

William & Mary
ECON 484: Economics of Growth

Prof. Berhanu Abegaz
Fall 2023

Office Hours: M, 10-11 am; T, 9:30-10:30 am
Classroom: Boswell 39 (My Office: Chancellors 335)

Lecture: T,R: 2:00-3:30 PM
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DESCRIPTION, LEARNING OBJECTIVES, AND REQUIREMENTS

There was little difference in average income across continents in the centuries before 1800—that is, leaving aside exceptional islands of affluence in the vast ocean of global poverty. Since then, a combination of technological progress and declining population growth has raised the global average living standard thirty-fold from \$500 (Liberia today) to \$15,000 (China today). Thanks to the industrial revolution and the Great Divergence it has induced, we live today in a world of historically unprecedented prosperity but also economic inequalities between rich and poor—*within* countries as well as *among* countries. Of the global GDP of some US\$110 trillion in PPP terms, half goes to the 1 billion lucky residents of North America, Western Europe, and Japan. While abject poverty is falling, and a middling class is emerging in the global South, the traditional middle class in the global south has been experiencing stagnation.

Growth Economics traverses the concerns of long-term Macroeconomics and Development Economics. This course is about the theoretical frameworks and tools in the study of growth as a long-term macroeconomic phenomenon. Much of the economics you study tends to focus on static efficiency although the mostly periodic one-off gains from eliminating such inefficiencies are not nearly as big as eliminating dynamic inefficiencies that inhibit rapid, sustained, and broadly shared growth. The biggest unanswered question in Economics thus remains: Why are we so rich, and they remain so poor? Just as importantly, Why do some leading regions surge ahead, others catch up with leaders, while still others fail to do so for decades on? Why do leaders eventually stumble, and some followers surge ahead to become leaders? These questions about the drivers of economic growth and the determinants of its benefits among various groups are also among the most imponderable questions in economics.

Growth is a complex process involving economics, politics, and even culture and geography. One intuitive answer pursued in most of the models we will study is that the growth of output and the distribution of the gains are determined by an economy's supply-side capacity—human capabilities, resource endowments, leadership, and institutional quality. But, as we know from the Great Depression of the 1930s and the great moderation of the past two decades, the demand side (public, private, and net exports) matters, too. It is ultimately about demand and supply involving risk calculations about long-term public and private investment.

The economics of growth has seen exciting research in the past thirty years. A lot of mathematics and econometrics is deployed in the literature to analyze the increasingly available economic data. I will keep the technical aspects of the models to the absolute minimum (knowledge of basic calculus, algebra and geometry, and elementary statistics will do—see Appendix A of JV for a refresher). The material is still dense; so, this is a hard course for those who are not willing or able to take the time to read closely

and work out the problems sets as well as end-of-chapter exercises diligently. After the lecture and the discussion sections, students will have an opportunity to do independent research on a policy issue/topic of your choice.

GRADING

By the nature of the material covered, this course builds on Econ 304 and Econ 484, which means it is analytical and somewhat mathematical. Your grade will be determined as follows. There will be two in-class tests (40%) and four homework assignments (30%), one of which will be dropped (with the lowest score). Because the pace can vary, expect about a week's notice for test dates. My homework assignments are a bit involved because they are key to understanding the mathematical models. *Never miss class or a graded assignment if you want to do well in this class.*

Class presentations and attendance count for 10%, and the policy research note make up the remaining 20%. Guidelines for the research project note will be provided. I will determine the letter grade for the course at the end of the semester after inspecting the distribution of the raw scores on all graded work.

ATTENDANCE, ELECTRONICS AND MAKEUP POLICY

Class attendance is mandatory per College academic rules. No makeups for missed homework assignments. Consistent class attendance is the most important predictor of the course grade in this tech-heavy course. Electronic devices (laptops, smartphones, etc.) are absolutely not needed in class. Leave them in your bookbag unless you are taking tests remotely. The Honor Code will be fully enforced.

THE W&M HONOR CODE

The use of any unauthorized outside to complete graded work is a serious violation of the College's Honor Code and carries serious consequences. Check the Undergraduate Catalog for all academic rules, including makeup.

TEXTBOOKS

There are three required books (available for purchase at the Bookstore or from Amazon) and a number of articles or chapters which are available from the course's Blackboard site. Homework assignments and lecture slides are also available from Bb. This is a time-demanding course that assumes that you have operational knowledge of basic calculus and have the time to work out mathematical models. Otherwise, I must tell you at the outset that this course is not for you.

1. Jones, Charles and Dietrich Vollrath, *Introduction to Economic Growth* (Third Edition), WW Norton, 2013). [JV]
2. Pomeranz, Kenneth, *The Great Divergence: China, Europe, and the Making of the Modern World Economy*, Princeton University Press, 2001.
3. Abegaz, Berhanu, Pedagogical Notes on Exogenous Models of Growth (Fall 2023, BB).

SYLLABUS, ASSIGNMENTS, AND READINGS

I. The Stylized Facts, Big Questions, and Small Answers

Theories of growth typically identify puzzling, stylized facts and offer empirically testable explanations for them. We will study three classes of growth models: Keynesian, Neoclassical, and Endogenous. We will begin with “accumulation-driven” growth with episodic (exogenous) technological progress and proceed to examine “productivity-driven” growth with endogenous technological progress.

JV (2013), chapter 1.

Banerjee and Duflo (2020), “How Poverty Ends: The Many Paths to Progress—and Why They Might Not Continue,” *Foreign Affairs*, January/February.

Abegaz (2018), “Growth and Structural Transformation,” in *Industrializing Africa*, chapter 1.

II. The Harrod-Domar Model of Exogenous Growth [Keynesian]

Daron Acemoglu (2009), *Modern Economic Growth* (2009), chapter 1 + Epilogue: 3-25, 861-74.

Abegaz (2023), *Pedagogical Notes on Exogenous Models of Growth* (section on HD Model).

→ **Homework #1 (early-September)**

III. The Solow Model of Exogenous Growth [Neoclassical]

JV (2013):

- The Solow-Swan Model with exogenous savings and technology, chapter 2.1
- Technology and the Extended Solow Model, chapter 2.2
- Empirical Applications, chapter 3.1-3.3

Abegaz (2023), *Pedagogical Notes on Exogenous Models of Growth* (section on Solow Model).

Digging Deeper: Mankiw, Romer, and Weil (1992), “A Contribution to the Empirics of Economic Growth,” *Quarterly Journal of Economics*, 107: 407-437.

→ **Homework #2 (end of September)**

IV. The Economics of Ideas, Institutions, and Endogenous Growth

JV (2013):

- Endogenous growth theory, 4.1-4.5
- The AK model, 9.1-9.5
- The Lucas Model
- The Romer Model, 5.1-5.2
- Uneven Growth, 11.

Digging Deeper:

Lucas, R. (1988), “On the Mechanics of Economic Development,” *J. of Monetary Economics*, 22(1): 3-41.

Romer, P. (1990), “Endogenous Technological Change,” *J. of Political Economy*, 98(5): S71-S102.

Rodrik, et al. (2004), “Institutions Rule,” *J. of Economic Growth*, 9(2): 131-65.

→ **Homework 3 (early October)**

**** Test #1 (mid-October) ****

V. Two Canonical Case Studies: China vs. USA

5.1. Models of Growth and Development

JV (2013), chapter 6.
Pomeranz (2001), whole book;
R. Gordon (2016), *Rise and Fall of American Growth*, chapter 1.
Huang (2012), "How Did China Take Off?" *J. Economic Perspectives*, 26(4): 147-70.

5.2. Are there General Laws of Growth and Inequality?

Picketty and Saez (2014), "Inequality in the Long Run," *Science*.
Milanovic, *Global Inequality* (2016), chapter 1.
Acemoglu and Robinson (2015), "The Rise and Decline of General Laws of Capitalism," *Journal of Economic Perspectives*, 29 (1): 3-28.

⇒ **Homework #4 (end of October)**

**** Test #2 (early November) ****

VI. Looking Beyond Aggregate Growth Models

6.2. Financial Globalization and Growth

F. Mishkin (2007), "Is Financial Globalization Beneficial?" *Journal of Money, Credit & Banking*,

6.2. Framing Growth Strategy & Policy

D. Rodrik (2010), "Diagnostics before Prescription," *J. of Economic Perspectives*, Summer: 33-44.

ANALYTICAL POLICY NOTE ON GROWTH ENGINES AND FRAGILITY

- Visit the EconLit database to compile a bibliography of articles and books on your research topic. ChatGPT is also a good starting point.
- Visit official websites to download free data--country websites, Penn World Tables, and those international organizations: WB, OECD, UN, IMF, PWT, Groningen Growth Center, WIDER.
- Follow the guidelines provided.

⇒ **Growth Policy Note** (at the end of classes, in lieu of a final exam)

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