

**COURSE SYLLABUS
FOR
AGRICULTURAL ECONOMICS 643**

**Economic Development
Purdue University
Spring 2018**

Class: Tuesday and Thursday 3:00 – 4:15pm in Smith Hall, Room 201

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Course Description:

This course will cover theoretical and empirical models of microeconomics of international agricultural development, with particular emphasis on household and individual behaviors related to production, investment and marketing decisions. The course will critically review the current literature in microeconomic development with attention to identification issues that arise in various contexts and how these issues are addressed. Topics to be covered include agricultural household models and applications, intra-household resource allocation, land tenure and land markets, labor market and migration, rural credit markets, technology adoption, input and output markets, shocks and risk coping, health, nutrition and education. We will try to identify the frontier of this literature and look for ways that it can be expanded and ideas for future research.

Prerequisites:

Economics 607
Ag Economics 651

Course requirements:

(1) One of the main goals of this course is to conduct a critical reading of the current literature in microeconomic development. I expect you to do all of the required reading and to participate in class discussions. Each of you is expected to present and lead the discussion for two papers in the reading list (to be decided in the second week of the class). You are responsible for preparing your own lecture notes to be distributed to the class before your lecture.

(2) A research proposal (25%): The proposal should include a well stated research question, a literature review, a set of hypotheses either derived explicitly from a theoretical model or

based on an existing economic theory, an empirical strategy for testing the hypotheses, and a detailed description of the data that you may use and how you will run the hypothesis test with careful attention to information that you will need for identification. The proposal should not be longer than 14 pages (double spaced, 1 inch margins, 12-point Times New Roman font or equivalent, exclusive of references and tables). If you want to add results and conclusions it can be longer.

- 1 page Abstract of research proposal due on September 6.
- 1st draft of proposal due on November 27.
- Review of a colleague's proposal due on December 4.
- Final paper due December 14th @ 5:00pm.

The final proposal will be due on December 7. I strongly encourage you to start to think about your proposal as early as you can.

(3) Problem sets (25%): There will be 3 problem sets throughout the semester. The problem sets will include model building and empirical exercises with the emphasis on the latter.

- 1st Homework: Handed out on September 20, and due by October 4.
- 2nd Homework: Handed out on October 18, and due by November 1.
- 3rd Homework: Handed out on November 1, and due by November 15.

The empirical exercises include duplication of the econometric results for some published works, critical review of the empirical strategies used in other papers in the reading list, etc. Late Home works are not accepted.

(4) Referee reports (20%): You are expected to complete two referee reports for two draft manuscripts. Late reports are not acceptable.

- 1st report: Papers handed out on September 6, and your reports due by September 20.
- 2nd report: Papers handed out on October 4, and your reports due by October 18.

Late referee reports are not accepted.

(5) Final exam (30%). Either in class or take home. Date and time TBD

Texts: There will be no required text for this class. However, I recommend you have the following textbooks for your own reference:

- (i) Bardhan, P.K. and Chris Udry. *Development Microeconomics*, Oxford University Press, 1999.
- (ii) Deaton, Angus. *The Analysis of Household Surveys: Microeconomic Analyses for Development Policy*, Johns Hopkins University Press, 1997.

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

Bardhan and Udry's book provides rigorous treatments of some of the important topics in the field of development micro-economics. We will use a few chapters in this class. Deaton's book is an excellent reference book for researchers and practitioners working on empirical research in the development field. Ray's book is a popular textbook in development economics for advanced undergraduate or master's students. It has a systematic coverage of topics and issues in development economics. We will also use a few chapters in this class.

I will make the relevant chapters available on blackboard at least a week before these materials are discussed in class.

Policies

1. Academic Integrity: Incidents of cheating on Exams or plagiarism on Manuscripts or Critiques will result in a failing grade for the course. If you are uncertain what constitutes cheating or plagiarism, then it is your responsibility to schedule a meeting with the instructor to discuss these issues before the end of the first week of the semester.
2. Incomplete grades are not given in AGECE 643 unless extremely extenuating circumstances warrant.
3. Late assignments will not be accepted unless there are extenuating circumstances.
4. If you have circumstances that require special arrangements, then it is your responsibility to bring these needs to the attention of the instructor. You should do so in the first week of the semester.

Students with Disabilities

I am happy to accommodate students with disabilities. If you have a disability that requires academic adjustments, please make an appointment to meet with me during the first week of classes to discuss your needs. Please note that university policy requires all students with disabilities to be registered with [Adaptive Programs](#) in the [Office of the Dean of Students](#) before classroom accommodations can be provided. It is your responsibility to register with Adaptive programs.

Emergencies

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Relevant changes to this course will be posted onto the course website or can be obtained by contacting the instructors or TA via email or phone. You are expected to read your @purdue.edu email on a frequent basis.

To report an emergency, call 911. To obtain updates regarding an ongoing emergency, sign up for Purdue Alert text messages, view www.purdue.edu/ea. There are nearly 300 Emergency

Telephones outdoors across campus and in parking garages that connect directly to the PUPD. If you feel threatened or need help, push the button and you will be connected immediately. If we hear a fire alarm during class we will immediately suspend class, evacuate the building, and proceed outdoors. Do not use the elevator. If we are notified during class of a Shelter in Place requirement for a tornado warning, we will suspend class and shelter in the basement. If we are notified during class of a Shelter in Place requirement for a hazardous materials release, or a civil disturbance, including a shooting or other use of weapons, we will suspend class and shelter in the classroom, shutting the door and turning off the lights.

Please review the Emergency Preparedness website for additional

information. http://www.purdue.edu/epps/emergency_preparedness/index.html

Readings by topics (*) for required reading.

1. Agricultural Household Model (AHM) and Applications

1.1. AHM with or without Missing Markets [Aug. 21].

*Bardhan and Udry. (1999). *Development Microeconomics*, Chapter 2.

*Strauss, John. (1986). "The Theory and Comparative Statics of Agricultural Household Models: A General Approach", in I. Singh, L. Squire and J. Strauss, *Agricultural Household Models*. Johns Hopkins. (Chapters 1 and 2).

de Janvry, Alain, M. Fafchamps, and E. Sadoulet. (1991). "Peasant Household Behavior with Missing Markets: Some Paradoxes Explained," *Economic Journal* 101:1400-1417.

1.2. Empirical Applications [Aug. 23].

*Benjamin, Dwayne. (1992). "Household Composition, Labor Markets, and Labor Demand: Testing for Separation in Agricultural Household Models," *Econometrica* 60(2):287-322.

*LaFave, Daniel, and Duncan Thomas. (2016). "Farms, Families and Markets: New Evidence on Completeness of Markets in Agricultural Settings," *Econometrica* 84(5): 1917-1960.

*LaFave, Daniel, Evan Peet, and Duncan Thomas. (2016). "Are Rural Markets Complete, Profits, Prices and Recursiveness," Working Paper, Colby University.

*Dillon, B., Barrett, C.B., (2017). Agricultural factor markets in sub-Saharan Africa: An updated view with formal tests for market failure. *Food Policy* 67, 64-77.

*Dillon, B., Brummond, P., Mwabu, G., 2017. Asymmetric non-separation and rural labor markets. University of Washington working paper.

Jacoby, Hanan. (1993). "Shadow Wages and Peasant Family Labor Supply: An Econometric Application to the Peruvian Sierra," *Review of Economic Studies* 60:903-921.

Skoufias, Emmanuel. (1994). "Using Shadow Wages to Estimate Labor Supply of Agricultural Households," *American Journal of Agricultural Economics* 76 (2): 215-227.

Le, Kien. (2010). "Separation Hypothesis Tests in the Agricultural Household Model," *American Journal of Agricultural Economics* 92(2):1420-1431.

Nicholas Magnan, Douglas M. Larson, Edward Taylor. (2012). "Stuck on stubble? The Non- market Value of Agricultural Byproducts for Diversified Farmers in Morocco," *American Journal of Agricultural Economics* 94(5): 1055-1069.

Udry, C. (1999). Efficiency and market structure: Testing for profit maximization in African agriculture. In Ranis and Raut, editors, *Trade, Growth and Development: Essays in Honor of T.N. Srinivasan*. Elsevier Science, Amsterdam.

Rosenzweig, Mark R. (1980). "Neoclassical theory and the optimizing peasant: An econometric analysis of market family labor supply in a developing country," *Quarterly Journal of Economics* 94(1):31–55.

2. Review/Introduction of empirical methods (August 28 & 30)

*Duflo, Esther, Rachel Glennerster, and Michael Kremer. (2007). "Using Randomization in Development Economics Research: A Toolkit" (with Rachel Glennerster, and Michael Kremer), T. Paul Schultz, and John Strauss (eds.) *Handbook of Development Economics*, Elsevier Science Ltd.: North Holland, 2007 Vol. 4, pp. 3895-62. (see also NBER Technical Working Paper No. 333, December 2006).

*Ravallion, M. (2001). "The Mystery of the Vanishing Benefits: An Introduction to Impact Evaluation," *World Bank Economic Review* 15(1): 115-140.

*Ravallion, M. (2005). "Evaluating Anti-Poverty Programs," *World Bank Policy Research Working Paper* 3625.

Barret, C. and M. R. Carter. (2010). "The Power and Pitfalls of Experiments in Development Economics: Some Non-random Reflections," *Applied Economic Perspectives and Policy* 32(4):515-48.

Bloom, H. S. (1995): "Minimum detectable effects: A simple way to report the statistical power of experimental designs," *Evaluation Review* 19:547–56.

Bruhn, M. and D. McKenzie. (2009). "In Pursuit of Balance: Randomization in Practice in Development Field Experiments," *American Economic Journal: Applied Economics* 1(4):200-32.

Dehejia, R. and S. Wahba. 1999. "Causal Effects in Nonexperimental Studies: Evidence: Reevaluating the Evaluation of Training Programs," *Journal of the American Statistical Association* 94:1053-62.

Gertler, Paul J., Sebastian Martinez, Patrick Premand, Laura B. Rawlings, and Christel M. J. Vermeersch, 2012. *Impact Evaluation in Practice*, Washington, D.C.: World Bank Publications.
www.worldbank.org/ieinpractice.

Imbens, Guido W. and Jeffrey M. Wooldridge. (2009). "Recent Developments in the Econometrics of Program Evaluation," *Journal of Economic Literature* 47(1):5-86.

Khander, Shahidur R., Gayatri B. Koolwal and Hussain A. Samad. 2010. *Handbook on Impact Evaluation: Quantitative Methods and Practices*. The World Bank: Washington, D.C.
http://www.wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2009/12/10/000333037_20091210014322/Rendered/PDF/520990PUB0EPI1101Official0Use0Only1.pdf

Smith, J. A., and P. E. Todd. (2005). "Does Matching Overcome LaLonde's Critique of Nonexperimental Estimators?" *Journal of Econometrics* 125:305-353.

3. Intrahousehold models and applications [September 4 and 6]

RESEARCH PROPOSAL ABSTRACT DUE ON SEPTEMBER 6.

- *Chiappori, Pierre-Andre. (1997). "Collective' Models of Household Behavior: The Sharing Rule Approach," Chapter 3 in *Intra-Household Resource Allocation in Developing Countries* (Haddad, Hoddinott and Alderman, eds).
- *Browning, M. and P.A. Chiappori. (1998). "Efficient Intra-Household Allocations: a General Characterization and Empirical Tests," *Econometrica* 66(6):1241–1278.
- *Bobonis, Gustavo. (2009). "Is the Allocation of Resources within the Household Efficient? New Evidence from a Randomized Experiment," *Journal of Political Economy* 117(3):453-503.
- *Attanasio, Orazio, and Valerie Lechene. (2014). "Efficient Responses to Targeted Cash Transfers," *Journal of Political Economy* 122(1):178-222.
- *Brown, P.H. 2009. "Dowry and Intrahousehold Bargaining: Evidence from China," *Journal of Human Resources* 44(1): 25-46.
- * Kazianga and Wahhaj. 2013. "Gender, Social Norms, and Household Production in Burkina Faso," *Economic Development and Cultural Change* 61(3): 539-576.
- *Udry, Christopher. (1996). "Gender, Agricultural Productivity and the Theory of the household," *Journal of Political Economics* 104 (5):1010–1046.
- *Goldstein, M. and C. Udry. (2008). "The Profits of Power: Land Rights and Agricultural Investment in Ghana," *Journal of Political Economy* 116(6):982-1022.
- Zhang and Chan. 1999. "Dowry and Wife's Welfare: A Theoretical and Empirical Analysis," *Journal of Political Economy* 107(4): 786-808.
- Bourguignon, F., M. Browning, and P. A. Chiappori. (2009). "Efficient intra-household allocations and distribution factors: Implications and identification," *Review of Economic Studies* 76(2):503-528.
- Chiappori. 1992. "Collective Labor Supply and Welfare," *Journal of Political Economy* 100(3): 437-467.
- Chiappori. 1988. "Rational Household Labor Supply," *Econometrica* 56(1): 63-90.
- Deininger, Goyal, and Nagarajan. (2013). "Women's inheritance rights and intergenerational transmission of resources in India," *Journal of Human Resources* 48 (1): 114-141.
- Duflo, Esther. (2003). "Grandmothers and Granddaughters: Old Age Pension and Intrahousehold Allocation in South Africa," *World Bank Economic Review* 17(1):1-25. Fafchamps and Quisumbing. 2005. "Assets at Marriage in Rural Ethiopia." *Journal of Development Economics* 77(1):1-25.
- Fafchamps and Quisumbing. 2005. "Marriage, Bequest, and Assortative Matching in Rural Ethiopia," *Economic Development and Cultural Change* 53(2): 347-380.

Li and Wu. (2011). "Gender of Children, Bargaining Power, and Intrahousehold Resource Allocation in China," *Journal of Human Resources* 46:295–316.

Lundberg and Pollak. 1993. "Separate Spheres Bargaining and the Marriage Market," *Journal of Political Economy* 101(6): 988-1010.

Manser and Brown. 1980. "Marriage and household decision-making: A Bargaining Analysis," *International Economic Review* 21(1): 31-44.

McElroy and Horney. 1981. "Nash-Bargained Household Decisions: Toward a Generalization of the Theory of Demand," *International Economic Review* 22(2): 333-349.

Qian Nancy. 2008. "Missing Women and the Price of Tea in China: The Effect of Sex-Specific Income on Sex Imbalance," *Quarterly Journal of Economics* 123(3):1251–85.

Quisumbing and Maluccio. (2003). "Resources at Marriage and Intrahousehold Allocation: Evidence from Bangladesh, Ethiopia, Indonesia, and South Africa," *Oxford Bulletin of Economics and Statistics*, 65(3):283-327.

Roy, Sanchari. (2015). "Empowering women? Inheritance rights, female education and dowry payments in India," *Journal of Development Economics* 114(c):233-251.

Thomas, Duncan. (1990). "Intra-household resource allocation: An inferential approach," *Journal of Human Resources* 25(4):635–664.

Thomas, Duncan. (1994). "Like father like son; like mother like daughter: Parental education and child height," *Journal of Human Resources* 29(4):950-988.

4. Land tenure security, land markets and land reform [September 11, 13, 18, 20]

1ST ARTICLE REVIEW DUE ON SEPTEMBER 20

*Besley, Timothy. (1995). "Property Rights and Investment Incentives: Theory and Evidence from Ghana," *Journal of Political Economy*, 103(5):903-937.

*Bardhan and Udry. (1999). *Development Microeconomics*, Chapter 6.

*Shaban, Radwan. (1987). "Testing between Competing Models of Sharecropping," *Journal of Political Economy* 95:893-920.

*Deininger, Klaus, Songqing Jin, and Vandana Yadav. (2013). "Does Sharecropping Affect Long-term Investment? Evidence from West Bengal's Tenancy Reforms," *American Journal of Agricultural Economics* 95:772-790.

*Banerjee, Abhijit, Paul Gertler and Maitreesh Ghatak. (2002). "Empowerment and Efficiency: Tenancy Reform in West Bengal," *Journal of Political Economy* 110(2):239-280.

*Field, Erica. (2007). "Entitled to Work: Urban Property Rights and the Labor Supply in Peru," *Quarterly Journal of Economics* 4(122): 1561-1602.

*De Janvry, Alain, Kyle Emerick, Marco Gonzalez-Navarro, and Elisabeth Sadoulet. (2015). "Delinking Land Rights from Land Use: Certification and Migration in Mexico," *American Economic Review* 105(10): 3125-3149.

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

Besley, Timothy and Robin Burgess. (2000). "Land Reform, Poverty Reduction and Growth: Evidence from India," *Quarterly Journal of Economics* 115:389-430.

Besley, Timothy, Konrad Burchardi, and Maitreesh Ghatak (2009) "Incentives and the De Soto Effect," *Quarterly Journal of Economics* 127(1):1-45.

Besley, T. and M. Ghatak (2009). Property Rights and Economic Development., in D. Rodrik and M. Rosenzweig (ed.s) *Handbook of Development Economics V*, North Holland, 45264592.

Tella, Rafael D., Sebastian Galiani and Ernesto Schargrotsky. (2007). "The Formation of Beliefs: Evidence from the Allocation of Land Titles to Squatters," *The Quarterly Journal of Economics* 122(1):209-241.

Jacoby H.G.; Li G., and Rozelle S. (2002). "Hazards of Expropriation: Tenure Insecurity and Investment in Rural China," *The American Economic Review* 92(5):1420-1447.

Bardhan, Pranab and Dilip Mookherjee. (2008). "Productivity Effects of land Reform: A Study of Disaggregated Farm Data in West Bengal, India," *BREAD Working Paper No. 184*.

Deininger, Klaus and Songqing Jin. (2006). "Tenure security and land-related investment: Evidence from Ethiopia," *European Economic Review* 50(5):1245-1277.

Feder, Gershon, Tongroj Onchan and Yongyuth Chalamwong. (1988). "Land Policies and Farm Performance in Thailand's Forest Reserve Areas," *Economic Development and Cultural Change* 36(3): 483-501.

Jacoby, Hanan G. and Mansuri, Ghazala. (2009). "Incentives, supervision, and sharecropper productivity," *Journal of Development Economics* 88(2):232-241.

Jacoby, Hanan G. and Ghazala Mansuri. (2008). "Land Tenancy and Non-Contractible Investment in Rural Pakistan," *Review of Economic Studies* 75(3): 763-788.

Conning, Jonathan and James Robinson. (2007). "Property Rights and the Political Organization of Agriculture," *Journal of Development Economics* 82:416-447.

Skoufias, E. (1995). Household Resources, Transaction Costs, and Adjustment through Land Tenancy. *Land Economics* 71 (1): 42-56.

Ricker-Gilbert, J., and J. Chamberlin. (2018) "Transactions Costs in Land Rental Markets and Their Impact on Youth Access to Agriculture in Tanzania." *Land Economics* (Forthcoming).

Chamberlin, J, and J. Ricker-Gilbert. (2016). "Participation in Rural Land Rental Markets in sub-Saharan Africa: Who benefits and by how much? Evidence from Malawi and Zambia." *American Journal of Agricultural Economics* 98(5):1507-1528.

Otsuka, Keijiro, Hiroyukii Chuma, and Yujiro Hayami. (1992) "Land and Labor Contracts in Agrarian Economies," *Journal of Economic Literature* 30:1965-2018.

No Class [September 25-27]

5. Land productivity and Land size [October 2 & 4]

1ST HOMEWORK DUE ON OCTOBER 4

*Benjamin, Dwayne. (1995). "Can unobserved land quality explain the inverse productivity relationship?" *Journal of Development Economics* 46(1):51–84.

*Russell Lamb. (2003). "Inverse Productivity: Land quality, labor markets, and measurement error," *Journal of Development Economics* 71:71-95.

Bardhan, Pranab K. (1973). "Size, productivity, and returns to scale: An analysis of farm-level data in Indian agriculture," *Journal of Political Economy* 81(6):1370–86.

Carter, Michael R. (1984). "Identification of the inverse relationship between farm size and productivity: An empirical analysis of peasant agricultural production," *Oxford Economic Papers* 36(1):131–145.

Feder, Gershon. (1985). "The Relation between Farm Size and Farm Productivity: The Role of Family Labor, Supervision and Credit Constraints," *Journal of Development Economics* 18:297- 313.

Bhalla, Surjit S. (1988). "Does Land Quality Matter? Theory and Measurement," *Journal of Development Economics* 29:45-62.

Bhalla, S. and P. Roy. (1988). "Mis-Specification in Farm Productivity Analysis: The Role of Land Quality," *Oxford Economic Paper* 40(1):55-73.

Barrett, C. B. (1996). "On Price Risk and the Inverse Farm Size-Productivity Relationship," *Journal of Development Economics* 51(2):193-216.

Assuncao, J. J. and M. Ghatak. (2003). "Can Unobserved Heterogeneity in Farmer Ability Explain the Inverse Relationship between Farm Size and Productivity," *Economics Letters* 80 (2): 189-94.

Assunção, J. J., and L. H. Braidó. (2007). "Testing Household-Specific Explanations for the Inverse Productivity Relationship," *American Journal of Agricultural Economics* 89(4): 980990.

Barrett, C. B., M. F. Bellemare and J. Y. Hou. (2010). "Reconsidering Conventional Explanations of the Inverse Productivity-Size Relationship," *World Development* 38 (1): 88-97.

Carletto, C., S. Savastano, and A. Zezza. (2013). "Fact or Artifact: The Impact of Measurement Errors on the Farm Size–Productivity Relationship," *Journal of Development Economics* 103: 254-261.

Ali, D. A., and K. Deininger. (2015). "Is There a Farm Size–Productivity Relationship in African Agriculture? Evidence from Rwanda," *Land Economics* 91(2):317-343.

Carletto et al. (JAE, 2017), "From Guesstimates to GPStimates: Land Area Measurement and Implications for Agricultural Analysis."

Gourlay et al. (2017), "Could the debate be over? Errors in farmer-reported production and their implications for the inverse scale-productivity relationship in Uganda." World Bank Working Paper

Bevis and Barrett (2017), "Close to the Edge: Do Behavioral Explanations Account for the Inverse Productivity Relationship? Working Paper. Ohio State University.

Desiere, Sam and Dean Jolliffe. (2017). "Land Productivity and Plot Size: Is Measurement Error Driving the Inverse Relationship?" Policy Research Working Paper; No. 8134. World Bank, Washington, DC.

Fall Break, No Class [October 9]

6. Rural Labor Markets and Migration [October 11, 16 & 18]

2ND ARTICLE REVIEW DUE ON OCTOBER 18

*Bardhan and Udry. (1999). *Development Microeconomics*, Chapter 4.

*Rosenzweig, Mark R., 1988. "Labor markets in low-income countries," *Handbook of Development Economics*, in: Hollis Chenery & T.N. Srinivasan (ed.), *Handbook of Development Economics*, edition 1, volume 1, chapter 15, pages 713-762 Elsevier.

*Jayachandran, Seema. 2006. "Selling Labor Low: Wage Responses to Productivity Shocks in Developing Countries," *Journal of Political Economy* 114 (3):5

*McKenzie, David, John Gibson and Steven Stillman. (2010). "How Important is Selection? Experimental vs Non-Experimental Measures of the Income Gains from Migration," *Journal of the European Economic Association*. 8(4):913–945.

*Stillman, Steven & David McKenzie and John Gibson. (2009). "Migration and mental health: Evidence from a natural experiment," *Journal of Health Economics*, 28(3):677-687

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

*Kaivan Munshi and Mark Rosenzweig. (2016). "Networks and Misallocation: Insurance, Migration, and Rural-Urban Wage Gap," *American Economic Review* 106(1):46-98.

*Beegle, K., J. De Weerd, and S. Dercon. (2011). *Migration and Economic Mobility in Tanzania: Evidence from a Tracking Survey*. *Review of Economics and Statistics* 93: 1010 – 1033

Beaman, L., & Magruder, J. (2012). "Who Gets the Job Referral? Evidence from a Social Networks Experiment," *The American Economic Review*, 102(7):3574-3593.

Rosenzweig, M., & Udry, C. (2014). "Rainfall Forecasts, Weather, and Wages over the Agricultural Production Cycle," *The American Economic Review* 104(5):278-283.

Wang, Shing-Yi. (2013). "Marriage Networks, Nepotism, and Labor Market Outcomes in China," *American Economic Journal: Applied Economics* 5(3):91-112.

Harrison, Ann and Edward Leamer. (1997). "Labor Markets in Developing Countries: An Agenda for Research," *Journal of Labor Economics* 15(3):S1-S19.

Besley, Tim and Robin Burgess. (2004). "Can Labor Market Regulation Hinder Economic Performance? Evidence from India," *Quarterly Journal of Economics* 119(1):91-134.

Chiquiar, Daniel and Gordon Hanson. (2005). "International Migration, Self-Selection, and the Distribution of Wages: Evidence from Mexico and the United States," *Journal of Political Economy* 113(2): 239-281.

Potentially No Class [October 23 & 25], JRG in Kenya

7. Technology adoption [October 20, Nov. 1, 6 & 8]

2ND HOMEWORK DUE ON NOVEMBER 1

*Bardhan, Pranab, and Christopher Udry. (1999). "Technological Progress and Learning". In *Development Microeconomics*. New York, NY: Oxford University Press.

*Foster, Andrew D., and Mark R. Rosenzweig. (1995). "Learning by Doing and Learning from Others: Human Capital and Technical Change in Agriculture," *Journal of Political Economy* 103(6):1176-1209.

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

*Giné, Xavier, and Dean Yang. (2009). "Insurance, Credit, and Technology Adoption: Field Experimental Evidence from Malawi," *Journal of Development Economics* 89(1):1-11.

*Suri, Tavneet. (2011). "Selection and Comparative Advantage in Technology Adoption," *Econometrica* 79(1):159-209.

*Michler, Jeffrey D., Emilia Tjernström, Simone Verkaart, and Kai Mausch (2018) "Money Matters: The Role of Yields and Profits in Agricultural Technology Adoption." *American Journal of Agricultural Economics*. aay050, <https://doi.org/10.1093/ajae/aay050>

Feder, Gershon, Richard Just, and David Zilberman. (1985). "Adoption of Agricultural Innovations in Developing Countries: A Survey," *Economic Development and Cultural Change* 33(2):255-298.

Munshi, Kaivan. (2004). "Social Learning in a Heterogeneous Population: Technology Diffusion in the Indian Green Revolution," *Journal of Development Economics* 73:185-213.

Devoto, Florencia, Esther Duflo, Pascaline Dupas, William Parienté, and Vincent Pons. (2012). "Happiness on Tap: Piped Water Adoption in Urban Morocco," *American Economic Journal: Economic Policy* 4(4):68-99.

Foster, Andrew D., and Mark R. Rosenzweig. (2010). "Microeconomics of Technology Adoption," *Annual Review of Economics* 2:395-424.

8. Factor and Product Markets, and the Roles of Information Communication Technologies (ICTs) and Infrastructure [November 13, 15 & 20]

3RD HOMEWORK DUE ON NOVEMBER 15

8.1. Factor Markets

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

Supplemental reading: Karlan, Dean, Robert Osei, Isaac Osei-Akoto, and Christopher Udry. (2014). "Agricultural Decisions After Relaxing Credit and Risk Constraints," *The Quarterly Journal of Economics* 129(2):597-652.

8.2. Product Markets & ICTs

*Jensen, Robert. (2007). "The Digital Divide: Information (Technology), Market Performance, and Welfare in the South Indian Fisheries Sector," *Quarterly Journal of Economics* 122(3):879-924.

8.3. The Economics of Infrastructure

*van de Walle, Dominique, and Ren Mu. (2007). "Fungibility and the Flypaper Effect of Project Aid: Micro-Evidence for Vietnam," *Journal of Development Economics* 84:667-685.

*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.

Key, Nigel, Elisabeth Sadoulet, and Alain de Janvry. (2000). "Transactions Costs and Agricultural Household Supply Response," *American Journal of Agricultural Economics* 82(2):245-259.

Bellemare, Marc, and Christopher Barrett. (2006). "An Ordered Tobit Model of Market Participation: Evidence from Kenya and Ethiopia," *American Journal of Agricultural Economics* 88(2):324-337.

Bellemare, Marc, Christopher Barrett, and David Just. (2013). "The Welfare Impacts of Commodity Price Volatility: Evidence from Rural Ethiopia," *American Journal of Agricultural Economics* 95(4):877-899.

Casaburi, Lorenzo, and Rocco Macchiavello. (2016). "Firm and Market Response to Savings Constraints: Evidence from the Kenyan Dairy Industry." Working paper available at https://www.econ.uzh.ch/dam/jcr:5f6e818a-ad07-466a-8962fdc77bb1dfc2/casaburi_macchiavello_dairy_20160731.pdf

Aker, Jenny C. (2010). "Information from Markets Near and Far: Mobile Phones and Agricultural Markets in Niger," *American Economic Journal: Applied Economics* 2(3):46–59

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9. Credit Markets [November 27 & 29]

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

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10. Shocks, Vulnerability, Risk-Coping and Precautionary Behavior [December 4 & 6]

REVIEW OF A COLLEAGUE'S RESEARCH PROPOSAL DUE DECEMBER 4.

10.1. Risk sharing among households

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10.2. Ex ante and Ex Post coping Mechanisms by Households themselves

*Paxson, Christina H. (1992). "Using Weather Variability to Estimate the Response of Savings to transitory Income in Thailand," *American Economic Review* 82(1):15–33.

Wei, Shang-Jin & Xiaobo Zhang. (2009). "The Competitive Saving Motive: Evidence from Rising Sex Ratios and Savings Rates in China," *Journal of Political Economy* 119(3):511-564.

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10.3. Long-term impacts of Shocks and imperfect insurance

*Dean, Yang, and Sharon Maccini. (2009). "Under the Weather: Health, Schooling, and Economic Consequences of Early-Life Rainfall," *American Economic Review* 99(3):1006-1026.

Dercon, Stefan. (2004). "Growth and Shocks: Evidence from Rural Ethiopia," *Journal of Development Economics* 74(2):309-29.

Glewwe, Paul and Gillette Hall. (1998). "Are some groups more vulnerable to macroeconomic shocks than others? Hypothesis tests based on panel data from Peru," *Journal of Development Economics* 56(1):181-206.

10.4 Index Insurance

*Clarke, Daniel J. (2016). "A Theory of Rational Demand for Index Insurance." *American Economic Journal: Microeconomics*. 8(1):283-306.

Dean Karlan, Robert Osei, Isaac Osei-Akoto, Christopher Udry (2014). "Agricultural Decisions after Relaxing Credit and Risk Constraints." *The Quarterly Journal of Economics*, 129(2): 597–652, <https://doi.org/10.1093/qje/qju002>

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OTHER TOPICS AND READINGS [time permitting]

FINAL RESEARCH PROPOSAL DUE DECEMBER 14 @ 5:00 PM.

11. Education, Health and Nutrition Interventions

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

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

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12. Health and Nutrition Interventions

*Thomas, Duncan and John Strauss. (1998). "Health, nutrition and economic development," *Journal of Economic Literature* 36:737-782.

*Subramanian, Shankar and Angus Deaton. (1996). "The Demand for Food and Calories," *Journal of Political Economy* 104(1):133-162.

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

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

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

Bobonis, Gustavo, Edward Miguel, and Charu Sharma (2006) "Iron Deficiency Anemia and School Participation," *Journal of Human Resources* 41(4):692-721

Behrman, Jere R. and Mark R. Rosenzweig. (2004). "Returns to Birthweight," *Review of Economics and Statistics* 86(2):586-601.

Dasgupta, Partha and Debraj Ray. (1986). "Inequality as a Determinant of Malnutrition and Unemployment: Theory," *Economic Journal* 96 (384):1011-1034.

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