THE SCHUMPETERIAN APPROACH TO ECONOMIC GROWTH

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ESCUELA DE VERANO 2015

Fechas: 13 al 24 de julio (incluye sábado 18 de julio)

Salón: 13 al 17 de julio: ML-514
18 de julio: ML-511
21 al 24 de julio: ML-514

Horario: 01:00 pm a 04:00 pm

OBJETIVE

The differences in living standards across countries are so large that they are difficult to believe. Ranking countries based on their GDP per capita in 2000, Luxembourg is first with $47,020, followed by the United States with $35,587. At number ten is Iceland with $26,484. Mexico's GDP per capita is $9,366, close to the world average of $7,944. Toward the bottom of the list we find Benin with $1,297, roughly 1/40th of Luxembourg's! Similarly, there are staggering difference for a given country over time. In 1870 the United States had GDP per capita of roughly $4,000, which is *half* of today's world average! In this course we will study why such differences across countries and time exist. We will see that to explain the differences in the *levels* of income, we need to explain the differences in the *growth rates* of income.

There is a wide variety in growth experiences. Singapore, Taiwan and South Korea, for example, had growth rates in the 6.5-7.5% range over the 1960-2000 period. India grew at 2.5-3%, while Jamaica and Peru grew at about 1%. To appreciate these numbers, note that a growth rate of 7% produces a *doubling* of income per capita roughly every 10 years so that the average citizen of Taiwan experienced a doubling of income *four times* over the sample period. A growth rate of 1%, in contrast, doubles income about every 72 years, meaning that the average citizen of Jamaica did not experience a doubling of income within the sample period. Explaining what causes these differences in growth experiences is the main task of growth economics.

It is impossible to overstate the importance of this task. Following Nobel laureate Robert E. Lucas, we will look at figures like these as representing *possibilities* and ask: Is there some action the government of Jamaica could take that would lead Jamaica to grow like Taiwan? If so, what, exactly? If not, what about the nature of Jamaica that makes it so? As Lucas said, "The consequences for human welfare involved in questions like these are simply staggering: Once one starts to think about them, it is hard to think about anything else."

These questions have a long tradition in economics that can be traced back to the classical writers (Smith, Ricardo, Malthus, Marx) and that defines economics as a social science in its broadest sense. Drawing on this heritage, almost a century Joseph A. Schumpeter argued that the capitalist system is an engine of growth driven by technological change and that this is the outcome of market rivalry, that is, the continuous striving of firms to improve and defend their market position at the expense of other firms. The development of a unified, consistent framework capable of modeling this process has eluded the best efforts of generations of economists. It is, however, necessary if we are to understand the broad and sweeping changes that industrial development and growth bring about and the sources from which they spring.

With modern growth theory such a framework has finally emerged. Within the time limits of a short course, we will study the analytical foundations of this framework and use the most recent advances in modeling to shed light on old and new questions concerning development and growth. A crucial aspect of this exercise is the renewed appreciation of the role of institutions and good government that much of the current research suggests. Because of its emphasis on market imperfections, and the consequent need for institutional corrections, modern growth theory integrates the market and the government in a framework that allows us to think about real-world problems in a novel and more productive way.

A course that covers the topic outlined above faces the challenge of sifting through an enormous literature, most of it recent. The ideal reading list consists of in two parts. The first covers older material and gives an overview of the state of the art from the viewpoint of, e.g., Barro and Sala-i-Martin (2004, MIT Press), *Economic Growth*. As you probably know, their perspective strongly favors the neoclassical growth model and they represent very well the large group of economists who approach the study of economic growth in terms of conditional convergence regressions. On the other side, we find more theory-oriented researchers who believe that the neoclassical model fails in countless dimensions and subscribe to a Schumpeterian view of economic growth. A very good textbook that covers a lot of early results is Aghion and Howitt (1998, MIT Press), *Endogenous Growth Theory*. These two books are a must have for any serious student of growth. Another excellent book is Grossman and Helpman (1991, MIT Press), *Innovation and Growth in the Global Economy*. Although much older, this book is still a must read for those interested in the implications of modern growth theory for international economics. Some fantastic new resources became available more recently: (1) *Handbook of Economic Growth* (Vol1, 2005, and Vol 2, 2014, North Holland) edited by P. Aghion and S. Durlauf; (2) *The Economics of Growth* (2009, MIT University Press) by P. Aghion and P. Howitt; (3) *Introduction to Modern Economic Growth* (2009, Princeton University Press) by D. Acemoglu; (4) *Unified Growth Theory* (2011, Princeton University Press) by O. Galor. This is a field that moves very fast and covers a lot of different topics. It would take several pages to list all the references that will come up in our discussions and so I will mention them in class as we go along. These books provide good entry points to a variety of issues, many of which the course does not cover in detail due to time constraints, that you might choose as the focus of your research.

As you undoubtedly already know, I am a Schumpeterian — but of a different breed. I depart from the "creative destruction" approach of Aghion and Howitt and propose a "creative accumulation" one, which is more in line with theory and evidence from IO. The course will be heavily biased toward my own views. This is not bad because this is not a "survey" course whereby I teach the state of the art — in a possibly unbiased and thorough way. This is a research course whereby I

teach you how to do research. So, we are interested in discussing questions — to which nobody knows the answer — and possible approaches to finding good answers.

Prerequisite: Econometrics II (or Econometrics I- Nivelación) , Micro-economics III and Macroeconomics III.

First-year graduate Micro and Macro. Knowledge of Aghion-Howitt and Barro-Sala i Martin would help greatly.

Ideally grading would be based on a paper. Since it's a very short course, we could try a research proposal to discuss with me while I'm there

SYLLABUS

This reading list is divided in two parts. The first one covers older material and gives you an overview of the state of the art from the viewpoint of Barro and Sala-i-Martin (2004, MIT Press), *Economic Growth*. As you probably know, their perspective strongly favors the neoclassical growth model and they represent very well the large group of economists who approach the study of economic growth in terms of conditional convergence regressions. On the other side, we find more theory-oriented researchers who believe that the neoclassical model fails in countless dimensions and subscribe to a Schumpeterian view of economic growth. A very good textbook that covers a lot of recent results is Aghion and Howitt (1998, MIT Press), *Endogenous Growth Theory*. These two books are a must have for any serious student of growth. Another excellent book is Grossman and Helpman (1991, MIT Press), *Innovation and Growth in the Global Economy* - although much older, this book is a must read for those interested in the implications of modern growth theory for international economics.

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of the art — in a possibly unbiased and thorough way. This is a research course whereby I teach you how to do research. So, we are interested in discussing questions —to which nobody knows the answer — and possible approaches to finding good answers. There is a term paper. This is a research paper - ideally something that is fit to be submitted to a journal after a lot of editorial work to polish the presentation. Short of this ideal, the paper should be something that with the proper work and dedication can turn into a dissertation. Anything less than this is not good and the grade will reflect it.

Some fantastic new resources recently became available: (1) *Handbook of Economic Growth* (2005, North Holland) edited by P. Aghion and S. Durlauf; (2) *The Economics of Growth* (2009, MIT University Press) by P. Aghion and P. Howitt; (3) *Introduction to Modern Economic Growth* (2009, Princeton University Press) by D. Acemoglu. This is a field that moves very fast and covers a lot of different topics. It would take several pages to list all the references that potentially will come up in our discussions. These three books provide good entry points to a variety of issues,

many of which the course does not cover in detail due to time constraints, that you might choose as the focus of your paper.

Part I: Things seen from the neoclassical perspective

1. Introduction to Long-Run Growth

- Romer P., 1989, Capital Accumulation in the Theory of Long-Run Growth, in *Modern Business Cycle Theory*, edited by R. J. Barro, Harvard University Press, Cambridge. [Biblioteca Economía No. 338.542 M522]
- Grossman G. M. and Helpman E., Chapter 1. [Biblioteca Economía No. 338.9 G657]
- Barro R. J. and X. Sala-i-Martin, Introduction. [Biblioteca Economía No. 338.9 B166 2004]

2. Neoclassical Growth: Exogenous Saving

- Barro R. J. and X. Sala-i-Martin, Chapter 1. [Biblioteca Economía No. 338.9 B166 2004]
- Phelps E., 1966, Golden Rules of Economic Growth, Norton, New York.
- Solow R. M., 1956, A contribution to the Theory of Economic Growth, Quarterly Journal of Economics, 70:65-94. (link)
- Solow R. M., 1957, Technical Change and the Aggregate Production Function, Review of Economic and Statistics, 39:312-320. (Link)
- Swan T. W., 1956, Economic Growth and Capital Accumulation, Economic Record, 32:334-361.

3. Neoclassical Growth: Endogenous Saving

- Barro R. J. and X. Sala-i-Martin, Chapter 2. [Biblioteca Economía No. 338.9 B166 2004]
- Cass D., 1965, Optimum Growth in an Aggregative Model of Capital Accumulation, Review of Economic Studies, 32:233-240. (Link)
- Koopmans T. C., 1965, On The Concept of Optimal Growth, in The Econometric Approach to Development Planning, North Holland, Amsterdam. (Link)
- Ramsey F. P., 1928, A mathematical Theory of Saving, Economic Journal, 38:543-559. (Link)

4. Neoclassical Growth: Open Economy Considerations and Empirical Evidence

- Barro R. J. and X. Sala-i-Martin, Chapter 3 [Biblioteca Economía No. 338.9 B166 2004]
- Barro R. J., N. G.Mankiw and X. Sala-i-Martin, 1995, Capital Mobility in Neoclassical Models of Economic Growth, American Economic Review, 85: 103-115. (Link)
- Barro R. J. and X. Sala-i-Martin, 1991, Convergence Across States and Regions, Brookings Papers on Economic Activity, I. (Link)
- Barro R. J. and X. Sala-i-Martin, 1992, Convergence, Journal of Political Economy, 100:223-251. (Link)

CALIFICACIÓN:

Numérica de acuerdo con la escala de la Universidad de los Andes (ver Reglamento General de Estudiantes de Maestría RGEM). El profesor podrá evaluar el desempeño de los estudiantes en el curso aplicando una sola prueba que corresponda al 100% de la calificación del curso.

http://secretariageneral.uniandes.edu.co/index.php/es/normatividad-institucional/20-normatividad-institucional/74-reglamento-general-de-estudiantes-de-maestria

FECHA DE RETIRO:

El estudiante podrá retirar el curso, sin devolución, hasta un día hábil antes de la fecha del examen final estipulado por el Profesor. La Universidad no devolverá el dinero cancelado por concepto de matrículas de estos cursos de la Escuela de Verano.