

# MASTERS SYLLABUS

2176 – Development Economics, 7 ECTS

Semester 2

2024/25

**INSTRUCTOR:** Brais Álvarez Pereira

**Brais Álvarez Pereira** is an Assistant Researcher at Nova SBE and the Founding Executive Director of the Bissau Economics Lab (BELAB). He holds an MSc in Economics from the London School of Economics and a Ph.D. in Economics from the European University Institute. Brais has professional experience as a technical advisor in the Ministry of Finance in Guinea-Bissau and has produced policy-relevant research for international organizations, including the ILO, IMF, World Bank, UNDP, UNICEF, and UNDRR. His work focuses on development and experimental economics, and has been published in top scientific journals, including the Journal of Economic Behavior and Organization, Regional Economics Scientific Reports, and Computational Economics. Currently, he is coordinating large-scale RCTs evaluating the integration of traditional healers into formal health systems in Guinea-Bissau and the improvement of cashew supply chains in Guinea-Bissau and Mozambique.

**CONTACT:** [brais.pereira@novasbe.pt](mailto:brais.pereira@novasbe.pt) , room B126.

**LECTURES:** TBD.

**OFFICE HOURS:** TBD.

**ANNOUNCEMENTS:** TBD.

**GRADER:** TBD.

**COURSE SYNOPSIS.** (Purpose of the course using broad, general terms)

This course explores key issues in development economics, focusing on poverty, foreign aid, governance, institutions, and policy evaluation. It emphasizes theoretical and empirical approaches, including methods like randomized controlled trials. Students will engage in group presentations and individual research proposals to critically analyze development interventions. By the end, they will gain skills in interpreting empirical results and assessing development policies.

COURSE UNIT AIMS. (Purpose of the course using broad, general terms)

**The broad objective of the course is to give students an overview of current knowledge on development economics. We also aim to offer basic research skills: we will often take the perspective of a researcher/analytic policy maker in this field. Both theory and empirics will be tackled. The course will introduce the main evaluation methods used in impact measurement of development interventions.**

COURSE UNIT CONTENT. (Main topics covered in the course)

**The focus of the course will be on the main current topics in the development economics literature. After a brief methodological overview, the course will discuss poverty traps and foreign aid effectiveness. Natural resources and ethnic divisions will follow. Good institutions will be portrayed as improving development. We will then examine democracy and corruption. The remainder of the course is devoted to assessing development interventions. We will first look at governance interventions. We will then analyze social programs devoted to health and education. Then we turn to incentivizing access to formal banking, namely to credit, savings, and remittances. Finally, we devote some attention to agriculture policy in developing countries and to environmental topics.**

LEARNING OBJECTIVES. Upon completion of this course, students should be able to:

- A. Knowledge and Understanding
  - **Solve theoretical models applied to development issues.**
  - **Understand causality and interpret empirical results in the development context.**
  - **Know the range of evaluation methods for development interventions.**
  - **Be able to think creatively about development interventions and measurement of outcomes.**
- B. Subject-Specific Skills
  - **Confidently discuss the literature in development economics.**
- C. General Skills
  - **Critically evaluate economic research.**

DEMONSTRATION OF THE COHERENCE OF THE SYLLABUS WITH COURSE UNIT AIMS

**The syllabus covers the main topics of Development Economics as a field. We base our approach on research contributions. We will ask students to think as researchers or critical readers of research.**

TEACHING AND LEARNING METHODS.

**There will be two classes of 1 hour and 20 minutes per week, based mainly on slides. For each topic, we will give a general overview of the theoretical and empirical issues, with examples taken from recent research studied in more detail. The participation of students**

will be strongly encouraged to foster discussion and critical thought. Individual written work will encourage students to gain research skills.

#### DEMONSTRATION OF THE COHERENCE OF THE TEACHING METHODS WITH COURSE LEARNING OBJECTIVES

The two weekly classes will enable the full coverage of the research and give the students a hands-on experience of discussion and critical assessment of the literature.

#### ASSESSMENT

1. Final exam (40% of the grade).

2. Presentation of a research paper (25% of the grade): Done in groups of 6/7 (depending on class size) for the duration of approximately 40 minutes (25 minutes presentation, 15 minutes discussion). Each group will prepare slides for the presentation and for posting on the class website. The presentation should: (i) provide motivation to the research question and highlight the main results, (ii) produce a clear and organized presentation of theory (if applicable) and evidence, (iii) apply a critical reflection about the paper (positive and/or negative), (iv) provide appropriate responses to questions from the class.

3. Writing one proposal for a research/evaluation design (25% of the grade): Done individually. Each student will prepare one 10-page (maximum) design proposal (font size 12pp, 2.5cm margins). Each one should include: (i) research question, (ii) motivation relating to literature, including theory (if applicable), (iii) empirical method used (e.g., randomization, instrumental variables; field, lab, natural experiment), (iv) details of measurement namely main outcome variables. Importance of research question, appropriate choice of method and feasibility of the project will be important criteria in assessing the design proposals. Feasibility can be attested through the identification of a specific partner organization (e.g., implementing a development intervention to be evaluated), or with preliminary analysis of readily available data. At half-term, students are required to send a draft for feedback. The final design proposal is due at the end of the term. Please send the mid-term draft and the final design proposal by email to the grader (cc the instructor).

4. Reviewing one draft of research/evaluation designs and providing feedback to colleagues (10% of the grade): Each student will be provided by the grader with a random draft for review. They will provide one page with feedback per draft. Please send the feedback on the drafts to the grader.

Participation in class is expected and can marginally change final grades. All students are required to read the papers presented by students in advance, and to comment these presentations during class.

#### BIBLIOGRAPHY.

## **I Policy readings**

Banerjee, Abhijit V., and Esther Duflo (2011), *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*, Public Affairs;  
Collier, Paul (2007), *The Bottom Billion: Why the Poorest Countries Are Failing and What Can Be Done About It*, Oxford University Press;  
Collier, Paul (2009), *Wars, Guns, and Votes: Democracy in Dangerous Places*, HarperCollins Publishers;  
Easterly, William (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 Press;  
Sachs, Jeffrey D. (2005), *The End of Poverty: Economic Possibilities for Our Time*, Penguin Press;  
Sachs, Jeffrey D. (2015), *The Age of Sustainable Development*, Columbia University Press.

## **II Methods**

Angrist, Joshua D., and Jörn-Steffen Pischke (2008), *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press;  
Duflo, Esther, Rachel Glennerster, and Michael Kremer (2006), *Using Randomization in Development Economics Research: A Toolkit*, NBER Technical Working Paper 333.  
Example: Glewwe, Paul, Michael Kremer, and Sylvie Moulin (2009), *Many Children Left Behind? Textbooks and Test Scores in Kenya*, *American Economic Journal: Applied Economics*, 1(1), pp. 112-35.

## **III The plot**

### **1. Foreign aid?**

#### **Poverty**

Ray, Debraj (1998), *Development Economics*, Princeton University Press.

#### **One example of poverty trap: conflict**

(P) Collier, Paul and Anke Hoeffler (2004), *Greed and Grievance in Civil Wars*, *Oxford Economic Papers*, 56, pp. 663-595;  
Costalli, Stefano, Luigi Moretti, and Costantino Pischedda (2017), *The Economic Costs of Civil War: Synthetic Counterfactual Evidence and the Effects of Ethnic Fractionalization*, *Journal of Peace Research*, 54(1), pp. 80-98.  
(P) Miguel, Edward, Shanker Satyanath, and Ernest Sergenti (2004), *Economic Shocks and Civil Conflict: An Instrumental Variables Approach*, *Journal of Political Economy*, 112(4), pp. 725-753.

#### **Foreign aid**

Boone, Peter (1996), *Politics and the Effectiveness of Foreign Aid*, *European Economic Review*, 40(2), pp. 289-329.

(P) Burnside, Craig and David Dollar (2000), Aid, Policies, and Growth, *American Economic Review*, 90(4), pp. 847-868.

Easterly, William, Ross Levine, and David Roodman (2004), Aid, Policies, and Growth: Comment, *American Economic Review*, 94(3), pp. 774-780.

Kaufmann, Daniel, Eoin F. McGuirk, and Pedro C. Vicente (2019), Foreign Aid Preferences and Perceptions in Donor Countries, *Journal of Comparative Economics*, 47(3), pp. 601-617.

(P) Kuziemko, Ilyana, and Eric Werker (2006), How Much Is a Seat on the Security Council Worth? Foreign Aid and Bribery at the United Nations, *Journal of Political Economy*, 114(5), pp. 905-930.

Rajan, Raghuram G., and Arvind Subramanian (2008), Aid and Growth: What Does the Cross-Country Evidence Really Show?, *Review of Economics and Statistics*, 90(4), pp. 643-665.

## 2. Curses

### Natural resources

(P) Armand, Alex, Alexander Coutts, Pedro C. Vicente, and Inês Vilela (2020), Does Information Break the Political Resource Curse? Experimental Evidence from Mozambique, *American Economic Review*, 110(11), pp. 3431-3453.

Baland, Jean-Marie, and Patrick Francois (2000), Rent-seeking and Resource Booms, *Journal of Development Economics*, 61(2), pp. 527-542.

(P) Berman, Nicolas, Mathieu Couttenier, Dominic Rohner, and Mathias Thoenig (2017), This Mine Is Mine! How Minerals Fuel Conflicts in Africa, *American Economic Review*, 107(6), pp. 1564-1610;

Caselli, Francesco, and Tom Cunningham (2009), Leader Behaviour and the Natural Resource Curse, *Oxford Economic Papers*, 61(4), pp. 628-650.

Caselli, Francesco, and Guy Michaels (2013), Do Oil Windfalls Improve Living Standards? Evidence from Brazil, *American Economic Journal: Applied Economics*, 5(1), pp. 208-238;

(P) Dube, Oeindrila, and Juan F. Vargas (2013), Commodity Price Shocks and Civil Conflict: Evidence from Colombia, *Review of Economic Studies*, 80, pp 1384-142;

Guidolin, Massimo, and Eliana La Ferrara (2007), Diamonds Are Forever, Wars Are Not: Is Conflict Bad for Private Firms?, *American Economic Review*, 97(5), pp. 1978-1993.

Mehlum, Halvor, Karl Moene and Ragnar Torvik (2006), Institutions and the Resource Curse, *The Economic Journal*, 116(508), pp. 1-20.

Robinson, James A., Ragnar Torvik and Thierry Verdier (2006), Political Foundations of the Resource Curse, *Journal of Development Economics*, 79, pp. 447-468;

Sachs, Jeffrey D. and Andrew M. Warner (1995), Natural Resource Abundance and Economic Growth, NBER, Working Paper 5398;

Tornell, Aaron, and Philip R. Lane (1999), The Voracity Effect, *American Economic Review*, 89(1), pp. 22-46.

Torvik, Ragnar (2002), Natural Resources, Rent Seeking and Welfare, *Journal of Development Economics*, 67(2), pp. 455-470.

(P) Vicente, Pedro C. (2010), Does Oil Corrupt? Theory and Evidence from a Natural Experiment in West Africa, *Journal of Development Economics*, 92(1), pp. 28-38.

### Ethnic divisions

Easterly, William, and Ross Levine (1997), *Africa's Growth Tragedy: Policies and Ethnic Divisions*, *Quarterly Journal of Economics*, 112 (4), pp. 1203-1250;  
 Eifert, Benn, Edward Miguel, and Daniel N. Posner (2010), *Political Competition and Ethnic Identification in Africa*, *American Journal of Political Science*, 54(2), pp. 494-510.  
 (P) Habyarimana, James, Macartan Humphreys, Daniel N. Posner, and Jeremy M. Weinstein (2007), *Why Does Ethnic Diversity Undermine Public Goods Provision?*, *American Political Science Review*, 101(4), pp. 709-725;  
 Posner, Daniel N. (2004), *The Political Salience of Cultural Difference: Why Chewas and Tumbukas are Allies in Zambia and Adversaries in Malawi*, *American Political Science Review*, 98(4), pp. 529-545.

### 3. Institutions

(P) Acemoglu, Daron and Simon Johnson and James A. Robinson (2001), *The Colonial Origins of Comparative Development: An Empirical Investigation*, *American Economic Review*, 91, pp. 1369-1401;  
 Albouy, David (2008). *The Colonial Origins of Comparative Development: An Investigation of the Settler Mortality Data*, NBER Working Paper 14130;  
 Banerjee, Abhijit, and Lakshmi Iyer (2005), *History, Institutions, and Economic Performance: The Legacy of Colonial Land Tenure Systems in India*, *American Economic Review*, 95(4), pp. 1190-1213;  
 Feyrer, James and Bruce Sacerdote (2009), *Colonialism and Modern Income -- Islands as Natural Experiments*, *Review of Economics and Statistics*, 91(2), pp. 245-262;  
 Jones, Benjamin, and Benjamin Olken (2005), *Do Leaders Matter? National Leadership and Growth since World War II*, *Quarterly Journal of Economics* 120(3), pp. 835-864.

### 4. Democracy?

#### Theory

Acemoglu, Daron and James A. Robinson (2000), *Why Did the West Extend the Franchise? Growth, Inequality and Democracy in Historical Perspective*, *Quarterly Journal of Economics*, 115, pp. 1167-1199;  
 Acemoglu, Daron and James A. Robinson (2006), *Economic Origins of Dictatorship and Democracy*, Cambridge University Press;  
 Grossman, Gene M. and Elhanan Helpman (1996), *Electoral Competition and Special Interest Politics*, *Review of Economic Studies*, 63(2), pp. 265-286.

#### Elections everywhere but what about democracy?

(P) Aker, Jenny, Paul Collier, and Pedro C. Vicente (2017), *Is Information Power? Using Cell Phones and Free Newspapers in an Election in Mozambique*, *Review of Economics and Statistics*, 99(2), pp. 185-200;  
 (P) Collier, Paul, and Pedro C. Vicente (2014), *Votes and Violence: Evidence from a Field Experiment in Nigeria*, *Economic Journal*, 124(574), pp. F327-355;

(P) Ferraz, Cláudio, and Frederico Finan (2008), Exposing Corrupt Politicians: The Effect of Brazil's Publicly Released Audits on Electoral Outcomes, *Quarterly Journal of Economics*, 123(2), pp. 703-745.

(P) Ferraz, Cláudio, and Frederico Finan (2011), Electoral Accountability and Corruption: Evidence from the Audit Reports of Local Governments, *American Economic Review*, 101, pp. 1274-1311;

Hyde, Susan D. (2007), The Observer Effect in International Politics: Evidence from a Natural Experiment, *World Politics*, 60: 37.

Ichino, Nahomi, and Matthias Schündeln (2012), Deterring or Displacing Electoral Irregularities? Spillover Effects of Observers in a Randomized Field Experiment in Ghana, *The Journal of Politics*, 74(1), pp. 292-307.

Leeffers, Stefan, and Pedro C. Vicente (2019), Does Electoral Observation Influence Electoral Results? Experimental Evidence for Domestic and International Observers in Mozambique, *World Development*, 114, pp. 42-58.

(P) Manacorda, Marco, and Andrea Tesei (2020), Liberation Technology: Mobile Phones and Political Mobilization in Africa, *Econometrica*, 88(2), pp. 533-567;

(P) Vicente, Pedro C. (2014), Is Vote Buying Effective? Evidence from a Field Experiment in West Africa, *Economic Journal*, 124(574), pp. F356-387;

(P) Wantchekon, Leonard (2003), Clientelism and Voting Behavior: Evidence from a Field Experiment in Benin, *World Politics*, 55, pp. 399-422.

## 5. (Corruption)

Barron, Patrick, and Benjamin Olken (2008), The Simple Economics of Extortion: Evidence from Trucking in Aceh, *Journal of Political Economy*, 117 (3), pp. 417-252;

Becker, Gary S., and George J. Stigler (1974), Law Enforcement, Malfeasance, and Compensation of Enforcers, *The Journal of Legal Studies*, 3(1), pp. 1-18.

(P) Bertrand, Marianne, Simeon Djankov, Rema Hanna, and Sendhil Mullainathan (2006), Obtaining a Driver's License in India: An Experimental Approach to Studying Corruption, *Quarterly Journal of Economics*, 122(4), pp. 1639-1676;

Besley, Timothy (2006), *Principled Agents? The Political Economy of Good Government*, Oxford University Press;

(P) Fisman, Raymond and Edward Miguel (2006), Corruption, Norms, and Legal Enforcement: Evidence from Diplomatic Parking Tickets, *Journal of Political Economy*, 115(6), pp. 1020-1048;

Mauro, Paolo (1995), Corruption and Growth, *Quarterly Journal of Economics*, 110(3), pp. 681-712.

McMillan, John, and Pablo Zoido (2004), How to Subvert Democracy: Montesinos in Peru, *Journal of Economic Perspectives*, 18(4), pp. 69-92.

(P) Reinikka, Ritva, and Jakob Svensson (2004). Local Capture: Evidence from a Central Government Transfer Program in Uganda, *Quarterly Journal of Economics*, 119 (2), pp. 679-705.

## 6. Which policies to improve governance?

(P) Bjorkman, Martina, and Jakob Svensson (2009), Power to the People: Evidence from a Randomized Field Experiment on Community-Based Monitoring in Uganda, *Quarterly Journal of Economics*, 124(2), pp 735–769;

(P) Fearon, James, Macartan Humphreys, Jeremy M. Weinstein (2009), Can Development Aid Contribute to Social Cohesion After Civil War? Evidence from a Field Experiment in Post-Conflict Liberia, *American Economic Review*, 99(2), pp. 287–291;

Mansuri, Ghazala, and Vijayendra Rao (2013), *Localizing Development: Does Participation Work?*, Policy Research Report, World Bank;

Martinez-Bravo, Monica, Gerard Padro-i-Miquel, Nancy Qian, and Yang Yao (2022), The Rise and Fall of Local Elections in China, *American Economic Review*, 112(9), pp. 2921-2958.

Olken, Benjamin (2006). Monitoring Corruption: Evidence from a Field Experiment in Indonesia, *Journal of Political Economy*, 115(2), pp. 200-249.

(P) Olken, Benjamin A. (2010), Direct Democracy and Local Public Goods: Evidence from a Field Experiment in Indonesia, *American Political Science Review*, 104(2), pp. 243-267.

## 7. Which policies to improve health and education?

### Social programs

Duflo, Esther (2000), Child Health and Household Resources: Evidence from the South African Old-Age Pension Program, *American Economic Review: Papers and Proceedings*, 90(2), pp. 393-398;

(P) Baird, Sarah, Craig McIntosh, and Berk Ozler (2011), Cash or Condition? Evidence from a Cash Transfer Experiment, *Quarterly Journal of Economics*, 126(4), pages 1709-1753;

(P) Barrera-Orsorio, Felipe, Marianne Bertrand, Leigh L. Linden, and Francisco Perez-Calle (2011), Improving the Design of Conditional Transfer Programs: Evidence from a Randomized Education Experiment in Colombia, *American Economic Journal: Applied Economics*, 3(2), pp. 167-195;

Gertler, Paul (2004), Do Conditional Cash Transfers Improve Child Health? Evidence from Progresa's Control Randomized Experiment, *American Economic Review*, 94(2), pp. 336-341;

Schultz, T. Paul (2004), School Subsidies for the Poor: Evaluating the Mexican Progresa Poverty Program, *Journal of Development Economics*, 74(1), pp. 199-250.

### Health

(P) Cohen, Jessica, and Pascaline Dupas (2010), Free Distribution or Cost-Sharing? Evidence from a Randomized Malaria Prevention Experiment, *Quarterly Journal of Economics*, 125(1), pp.1-45;

(P) Fracchia, Mattia, Teresa Molina-Millán, and Pedro C. Vicente (2023), Motivating Volunteer Health Workers in an African Capital City, *Journal of Development Economics*, 163, 103096.

Kremer, Michael and Edward Miguel (2004), Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities, *Econometrica*, 72(1), pp. 159-217;

### Education



(P) Cardim, Joana, Teresa Molina-Millán, and Pedro C. Vicente (2023), Can Technology Improve the Classroom Experience in Primary Education? An African Experiment on a Worldwide Program, *Journal of Development Economics*, 164, 103145.

(P) Duflo, Esther (2001), Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment, *American Economic Review*, 91(4), pp. 795-813;

Duflo, Esther, Rema Hanna and Stephen Ryan (2012), Incentives Work: Getting Teachers to Come to School, *American Economic Review*, 102(4), pp. 1241-78.

## 8. Which policies to lift credit constraints, incentivize savings, allow remittances?

### Credit

(P) Banerjee, Abhijit, Esther Duflo, Rachel Glennerster, and Cynthia Kinnan (2015), The Miracle of Microfinance? Evidence from a Randomized Evaluation, *American Economic Journal: Applied Economics*, 7(1), pp. 22-53;

Banerjee, Abhijit, Dean Karlan, and Jonathan Zinman (2015), Six Randomized Evaluations of Microcredit: Introduction and Further Steps, *American Economic Journal: Applied Economics*, 7(1), pp. 1-21;

Burgess, Robin and Rohini Pande (2005), Can Rural Banks Reduce Poverty? Evidence from the Indian Social Banking Experiment, *American Economic Review*, 95(3), pp. 780-795;

Giné, Xavier, and Dean S. Karlan (2011), Group versus Individual Liability: Short and Long Term Evidence from Philippine Microcredit Lending Groups, *Journal of Development Economics*, 107, pp. 65-83;

Khwaja, Asim Ijaz, and Atif Mian (2005), Do Lenders Favor Politically Connected Firms? Rent Provision in an Emerging Financial Market, *Quarterly Journal of Economics*, 120(4), pp. 1371-1411.

### Savings

(P) Ashraf, Nava, Dean Karlan, and Wesley Yin (2006), Tying Odysseus to the Mast: Evidence from a Commitment Savings Product in the Philippines, *Quarterly Journal of Economics*, 121(2), pp. 635-672;

Dupas, Pascaline, and Jonathan Robinson (2013), Savings Constraints and Microenterprise Development: Evidence from a Field Experiment in Kenya, *American Economic Journal: Applied Economics*, 5(1), pp. 163-92.

### Remittances

(P) Batista, Catia, and Pedro C. Vicente (2023), Is Mobile Money Changing Rural Africa? Evidence from a Field Experiment, *Review of Economics and Statistics*, forthcoming;

(P) Jack, William, and Tavneet Suri (2014), Risk Sharing and Transactions Costs: Evidence from Kenya's Mobile Money Revolution, *American Economic Review*, 104(1), pp. 183-223;

Yang, Dean (2008), International Migration, Remittances, and Household Investment: Evidence from Philippine Migrants' Exchange Rate Shocks, *Economic Journal*, 118, pp. 591-630.

## 9. Agriculture

Beaman, Lori, Dean Karlan, Bram Thuysbaert, and Christopher Udry (2013), Profitability of Fertilizer: Experimental Evidence from Female Rice Farmers in Mali, *American Economic Review*, 103(3), pp. 381-86.

Carter, Michael, Rachid Laajaj, and Dean Yang (2013), The Impact of Voucher Coupons on the Uptake of Fertilizer and Improved Seeds: Evidence from a Randomized Trial in Mozambique, *American Journal of Agricultural Economics, Papers and Proceedings*, 95(5), pp. 1345-1351;

Conley, Timothy G., and Christopher R. Udry (2010), Learning About a New Technology: Pineapple in Ghana, *American Economic Review*, 100(1), pp. 35-69;

Duflo, Esther, Michael Kremer, and Jonathan Robinson (2008), How High are Rates of Return to Fertilizer? Evidence from Field Experiments in Kenya, *American Economic Review*, 98(2), pp. 482-488;

(P) Duflo, Esther, Michael Kremer, and Jonathan Robinson (2011), Nudging Farmers to Use Fertilizer: Evidence from Kenya, *American Economic Review*, 101(6), pp. 2350-2390;

Goldstein, Markus, and Christopher Udry (2008), The Profits of Power: Land Rights and Agricultural Investment in Ghana, *Journal of Political Economy*, 116(6), pp. 981-1022;

Karlan, Dean, Robert Osei, Isaac Osei-Akoto, and Christopher Udry (2013), Agricultural Decisions after Relaxing Credit and Risk Constraints, *Quarterly Journal of Economics*, 129(2), pp. 597-652.

McArthur, John W., and Gordon C. McCord (2017), Fertilizing Growth: Agricultural Inputs and their Effects in Economic Development, *Journal of Development Economics*, 127, pp. 133-152.

Pingali, Prabhu L. (2012), Green Revolution: Impacts, Limits, and the Path Ahead, *Proceedings of the National Academy of Sciences*, 109(31), pp. 12302-12308.

## 10. Energy, climate change, and deforestation

### Energy

Burgess, Robin, Michael Greenstone, Nicholas Ryan, and Anant Sudarshan (2020), The Consequences of Treating Electricity as a Right, *Journal of Economic Perspectives*, 34(1), pp. 145-169.

(P) Dinkelman, Taryn (2011), The Effects of Rural Electrification on Employment: New Evidence from South Africa, *American Economic Review*, 101(7), pp. 3078-3108.

Lipscomb, Molly, Mushfiq A. Mobarak, and Tania Barham (2013). Development effects of electrification: Evidence from the topographic placement of hydropower plants in Brazil, *American Economic Journal: Applied Economics*, 5(2), pp. 200-231.

### Climate change

Olken, Ben, Melissa Dell and Benjamin Jones (2012) "Temperature Shocks and Economic Growth: Evidence from the Last Half Century" *American Economic Journal: Macroeconomics*, 4 (3), pp. 66-95.

### Deforestation

Burgess, Robin, Matthew Hansen, Benjamin Olken, Peter Potapov and Stefanie Sieber (2012), *The Political Economy of Deforestation in the Tropics*, *Quarterly Journal of Economics*, 127(4), pp. 1707-1754.

(P) Jayachandran, Seema, Joost De Laeteric F. Lambin, Charlotte Y. Stanton, Robin Audy, and Nancy E. Thomas (2017), *Cash for Carbon: A Randomized Trial of Payments for Ecosystem Services to Reduce Deforestation*, *Science*, 357(6348), pp. 267-273.

**Note:** This reading list can be revised as the term progresses. (P) stands for being available for student presentations.

#### RESOURCES.

A course webpage (moodle) will be used to disseminate information about the course and the slides used in class.