

## **14.772: Development Economics: Macroeconomic Issues**

Lectures: Tuesday and Thursday 2:30 - 4:00 in E52-532

Recitations: Thursday 12:00 - 1:00 in E52-532

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[bolken@mit.edu](mailto:bolken@mit.edu), Rob Townsend, E52-538, [rtownsen@mit.edu](mailto:rtownsen@mit.edu)

Teaching Assistant: Jeremy Majerovitz, [jmajic@mit.edu](mailto:jmajic@mit.edu) (Office Hours: Mondays 2-3 PM in E52-324, or by appointment)

Website: <https://learning-modules.mit.edu/class/index.html?uuid=/course/14/sp19/14.772>

Grading: 50% Problem Sets, 10% Research Proposal, 30% Exam, 10% Class Participation

There will be a few problem sets throughout the semester, these problem sets will focus on building the skills we want you to learn from the class. The problem sets will not all be worth the same amount: each problem set will indicate how much of your grade it counts for. There will also be a short research proposal due at the end of Professor Townsend's section.

# Banerjee Section

## Understanding TFP (AB, 2 lectures, 2/5, 2/7)

- \*Banerjee, Abhijit and Esther Duflo, “Growth theory through the Lens of Development Economics”, in Philippe Aghion & Steven Durlauf (ed.), Handbook of Economic Growth, edition 1, volume 3, chapter 1, Elsevier.
- \*Mankiw, N. Gregory and David Romer, David N. Weil. “A Contribution to the Empirics of Economic Growth,” The Quarterly Journal of Economics, Vol. 107, No. 2 (May, 1992), pp. 407-437.
- \*Lucas, Robert (1990) ‘Why doesn’t capital flow from rich to poor countries?’ American Economic Review 80(2), 92–96.
- \*Caselli, Francesco, “Accounting for Cross-Country Income Differences,” in Philippe Aghion & Steven Durlauf (ed.), Handbook of Economic Growth, edition 1, volume 1, chapter 9, pages 679-741, Elsevier.
- Lagakos, David, Ben Moll, Tommaso Porzio and Nancy Qian, “Experience matters: Human Capital and Development Accounting”, mimeo Princeton University, 2011.
- Klenow, P. and A. Rodriguez-Clare, "The Neoclassical Revival in Growth Economics: Has it Gone too Far?," NBER Macroeconomics Annual, pp. 73-114, 1997.
- Bilal, Mark and Peter Klenow (2000), "Does Schooling Cause Growth?" American Economic Review, 90 (5): 1160-83.
- Young, Alwyn. “The Tyranny of Numbers: Confronting the Statistical Realities of the East Asian Growth Experience.” The Quarterly Journal of Economics. Vol. 110 (3). p 641-80. August 1995.
- Kremer, M. "The O-Ring Theory of Economic Development." Quarterly Journal of Economics 108, no. 3 (1993): 551-575
- Jones, Ben, “The Human Capital Stock: A Generalized Approach”, mimeo Northwestern University, 2011
- Banerjee, Abhijit, and Esther Duflo. "Do Firms Want to Borrow More? Testing Credit Constraints Using a Directed Lending Program." , Review of Economic Studies, 2014.
- de Mel, Suresh, David McKenzie, and Christopher Woodruff. "Returns to Capital in Microenterprises: Evidence from a Field Experiment." Quarterly Journal of Economics 123, no. 4 (November 2008): 1329-1372.
- Karlan, Dean, Robert Osei, Isaac Osei-Akoto and Chris Udry “Agricultural Decisions after Relaxing Credit and Risk Constraints” Quarterly Journal of Economics. 129(2), May 2014
- Duflo, Esther, Michael Kremer, and Jonathan Robinson. "How High Are Rates of Return to Fertilizer? Evidence from Field Experiments in Kenya." American Economic Review 98, no. 2 (May 2008): 482-488.
- Udry, Christopher, and Santosh Anagol. "The Return to Capital in Ghana." American Economic Review 96, no. 2 (2006): 388-393.
- Caselli, Francisco and James Feyrer, “The Marginal Product of Capital”, mimeo LSE.

- Bai. Chong-en, Chang-Tai Hsieh and Yingyi Qian, “The Return to Capital in China”, mimeo, 2006.
- Hanushek, Eri, and Dennis Kimko. "Schooling, Labor-Force Quality, and the Growth of Nations." *American Economic Review* 90, no. 5 (2000): 1184-1208.
- \*Hsieh, Chang-Tai and Peter Klenow, (2007) “Misallocation and Manufacturing TFP in China and India”, mimeo, Stanford University.
- \*Hsieh, Chang-Tai and Peter Klenow (2012), “The Life Cycle of Firms in India and Mexico”, mimeo, University of Chicago.
- \*Peters, Michael, 2016, “Heterogeneous Mark-Ups and Endogenous Misallocation”, mimeo Yale.
- Garicano, Luis, Claire Lelarge and John Van Reenen (2012), “Firm Size Distortions and the Productivity Distribution: Evidence from France,” Working Paper
- Midrigan, Virgiliu, and Daniel Yi Xu, 2009, “Accounting for Plant-Level Misallocation.” NYU, mimeo.
- Restuccia, Diego, and Richard Rogerson, 2008. “Policy Distortions and Aggregate Productivity with Heterogeneous Plants.” *Review of Economic Dynamics*, 11(4): 707–720.

### **Growth theory without aggregation (AB, 1 lecture, 2/12)**

- \*Banerjee, Abhijit and Ben Moll, “Why Does Misallocation Persist?”, *American Economic Journal: Macroeconomics*, 2010, vol. 2, no. 1, pp. 189-206
- \*Moll, Benjamin, “Productivity Losses from Financial Frictions: Can Self-Financing Undo Capital Misallocation?”, mimeo, University of Chicago, 2009.
- Jeong, Hyeok and R.M. Townsend, (2007) “Sources of TFP Growth: Occupational Choice and Financial Deepening,” forthcoming in *Economic Theory*, special issue honoring Edward Prescott.
- Townsend, Robert M; Ueda, Kenichi (2006) “Financial Deepening, Inequality, and Growth: A Model-Based Quantitative Evaluation,” *Review of Economic Studies* Volume 73, Issue 1, pp. 251-293, January 2006.
- Jeong, H. and R.M. Townsend, (2007) “Growth and Inequality: Model Evaluation Based on an Estimation-Calibration Strategy” forthcoming in *Macroeconomic Dynamics* Special Issue on Inequality.
- \*Banerjee, A.V. and A. Newman, "Information, the Dual economy and Development", *Review of Economic Studies*, 65 (4), 1998, pp. 631-653.
- \*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):1225-1252.
- \*Munshi, Kaivan and Mark Rosenzweig (2006), “Why is Mobility in India so Low?”, BREAD Working Paper No. 092.
- \*Bryan, G., S. Chowdhury and A. M. Mobarak. “Under-Investment in a Profitable Technology: The Case of Seasonal Migration in Bangladesh,” *Econometrica*, September 2014
- Duflo, Esther. “The Medium Run Consequences of Educational Expansion: Evidence from a Large School Construction Program in Indonesia,” *Journal of Development Economics* 74(1), 2004, pp. 163-197. Also see BREAD Working Paper No. 002, 2001.

- Banerjee, A.V. and A Newman, “Inequality, Growth, and Trade Policy”
- Topalova, Petia, “Trade Liberalization, Poverty, and Inequality: Evidence from Indian Districts”, mimeo, IMF.
- \*Buera, Francisco, Joe Kaboski and Yongseok Shin, “Finance and Development: A Tale of Two Sectors”, mimeo.
- Banerjee, Abhijit and Esther Duflo, “Growth theory through the Lens of Development Economics”, in Philippe Aghion & Steven Durlauf (ed.), Handbook of Economic Growth, edition 1, volume 3, chapter 1, Elsevier.
- \*Banerjee, A. V. and Sendhil Mullainathan, “Limited attention and income distribution”, forthcoming, American Economic Association Papers and Proceedings, May, 2008.
- \*Banerjee, A.V., “The Two Poverties”, Nordic Journal of Political Economy, Vol. 26 (2), pp. 129-41.
- Kanbur, R., "Of Risk-Taking and the Personal Distribution of Income", Journal of Political Economy, 87 (4), 1979, pp. 769-797.
- Kihlstrom, R., and J-J. Laffont, "A General Equilibrium Entrepreneurial Theory of Risk-taking Based on Risk-Aversion" Journal of Political Economy, 87 (4), 1979, pp. 719-748.
- Banerjee, A.V. and A. Newman, "Risk-Bearing and the Theory of Income Distribution", Review of Economic Studies, 58 (2), 1991, pp. 211-235.
- \*Galor, O. and J. Zeira, (1993) “Income Distribution and Macroeconomics”, Review of Economic Studies, 60 (1), pp. 35-52.
- \*Banerjee, A.V. and A. Newman, (1993) “Occupational Choice and the Process of Development” Journal of Political Economy, 101 (2), pp. 274-298.
- Galor, O. and D. Tsiddon (1997), “The Distribution of Human Capital and Economic Growth”, Journal of Economic Growth, Vol. 2 (1), pp. 93-124.
- Banerjee, Abhijit (2004), “Educational Policy and the Economics of the Family”, Journal of Development Economics, 74(1): 3-32.
- Galor, O. and O. Moav (2004), “From Physical to Human Capital Accumulation: Inequality in the Process of Development”, Review of Economic Studies, 74 (249), pp. 1001-1026.
- Piketty, Thomas (1997) “The Dynamics of the Wealth Distribution and the Interest Rate with Credit Rationing,” Review of Economic Studies, v. 64, iss. 2, pp. 173-89.
- Lloyd-Ellis, Huw; Bernhardt, Dan (2000) “Enterprise, Inequality and Economic Development,” Review of Economic Studies, v. 67, iss. 1, pp. 147-68.
- Matsuyama, Kiminori (2002) “On the Rise and Fall of Class Societies,” CIRJE F-Series CIRJE-F-173, CIRJE, Faculty of Economics, University of Tokyo.
- Aghion, Philippe; Bolton, Patrick (1997) “A Theory of Trickle-Down Growth and Development,” Review of Economic Studies, v. 64, iss. 2, pp. 151-72.
- Durlauf, Steven (1993) ‘Nonergodic economic growth.’ Review of Economic Studies 60(2), 349–366.
- Mookherjee, Dilip, and Debraj Ray (2002) ‘Contractual structure and wealth accumulation.’ American Economic Review 92(4), 818–849.
- \*Mookherjee, Dilip, and Debraj Ray (2003) ‘Persistent inequality.’ Review of Economic Studies 70(2), 369–393.
- \*Banerjee A. V. and Sendhil Mullainathan, (2010) “The Shape of Temptations”, mimeo, MIT

## **Collusion and competition (AB, 2/14)**

- \*Mitra, Sandip, Dilip Mookherjee, Maximo Torero and Sujata Visaria “Asymmetric Information and Middleman Margins: An Experiment with Indian Potato Farmers” forthcoming in Review of Economics and Statistics
- \*Bergquist, Lauren Falcao, Marshall Burke and Edward Miguel “Sell Low and Buy High: Arbitrage and Local Price Effects in Kenyan Markets”, forthcoming in Quarterly Journal of Economics
- \*Bergquist, Lauren Falcao, “Pass-Through, Competition, and Entry in Agricultural Markets: Experimental Evidence from Kenya”, Working Paper University of Michigan, 2018.
- \*Casaburi, Lorenzo, and Tristian Reed. “Competition and Interlinkages in Agricultural Markets: An Experimental Approach.” Working Paper, 2016.
- Fafchamps, Marcel, and Bart Minten. “Impact of SMS-Based Agricultural Information on Indian Farmers.” The World Bank Economic Review, 26(3): 383–414, 2012
- Keniston, Daniel E. “Bargaining and Welfare: A Dynamic Structural Analysis.” Working Paper, Yale University, 2012
- Bardhan, Pranab, Dilip Mookherjee, and Masatoshi Tsumagari. “Middlemen Margins and Globalization.”, American Economic Journal: Microeconomics, 5(4): 81–119.

## **Non-market macroeconomics (AB, 3 lectures, 2/21, 2/26, 2/28)**

### ***Matching***

- \*Ray Fisman, Sheena Iyengar, Emir Kamenica, and Itamar Simonson, “Racial Preferences in Speed Dating: Evidence from a Speed-dating Experiment”, Review of Economic Studies, 2008.
- \*Ariely, Dan, Guenter Hitsch and Ali Hortascu, Matching and Sorting in Online Dating, *American Economic Review* , 100(1), March 2010.
- \*Banerjee, Abhijit and Duflo, Esther and Ghatak, Maitreesh and Lafortune, Jeanne (2013) Marry for what?: caste and mate selection in modern India *American economic journal: microeconomics*, 5 (2). 33-72. ISSN 1945-7669

### **Networks**

- Granovetter, Mark. “The Impact of Social Structure on Economic Outcomes.” The Journal of Economic Perspectives 19, no. 1 (2005): 33–50.
- Manski, Charles F. “Identification of Endogenous Social Effects: The Reflection Problem.” The Review of Economic Studies 60, no. 3 (July 1, 1993): 531–542.
- Rauch, James E. “Does Network Theory Connect to the Rest of Us? A Review of Matthew O. Jackson’s Social and Economic Networks.” Journal of Economic Literature (2010): 980–986.
- \*Cai, Jing, Alain de Janvry, and Elisabeth Sadoulet. “Social Networks and the Decision to Insure.” American Economic Journal: Applied Economics 2015, 7(2): 81–108.

- \*Cai, Jing, and Adam Szedl, “Interfirm Relationships and Business Performance”, forthcoming, Quarterly Journal of Economics
- Sacerdote, Bruce. “Peer Effects with Random Assignment: Results for Dartmouth Roommates.” The Quarterly Journal of Economics 116, no. 2 (2001): 681–704.
- Golub, Benjamin, and Matthew O. Jackson. “How Homophily Affects the Speed of Learning and Best-response Dynamics.” The Quarterly Journal of Economics 127, no. 3 (2012): 1287–1338.
- \*———. “Naive Learning in Social Networks and the Wisdom of Crowds.” American Economic Journal: Microeconomics 2, no. 1 (2010): 112–149.
- Bala, Venkatesh, and Sanjeev Goyal. “Learning from Neighbours.” The Review of Economic Studies 65, no. 3 (1998): 595–621.
- \*Mobius, Markus, Tuan Phan, and Adam Szeidl. Treasure Hunt: Social Learning in the Field. [Working paper](#), 2015.
- Alatas, Vivi, Abhijit Banerjee, Arun G. Chandrasekhar, Rema Hanna, and Benjamin A. Olken. Network Structure and the Aggregation of Information: Theory and Evidence from Indonesia. American Economic Review, 2016, 106(7): 1663–1704.
- \*Banerjee, Abhijit, Arun G. Chandrasekhar, Esther Duflo, and Matthew O. Jackson. The Diffusion of Microfinance, Science 26 July 2013: Vol. 341 no. 6144.
- \*Banerjee, Abhijit, Arun G. Chandrasekhar, Esther Duflo, and Matthew O. Jackson. “Modeling Network Change: Some theory and evidence from India,” mimeo.
- \*Banerjee, Abhijit, Arun Chandrasekhar, Esther Duflo and Matthew O. Jackson Using gossips to spread information: Theory and evidence from two randomized controlled trials (with), NBER working paper w20422 [forthcoming at The Review of Economic Studies]
- \* Banerjee, Abhijit, Emily Breza, Arun Chandrasekhar and Ben Golub When less is more: Experimental evidence on information delivery during India’s demonetization, Working Paper, 2018.

# Townsend Section

## Lecture 1 - Economics as Experiments

A Unified View, Models as Fully Articulated Systems and Laboratories, Prediction and Validation, Theory and Measurement Unified, Actual and Counterfactual Policy, When it Works and When Not, A Deeper History of RCTs, Scaling up to General Equilibrium Effects and Spillovers, Randomization, Difference in Difference and IV, Policy Parameters, or Not: A Cautionary Tale.

### *Economic Science\**

- J.S., 1998. The contributions of Ragnar Frisch to economics and econometrics. *Econometric Society Monographs*, 31, pp. 58-110.
- Gabaix, X., 2014. A sparsity-based model of bounded rationality. *Quarterly Journal of Economics*, 129(4), pp. 1661-1710.
- Koopmans, T., 1947. Measurement without theory. *The Review of Economics and Statistics*, 29(3), pp. 161-172.
- Mitchell, W.C., 1913. *Business cycles*. University of California Press.
- Matzkin, R.L., 2007. Nonparametric identification. *Handbook of Econometrics*, 6, pp. 5307-5368.
- Angrist, J.D. and Pischke, J., 2010. The credibility revolution in empirical economics: how better research design is taking the con out of econometrics. No. w15794. National Bureau of Economic Research.
- Varian, H., 2014. Big data: new tricks for econometrics. *Journal of Economic Perspectives*, 28(2), pp. 3-28.
- Angrist, J.D. and Krueger, A.B., 2001. Instrumental variables and the search for identification: from supply and demand to natural experiments." *Journal of Economic Perspectives*, 15(4), pp. 69-85.
- Lucas Jr, R.E., 1980. Methods and problems in business cycle theory. *Journal of Money, Credit, and Banking*, 12(4), pp. 696-715.
- Wolpin, Kenneth, I. 2007. "Ex Ante Policy Evaluation, Structural Estimation and Model Selection." *American Economic Review*, 97

### *Experiments Past and Present*

- A failure to communicate: what (if anything) can we learn from the negative income tax experiments? *The Journal of Socio-Economics* Volume 34, Issue 1, February 2005, Pages 49-81
- The economics and econometrics of active labor market programs JAMES J. HECKMAN\* ROBERT J. LALONDE\*JEFFREY A. SMITH\* *Handbook of Labor Economics*, Volume 3, Edited by A. Ashenfelter and D. Card
- Allende, Claudia, Francisco Gallego, and Christopher Neilson, 2018. The Equilibrium Effects of Informed School Choice.

### *Scaling Up*

- Two Related Recent Initiatives at Y-Rise:
  - [Spillover, Network, and Equilibrium Effects of Policy Interventions](#)
  - [Macro, Growth and Welfare Effects of Policy Interventions](#)
- Macroeconomic Development Policies and Micro Evaluations. Francisco J. Buera, Joseph P. Kaboski, and Robert M. Townsend. November 1, 2018.

#### *Instrumental Variables*

- Townsend, R.M. and Urzua, S., 2009. Measuring the impact of financial intermediation: linking contract theory to econometric policy evaluation." *Macroeconomic Dynamics*, 13(S2), pp. 268-316
- Heckman, James J. and Vytlacil, Edward J. (2001) Local instrumental variables. In Cheng Hsiao, Kimio Morimune, and James L. Powell (eds.), *Nonlinear Statistical Modeling: Proceedings of the Thirteenth International Symposium in Economic Theory and Econometrics: Essays in Honor of Takeshi Amemiya*, New York: Cambridge University Press, pp. 1-46.
- Imbens, Guido W. and Angrist, Joshua D. (1994) Identification and estimation of local average treatment effects. *Econometrica* 62, 467-475.
- Mogstad, Magne, Alexander Torgovitsky, and Christopher Walters, 2018. Identification of Causal Effects with Multiple Instruments: Problems and Some Solutions.

#### **Lecture 2 – Structural vs. Reduced Form and Hybrids In-Between**

Sufficient Statistics and Reduced Form Approaches to Welfare, Key Elasticities, Recovering Policy Functions from Data, Sufficient Data for Counterfactual Policy Heterogeneity in Treatment Effects, Limited Insurance and Inequality.

#### *The Lucas Critique, the Need for Structural Models*

- Robert E. Lucas, Econometric policy evaluation: A critique, Carnegie-Rochester Conference Series on Public Policy, Volume 1, 1976, Pages 19-46, <http://www.sciencedirect.com/science/article/pii/S0167223176800036>

#### *Intermediate Approaches*

- Chetty, Raj 2009. Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced-Form Methods. *Annual Review of Economics* 1: 451-488. [http://www.rajchetty.com/chettyfiles/suffstat\\_ar.pdf](http://www.rajchetty.com/chettyfiles/suffstat_ar.pdf)
- Chetty, Raj 2006. A General Formula for the Optimal Level of Social Insurance. *Journal of Public Economics* 90: 1879-1901. [http://www.rajchetty.com/chettyfiles/ui\\_formula\\_jpube.pdf](http://www.rajchetty.com/chettyfiles/ui_formula_jpube.pdf)
- Chetty, Raj and Adam Looney, 2006. Consumption Smoothing and the Welfare Consequences of Social Insurance in Developing Economies, *Journal of Public Economics* 90: 2351-2356.

#### *Informative Elasticities*



- Johnson, David, S., Jonathan A. Parker, and Nicholas S. Souleles. 2006. "Household Expenditure and the Income Tax Rebates of 2001." *American Economic Review*, 96 (5): 1589-1610.
- Auclert, Adrien 2017. *Monetary Policy and the Redistribution Channel*.
- Arkolakis, Costas, Arnaud Costinot, and Andrés Rodríguez-Clare. 2012. "New Trade Models, Same Old Gains?" *American Economic Review*, 102 (1): 94-130.

#### *Recovering Policy Functions from Data*

- Steven Berry and Giovanni Compiani (2019), "An Instrumental Variables Approach to Dynamic Models".  
<https://drive.google.com/file/d/1pl1PW1w8eh3gnrTMKUBuS6T6TIKtvf9c/view>

#### *Sufficient Data for Counterfactual Policy*

- Beraja, Martin, 2018. *Counterfactual Equivalence in Macroeconomics*.
- Sarto, Andres, 2018. *Recovering Macro Elasticities from Regional Data*.

#### *Heterogeneity in Treatment Effects, Limited Insurance, and Inequality*

- Blundell, Richard, Luigi Pistaferri, and Ian Preston. 2008. "Consumption Inequality and Partial Insurance." *American Economic Review*, 98 (5): 1887-1921.
- Arellano, M. , Blundell, R. and Bonhomme, S. (2017), *Earnings and Consumption Dynamics: A Nonlinear Panel Data Framework*. *Econometrica*, 85: 693-734. doi:10.3982/ECTA13795
- Cunha, Flavio and James J. Heckman, 2007. *The Evolution of Inequality, Heterogeneity and Uncertainty in Labor Earnings in the U.S. Economy*.

### **Lecture 3 – Risk Sharing**

How Good is Risk Sharing in Practice? Can People be Made Better or Hurt with Interventions? Implications of Theory for Data, Nonparametric and Parametric Tests, in Consumption and Production Data, Estimating TFP and How to Adjust for Risk, Evaluation Score for Financial Institutions.

#### *Basic Risk-Sharing*

- \*Townsend, Robert M. "Risk and Insurance in Village India." *Econometrica* 62, no. 3 (1994): 539-91. doi:10.2307/2951659.
- \*Krislert Samphantharak & Robert M. Townsend, 2018. "Risk and Return in Village Economies," *American Economic Journal: Microeconomics*, American Economic Association, vol. 10(1), pages 1-40, February.

#### *Risk-Sharing and Institutional Evaluation, Counterfactuals and Welfare Loss*

- \*Alem, Mauro & Townsend, Robert M., 2014. "An evaluation of financial institutions: Impact on consumption and investment using panel data and the theory of risk-bearing," *Journal of Econometrics*, Elsevier, vol. 183(1), pages 91-103.
- \*Chiappori, Pierre-Andre, K. Samphantharak, Sam Schulhofer-Wohl, and Robert M. Townsend. 2014. "Heterogeneity and Risk Sharing in Village Economies." *Quantitative Econ.* 5 (1): 1–27.

- Robert M. Townsend and Kenichi Ueda (2006), Financial Deepening, Inequality, and Growth: A Model-Based Quantitative Evaluation, *The Review of Economic Studies*, Vol. 73, No. 1 (Jan., 2006), pp. 251-280, <http://www.jstor.org/stable/3700624>
- Robert M. Townsend, Kenichi Ueda (2010), Welfare Gains from Financial Liberalization, Volume 51, Issue 3, August 2010, Pages 553–597, <http://onlinelibrary.wiley.com/doi/10.1111/j.1468-2354.2010.00593.x/abstract>

#### *Alternative Approaches to Consumption Smoothing and Risk Sharing*

- Deaton, Angus, and Christina Paxson. "Intertemporal Choice and Inequality." *Journal of Political Economy* 102, no. 3 (1994): 437-67. <http://www.jstor.org/stable/2138618>.
- Campbell, John and Angus Deaton. "What is Consumption So Smooth?" *Review of Economic Studies*, 1989, vol. 56, issue 3, 357-373

#### **Lecture 4 – Networks**

Local Risk-Sharing in Networks, How They Work, Mechanisms Such as the Village Money Market, Limitations and What if Not a Member, Transaction Costs with Occupation Choice and Test of Risk Sharing, RCT Policy Intervention and Insurance Poverty Traps, Networks in Supply Chains, Two Points of View: The Propagation of Shocks vs. Risk-Sharing.

#### *Risk Sharing and Networks*

- \*Kinnan, Cynthia, and Robert Townsend. 2012. "Kinship and Financial Networks, Formal Financial Access, and Risk Reduction." *American Economic Review*, 102 (3): 289-93.
- \*Cynthia Kinnan, Krislert Samphantharak, Robert Townsend, and Diego Vera-Cossio. "Risk-sharing, economic networks and the transmission of shocks."
- Parit Sripakdeevong and Robert Townsend. *The Village Money Market Revealed: Credit Chains and Shadow Banking*.
- \*Heterogeneity and Tests of Risk Sharing Sam Schulhofer-Wohl *Journal of Political Economy*, 2011, vol. 119, issue 5, 925 – 958

#### *Risk Sharing Networks and Poverty Traps*

- Arun Advani 2019. *Insurance Networks and Poverty Traps*. Working Paper.

#### *Networks and Supply Chains*

- Andrew B. Bernard & Andreas Moxnes & Yukiko U. Saito. "Production Networks, Geography and Firm Performance," *Forthcoming Journal of Political Economy*.
- Bernard, Andrew B. and Andreas Moxnes. *Networks and Trade* (2018). *Annual Review of Economics*.
- Wu, Andrew 2016. *Shock Spillover and Financial Response in Supply Chain Networks: Evidence from Firm-Level Data*.
- Acemoglu, D, U Akcigit, and W Kerr (2016), "Networks and the Macroeconomy: An Empirical Exploration", *NBER Macroeconomics Annual*.
- Liu, Ernest 2018. "Industrial Policies in Production Networks".
- Huneus, Federico 2019. *Production Network Dynamics and the Propagation of Shocks*.

- Reischer, Margit 2019. Finance-Thy-Neighbor. Trade Credit Origins of Aggregate Fluctuations.

## Lecture 5 – Currency and Welfare Losses

The Inefficient Use of Petty Cash, How to Quantify Using Theory and Data, A Macro Experiment: India's Demonetization - Data and a Structural Model, Hyperinflation in Zimbabwe, Argentina, and Venezuela, Measuring the True Cost of Inflation without Models, Simple Demand Statistics.

- \*Fernando Alvarez, Anan Pawasutipaisit and Robert M. Townsend "Cash Management in Village Economies".

### *Demonetization in India*

- \*Chodorow-Reich, Gabriel, Gita Gopinath, Prachi Mishra, and Abhinav Narayanan 2019. Cash and the Economy: Evidence from India's Demonetization
- Banerjee, A., and N. Kala (2017): "The Economic and Political Consequences of India's Demonetization."

### *Welfare Costs of Inflation*

- Alvarez, Fernando, Francesco Lippi, and Roberto Robatto. "Cost of Inflation in Inventory Theoretical Models." Review of Economic Dynamics, 2018, forthcoming.
- Alvarez, Fernando, Martin Beraja, Martin Gonzalez-Rozada, and Andy Neumeier. From Hyperinflation to Stable Prices: Argentina's Evidence on Menu cost Models, September 2018. Forthcoming, Quarterly Journal of Economics
- Restuccia, Diego. "The Monetary and Fiscal History of Venezuela, 1960-2016," in The Monetary and Fiscal History of Latin America, edited by Timothy Kehoe, Juan Pablo Nicolini, and Thomas Sargent, University of Chicago Press, forthcoming.
- [https://en.wikipedia.org/wiki/Hyperinflation\\_in\\_Zimbabwe](https://en.wikipedia.org/wiki/Hyperinflation_in_Zimbabwe)

## Lecture 6 – Risk Sharing and Intermediation with Obstacles to Trade

If we reject full risk sharing, what is the reason? Is one obstacle as good as any other as an explanation of the data? Are policy gains and losses sensitive to the obstacle assumed or estimated? Distinguishing Models of Obstacles via Covariance Sign Restrictions, Private Information, Messages, Intertemporal Tie-Ins, Likelihoods and Tests for Non-Nested Models, Methods that Work in a Variety of Applications, Resolving the Excess Smoothing Puzzle.

- \*"The Medieval Village Economy: A Study of the Pareto Mapping in General Equilibrium Models," Robert M. Townsend. Princeton, NJ: Princeton University Press, 1993. Chapter 5.
- \*Paulson, Anna, Townsend, Robert and Karaivanov, Alexander, (2006), Distinguishing Limited Liability from Moral Hazard in a Model of Entrepreneurship, Journal of Political Economy, 114, issue 1, p. 100-144.
- \*"Dynamic Financial Constraints: Distinguishing Mechanism Design from Exogenously Incomplete Regimes." Alexander Karaivanov and Robert M. Townsend. Econometrica, 82 (3) 2014: 887–959.

- Karaivanov, A. , Saurina, J. and Townsend, R. M. (2018), Family Firms, Bank Relationships, and Financial Constraints: A Comprehensive Score Card. *International Economic Review*. doi:10.1111/iere.12362
- “Econometric Policy Evaluation and Estimation.” Josh Bosshardt and Robert M. Townsend.
- "Using Repayment Data to Test Across Models of Joint Liability Lending." Christian Ahlin and Robert M. Townsend. *Economic Journal* 117(517), March 2007: F11-F51.B63
- Attanasio, O. P. and Pavoni, N. (2011), Risk Sharing in Private Information Models With Asset Accumulation: Explaining the Excess Smoothness of Consumption. *Econometrica*, 79: 1027-1068. doi:10.3982/ECTA7063

### **Lecture 7 – Limited Commitment as an Obstacle**

Out of Village Migration and Limited Commitment, Public Policy for Insurance and Limited Commitment, Inequality Implications, Commitment as an Obstacle and Implications for Risk Sharing, Heterogeneous Obstacles and Across-Region and Within-Country Flow of Funds, Flows Across Countries and Endogenous TFP Distortions.

- Thomas, J. & Worrall, T., 1988. Self-Enforcing Wage Contracts. *The Review of Economic Studies*, 55(4), pp.541–553.
- \*Kocherlakota, N.R., 1996. Implications of Efficient Risk Sharing without Commitment. *The Review of Economic Studies*, 63(4), pp.595 –609.
- \*Ligon, E., Thomas, J.P. & Worrall, T., 2002. Informal Insurance Arrangements with Limited Commitment: Theory and Evidence from Village Economies. *The Review of Economic Studies*, 69(1), pp.209–244.

#### *Policy Aspects*

- Morton, Melanie (2017), Temporary Migration and Endogenous Risk Sharing in Village India, *Forthcoming Journal of Political Economy*, [http://stanford.edu/~memorten/ewExternalFiles/Morten\\_IndiaMig.pdf](http://stanford.edu/~memorten/ewExternalFiles/Morten_IndiaMig.pdf)
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#### *Implications for Inequality*

- Krueger, Dirk, and Fabrizio Perri (2006), Does Income Inequality Lead to Consumption Inequality? Evidence and Theory.

#### *Costly State Verification and Inefficiency*

- "Economic Development, Flow of Funds and the Equilibrium Interaction of Financial Frictions." Benjamin Moll, Robert M. Townsend, Victor Zhorin. *Proceedings of the National Academy of Sciences*, 114 (24): 6176-6184, 2017 (Formerly as NBER Working Paper No. 19618, 2014.)
- Cole, H. L., Greenwood, J. and Sanchez, J. M. (2016), Why Doesn't Technology Flow From Rich to Poor Countries?. *Econometrica*, 84: 1477-1521. doi:10.3982/ECTA11150

### **Lecture 8 – Life Cycle**

How well do households manage their financial lives over the life cycle? Could information and planning tools help? Impact Assessments from RCTs, Diverse Obstacles to Trade Used in Life Cycle Models, Implications for Individual Paths and for the Entire Economy, Impact of Policy Lowering Obstacles on Inequality and Welfare Within and Across Generations.

- \*"Extraordinary Financial Lives of Ordinary People," Chapters 3 and 4, case studies, life cycle planner
- "Households as Corporate Firms: An Analysis of Household Finance Using Integrated Household Surveys and Corporate Financial Accounting." Krislert Samphantharak and Robert M. Townsend. Econometric Society Monograph Series No. 46, December 2009.

#### *Life Cycle Models*

##### *With Limited Insurance*

- "Risk-taking over the Life Cycle: Aggregate and Distributive Implications of Entrepreneurial Risk" Dejanir H. Silva and Robert M. Townsend. Working Paper, 2018.

##### *With Credit Constraints*

- "Human Capital Acquisition and Occupational Choice: Implications for Economic Development". Marti Mestieri, Johanna Schauer and Robert M. Townsend, Review of Economic Dynamics, 25, 2017: 151–186.

##### *With Transaction Costs and Liquidity Constraints*

- Kaplan, G. and Violante, G. L. (2014), A Model of the Consumption Response to Fiscal Stimulus Payments. Econometrica, 82: 1199-1239. doi:10.3982/ECTA10528
- Kaplan, Greg, Giovanni L. Violante, and Justin Weidner (2014). The Wealthy Hand to Mouth. Brookings Papers on Economic Activity, Spring 2014.

## **Lecture 9 – Village Level Intervention**

What is the impact of credit liberalization and migration subsidies? RCT and Structural Models in Tandem. How do we choose what ingredients to put into the model? How do we validate a model using measured impacts of policy? Doing Counterfactual Policy Evaluation in the Estimated Model.

- \*"The Impact of Credit on Village Economies." Joseph P. Kaboski and Robert M. Townsend. American Economic Journal: Applied Economics 4(2), April 2012: 98-133.
- \*"A Structural Evaluation of a Large-Scale Quasi-Experimental Microfinance Initiative." Joseph Kaboski and Robert M. Townsend. Econometrica 79(5), September 2011: 1357-1406.
- \*Abhijit Banerjee, Emily Breza, Robert Townsend, Diego Vera-Cossio. 2019. Access to credit and productivity: Evidence from Thai Villages.
- Hong Ru and Robert Townsend, "Narrowing the GAP: The Costly State Verification Regime in Rural Thailand," 2019
- Todd, Petra, E., and Kenneth I. Wolpin. 2006. "Assessing the Impact of a School Subsidy Program in Mexico: Using a Social Experiment to Validate a Dynamic Behavioral Model of Child Schooling and Fertility." American Economic Review, 96 (5): 1384-1417.

- Behrman, Jere R., and Petra Todd. 2000. "Randomness in the Experimental Samples of PROGRESA (Education, Health, and Nutrition Program)." Washington, DC: International Food Policy Research Institute.

### **Lecture 10 – Spillovers and Scaling Up**

What are the spatial spillovers of village interventions? A Scaled Up RCT on 50,000 Villages, Patterns in the Data, Constructing a Model Based on Previous Village Economy Work, Household and Village Level Heterogeneity and the Welfare Impact of Liberalized Inter-Regional Trade and Financial Flows, Gains and Losses for Case Study Profiled Households.

- Ehrlich, Daniel and Robert Townsend. 2018. "Spatial Spillovers and Labor Market Dynamics: Evidence from Village Financial Interventions in Thailand"
- "The Impact of Regional Isolationism: Disentangling Real and Financial Factors." Archawa Paweenawat and Robert M. Townsend. Working Paper, 2018.
- Autor, David H., David Dorn, and Gordon H. Hanson. 2013. "The China Syndrome: Local Labor Market Effects of Import Competition in the United States." *American Economic Review*, 103 (6): 2121-68.
- Caliendo, Lorenzo & Dvorkin, Maximiliano & Parro, Fernando, 2015. "Trade and Labor Market Dynamics: General Equilibrium Analysis of the China Trade Shock," Working Papers 2015-9, Federal Reserve Bank of St. Louis, revised 29 Jan 2019.

### **Lecture 11 – Industrial Organization, Welfare, and Interventions**

Experiments and When They can be Misleading, Changing Contracts and Information Systems Versus Changing Market Structure with Entry, The Interaction of Contract Frictions with Imperfect Competition, Identification and Structure Needed Depends on the Counter-Factual of Interest, Dynamic Competition and the Motives of Public Development Banks.

- \*Optimal Contracting and Spatial Heterogeneity Among Financial Service Providers. Robert M. Townsend, Victor V. Zhorin, and Gustavo Joaquim
- "Ownership and Anti-Preemption: the geographical dynamics of a public development bank and private sector commercial banks." Juliano Assuncao, Sergey Mityakov, and Robert M. Townsend. Working Paper, 2018.
- Einav, Liran, Amy Finkelstein, Stephen P. Ryan, Paul Schrimpf, and Mark R. Cullen. 2013. "Selection on Moral Hazard in Health Insurance." *American Economic Review*, 103 (1): 178-219.
- Handel, Ben, Igal Hendel, and Michael Whinston. 2017. "The Welfare Effects of Long-term Health Insurance Contracts" NBER Working Paper No. 23624.
- Lester, B., A. Shourideh, V. Venkateswaran, and A. Zetlin-Jones (2018). Screening and Adverse Selection in Frictional Markets. *Journal of Political Economy* 58

### **Lecture 12 – Micro-founded Macro Models**

How do we sort out the impact of simultaneous interventions? Impact of Micro-Level Interventions to Improve Financial Access with Bank Branches Versus Macro-Level Financial Liberalization, Their Impact and Interaction, Quantification Through Counterfactuals. How do

we identify and distinguish among key obstacles/constraints in country level data? How do we choose a policy a priori based on predicted GDP/TFP and inequality impacts?

- Era Dabla-Norris & Yan Ji & Robert M. Townsend & D. Filiz Unsal, 2015.  
"Distinguishing Constraints on Financial Inclusion and Their Impact on GDP, TFP, and Inequality," NBER Working Papers 20821, National Bureau of Economic Research, Inc.
- Ji Yan and Robert M. Townsend, Bank Branch Expansion vs International Capital Flows: Integrating Local Spatial Markets and Macro Aggregates, 2018

### **Lecture 13 – Bitcoin, Blockchain, and Distributed Ledgers**

Optimal Design of Financial Infrastructure and Payments Systems, Review of Obstacles Uncovered in Previous Work, Basic Ingredient of Distributed Ledger Technology, Innovation in Provision of Contacts and Remittance Transfers in Southeast Asia.

# Olken Section

## Infrastructure (2-3 lectures)

### *Infrastructure and Market Integration*

- \* Atkin, David, and Dave Donaldson. "Who's Getting Globalized? The Size and Implications of Intranational Trade Costs." Mimeo, MIT.
- \* Donaldson, Dave. 2018. "Railroads of the Raj: Estimating the Impact of Transportation Infrastructure." *American Economic Review* 108(4—5): 899-934. Final.
- \* Campante, Filipe, and David Yanagizawa-Drott. "Long-Range Growth: Economic Development in the Global Network of Air Links." *Quarterly Journal of Economics* 133(3): 1395-1458. Final.
- Faber, Benjamin. 2014. "Trade Integration, Market Size, and Industrialization: Evidence from China's National Trunk Highway System." *Review of Economic Studies* 81(3): 1046-70. Final.
- Brooks, Wyatt, and Kevin Donovan, "Eliminating Uncertainty in Market Access: The Impact of New Bridges in Rural Nicaragua." Working Paper, November 2017.
- Morten, Melanie, and Jaqueline Oliveira. "Paving the Way to Development: Costly Migration and Labor Market Integration." NBER Working Paper No. 22158.
- Asher, Sam, and Paul Novosad, "Rural Roads and Local Economic Development." *American Economic Review*, forthcoming.
- Storygard, Adam. 2016. "Farther on Down the Road: Transport Costs, Trade and Urban Growth." *Review of Economic Studies* 83(3): 1263-1295. Final.
- Gertler, Paul J., Marco Gonzalez-Navarro, Tadeja Gracner, Alexander D. Rothenberg. "Road Quality, Local Economic Activity, and Welfare: Evidence from Indonesia's Highways." Working Paper, October 2015.\_

### *Infrastructure and Productivity*

- \* Lipscomb, Molly, A. Mushfiq 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): 200-231. Final.
- Lee, Kenneth, Edward Miguel, and Catherine Wolfram. "Experimental Evidence on the Demand for and Costs of Rural Electrification." NBER Working Paper No. 22292. Latest version.
- \* Allcott, Hunt, Allan Collard-Wexler, and Stephen D. O'Connell. 2016. "How Do Electricity Shortages Affect Productivity? Evidence from India." *American Economic Review* 106(3): 587-624. Final.
- Rothenberg, Alexander D. "Transport Infrastructure and Firm Choice in Equilibrium: Evidence from Indonesia's Highways." Mimeo, October 2013.\_
- Gonzalez-Navarro, Marco, and Climent Quintana-Domeque. 2016. "Paving Streets for the Poor: Experimental Analysis of Infrastructure Effects." *Review of Economics and Statistics* 98(2): 254-267. Final.



- Dinkelman, Taryn. 2011. "The Effects of Rural Electrification on Employment: New Evidence from South Africa." *American Economic Review* 101(7): 3078-3108. Final.
- Burgess, Robin, Remi Jedwab, Edward Miguel, Ameet Morjaria, and Gerard Padró i Miquel. 2015. "The Value of Democracy: Evidence from Road Building in Kenya." *American Economic Review* 105(6): 1817-51. Final

#### *Subsidies and Pricing*

- McRae, Shaun. 2015. "Infrastructure Quality and the Subsidy Trap." *American Economic Review* 105(1): 35-66. Final.
- Szabo, Andrea. 2015. "The Value of Free Water: Analyzing South Africa's Free Basic Water Policy." *Econometrica* 83(5): 1913-61. Final.
- Szabo, Andrea, and Gergely Ujhelyi. 2015. "Reducing Nonpayment for Public Utilities: Experimental Evidence from South Africa." *Journal of Development Economics* 117: 20-31. Final.
- Galiani, Sebastian, Paul Gertler, and Ernesto Schargrotsky. 2005. "Water for Life: The Impact of the Privatization of Water Services on Child Mortality." *Journal of Political Economy* 113(1): 83-120. Final.

#### *Distributional effects*

- Duflo, Esther, and Rohini Pande. 2007. "Dams." *Quarterly Journal of Economics* 122(2): 601-646. Final.

### **Urban and development (2 lectures)**

#### Agglomeration and the Rise of Cities in Development

- \*Henderson, J Vernon, Tim Squires, Adam Storeygard, and David Weil. 2017. "The Global Distribution of Economic Activity: Nature, History, and the Role of Trade." *Quarterly Journal of Economics* 133(1): 357-406. Final.
- \* Dell, Melissa, and Benjamin A. Olken. "The Development Effects of the Extractive Colonial Economy: The Dutch Cultivation System in Java." *Review of Economic Studies*, forthcoming.
- Allcott, Hunt, and Daniel Keniston. 2018. "Dutch Disease or Agglomeration? The Local Economic Effects of Natural Resource Booms in Modern America." *The Review of Economic Studies* 85(2): 695-731. Final.
- Faber, Benjamin, and Cecile Gaubert. "Tourism and Economic Development: Evidence from Mexico's Coastline." *American Economic Review*, forthcoming.

#### Transportation in Developing Countries

- \* Harari, Mariaflavia. "Cities in Bad Shape: Urban Geometry in India." Working Paper, October 2017.
- \* Kreindler, Gabriel. "The Welfare Effect of Road Congestion Pricing: Experimental Evidence and Equilibrium Implications." Mimeo, Harvard.
- \* Tsivanidis, Nick. "The Aggregate and Distributional Effects Of Urban Transit Infrastructure: Evidence From Bogotá's TransMilenio." Mimeo, University of Chicago.

- Gonzalez-Navarro, Marco, and Matthew A. Turner. 2018. "Subways and Urban Growth: Evidence from Earth." *Journal of Urban Economics* 108: 85-106. [Final](#).
- Akbar, Prottoy A., Victor Couture, Gilles Duranton, and Adam Storeygard. "Mobility and Congestion in Urban India." [NBER Working Paper No. 2518](#).
- Kreindler, Gabriel E., and Yuhei Miyauchi. "Measuring Commuting and Economic Activity Inside Cities with Cell Phone Records." [Working Paper](#), November 2018.
- Harari, Mariaflavia, and Maisy Wong. "Slum Upgrading and Long-Run Urban Development: Evidence from Indonesia." Mimeo, Wharton.
- Majid, Hadia, Ammar Malik, and Kate Vyborny, "Infrastructure Investments, Public Transport Use and Sustainability: Evidence from Lahore, Pakistan." [Working Paper](#), August 2018.

## **Environment and Development (2 lectures)**

### *Determinants of environmental damage*

#### *Incomes*

- \* Alix-Garcia, Jennifer, Craig McIntosh, Katharine R. E. Sims, and Jarrod Welch. 2013. "The Ecological Footprint of Poverty Alleviation: Evidence from Mexico's Oportunidades Program." *Review of Economics and Statistics* 95(2): 417-35. [Final](#).
- Gertler, Paul J., Orié Shelef, Catherine D. Wolfram, and Alan Fuchs. 2016. "The Demand for Energy-Using Assets among the World's Rising Middle Classes." *American Economic Review* 106(6): 1366-1401. [Final](#).
- Grossman, Gene M., and Alan B. Krueger. 1995. "Economic Growth and the Environment." *Quarterly Journal of Economics* 110(2): 353-77. [Final](#).

#### *Externalities*

- \* Lipscomb, Molly, and Ahmed Mushfiq Mobarak. 2017. "Decentralization and Pollution Spillovers: Evidence from the Re-Drawing of County Borders in Brazil." *Review of Economic Studies* 84(1): 464-502. [Final](#).
- \* Balboni, Clare, Robin Burgess, and Benjamin Olken. "Strategic Fire Setting: Evidence from 100,000 Forest Fires in Indonesia." Mimeo.

#### *Policy Solutions*

- Davis, Lucas W. 2008. "The Effect of Driving Restrictions on Air Quality in Mexico City" *Journal of Political Economy* 116(1): 38-81. [Final](#).
- Greenstone, Michael, and Rema Hanna. 2014. "Environmental Regulations, Air and Water Pollution, and Infant Mortality in India." *American Economic Review* 104(10): 3038-72. [Final](#).
- Gendron-Carrier, Nicolas, Marco Gonzalez-Navarro, Stefano Polloni, and Matthew A. Turner. "Subways and Urban Air Pollution." [NBER Working Paper No. 24183](#).

#### *Governance Challenges*

- \* Burgess, Robin, Matthew Hansen, Benjamin A. Olken, Peter Potapov, and Stefanie Sieber. 2012. "The Political Economy of Deforestation in the Tropics." *Quarterly Journal of Economics* 127(4): 1707-54. [Final](#).
- \* Duflo, Esther, Michael Greenstone, Rohini Pande, and Nicholas Ryan. 2013. "Truth-Telling by Third-Party Auditors and the Response of Polluting Firms: Experimental Evidence from India." *Quarterly Journal of Economics* 128(4): 1499-1545. [Final](#).
- Duflo, Esther, Michael Greenstone, Rohini Pande, and Nicholas Ryan. 2018. "The Value of Regulatory Discretion: Estimates from Environmental Inspections in India." *Econometrica* 86(6): 2123-60. [Final](#).
- Oliva, Paulina. 2015. "Environmental Regulations and Corruption: Automobile Emissions in Mexico City." *Journal of Political Economy* 123(3): 686-724. [Final](#).

### *Consequences of environmental damage*

- \* Dell, Melissa, Benjamin F. Jones, and Benjamin A. Olken. 2012. "Temperature Shocks and Economic Growth: Evidence from the Last Half Century." *American Economic Journal: Macroeconomics* 4(3), 66-95. [Final](#).
- Burke, Marshall, Solomon M. Hsiang, and Edward Miguel. 2015. "Global Non-Linear Effect of Temperature on Economic Production." *Nature* 527: 235-239. [Final](#).
- Hsiang, Solomon M., Marshall Burke, and Edward Miguel. 2013. "Quantifying the Influence of Climate on Human Conflict." *Science*, 341(6151): 1235367. [Final](#).
- Burgess, Robin, Olivier Deschenes, Dave Donaldson, and Michael Greenstone. "Weather, Climate Change, and Death in India." [Working Paper](#), April 2017.
- \* Chen, Yuyu, Avraham Ebenstein, Michael Greenstone, and Hongbin Li. 2013. "Evidence on the Impact of Sustained Exposure to Air Pollution on Life Expectancy from China's Huai River Policy." *PNAS* 110(32): 12936-12941. [Final](#).
- Almond, Douglas, Yuyu Chen, Michael Greenstone, and Hongbin Li. 2009. "Winter Heating or Clean Air? Unintended Impacts of China's Huai River Policy." *American Economic Review* 99(2): 184-90. [Final](#).
- Sekhri, Sheetal. 2014. "Wells, Water, and Welfare: The Impact of Access to Groundwater on Rural Poverty and Conflict." *American Economic Journal: Applied Economics* 6(3): 76-102. [Final](#).

### **Time permitting: The Resource Curse**

- Macro level
  - Bazzi, Samuel, and Christopher Blattman. 2014. "Economic Shocks and Conflict: Evidence from Commodity Prices." *American Economic Journal: Macroeconomics* 6(4): 1-38. [Final](#).
- Micro level
  - Caselli, Francesco, and Guy Michaels. 2013. "Do Oil Windfalls Improve Living Standards? Evidence from Brazil." *American Economic Journal: Applied Economics* 5(1): 208-38. [Final](#).
  - Asher, Sam, and Paul Novosad. "Digging for Development: Mining Booms and Local Economic Development in India." [Mimeo](#).

- Brollo, Fernanda, Tommaso Nannicini, Roberto Perotti, and Guido Tabellini. 2013. “The Political Resource Curse.” *American Economic Review* 103(5): 1759-96. Final.
- Dube, Oeindrila, and Juan F. Vargas. 2013. “Commodity Price Shocks and Civil Conflict: Evidence from Colombia.” *Review of Economic Studies* 80(4): 1384–1421. Final.
- Berman, Nicolas, Mathieu Couttenier, Domonic Rohner, and Mathias Thoenig. 2017. “This Mine is Mine! How Minerals Fuel Conflicts in Africa.” *American Economic Review* 107(6): 1564-1610. Final.