

Development Economics
ECON 2390 (Harvard), ECON 35600 (Chicago), PPHA 44401 (Harris)
Preliminary Syllabus

Fall 2020

Mondays and Wednesdays, 9:00 – 10:15 a.m. Eastern Time

Version: September 4, 2020

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Section: TBD
Office Hours: Tuesdays 10:15-11:00 a.m. ET, plus additional times for
other time zones (see Canvas for full list)
Cell: 303-717-7724
- Prerequisites: *This class is for Ph.D. students and will be technically oriented. Students are required to have taken or be concurrently taking PhD level microeconomics and econometrics. If you are a Harvard student but not a Ph.D. student in Economics, Business Economics, PEG, or Public Policy, then you are not eligible to enroll. If you are a University of Chicago student, you must be a Ph.D. student in the Economics Department, Harris, or Booth. Please contact us if you have any further questions.*
At Harvard, this class contributes to the fulfillment of requirements for the Development field for Economics Ph.D. students

This course will be jointly taught at Harvard and the University of Chicago. Chicago students are welcome to attend and participate in the first part of the course, taught by Shawn Cole, that begins on September 2 and runs until the Chicago term begins.

This course will be taught over Zoom. The Zoom link can be found here:

<https://harvard.zoom.us/j/93259160553?pwd=NWxhL2xNM2xVUzRzNzVtdmN5Zy82Zz09>

Broad Overview:

This class is intended to teach empirical methods and theoretical models in development economics.

Part 1 (taught by Shawn Cole) is intended to bring students to the forefront of research on finance in emerging markets. Topics include the relationship between financial development and economic growth, consumer finance; small and medium enterprises; debt and equity markets; the role of management and corporate governance; and the political economy of finance.

Part 2 (taught by Michael Kremer) will begin with a look at global differences in living standards and start with examining the role of human capital. The classes will discuss the literature on human capital with both experimental and non-experimental methods, including discussion on methodology of conducting field experiments. We will then discuss the O-ring theory of how human capital feeds into the production process and household economics. We will then examine returns to capital, the intersection of behavioral economics and development economics, technology, and public finance. The course will end with a discussion of the growth model and the growth accounting literature.

Requirements:

Class Participation: Active participation is required, and all students are expected to ask questions and engage in the discussion in each lecture. There will be frequent questions posed to the class, with potentially cold calling. There will also be regular polls during lecture.

Readings: Required readings will be noted on the final syllabus. By the evening before each class (7:59 p.m. Eastern Time), students are required to write a short (less than one page) summary of one required reading for that day and upload the summary to the course website under the “Assignments” tab. Please only submit PDF documents. Late submissions will not be accepted and will receive a zero grade. The summaries should cover the following: (i) Why is the paper important (or why not)? (ii) An overview of the core contributions of the paper. (iii) What you liked – or did not like – about the paper. (iv) Any questions you have about the paper (optional).

Problem Sets: There will be 4 problem sets in total, one of which will be an empirical exercise and one of which will be a referee report. For assignments in this course, you are encouraged to consult with your classmates as you work on problem sets. However, after discussions with peers, make sure that you can work through the problem yourself and ensure that any answers you submit for evaluation are the result of your own efforts. Please list the names of students with whom you have collaborated on problem sets. The due dates of the problem sets are as follows:

- Problem Set #1 – September 28

- Problem Set #2 – October 19
- Problem Set #3 – December 4
- Referee Report – November 23

- **Discussion:** This is a 15-minute discussion designed to simulate what a discussant would present at an economics conference. The discussion is a 15-minute in-class presentation about a paper on the syllabus. Students may choose any of the non-starred papers on the syllabus; students choosing other papers should speak with us. The presentation should spend 3-4 minutes summarizing the paper and its empirical strategy. The rest of the presentation should highlight the paper's contribution, any criticisms, and avenues for further work. The remaining 5 minutes should be reserved for discussion and questions.

Research Proposal Presentation: Students are required to prepare a 15-minute presentation on a new project related to the topics in the course. You are not necessarily expected to present a finished draft (although better if you can), but at a minimum an idea and an outline of how that idea could be worked out. Early on in the course, students will have the chance to give quick five-minute pitches to get feedback on very early stage research ideas to build up to their research project.

- **Final Paper:** Following the presentation, students are required to write up a draft. Students should obtain relevant data if possible and the paper should include empirical results. The paper is due on December 10. Students whose program allows them to take an incomplete may request an extension.

Grading: In assessing grades, the following breakdown will be used: Problem Sets 20%, Research Proposal Presentation 15%, Reading Summaries 15%, Discussion 10%, Class Participation 10%, Final Paper 30%.

Zoom: The course will be held online via Zoom. The link is [here](#). To better facilitate engagement and participation, all students are asked to please keep their videos on for all lectures barring extenuating circumstances. Recordings of the lectures will be available on Canvas for seven days.

Disclaimer: Professor Cole has worked as a contingent employee for the Bill and Melinda Gates Foundation, working on topics related to digital financial services.

Tentative Schedule (dates still to be finalized):

DATE	TOPIC AND TEACHER (tentative)
September 2	Course introduction, Michael Kremer

	Part I: Shawn Cole
September 9	Financial Development and Growth
September 14	Firms and Management
September 16	Government Ownership and Political Economy
September 21	ICT & Development
September 23	Big Data and Development
September 28	Political Economy and Finance; Corruption
	Part II: Michael Kremer
September 30	Human Capital, Experimental Methods I
October 5	Human Capital, Experimental Methods II
October 7	Human Capital, Experimental Methods III
October 14	Human Capital, Non-Experimental Methods
October 19	Human Capital
October 21	Human Capital
October 26	Returns to Capital
October 28	Capital Misallocation: Chang-Tai Hsieh
November 2	Student Presentations
November 4	Behavioral Development I: Joshua Dean
November 9	Behavioral Development Economics II
November 11	O-Ring Theory
November 16	Behavioral Development IV: Leonardo Bursztyn
November 18	Technology I
November 23	Technology II
November 30	Household Economics
December 2	Household Economics: Rebecca Dizon-Ross

Other Useful Information:Harvard Development Economics Sequence:

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ECON 2390 is one of the courses in the Harvard Development Economics sequence offered 2020-2021. It will focus on methods and provide a general overview of a variety of topics in the field.

Harvard / MIT Development Seminar:

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The main Development Economics seminar for Harvard and MIT will be held online. Students interested in taking development as a field should attend as regularly as possible.

Harvard Development Lunch:

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It meets on Tuesdays from 12:00-1:30 p.m. over zoom. To sign up for the mailing list, please email Shweta Bhogale at sbhogale@g.harvard.edu.

Reading List

General References

Banerjee, Abhijit and Esther Duflo. Poor Economics. A Radical Rethinking of the Way to Fight Global Poverty. Public Affairs, 2012.

Deaton, Angus. The Analysis of Household Surveys. A Microeconometric Approach to Development Policy. World Bank Publications, 1997.

Glennerster, Rachel. Running Randomized Evaluations. A Practical Guide. Princeton University Press, 2013.

Ray, Debraj. Development Economics. Princeton University Press, 1998.

Part 1: Shawn Cole

1-Financial Development and Growth

*Burgess, Robin, and Rohini Pande (2005). “Do Rural Banks Matter? Evidence from the Indian Social Banking Experiment,” *American Economic Review*, 95(3), pp. 780–795.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert W. Vishny (1998). “Law and Finance,” *Journal of Political Economy*, 106(6), pp. 1113-1155.

Rajan, Raghuram and Luigi Zingales (1998). “Financial Dependence and Growth,” *American Economic Review*, 88(3), pp. 559-586.

Bruhn, Miriam, and Inessa Love (2014). “The Real Impact of Improved Access to Finance: Evidence from Mexico,” *Journal of Finance*, 69(3), pp. 1347-1376.

Demirguc-Kunt, Asli, Thorsten Beck, and Patrick Honohan (2008). “Finance for All? Policies and Pitfalls in Expanding Access,” open access publications from Tilburg University.

Guiso, Luigi, Paola Sapienza, and Luigi Zingales (2004). “The Role of Social Capital in Financial Development,” *American Economic Review*, 94(3), pp. 526–556.

Black, B.S. and Khanna, V.S. (2007), Can Corporate Governance Reforms Increase Firm Market Values? Event Study Evidence from India. *Journal of Empirical Legal Studies*, 4: 749-796.
doi:[10.1111/j.1740-1461.2007.00106.x](https://doi.org/10.1111/j.1740-1461.2007.00106.x)

2-Firms: Banking and Credit, Equity

*Khwaja, Asim and Atif Mian (2008). “Tracing the Impact of Bank Liquidity Shocks: Evidence from an Emerging Market,” *American Economic Review*, 98(4), pp. 1413-42 4.

Hertzberg, Andrew, Jose Maria Liberti, and Daniel Paravisini (2010). "Information and Incentives Inside the Firm: Evidence from Loan Officer Rotation," *Journal of Finance*, 65(3), pp. 795–828.

Joaquim, Gustavo and Bernadus Van Doornik, 2019, "[Bank Competition, Cost of Credit and Economic Activity: Evidence from Brazil](#)," mimeo, MIT.

Liberti, Jose and Atif Mian (2010). "Collateral Spread and Financial Development," *Journal of Finance*, 65(1), pp. 147-177.

Khwaja, Asim, Atif Mian, and Bilal Zia (2010). "Dollars Dollars Everywhere, Nor any Dime to Lend: Credit Limit Constraints on Financial Sector Absorptive Capacity," *Review of Financial Studies*, 23(12), pp. 4281-4323.

Ponticelli, Jacopo and Leonardo S. Alencar (2016). "Court Enforcement, Bank Loans and Firm Investment: Evidence from a Bankruptcy Reform in Brazil," *Quarterly Journal of Economics*, 131(3), pp. 1365-1413.

Paravisini, Daniel (2008). "Local Bank Financial Constraints and Firm Access to External Finance," *Journal of Finance*, 63(5), pp. 2161–2193.

Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer (2002). "Government Ownership of Banks," *Journal of Finance*, 57(1), pp. 265-301.

Claessens, Stijn, Simeon Djankov, and Larry H.P. Lang (2000). "The Separation of Ownership and Control in East Asian Corporations," *Journal of Financial Economics*, 58(1-2), pp. 81-112.

Doidge, Craig, G. Andrew Karolyi, and Rene Stulz (2004). "Why Are Foreign Firms Listed in the U.S. Worth More?" *Journal of Financial Economics*, 71(2), pp. 205-238.

Bertrand, Marianne, Paras Mehta, and Sendhil Mullainathan (2002). "Ferretting Out Tunneling: An Application to Indian Business Groups," *Quarterly Journal of Economics*, 117(1), pp. 121-148.

Lerner, Josh and Antoinette Schoar (2005). "Does Legal Enforcement Affect Financial Transactions? The Contractual Channel in Private Equity," *Quarterly Journal of Economics*, 120(1), pp. 223-246.

Dyck, Alexander and Luigi Zingales (2004). "Private Benefits of Control: An International Comparison," *Journal of Finance*, 59(2), pp. 537-600.

Johnson, Simon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer (2000). "Tunneling," *American Economic Review P&P*, 90(2), pp. 22-27.

Mian, Atif, Asim Khwaja and Abid Qamar (2010). "The Value of Super Networks," mimeo, Harvard University.

3-Firms: Management, Government Ownership and Political Economy

Bloom, Nicholas, Benn Eifert, David McKenzie, Aprajit Mahajan and John Roberts (2012). "Does Management Matter? Evidence from India," *Quarterly Journal of Economics*, 128(1), pp. 1-51.

*Bruhn, Miriam, Dean Karlan, and Antoinette Schoar (2018). "The Impact of Consulting Services on Small and Medium Enterprises: Evidence from a Randomized Trial in Mexico," *Journal of Political Economy* (126) 2, 635-687.

Cole, Shawn (2009). "Fixing Market Failures or Fixing Elections," *American Economic Journal: Applied Economics*, 1(1), pp. 219-50.

Faccio, Mara (2006). "Politically Connected Firms," *American Economic Review*, 96(1), pp. 369-386.

Fisman, Raymond (2001). "Estimating the Value of Political Connections," *American Economic Review*, 91(4), pp. 1095-1102.

Brown, Craig and Serdar Dinc (2005). "The Politics of Bank Failures: Evidence from Emerging Markets," *Quarterly Journal of Economics*, 120(4), pp. 1413-44.

Khwaja, Asim 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.

Osili, Okonkwo and Anna Paulson (2008). "Institutions and Financial Development: Evidence from International Migrants in the United States," *Review of Economics and Statistics*, 90(3), pp. 498-512.

4-ICT and Development

*Blumestock, Joshua, Niall Keleher, Arman Rezaee, and Erin Troland. (2020). "The Impact of Mobile Phones: Experimental Evidence from the Random Assignment of New Cell Towers." Working Paper.

Higgins, Sean. "Financial Technology Adoption," Working Paper 2020.

Callen, Michael, and James D. Long. (2015). "Institutional Corruption and Election Fraud: Evidence from a Field Experiment in Afghanistan," *American Economic Review*, 105(1), pp. 354-81.

Cole, Shawn and Nilesh Fernando (2019). ["Mobile'izing Agricultural Advice: Technology Adoption, Diffusion and Sustainability."](#)Harvard Business School Working Paper.

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.

Aker, Jenny C., Christopher Ksoll, and Travis J. Lybbert. (2012). "Can Mobile Phones Improve Learning? Evidence from a Field Experiment in Niger," American economic Journal: Applied Economics, 4(4), pp. 94-120.

Aker, Jenny C., and Isaac M. Mbiti (2010). "Mobile Phones and Economic Development in Africa," Journal of Economic Perspectives, 24(3), pp. 207-32.

Bjorkegren, Dan, (2015). "The Adoption of Network Goods: Evidence from the Spread of Mobile Phones in Rwanda," Working paper.

Casaburi, Lorenzo, Michael Kremer, Sendhil Mullainathan, and Ravindra Ramrattan (2014). ["Harnessing ICT to Increase Agricultural Production: Evidence From Kenya,"](#) Working paper.

World Bank (2014), "Big Data in Action for Development,"
http://live.worldbank.org/sites/default/files/Big%20Data%20for%20Development%20Report_final%20version.pdf

Tang, Huang, ["The Value of Privacy: Evidence from Online Borrowers,"](#) 2019, Mimeo, HEC.

5-Big Data Applications in Development

Machine Learning Background:

Varian, Hal, 2014. "Big Data: New Tricks for Econometrics," Journal of Economic Perspectives 28(2) 3-28.

Mullainathan, Sendhil, and Jann Spiess, "Machine Learning: An Applied Econometric Approach," Journal of Economic Perspectives 31(2) 87-106

Satellite Data

*Yeh, Christopher et al. (2020). "Using Publicly Available Satellite Imagery and Deep Learning to Understand Economic Well-Being in Africa." Nature Communications, Volume 11, Number 2583.

Donaldson and Storeygard (2016), The View from Above: Applications of Satellite Data in Economics, Journal of Economic Perspectives 30(4), 171-198

Chen, Xi, and William Nordhaus, 2011, Using luminosity data as a proxy for economic statistics. Proceedings of the National Academy of Sciences

Henderson, Vernon, Adam Storeygard, and David Weill, 2012, Measuring Economic Growth from Outer Space, *American Economic Review*.

Weidmann, N. B., & Schutte, S. (2016). Using night light emissions for the prediction of local wealth. *Journal of Peace Research*, 54(2), 125–140. <https://doi.org/10.1177/0022343316630359>

Jean, N., Burke, M., Xie, M., Davis, W.M., Lobell, D.B., Ermon, S., 2016. [Combining satellite imagery and machine learning to predict poverty](#). *Science* 353, 790–794. doi:10.1126/science.aaf7894. Also see [Supplemental Materials](#).

Oshri, B., Hu, A., Adelson, P., Chen, X., Dupas, P., Weinstein, J., ... Ermon, S. (2018). Infrastructure Quality Assessment in Africa Using Satellite Imagery and Deep Learning. *Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining*, 616–625. <https://doi.org/10.1145/3219819.3219924>

Weidmann, N. B., & Schutte, S. (2016). Using night light emissions for the prediction of local wealth. *Journal of Peace Research*, 54(2), 125–140. <https://doi.org/10.1177/0022343316630359>

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Mobile Phone Applications

Blumenstock, J., Cadamuro, G., On, R., 2015. [Predicting poverty and wealth from mobile phone metadata](#). *Science* 350, 1073–1076. doi:10.1126/science.aac4420, See also the [Supplemental Materials](#).

Björkegren, D., & Grissen, D. (2019). Behavior Revealed in Mobile Phone Usage Predicts Credit Repayment. *The World Bank Economic Review*. <https://doi.org/10.1093/wber/lhz006>

Hanna, R., Kreindler, G., & Olken, B. A. (2017). Citywide effects of high-occupancy vehicle restrictions: Evidence from “three-in-one” in Jakarta. *Science*, 357(6346), 89–93. <https://doi.org/10.1126/science.aan2747>

Additional Methodological Material

Milusheva, S., Tatem, W. (2016). *Less Bite for Your Buck: Using Cell Phone Data to Target Disease Prevention*. <https://drive.google.com/file/d/0B8oQfBs38UHGZ01fMnh2bFBmZWc/view>

Hestie, Trevor, Robert Tibshirani, and Jerome Friedman, *The Elements of Statistical Learning*,” <http://statweb.stanford.edu/~tibs/ElemStatLearn/>

LeCun, Y., Bengio, Y., Hinton, G., 2015. [Deep learning](#) Nature 521, 436–444.
doi:10.1038/nature14539

Domingos, P., 2012. [A Few Useful Things to Know About Machine Learning](#). tCommunications of the ACM 55, 78–87. doi:10.1145/2347736.2347755

Blumenstock, JE, Cadamuro, G, On, R (2015). [Predicting Poverty and Wealth from Mobile Phone Metadata](#), *Science*, 350(6264), 1073-1076

Fatehkia, M., Kashyap, R., & Weber, I. (2018). Using Facebook ad data to track the global digital gender gap. *World Development*. <https://doi.org/10.1016/j.worlddev.2018.03.007>

Higgins, Sean. “Financial Technology Adoption,” Working Paper, 2020.

6-Corruption and Political Economy

Banerjee, Abhijit (1997). “A Theory of Misgovernance,” *Quarterly Journal of Economics*, 112(4), pp. 1289-1332.

Shleifer, Andrei and Rob Vishney (1993). “Corruption,” *Quarterly Journal of Economics*, 108(3), pp. 599-617.

Banerjee, Abhijit, Rema Hanna and Sendhil Mullainathan (2013). “Corruption,” *Handbook of Organizational Economics*, Princeton University Press.

Bertrand, Marianne, Simeon Djankov, Rema Hanna and Sendhil Mullainathan (2007). “Obtaining a Driving License in India: An Experimental Approach to Studying Corruption,” *Quarterly Journal of Economics*, 122(4), pp. 1639-1676.

Hsieh, Chang-Tai and Enrico Moretti. (2006). “Did Iraq Cheat the United Nations? Underpricing, Bribes, and the Oil for Food Program,” *Quarterly Journal of Economics*, 121(4).

*Olken, Benjamin (2007). “Monitoring Corruption: Evidence from a Field Experiment in Indonesia,” *Journal of Political Economy*, 115(2), pp. 200-249.

Olken, Benjamin and Rohini Pande. (2012). “Corruption in Developing Countries,” *Annual Review of Economics*.

Part 2: Michael Kremer

Experimental Methods, Human Capital

Hicks, Joan Harmony, Edward Miguel, Michael Walker, Michael Kremer, and Sarah Baird. "Twenty Year Economic Impacts of Deworming." Working Paper, 2020.

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

*Baird, Sarah, Joan Hamory Hicks, Michael Kremer and Edward Miguel (2016). "Worms at Work: Long-run Impacts of a Child Health Investment," *Quarterly Journal of Economics*, 131(4), pg. 1637-1680.

Hicks, Joan Harmony, Edward Miguel, Michael Walker, Michael Kremer, and Sarah Baird. "Twenty Year Economic Impacts of Deworming." Working Paper, 2020.

Education Choices in Mexico: Using a Structural Model and a Randomized Experiment to Evaluate PROGRESA, by Attanasio, Meghir and Santiago, 2012. *The Review of Economic Studies*, 79(1) p. 37-66.

Attanasio, Orazio, Costas Meghir and Ana Santiago (2012). "Education Choices in Mexico: Using a Structural Model and a Randomized Experiment to Evaluate Progres," *Review of Economic Studies*, 79(1), pg. 37-66.

Banerjee, Abhijit, Esther Duflo, Rachel Glennerster and Dhruva Kothari (2010). "Improving Immunization Coverage in Rural India: A Clustered Randomized Controlled Evaluation of Immunization Campaigns with and without Incentives," *BMJ*.

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

Bloom, Erik, Elizabeth King, Indu Bhushan, Michael Kremer, David Clingingsmith, Benjamin Loevinsohn, Rathavuth Hong, J. Brad Schwartz (2006). "Contracting for Health: Evidence from Cambodia," Working paper, Brookings Institution.

Duflo, Esther, Pascaline Dupas and Michael Kremer (2011). "Peer Effects, Teacher Incentives, and the Impact of Tracking: Evidence from a Randomized Evaluation in Kenya," *American Economic Review*, 101(5), pp. 1739-1774.

Duflo, Esther, Pascaline Dupas and Michael Kremer (2015). "Education, HIV, and Early Fertility: Experimental Evidence from Kenya," *American Economic Review*, 105(9), pp. 2757-2797.

Dupas, Pascaline and Jonathan Robinson (2013). "Why Don't the Poor Save More? Evidence from Health Savings Experiments," *American Economic Review*, 103(4), pp. 1138-1171.

Field, Erica, Omar Robles and Maximo Torero (2009). "Iodine Deficiency and Schooling Attainment in Tanzania," *American Economic Journal: Applied Economics*, 1(4), pg. 140-169.

Kremer, Michael (2003). "Randomized Evaluations of Educational Programs in Developing Countries: Some Lessons," *American Economic Review*, 93(2), pp. 102-106.

Kremer, Michael and Alaka Holla (2009). "Improving Education in the Developing World: What Have We Learned from Randomized Evaluations?" in Arrow, K. and T. Bresnahan (eds.), *Annual Review of Economics*, Volume One, pp. 513-542.

Kremer, Michael and Alaka Holla (2009). "Pricing and Access: Evidence from Randomized Evaluations in Education and Health," in Easterly, W. and J. Cohen (eds.), *What Works in Development: Thinking Big and Thinking Small*.

Kremer, Michael and Rachel Glennerster (2011). "Improving Health in Developing Countries: Evidence from Randomized Evaluations," Working Paper, Harvard University.

Kremer, Michael and Edward Miguel (2007). "The Illusion of Sustainability," *Quarterly Journal of Economics*, 122(3).

Muralidharan, Karthik, and Venkatesh Sundararaman (2015). "The Aggregate Effect of School Choice: Evidence from a Two-Stage Experiment in India," *Quarterly Journal of Economics*, 130(3), pp.1011-1066.

Schultz, T. Paul (2004). "School subsidies for the poor: evaluating the Mexican Progresa poverty program," *Journal of Development Economics*, 74(1), pp. 199-250.

Tarozzi, Alessandro, Aprajit Mahajan, Brian Blackburn, Dan Kopf, Lakshmi Krishnan and Joanne Yoong (2011), "Micro-loans, Insecticide-Treated Bednets and Malaria: Evidence from a Randomized Controlled Trial in Orissa (India)," mimeo.

Young, Alwyn. "Channelling Fisher: Randomization Tests and the Statistical Insignificance of Seemingly Significant Experimental Results." *Quarterly Journal of Economics* 134 (May 2019): 557-598

Non-experimental Methods, Human Capital

*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.

Angrist, Joshua and Victor Lavy (1999). "Using Maimonides' Rule to Estimate the Effect of Class Size on Scholastic Achievement," *Quarterly Journal of Economics*, 114 (2), pp. 533-575.

*Kremer, Michael, Jessica Leino, Edward Miguel and Alix Peterson Zwane (2011). "Spring Cleaning: A Randomized Evaluation of Source Water Quality Improvement," *Quarterly Journal of Economics*, 126(1), pp. 145-205.

Khanna, Gaurav, "Large-scale Education Reform in General Equilibrium: Regression Discontinuity Evidence from India," 2020.

Acemoglu, D. and S. Johnson (2007). "Disease and Development: The Effect of Life Expectancy on Economic Growth," *Journal of Political Economy*, 115(6), pp.925-985.

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Atkin, David (2016). "Endogenous Skill Acquisition and Export Manufacturing in Mexico," *American Economic Review*, 106 (9), pp. 2046-2085.

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Bils, Mark and Peter Klenow (2000). "Does Schooling Cause Growth?" *American Economic Review*, 90(5), pp. 1160-1183.

Bleakley, Hoyt (2010). "Malaria Eradication in The Americas: A Retrospective Analysis of Childhood exposure," *American Economic Journal: Applied Economics*, 2(2), pp. 1-45.

Bleakley, Hoyt (2007). "Disease and Development: Evidence from Hookworm Eradication in the American South," *Quarterly Journal of Economics*, 122(1), pp. 73-117.

Card, David (2001). "Estimating the Return to Schooling: Progress on Some Persistent Econometric Problems," *Econometrica*, 69(5), pp. 1127-60.

Deaton, Angus and Jean Dreze (2009). "Food and Nutrition in India: Facts and Interpretation," *Economic and Political Weekly*, 44(7), pp. 42-65.

Duflo, Esther (2004). "The Medium Run Effects of Educational Expansion: Evidence from a Large School Construction Program in Indonesia," *Journal of Development Economics*, 74(1), pp. 163-197.

Fujiwara, Thomas (2015). "Voting Technology, Political Responsiveness, and Infant Health: Evidence from Brazil," *Econometrica*, 83(2), pp. 423-464.

Galiani, Sebastián, Paul Gertler and Ernesto Schargrodsky (2005). "Water for Life: The Impact of the Privatization of Water Services on Child Mortality," *Journal of Political Economy*, 113(1), pp. 83-120.

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Hanushek, Eric and Ludger Woessmann (2008). "The Role of Cognitive Skills in Economic Development," *Journal of Economics Literature*, 46(3), pp. 607-668.

Jensen, Robert (2010). "The (Perceived) Returns to Education and the Demand for Schooling," *Quarterly Journal of Economics*, 125(2), pp. 515-548.

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Krueger, Alan and Mikael Lindahl (2001). "Education for Growth: Why and for Whom," *Journal of Economic Literature*, 39(4), pp. 1101-1136.

Munshi, Kaivan and Mark Rosenzweig (2006). "Traditional Institutions Meet the Modern World: Caste, Gender, and Schooling Choice in a Globalizing Economy," *American Economic Review*, 96(4), pp. 1225- 1252.

Pritchett, Lant (2001). "Where Has All The Education Gone?" *World Bank Economic Review*, 15(3), pp. 367-391.

Schofield, Heather (2014). "The Economic Costs of Low Caloric Intake: Evidence from India," Working paper.

Subramanian, Shankar and Angus Deaton (1996). "The Demand for Food and Calories," *Journal of Political Economy*, 104(1), pp 133-62.

O-Ring Theory

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