MEASURING ECONOMIC GROWTH

ISSUES OF ECONOMIC GROWTH

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(Lectures: Tuesdays / Fridays 9 to 11 am)

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1. Course description: Empirical verification of growth theory hypotheses

This course concentrates on the empirical testing of economic growth hypotheses. Throughout the course we will consider major measurement problems related to the fundamental causes and sources of growth, its sustainability and convergence processes. Special references are made to the Argentine case.

We start with a brief review of economic growth theory, emphasizing on the endogenous approach to growth theory. We then turn to study sources of growth, which lie at the core of this course. Sources of growth are highly relevant not only because their direct impact on growth theory but also on the analyses of other economic areas, such as monetary and fiscal policies (output gap), competitiveness (productivity-adjusted exchange rate) and labor cost.

The course addresses in-depth major measurement problems of the main sources of economic growth: productivity and factors of productions. Special references are made to problems related to data capture and time series estimation for the Argentine case. We discuss measurement related problems in a high volatile context and its consistency with the stylized facts described by economic growth theory.

We also examine economic literature regarding contributions to economic growth by intangible assets, human capital, ICTs, non-renewable resources, as well as output measurement and productivity of the service sector which undoubtedly affect economic growth. We also examine how different international organizations (OECD, EUKLEMS, ABS, CSLS, BLS, BEA, etc) deal with the above mentioned issues.

Recent economic growth experiences are reviewed through case studies of the U.S., Europe, South East Asia, the BRIC countries, Latin America and Argentina. These case studies take into account the sources of growth methodology as well as Rodrik’s “growth diagnosis” approach and “heterodox” growth strategies. We use the growth diagnosis methodology to assess economic growth experiences. We stress the importance of verifying empirically the convergence hypothesis in order to validate diverse models of economic growth, analyze the possible convergence of standards of living between developing and industrialize countries and the implications on the world’s wealth distribution.

Finally, we analyze more recent developments that have introduced trade, foreign direct investment and competition effects into growth models; the relevant role of institutions in the growth processes, and policy recommendations for takeoff, accelerating growth and sustaining the process.

Course Outline

I. REVIEW OF ECONOMIC GROWTH THEORIES

a. Basic Models of Economic Growth: the classical approach, the Harrod-Domar growth model, types of technological change, the Solow-Swan and the augmented Solow models. Optimal growth models.


II. **MEASURING THE SOURCES OF ECONOMIC GROWTH**


b. **Simple growth accounting at the aggregate level**: Measurement of variables and their contribution to growth. What is and what is included in Total Factor Productivity?

c. **An example of simple growth accounting for the Argentine case**: Long-run growth patterns, since the post WWII period. Argentina’s most recent economic policy dilemmas. Analysis of the Convertibility regime and the post-2002 period within a Solow model framework.

III. **PROBLEMS IN MEASURING OUTPUT AND PRODUCTIVE FACTORS**

a. **GDP Estimation**: Information collection related to informal sectors (underground economy), change in the base year in National Accounts, the impact of relative prices. International Comparisons of GDP: problems related to the estimation of the purchasing power parity. The experience of the World Bank

b. **The economic theory of Index numbers**: The relevance of relative prices in the measurement of economic aggregates. Composition effects, substitution effects, and the effects of changing quality


**d. ICTs and the Solow Paradox**: ICTs’ Measurement problems and their contribution to growth.
e. **The labor factor and its contribution to growth**: labor input indicators: numbers of people employed, hours worked, employment intensity, labor hoarding, impact on the measurement of labor productivity. Work remuneration data and unregistered (informal) employment. How to deal with mixed income.


h. **Natural resources**: Dutch disease and productivity. Curse or dynamic specialization. Weak versus strong sustainability in the exploitation of natural resources. Valuing natural resources wealth and their productive contribution.

**IV. MEASURING PRODUCTIVITY**

a. **Total Factor Productivity (TFP) and labor productivity**: Productivity measures over the business cycle: apparent vs. strict TFP. Quality effects, reallocation across sectors and utilization.

b. **Sources of growth under imperfect competition**: Externalities and non-constant returns to scale.

c. **Potential Output**: Monetary policy, the Taylor Rule, Inflation Targeting and the output gap. Different approaches to the output gap. Okun’s Law. The natural rate of unemployment hypothesis. Measuring the potential output: econometric and non-parametric approaches.

d. **Productivity and real Exchange rate**: The Baumol Disease. The Balassa-Samuelson effect.

e. **Problems in measuring output and productivity of services sectors**: education, health, government, financial industries, retail, and so on

f. **International measurement of productivity**: The OECD proposal. International comparison of productivity – The KLEMS project.

g. **Sectoral and Microeconomic decomposition of productivity**: Structural changes, intra and inter-sectoral productivity. Systemic productivity and dynamic efficiency, empirical verification: special factors and sectors, externalities, strategic complementarities, innovation, productive heterogeneity.

h. **Alternative methods**: Data envelope analysis. Stochastic frontier models.
V. GROWTH PROFILES: CASE STUDIES

a. United States: from the dotcom crisis to the 2008 global financial crisis: the role of ICTs and services.
b. Europe: Productivity and Efficiency gap with the U.S. The debate on the newcomers. The Spanish case.
c. NICs: Miracle economies?
d. BRIC countries: growth profiles for Brazil, Russia, India and China.
e. Economies with intensive use of natural resources: upgrading or intra-sectoral productivity?: Australia, Canada, Chile, Scandinavian countries

VI. ASSETS, RESOURCES AND THE WEALTH OF NATIONS

a. Wealth: Definition of assets according to the National Accounting System of 1993: economic and non-economic resources, the environmental approach. Natural resources and genuine savings: the World Bank experience.

VII. THE CURRENT DEBATE ON THE STYLIZED FACTS OF GROWTH AND THE CONVERGENCE PROCESS

Explanation of differences using proximate causes of growth. Particular growth issues for developing countries

b. Types of convergence: β and σ convergence, catching up, Twin Peaks, Convergence clubs.

c. Empirical and econometric testing of convergence

VIII. OTHER TOPICS IN ECONOMIC GROWTH THEORY

a. Growth Diagnosis: The Haussman-Rodrik approach to identify processes of accelerating and sustaining growth.


c. Institutions and growth strategies: The approach preferred by Acemoglu and Rodrik. Growth experiences revisited taking into account Growth Diagnosis and Growth Strategies.

d. Biased technological change: skill biased, non-skill biased. Effects on the labor market and income distribution. Empiric verification.

e. Competition and growth: economic policy adjusted for distance to the technological frontier

f. Foreign Direct Investment, Trade and Growth

g. Endogenous Growth Policies

2. BIBLIOGRAPHY

I. REVIEW OF ECONOMIC GROWTH THEORIES

REQUIRED


SUGGESTED


II. MEASURING OF THE SOURCES OF ECONOMIC GROWTH

REQUIRED

Sala i Martin X. (2000) Chapter 10


SUGGESTED


III. PROBLEMS IN MEASURING OUTPUT AND PRODUCTIVE FACTORS

REQUIRED

OECD (2001) Chapters 3 to 5 and 7

Coremberg (2009): “Midiendo Las Fuentes Del Crecimiento en una Economía Inestable: Argentina”. Productividad y factores productivos sector de actividad económica y tipo de activo. Estudios y Perspectiva 41 Cepal Bs. As. Chapters. 2.1, 3 to 6 and 8.1 to 8.6


SUGGESTED


CSLS (2003: “Productivity Trends in Natural Resources Industries in Canada, Centre for the Study of Living Standards, Canadá


IV. MEASURING PRODUCTIVITY

REQUIRED

OECD (2001): Chapters 7 to 9

Coremberg (2009): Chapters 2.2 and 7 to 10


SUGGESTED


V. GROWTH PROFILES: CASE STUDIES

(This section aims at helping students to prepare a seminar-type presentation on the growth profile of a country or region)

REQUIRED

Coremberg (2009): Chapters 7 a 10


Jorgenson, Dale (2006): Accounting for Growth in the Information Age, Ch 10 in Philippe Aghion and Steven Durlauf (editors) Handbook of Economic Growth, North Holland, Amsterdam


SUGGESTED


Bosworth, B. and S. M. Collins (2007): Accounting For Growth: Comparing China And India


VI. ASSETS, RESOURCES AND THE WEALTH OF NATIONS

REQUIRED

http://www.fundacionbolsa.com.ar/materiales/La%20riqueza%20de%20los%20argentinos%20(Trabajo%20de%20Investigaci%F3n).pdf

SUGGESTED

Damill, Mario y Fanelli, José María (1988): “Decisiones de cartera y transferencias de riqueza en un periodo de inestabilidad macroeconómica”, DT/12-CEDES.


Hulten, Ch; Corrado, Carol and Sichel, Daniel (2005): "Intangible Capital and Economic Growth", CRIW/NBER Summer Institute, diciembre 2005.


VII. THE CURRENT DEBATE ON THE STYLIZED FACTS OF GROWTH AND THE CONVERGENCE PROCESS

REQUIRED


SUGGESTED


VIII. OTHER TOPICS IN ECONOMIC GROWTH THEORY

(final selection to be announced)

Acemoglu, Daron (2008): Introduction to Modern Economic Growth: Department of Economics, Massachusetts Institute of Technology, Cap 1, 4, 15, 16


Acemoglu, Daron and James Robinson (2005): Institutions as the Fundamental Cause of Long-Run Growth Ch 06 in Philippe Aghion and Steven Durlauf (editors) Handbook of Economic Growth, North Holland, Amsterdam


Azariadis, Costas and John Stachurski (2005): Poverty Traps Ch 05 in Philippe Aghion and Steven Durlauf (editors) Handbook of Economic Growth, North Holland, Amsterdam


Ocampo (2008): "La Búsqueda de la Eficiencia Dinámica: dinámica estructural y crecimiento económico en los países en desarrollo"


Rodrik, Dani (2004): Rethinking Growth Strategies, UNU WIDER