

Growth Diagnostics in Development: Theory and Practice

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Class meets <u>three times a week</u> : Lectures: <ul style="list-style-type: none"> • Mondays 12.00PM - 1.30PM in KSW.G.01 • Wednesdays 2.00PM - 3.30PM in CBG.1.01 Seminar <ul style="list-style-type: none"> • Fridays 11.00AM - 12.00PM in CBG.1.01 <p>In addition to that, class will be supported by office hours by lecturer and teaching assistants</p>		

Course description

This is a capstone course that enables students to deploy a variety of analytical tools to process and interpret the data and formulate a coherent diagnostic that can make sense of simultaneous observations about growth and social outcomes within a particular context. It covers the theory and practice of the Economic Complexity and Growth Diagnostics frameworks, drawing on empirical research, case studies, and real world-data to map opportunities for productive diversification, identify the most binding constraints preventing them from materializing, and formulating data-driven policy strategies to overcome them.

The course covers a broad range of topics in development economics. It begins with an overview of Malthusian dynamics, the great acceleration, the great divergence, and modern growth models, emphasizing the role of productivity and technology. The course then explores different approximations to technological progress, with particular emphasis on institutional development and knowhow – as portrayed in Hidalgo and Hausmann’s (2009) Economic Complexity framework. This methodological approach takes stock of place-specific productive capabilities and allows to define a place-specific roadmap to potential diversification opportunities which could be pursued by redeploying existing skills and sourcing missing capabilities. We will then devote a significant share of the course to the practical deployment of the Growth Diagnostic Framework (Hausmann, Rodrik and Velasco, 2008), to identify the most binding constraints that are preventing these opportunities and potential from realizing. The four principles of differential diagnostics are illustrated with practical examples that showcase their deployment to test for binding constraints across relevant production factors, such as finance, human capital, infrastructure, market failures (coordination and information externalities), government failures (taxation, regulations, property rights, and corruption) and macroeconomic risks. We will devote some sessions to diagnosing macroeconomics as a constraint, to equip students with practical basic principles and analytical tools that enable them to understand the macroeconomic context of reform in a particular place.

Taken together, Economic Complexity and Growth Diagnostics form an innovative conceptual framework that allows policymakers to focus limited resources on the most impactful issues. The course concludes with several lectures aimed at translating the insights derived from the deployment of these frameworks into policy design and implementation. These include frameworks to think about building the state capability needed to mobilize and implement reforms.

Audience and Prerequisites

This course is designed for master students interested in international development, government, and public policy, that have undertaken previous courses in macroeconomics, statistics, or econometrics, are comfortable handling datasets in a language of their choosing (Stata, R or Python).

Summative Assessments

- Two problem sets (40% - both are building blocks for the final report):
 - One individual (week 4, uploaded January 30th to be submitted February 9th, 20%)
 - One in groups (week 7, uploaded February 20th to be submitted March 2nd, 20%)
- Final presentation and Country Diagnostic Report
 - Final Presentation (Week 10-11, final presentations uploaded into Moodle by March 23rd – presentations occur between March 24th and March 29th).
 - Submission of Final Growth Diagnostic Report (April 14th)
- Class participation (10%)
 - Recorded through Teachly

Formative Assessments

- One short essay by groups on Peer Selection (week 5, to be submitted February 16th)
- Short pre-class assignments

What do we expect from you?

- Read on average 50 pages per class, come to class willing to share your ideas and participate actively within a safe environment
- Choose a country and deploy the class tools to gradually further your understanding of its issues and potential remedies
- Be curious, make the most out of the different learning vehicles we have prepared

Reading Material

The course does not have a main textbook. It is based mostly on a collection of papers and readings available online, and books or book chapters that have been placed on reserve. Each class will have several assigned readings, that are not expected to average 50 pages per class. Beside these readings, the teaching team will indicate videos and podcasts chosen to complement your learning experience and provide alternative learning platforms and vehicles within the context of online teaching.

Aside from these, there are a few books that I consider must-reads for students interested in development economics and might be a great travel companion during your development work:

- Adelman, J. (2014). *Worldly Philosopher: The Odyssey of Albert Hirschman*. Princeton University Press.
- Andrews, M., Pritchett, L., and Woolcock, M. (2017). *Building State Capacity: Evidence, Analysis, Action*. Oxford University Press.
- Collier, P. (2018). *The future of capitalism: Facing the new anxieties*. Harper Collins.
- Easterly, W. (2006). *The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill, and So Little Good*. Penguin Book.
- Easterly, W. (2001). *The Elusive Quest for Economic Growth: Economists' Adventures and Misadventures in the Tropics*. The MIT Press.
- Epstein, D. (2021). *Range: Why Generalists Triumph in a Specialized World*. Riverhead Books, New York.
- Galor, O. (2022). *The Journey of Humanity: The Origins of Wealth and Inequality*. Penguin Random House.
- Heifetz, R. (1994). *Leadership without easy answers*. The Belknap Press of Harvard University Press.
- Heifetz, R. and Linsky, M. (2017). *Leadership on the line*. Harvard Business Review Press.
- Heinrich, J. (2020). *The WEIRDest People in the World: How the West Became Psychologically Peculiar and Particularly Prosperous*. Farrar, Strauss, and Giroud.
- Hirschman, O. (1958). *The strategy of economic development*. New Haven: Yale University Press.
- Hirschman, A. (1963). *Journeys towards progress: Studies of economic policy making in Latin America*. Twentieth Century Fund, New York.
- Hirschman, O. (1998). *Crossing boundaries: Selected writings*. Zone Books.
- Rodrik, R. (2015). *Economic Rules: The Rights and Wrongs of The Dismal Science*. New York: W.W. Norton.
- Santos, M.A., and Hani, F. (2021). *Diagnosing Human Capital as a Binding Constraint to Growth: Tests, Symptoms, and Prescriptions*. Cambridge University Press.
- Sen, A. (2021). *Home in the world: A written memoir*.
- Werner-Müller, J. (2017). *What is populism?* Penguin Books.

LECTURES AND READINGS

(* marks signal a mandatory reading; listed in order of importance – all other readings are recommended)

Week 1 - Lecture 1 (16/01): Introduction to Economic Growth and Development Economics

- * De Long, B. (undetermined). [Berkeley Faculty Lunch Talk: Main Themes of Twentieth Century Economic History](#).
- * Romer, P. Economic Growth in *The Concise Encyclopedia of Economics*. Available at: <https://www.econlib.org/library/Enc/EconomicGrowth.html>
- * Pritchett, L. (1997) [Divergence, Big Time](#). *The Journal of Economics Perspectives* 11, No. 3.

Week 1 - Lecture 2 (18/01): From Malthusian Stagnation to Modern Economic Growth

- * Galor, O. (2022). *The Journey of Humanity: The Origins of Wealth and Inequality*. Penguin Random House. ISBN: 9781847926913.
 - Chapter 3: The Storm Beneath the Surface (pp. 43-55).
 - Chapter 4: Full Steam Ahead (pp. 57-83).
- Galor, Oded, and David N. Weil (1999). [From Malthusian Stagnation to Modern Growth](#). *American Economic Review* 89, no. 2.
- Galor, Oded, and David N. Weil. [Population, Technology, and Growth: From Malthusian Stagnation to the Demographic Transition and Beyond](#). *American Economic Review* 90, no. 4 (2000): 806-828.
- Ashraf, Q. and Galor, O. (2011). [Dynamics and Stagnation in the Malthusian Epoch](#). *American Economic Review*, American Economic Association, vol. 101(5), pages 2003-2041, August.

Week 2 - Lecture 3 (23/01): The Basics of Growth Theory

- * Solow Model Study Guide (some teaching notes I prepared to help you navigate the basic insights of the Solow model).
- * Rodrik, D. (2005). [Growth Strategies](#). Chapter 14, in Aghion, P., and Durlauf, S. (editors), *Handbook of Economic Growth*, pp. 967-1014. North Holland.
- * Jones, C. and Romer, P. (2010). [The new Kaldor facts: ideas, institutions, population, and human capital](#). *American Economic Journal: Macroeconomics* 2, no. 1.

- For those without previous exposure to the Solow model - or those that had some exposure but would like to refresh - I recommend reading: Blanchard, O. and Johnson, D. *Macroeconomics*, in particular (section and pages taken from 6th Edition, 2013).
 - Chapter 10, section 10.4 onwards (pp. 217 – 221)
 - Chapter 11, sections 11.1 – 11.3
 - Chapter 12, section 12.1

Week 2 - Lecture 3 (25/01): Technology as Institutions.

- * Galor, O. (2022). *The Journey of Humanity: The Origins of Wealth and Inequality*. Penguin Random House. Chapter 8: The Fingerprints of Institutions (pp. 143-162). ISBN: 9781847926913.
- * D. Rodrik. (2000). [Institutions for High-Quality Growth: What They Are and How to Acquire Them](#). *Studies in Comparative International Development*, vol. 35, no.3, Fall 2000.

**Week 3 - Lecture 5 (30/01): Guest Lecturer: Ricardo Hausmann
Technology as Know-how: Introduction to Economic Complexity**

- * Hausmann, R., Hidalgo, C., Bustos, S., Coscia, M., Simoes, A. and Yildirim, M. (2013). [The Atlas of Economic Complexity: Mapping Paths to Prosperity](#). MIT Press, 2013. (Sections 1-6, pages 1-55).
- Hidalgo, C., and Hausmann, R. (2009). [The building blocks of economic complexity](#). *Proceedings of the National Academy of Sciences*, 106(26), 10570-10575.

Week 3 - Lecture 6 (01/02): Navigating the product space: Identifying opportunities for productive diversification

- * [The Atlas of Economic Complexity \(site\)](#)
- * Hausmann, R., Hidalgo, C., Bustos, S., Coscia, M., Simoes, A. and Yildirim, M. (2013). [The Atlas of Economic Complexity: Mapping Paths to Prosperity](#). MIT Press, 2013. (Sections 1-6, pages 1-55).
- * Crespi, G., Fernández-Arias, E., and Ernesto Stein (2014). [Selecting Priority Sectors for Productive Transformation](#): An Elephant in the Room? *Rethinking Productive Development*. Chapter 9, pp. 33-58.
- Bahar, D., Rapoport, H. (2018). [Migration, knowledge diffusion, and the comparative advantage of nations](#). *The Economic Journal*, Volume 128, Issue 612, pp. F273-F305.

Week 4 - Lecture 7 (06/02): Case Study – The Chiapas Puzzle

- * Hausmann, R., Santos, M.A., and Pan, C. (2020). *The Chiapas Puzzle*. Harvard Kennedy School of Government, Case Study 2174.0.

Week 4 - Lecture 8 (08/02): Growth Diagnostics

- * Hausmann, R., Rodrik, D, and Velasco, A. (2008). [Growth diagnostics](#), in Stiglitz, J. and Serra, N. *The Washington Consensus Reconsidered: Towards a new global governance*. (Chapter 15). Oxford University Press, NY.
- * Rodrik, D. (November 2007). [Doing Growth Diagnostics well](#) (blogpost)
- Rodrik, D. (2012). [Why We Learn Nothing from Regressing Economic Growth on Policies](#). *Seoul Journal of Economics* Vol. 25, No. 2, pp. 137-151.
- Aghion, P., and Durlauf, S. (2009). [From Growth Theory to Policy Design](#). Commission on Growth and Development. Working Paper No. 57.

Week 5 - Lecture 9 (13/02): Principles of Differential Diagnosis

- * Hausmann Ricardo, Klinger Bailey, Wagner Rodrigo (2008). [Doing Growth Diagnostics in Practice: A 'Mindbook'](#) CID Working Papers Series No. 177 (pages 1-47).
- * Dixit, Avinash (2007). [Evaluating Recipes for Development Success](#). *The World Bank Research Observer*, Vol. 22, No. 2, pp. 131-157.

Week 5 - Lecture 10 (15/02): Testing for Human Capital as a Binding Constraint

- * Santos, M.A. and Hani, F. (2021). Testing for Human Capital as a Binding Constraint: Checks, Symptoms, and Prescriptions. *Elements in the Economics of Emerging Markets*. Cambridge University Press.
- * Hausmann, Ricardo. [The Education Myth](#). *Project Syndicate*. May 31, 2015.
- Hausmann, R., Pietrobelli, C., and Santos, M.A. [Place-specific Determinants of Income Gaps: New Sub-National Evidence from Mexico](#), *Journal of Business Research*.
- Heckman, James, Lance Lochner, and Petra Todd (2003). [Fifty Years of Mincer Earnings Regressions. \(2003\)](#). NBER Working Paper 9732.

Week 6 - Reading Week

- 22/02: *Guest Lecturer: Douglas Barrios, Senior Manager for Applied Research at the Harvard Growth Lab: [Metroverse](#): The Growth Lab's Urban Economy Navigator*

Week 7 - Lecture 11 (27/02): Testing for Finance as a Binding Constraint

- * Hausmann, R., Santos, M.A., Barrios, D., Taniparti, T., Tudela, J., Muci, J.F., and Lu, J. (2022). [A Growth Diagnostic of Namibia](#) Harvard Center for International Development Faculty Working Paper No. 405, February 2022, pp. 15-22.
- * Hausmann, R., Espinoza, L. and Santos, M.A., (2017). [Switching gears: A Growth Diagnostic of Panama](#). Harvard Center for International Development, Faculty Working Paper Series No. 325 (pages 25-28)
- * Hausmann, R., Espinoza, L., and Santos, M.A. (2015). [The low productivity trap: A growth diagnostics of Chiapas](#). Harvard Center for International Development, Faculty Working Paper Series No. 304 (pages 15-21).
- Rajan, R. and Zingales, L. (1998). [Financial Dependence and Growth](#). *The American Economic Review*, Vol. 88, No. 3, pp. 559-586.

Week 7 - Lecture 12 (01/03): Macro Diagnostic: National Accounts and the Balance of Payments

- * IMF Latest Article IV for the country chosen for your final Growth Diagnostic Report.
- * "[Random Tidbits on National Accounts and Keynesian Models Of Income And Expenditure](#)." *The Case for Concerted Action*. November 25, 2017.
- Dornbusch, R. (2001). [A Primer on Emerging Market Crises](#). NBER WP No. W8326.
- Rigobon, R. (2004) [Notes on the BBNN model](#).
- Dornbusch, R., (1980). *Open Economy Macroeconomics*. (Chapter 6).

- Kaminsky, G., Lizondo, S., and Reinhart, C. (1998). [Leading Indicators of Currency Crises](#). Staff Papers (International Monetary Fund) 45, no. 1 (1998): pp. 1-48.

Week 8 - Lecture 13 (06/03): Macro Diagnostic: Fiscal Policy

- * IMF Latest Article IV for the country chosen for your final Growth Diagnostic Report.
- * IMF Pamphlet Series No. 49: [Guidelines for Fiscal Adjustment: Section How should the Fiscal Stance be Assessed?](#)
- Eichengreen, B., Hausmann, R., and Panizza, U. (2002). [Original Sin: The Pain, The Mystery, and the Road to Redemption](#). Paper prepared for the conference Currency and Maturity Matchmaking: Redeeming Debt from Original Sin, IADB, Washington, D.C., 21-22.
- Barro, R. (1979). [On the determination of public debt](#). Journal of Political Economy, 87(5).

Week 8 - Lecture 14 (08/03): Inequality and inclusion

- * Collier, P. (2018). [The future of capitalism: Facing the new anxieties](#). Harper Collins Publishers, New York. Chapter 7: The geographic divide: Booming metropolis, broken cities.
- * Hausmann, Ricardo, and César A. Hidalgo (2010). [Country Diversification, Product Ubiquity, and Economic Divergence](#). HKS Faculty Research Working Paper Series RWP10-045, John F. Kennedy School of Government, Harvard University.
 - Read: Abstract, Introduction (pp. 2-8), Concluding remarks (pp. 25-28).
- Wilkinson, R. (2011). [How economic inequality harms societies?](#) TED Talk.
- Lustig, N., Lopez-Calva, L., Ortiz-Juarez, E., and Monga, C. (2013). [Deconstructing the Decline in Inequality in Latin America](#). The World Bank. Policy Research WP 6552.

Week 9 – Lecture 15 (13/03): High-Bandwidth Development Policy I: Conceptual Framework and Investment Promotion Tools

- * Crespi, G., Fernández-Arias, E., Stein, E. (2014). [A Conceptual Framework for Productive Development Policies](#). Rethinking Productive Development. IADB. Ch. 2, pp. 33-58.
- Epstein, D. (2021). Range: Why Generalists Triumph in a Specialized World. Riverhead Books, New York. Chapter 8: The Outsider Advantage.
- Rodrik, D. (2007). [Industrial Policy for the Twenty-First Century](#), in One Economics, Many Recipes. Princeton University Press, Princeton, pp. 99-152.
- Cherif, R., and Hasanov, F. (2019). [The return of the policy that shall not be named: Principles of industrial policy](#). International Monetary Fund Working Paper Series No. 19/74.
- Lane, Nathan (2021). [Manufacturing Revolutions: Industrial Policy and Industrialization in South Korea](#). University of Oxford, Department of Economics.
- Cimoli, M., Dosi, G., Nelson, R. and J.E. Stiglitz (2009). [Institutions and Policies Shaping Industrial Development: An Introductory Note](#). Chapter 2 in Cimoli, Dosi, and Stiglitz (eds.), Industrial Policy and Development, Oxford University Press, pp. 19-38.

Week 9 – Lecture 16 (15/03): High-Bandwidth Development Policy II: Productivity Taskforces and Special Economic Zones

- * Santos, M.A. and Fortunato, A. (forthcoming 2023 at Cambridge University Press). Leveraging Public Private Dialog to Spur Sector Productivity: The Case of Namibia (preliminary draft).

- * UNCTAD (2021). [Handbook of Special Economic Zones in Africa: Towards Economic Diversification across the Continent](#). Chapter 5: Guidelines and Policy Recommendations (pp. 153-193).
- Ghezzi, P. (2016). [Mesas Ejecutivas: A new tool for Productive Diversification](#). Ministry of Production, Peru.

Week 10 - Lecture 17 (20/03): Examples of Growth Diagnostics

- Hausmann, R., Santos, M.A., Barrios, D., Muci, F., Taniparti, N. Tudela, J. (2021). [A Growth Diagnostic of Namibia](#). Harvard CID Faculty Working Paper Series No. 405.
- Hausmann, R., Espinoza, L. and Santos, M.A., (2017). [Switching gears: A Growth Diagnostic of Panama](#). Harvard CID Faculty Working Paper Series No. 325.
- Hausmann, R., O'Brien, T., Santos, M.A., Grisanti, A., Kasoolu, S., Taniparti, N., Tapia, J. and Ricardo Villasmil (2019). [Jordan: The elements of a growth strategy](#). Harvard CID Faculty Working Paper Series No. 346.
- Hausmann, R., Espinoza, L. and Santos, M.A., (2017). [Appraising the Economic Potential of Panama: Policy Recommendations for Sustainable and Inclusive Growth](#). Harvard CID Faculty Working Paper Series No. 334.

Week 10 - Lecture 18 (22/03): Bringing the Pieces Together: Looking Back and Looking Forward

- * Heifetz, R., and Linsky, M. (2002). Leadership on the Line: Staying Alive Through the Dangers of Leading. Harvard Business Review Press, Chapter 3: Get on the Balcony
- * Heifetz, R. (1994). Leadership without easy answers. The Belknap Press of Harvard University Press. Chapter 11. (pp. 250-276) and Chapter 4 (pp. 69-100).
- Hirschman, A. (1963). Journeys towards progress: Studies of economic policy making in Latin America. Twentieth Century Fund, NY. Chapter 5: The Contriving of Reform (pp. 251-275).
- Banerjee, A. and Duflo, E. (2011). Poor Economics. Public Affairs, New York. Chapter 10.

Schedule

Week	Lecture	Description
1	1 (16/01)	Introduction to Economic Growth and Development Economics
	2 (18/01)	From Malthusian Stagnation to Modern Economic Growth
	Seminar 1 (20/01)	STATA Workshop (Camila Arroyo-From)
2	3 (23/01)	The Basics of Growth Theory: Solow and Romer (Convergence, Divergence, Conditional Convergence)
	4 (25/01)	Technology as Institutions
	Seminar 2 (27/01)	Review of Solow model (Sheyla Enciso-Valdivia)
3	5 (30/01)	<i>Guest Lecturer: Ricardo Hausmann</i> Technology as Knowhow: Introduction to Economic Complexity
	6 (01/02)	Navigating the product space: Identifying opportunities for diversification
	Seminar 3 (03/02)	Instrumentation of Growth trajectory, structural breaks, demographic window of opportunity, peer selection (Camila Arroyo-From)
4	7 (06/02)	Case Study: The Chiapas Puzzle
	8 (08/02)	Growth Diagnostics
	Seminar 4 (10/02)	Atlas revision, data download and exercises (Camila Arroyo-From)
5	9 (13/02)	Principles of Differential Diagnosis
	10 (15/02)	Testing for Human Capital as a Constraint
	Seminar 5 (17/02)	Factor Intensity at the Sector Level (Camels and Hippos) (Sheyla Enciso-Valdivia)
6 (Reading)	22/02	<i>Guest Lecturer: Douglas Barrios</i> Metroverse: The Growth Lab's Urban Economy Navigator
7	11 (27/02)	Testing for Finance as a Constraint
	12 (01/03)	Macro Diagnostic: National Accounts and the Balance of Payments
	Seminar 6 (03/03)	Country Case Study: National Accounts and the Balance of Payments (Camila Arroyo-From)
8	13 (06/03)	Macro Diagnostic: Fiscal Policy
	14 (08/03)	Inequality and Inclusion
	Seminar 7 (10/03)	Testing for constraints using qualitative data coming from Doing Business (Quantity) and Enterprise Surveys (Price) (Sheyla Enciso-Valdivia)
9	15 (13/03)	High Bandwidth Development Policy I (Framework, Investment Promotion)
	16 (15/03)	High Bandwidth Development Policy II (Productivity Taskforces, SEZ)
	Seminar 8 (17/03)	Support to ongoing Growth Diagnostic testing work before final presentation (Sheyla Enciso-Valdivia)
10	17 (20/03)	Examples of Growth Diagnostics
	18 (22/03)	Bringing the Pieces Together: Looking Back and Looking Forward
	Presentations 24/03	Presentations of Final Reports (I - 4 groups)
11	Presentations 27/03	Presentations of Final Reports (II - 4 groups)
	Presentations 29/03	Presentations of Final Reports (III - 4 groups)