influence, Privileged Access. 2015

http://www.transparency.org/whatwedo/publication/lobbying_in_europe

FURTHER READING

This New York Times bestseller offers an informed vision of the steps that can transform impoverished countries into prosperous ones.

Sachs, J. D. (2007). *The end of poverty*.

Bill and Melinda Gates discuss three myths that block progress for the poor: 1) poor countries are doomed to stay poor; 2) foreign aid is a big waste; 3) saving lives leads to over-population.

Bill Gates 2014 Annual Letter (25 pages) <http://annualletter.gatesfoundation.org>

- **Geography**

Pulitzer Prize winning book presenting a study of global history through the lens of geography, demography, and ecological happenstance. Diamond's thesis sheds light on why Western civilization became hegemonic.

Diamond, J. (1999). *Guns, germs, and steel: the fates of human societies*. W.W.Norton Co.

This paper suggests that the geographical patterns of income differences across the world have deep underpinnings and emphasize that economic development is a complex process driven by economic, political, social, and biophysical forces.

McCord and Sachs, "Development, Structure, and Transformation," NBER Working Paper 19512, October 2013

This essay argues that both political institutions and the physical geography matter for economic growth.

Sachs, J. D. (2012). *Government, geography, and growth: The true drivers of economic development*. *Foreign Aff.*, 91, 142.

This article uses geographic information systems (GIS) data on a global scale to examine the relationship between climate, water navigability, and economic development.

Mellinger, Andrew D., Jeffrey D. Sachs, and John L. Gallup (1999). "Climate, Water Navigability, and Economic Development," unpublished working paper.

This article argues that the malaria interventions conducted in the tropics face greater challenges than were faced by formerly endemic nations in more temperate climates.

Kiszewski, Anthony, Andrew Mellinger, Andrew Spielman, Pia Malaney, Sonia Ehrlich Sachs, and Jeffrey Sachs. 2004. "A Global Index Representing the Stability of Malaria Transmission." *American Journal of Tropical Medicine and Hygiene* 70(5): 486-498.

- **Institutions**

This essay outlines some reasons why one should be cautious about grounding a theory of growth on institutions and discusses how the evidence that there are systematic patterns

to the ways institutions evolve undercuts the idea that exogenous change in institutions is what powers growth.

Engerman, Stanley L, and Kenneth L Sokoloff. 2005. "Institutional and Non-Institutional Explanations of Economic Differences." In *Handbook of New Institutional Economics*, edited by C Menard and M.M. Shirley, 639–65. Amsterdam: Springer.

This paper develops the empirical and theoretical case that differences in economic institutions are the fundamental cause of differences in economic development.

Daron Acemoglu, Simon Johnson, and James Robinson. (2005). "Institutions as a fundamental cause of long-run growth." *Handbook of Economic Growth* 1: 385-472.

- **Poverty traps**

This article reviews models of self-reinforcing mechanisms that cause poverty to persist.

Azariadis, C. & Stachurski, J. (2005). *Poverty traps*. *Handbook of Economic Growth*, 1 (A).

This article explores the useful distinction between chronic and transitory poverty in understanding rural welfare dynamics, highlighting the possibility of poverty traps.

Barrett, C. B. (2005). *Rural poverty dynamics: development policy implications*. *Agricultural Economics*, 32 (s1).

This paper offers an informal theory of "fractal" poverty traps: poverty traps with multiple dynamic equilibria existing simultaneously at multiple scales of analysis and self-reinforcing through feedback effects.

Barrett, C. B. & Swallow, B. M. (2006). *Fractal poverty traps*. *World Development*, 34 (1).

This paper explores the idea that simultaneous industrialization of many sectors of the economy can be profitable for them all even when no sector can break even industrializing alone.

Murphy, K. M., Shleifer, A., & Vishny, R. W. (1989). *Industrialization and the big push*. *Journal of Political Economy*, 97 (5).

- **Resource Curse**

This article investigates the links between natural resource wealth and economic growth.

Sachs, J. D., & Warner, A. M. (1995). *Natural resource abundance and economic growth* (No. w5398). National Bureau of Economic Research.

This article investigates the links between natural resource wealth and political regimes.

Michael L. Ross, "Does Oil Hinder Democracy?" *World Politics* 53 (April 2001): 325-361.

This article investigates the links between natural resource wealth and conflict.

Collier, P., & Hoeffler, A. (2005). *Resource rents, governance, and conflict*. *Journal of conflict resolution*, 49(4), 625-633.

This paper describes some of the best practices and available solutions to catalyze improved governance of natural resources, in particular extractive and land resources, and promote resource-driven growth and development.

[Collier, P. \(2013\). Harnessing natural resources for sustainable development: challenges and solutions. Sustainable Development Solutions Network.](#)

- **Others**

This article describes the changes taking place during a demographic transition.

[Lee, R. \(2003\). The demographic transition: three centuries of fundamental change. Journal of Economic Perspectives, 17 \(4\).](#)

This report describes and analyzes the results to PISA 2012.

[Organization for Economic Co-operation and Development. 2014. PISA 2012 Results: What Students Know and Can Do—Student Performance in Mathematics, Reading and Science \(1\). PISA: OECD Publishing. <http://dx.doi.org/10.1787/9789264201118-en>.](#)