

**14.772 Development Economics: Macroeconomic Issues
Spring 2013**

Lectures: Tuesday 2:30 – 4:00
 Thursday 2:30 - 4:00
 Location: E51-057

Recitations: Thursday 12:00-1:00
 Location: E51-151

Instructor: Robert Townsend. E52-252c, 617- 452-3722, rtownsen@mit.edu

Teaching Assistant: Parit Sripakdeevong, sripakdp@mit.edu

Website: <https://stellar.mit.edu/S/course/14/sp13/14.772/>

Prerequisites:

This class contributes to the fulfillment of requirements for the Development field for Economics Ph.D. students at MIT. People other than Economics Ph.D. students should consult with the instructors before enrolling. Students should have taken or be concurrently taking Ph.D. level macroeconomics, microeconomics, and econometrics.

Requirements:

The grade will be based on, class participation, 3 problem sets, a mid-term exam, and a research proposal. Two problem sets will cover theoretical and empirical problems related to papers discussed in the class. One problem set will consist of an empirical exercise that will extend material covered in class. The research proposal should consist of a research strategy to address questions that came up during the class. Ideally such proposal could lead to a third year paper. We will discuss the proposals during the last lecture of the class. We plan to have three or four students presenting their proposals. So if you like to present your ideas to get feedback, please let the TA know. All research proposals are due in the last lecture.

Readings:

Most readings can be reached through the Stellar website. Please inform the TA of any broken links. You may need to be on campus to access links to copyright-protected materials (e.g. NBER working papers, JSTOR). Readings that are not available online will be available via library reserve.

Development/Macro Seminar:

Everyone is encouraged to attend the Development Seminar, which meets on Wednesdays, 2:30 - 4:00 p.m. When there is an out-of-town speaker, we normally take the speaker out to dinner, and we will try to save a couple of spots for graduate students each time. Let us know if you are interested. You are also encouraged to go to the Macro Seminar, which meets Tuesdays, 4 - 5:30 at MIT in the Freeman Room. Usually, there are 3 or 4 graduate students taking the speaker for lunch on Tuesdays. Again, let us know if you are interested.

Development/Macro Lunch:

Everyone is also encouraged to attend the Development or Macro lunch. Unfortunately both lunches meet at the same time, namely Mondays from 12:00PM to 1:00PM. The development lunch meets in E51-372, the macro lunch in the Freeman Room.

Date	Lecture	Day	Topic/Main paper
5-Feb	1	Tuesday	Introduction
<i>Part 1: General Equilibrium models of financial deepening and growth</i>			
7-Feb	2	Thursday	Micro founded Macro Models
7-Feb	<i>Rec 1</i>	<i>Thursday</i>	<i>TBD</i>
12-Feb	3	Tuesday	Models with limited commitment
14-Feb	4	Thursday	Beyond limited commitment: adverse selection, moral hazard and their interaction
14-Feb	<i>Rec 2</i>	<i>Thursday</i>	<i>TBD</i>
19-Feb	President's Day	Tuesday	
<i>Part 2: Micro data and tests of model underpinnings</i>			
21-Feb	5	Thursday	Measurement: financial accts hh to national levels
21-Feb	<i>Rec 3</i>	<i>Thursday</i>	<i>TBD</i>
26-Feb	6	Tuesday	Risk-sharing and Targeting
28-Feb	7	Thursday	Finance, CAPM
28-Feb	<i>Rec 4</i>	<i>Thursday</i>	<i>TBD</i>
5-Mar	8	Tuesday	Links to the macro literature: incomplete markets
7-Mar	9	Thursday	Labor: intensive/extensive and aggregation
7-Mar	<i>Rec 5</i>	<i>Thursday</i>	<i>TBD</i>
12-Mar	10	Tuesday	Explicit Barriers and Obstacles
<i>Part 3: Welfare and the Evaluation of Impact: Reduced Form Econometrics and Structural Parameters</i>			
14-Mar	11	Thursday	Program Evaluation
14-Mar	<i>Rec 6</i>	<i>Thursday</i>	<i>TBD</i>
19-Mar	12	Tuesday	Expanding Financial Service and Impact: Reduced Form to Structural Methods
21-Mar	13	Thursday	Discussion
21-Mar	<i>Rec 7</i>	<i>Thursday</i>	<i>TBD</i>
25-Mar	(First day of Spring Break)		

Syllabus and Reading List:

Lecture 1: Introduction to the Course

Financial access, deepening, growth

- King, R.G. & Levine, R., 1993. “Finance and Growth: Schumpeter Might be Right.” *The Quarterly Journal of Economics*, 108(3), pp. 717–737.
- Rajan, R.G. & Zingales, L., 1998. “Financial Dependence and Growth.” *The American Economic Review*, 88(3), pp. 559–586.
- Levine, R., 2005. Finance and Growth: Theory and Evidence. In P. Aghion & S. N. Durlauf, ed. *Handbook of Economic Growth* (Vol. 1A, Chapter 12) Elsevier, pp. 865–934, 2005.

Finance and macro stability

- Koren, M. & Tenreyro, S., 2007. Volatility and Development. *The Quarterly Journal of Economics*, 122(1), pp. 243–287.
- Rancière, R., Tornell, A. & Westermann, F., 2008. Systemic Crises and Growth. *The Quarterly Journal of Economics*, 123(1), pp. 359–406.
- Acemoglu, D. & Zilibotti, F., 1997. Was Prometheus Unbound by Chance? Risk, Diversification, and Growth. *Journal of Political Economy*, 105, p. 709.

Some policy papers

- Levine (2011) “Regulating Finance and Regulators to Promote Growth”
- Beck, T., 2012. “Financial Possibility Frontier: Understanding Structural and Policy Gaps in Financial Systems”
- Dell’Ariccia, G. et al., 2012. Policies for Macrofinancial Stability: How to Deal with Credit Booms. *IMF Staff Discussion Note*, SDN/12/06.

Applied General Equilibrium Development Economics

- Tools
 - Computation: Yan Ji notes
- GIS
 - Thai GIS
 - China Data Center
- Data
 - Moreno, Jorge: “The Mexican Survey Databases for Analyzing Household and Firm”

Country-specific applications:

- Thailand
 - Townsend, R.M. *Financial Systems in Developing Economies: Growth, Inequality, and Policy Evaluation in Thailand*, Cambridge: Oxford University Press, 2011.
- Mexico
 - Townsend, R. (2012) *Financial Intermediation, Entrepreneurship, and Economic Growth in Mexico*, book manuscript.

- Townsend, R. M. (2010) “Financial Structure and Economic Welfare: Applied General Equilibrium Development Economics,” in Kenneth Arrow and Timothy Bresnahan (Eds.) *Annual Review of Economics*, Vol. 2, 2010, pp. 507-544
- Lecture Notes: CGE, DSGE
- De Castro, M.R. et al., 2011. *SAMBA: Stochastic Analytical Model with a Bayesian Approach*, Central Bank of Brazil, Research Department.
- Christiano, L., Motto, R. & Rostagno, M., 2012. Risk Shocks. *mimeo Northwestern University*.
- Townsend, R.M. *Insurance and Credit: Micro Financial Underpinnings for Entire Economies*. IIES 50th Anniversary Lecture slides (annotated)

Lectures 2-4: General Equilibrium Modeling with Financial Frictions, with and without underlying tests

Lecture 2: Micro-founded Macro Models

Lecture 2, part 1: Occupational choice and limited commitment – theory with micro tests

- **Lloyd-Ellis, H. & Bernhardt, D., 2000. Enterprise, Inequality and Economic Development. *The Review of Economic Studies*, 67(1), pp. 147–168.**
- **Gine, X. and R.M. Townsend (2004) “Evaluation of Financial Liberalization: A general equilibrium model with constrained occupation choice”. *Journal of Development Economics* 74: 269-304.**

Related Literature

- Galor, O. & Zeira, J., 1993. Income Distribution and Macroeconomics. *The Review of Economic Studies*, 60(1), pp. 35–52.
- Banerjee, A.V. & Newman, A.F., 1993. Occupational Choice and the Process of Development. *Journal of Political Economy*, 101(2), pp. 274–298.

Lecture 2, part 2: Risk-sharing, insurance and endogenous financial deepening

- **Greenwood, J. & Jovanovic, B., 1990. Financial Development, Growth, and the Distribution of Income. *Journal of Political Economy*, 98(5), pp. 1076–1107.**
- **Townsend, R.M. and K. Ueda (2006) “Financial Deepening, Inequality, and Growth: A Model-Based Quantitative Evaluation,” *Review of Economic Studies* 73, Issue 1: 251-93.**
- **Townsend, R.M. and K. Ueda (2010) “Welfare Gains from Financial Liberalization,” *International Economic Review*, 51 (3): 553-597.**

Related Literature

- Boyd, J.H. & Smith, B.D., 1997. Capital Market Imperfections, International Credit Markets, and Nonconvergence. *Journal of Economic Theory*, 73(2), pp.335–364.

Lecture 2, part 3: Model Comparisons

- Felkner, J. and R.M. Townsend (2011) “The Geographic Concentration of Enterprise in Developing Countries,” *Quarterly Journal of Economics*, 126 (4): 2005-2061.
- Jeong, H. and R.M. Townsend (2008) “Growth and Inequality: Model Evaluation Based on an Estimation-Calibration Strategy,” *Macroeconomic Dynamics* 12, Supplement S2: 231-84.
- Hansen, L., and J. Heckman (1996) “The Empirical Foundations of Calibration,” *Journal of Economic Perspectives*, 10(1): 87-104.

Lecture 3: Growth, Inequality, TFP with Financial Imperfections (featuring limited commitment)

- Song, Zheng, Storesletten, Kjetil, and Zilibotti, Fabrizio, “Growing like China”, *American Economic Review* 101 (March 2011): 196-233.
- Buera, F.J., Kaboski, J.P. & Shin, Y., 2011. Finance and Development: A Tale of Two Sectors. *The American Economic Review*, 101(5), pp. 1964–2002.

Related Literature

- Buera, Shin, “Financial Frictions and the Persistence of History: A Quantitative Exploration” (2012)
- Jeong, Hyeok and R.M. Townsend, (2007) “Sources of TFP Growth: Occupational Choice and Financial Deepening,” *Economic Theory*, Vol 32 (special issue honoring Edward Prescott), 179-221
- Coeurdacier, N., Guibaud, S. & Jin, K., 2012. Credit Constraints and Growth in a Global Economy, mimeo LSE
- Jappelli, T. & Pagano, M., 1994. Saving, Growth, and Liquidity Constraints. *The Quarterly Journal of Economics*, 109(1), pp. 83–109.
- Buera, F.J., Kaboski, J.P. & Shin, Y., 2012. The Macroeconomics of Microfinance. *NBER Working Paper*, No 17905.
- Blaum, J., 2012. Wealth Inequality and the Losses from Financial Frictions. mimeo, Brown University.
- Banerjee, A.V. & Moll, B., 2010. Why Does Misallocation Persist? *American Economic Journal: Macroeconomics*, 2(1), pp. 189–206.
- Moll, Benjamin, “Productivity Losses from Financial Frictions: Can Self-Financing Undo Capital Misallocation?”, mimeo, Princeton University, 2012

Lecture 4: Growth, TFP, International Capital Flows: Other frictions in financial intermediation (costly state verification, adverse selection, moral hazard)

- Moll, B., R.M. Townsend and V. Zhorin, “Entrepreneurship, Inequality and Growth with Information Constrained Factor Markets”

Related literature

- Martin, A. & Taddei, F., 2012. International capital flows and credit market imperfections: A tale of two frictions. *Journal of International Economics*, forthcoming.
- Greenwood, J., Sanchez, J.M. & Wang, C., 2012. Quantifying the impact of financial development on economic development. *Review of Economic Dynamics*, (Forthcoming)

Lectures 5-10: Micro data and tests of model underpinnings

Lecture 5: Measurement: Financial Accounts, Economic Accounts, NIPA, Balance of Payments. From Households to Village Economies to National Level Flow of Funds

- **Samphantharak, K., and R.M. Townsend (2009) “Households as Corporate Firms: An Analysis of Household Finance Using Integrated Household Surveys and Corporate Financial Accounting. *Econometric Society Monograph Series*. Cambridge; New York: Cambridge University Press, 2009, Ch. 4.**
- **Paweenawat, A. and R. M. Townsend (2011), village accounts, from “Villages as Small Open Economies”**
- **Lecture Notes: Flow of funds**

Related Literature

- Samphantharak, K. & R.M. Townsend (2012) “Measuring the return on household enterprise: What matters most for whom?”, forthcoming in *Journal of Development Economics*
- Collins, D. et al (2009) Portfolios of the poor: how the world's poor live on \$2 a day. Princeton: Princeton University Press.
- Pawasutipaisit, A. (2011) “Wealth accumulation and factors accounting for success”
- Selected case studies
- Life-cycle graphs

- Antràs, P. & Caballero, R.J., 2009. Trade and Capital Flows: A Financial Frictions Perspective. *Journal of Political Economy*, 117(4), pp. 701–744.

- Christiano, L. , M. Eichenbaum and C. Evans (1996) “The Effects of Monetary Policy Shocks: Evidence from the Flow of Funds”, *The Review of Economics and Statistics*
- Ridhwan, M. et al., 2011. The regional impact of monetary policy in Indonesia, mimeo
- [Overview of Flow of Funds Accounts](#), Marco Cagetti
- [A Macroeconomist's Wish List of Financial Data](#), V.V. Chari
- [Empirical Application of a Flow of Funds Model in India](#), Tomoe Moore & Christopher Green
- Guerrieri, V. & Lorenzoni, G., 2012. “Credit Crises, Precautionary Savings, and the Liquidity Trap,” mimeo.

- Piazzesi, M. & Schneider, M., 2012. “Inflation and the price of real assets,” mimeo Stanford
- Stockholm Lecture
- CFSP Flow of Funds Accounts and Savings Workshop, April, 2012, conference summary

Lecture 6: Insurance: from Village Insurance to Financial Access and Targeting to Risk Instruments in Advanced, OECD countries

- **Townsend, Robert (1994) “Risk and Insurance in Village India.”**
Econometrica 62(3), 539–591

Related Literature

- Alem, M. & Townsend, R.M., 2012 “An Evaluation of Financial Institutions: Impact on Consumption and Investment Using Panel Data and the Theory of Risk-Bearing”, MIT working paper
- Kinnan, C. & Townsend, R.M., 2012 “Kinship and Financial Networks, Formal Financial Access and Risk Reduction,” *American Economic Review*, 102(3), 289-93
- Angelucci, M., de Giorgi, D., Rangel, M.A. and Rasul, I., 2009 “Village Economies and the Structure of Extended Family Networks”, mimeo, UCL.
- Cai, J., 2012 “Social Networks and the Decision to Insure: Evidence from Randomized Experiments in China”, University of California-Berkeley working paper.
- Chiappori, P.A., Samphantharak, K., Schulhofer-Wohl, S., and Townsend, R.M., 2012 “Heterogeneity and Risk Sharing in Village Economies”, FRB of Minneapolis working paper 683.
- Tazhibayeva, K. & Townsend, R.M., 2012 “The Impact of Climate Change on Rice Yields: Heterogeneity and Uncertainty”, working paper.
- Kapphan, I. 2012. Weather Risk Management in Light of Climate Change Using Financial Derivatives, mimeo ETH Zurich
- Suri, T., 2011 “Estimating the Extent of Local Risk Sharing Between Households”, working paper
- Paweenawat, A. & Townsend, R.M., 2011 “Village Economic Accounts: Real and Financial Intertwined”, *American Economic Review*, 102(3), 441-46
- Cole, S., Gine, X., Tobacman, J., Topalova, P., Townsend, R.M., and Vickery, J., 2013 “Barriers to Household Risk Management: Evidence from India”, *American Economic Journal: Applied Economics*, 5(1), 104-35
- Gine, X. & Yang, D., 2009 “Insurance, credit, and technology adoption: Field experimental evidence from Malawi”, *Journal of Development Economics* 89, 1-11
- Karlan, D., Osei, R., Osei-Akoto, I., and Udry, C., 2012 “Agricultural Decisions after Relaxing Credit and Risk Constraints”, working paper.

Lecture 7: Capital Asset Pricing: Idiosyncratic and aggregate risk, mean variance frontiers, lack of insurance among the poor and modern corporations

- **Samphantharak K. and R.M. Townsend (2009), “Risk and Return in Village**

Economies”

- Calvet, L., J. Campbell, and P. Sodini (2007) “Down or Out: Assessing the Welfare Costs of Household Investment Mistakes,” *Journal of Political Economy* 115 (5): 707-747.
- Rampini, A., A. Sufi, and S. Viswanathan (2011), “Dynamic Risk Management”
- Samphantharak, K. and R.M. Townsend, "Understanding Consumption and Income Volatility in Village Economies," mimeo 2013.

Lecture 8: Links to the Macro Literature: Panel data and models of smoothing (exogenous incomplete markets)

- Kaplan, G. & Violante, G.L., 2010. How Much Consumption Insurance Beyond Self-Insurance? *American Economic Journal: Macroeconomics*, 2(4), pp. 53–87.
- Deaton, A. and C. Paxson (1994), “Intertemporal Choice and Inequality”, *Journal of Political Economy*, Vol. 102, No. 3, pp. 437-467.
- Campbell and Deaton (1989), “Why is consumption so smooth”, *Review of Economic Studies*.

Related Literature

- Peters, M. Notes on Consumption
- Attanasio, O.P. & Weber, G., 2010. Consumption and Saving: Models of Intertemporal Allocation and Their Implications for Public Policy. *Journal of Economic Literature*, 48(3), pp.693–751.
- Krueger, D. and F. Perri (2010), “How do households respond to income shocks?”, Working Paper University of Pennsylvania
- Blundell, R., Pistaferri, L. & Preston, I., 2008. Consumption Inequality and Partial Insurance. *The American Economic Review*, 98(5), pp. 1887–1921.

Lecture 9: Labor Supply: Intensive and Extensive Margin in Villages to Families, Lotteries, and Elasticities in Macro

- Bonhomme, Chiappori, Townsend, Yamada, “Sharing Wage Risk”, Working Paper.

Related Literature

- Rogerson, Richard “Indivisible labor, lotteries and equilibrium”, *Journal of Monetary Economics*, Volume 21, Issue 1, January 1988, Pages 3-16.
- Chetty, Raj, Adam Guren, Day Manoli, and Andrea Weber “Are Micro and Macro Labor Supply Elasticities Consistent? A Review of Evidence on the Intensive and Extensive Margins”, *American Economic Review Papers and Proceedings* 101: 471-75, 2011.
- Hansen, Gary D. “Indivisible labor and the business cycle”, *Journal of Monetary Economics*, Volume 16, Issue 3, November 1985, Pages 309-327.
- Chang, Yongsung, and Sun-Bin Kim. 2006. “From Individual to Aggregate Labor Supply: A Quantitative Analysis Based on a Heterogeneous Agent Macroeconomy.” *International Economic Review*, 47:1–27.
- Chang, Yongsung, and Sun-Bin Kim. “Heterogeneity and Aggregation:

- Implications for Labor-Market fluctuations”, *American Economic Review*, 97 (5), 1939-1956, 2007.
- Ljunqvist, Lars and Thomas Sargent, “Career Length: Effects of Curvature of Earnings Profiles, Earnings Shocks, Taxes, and Social Security”, Working Paper, August 2011.
 - Jayachandran, Seema. 2006. “Selling Labor Low: Wage Responses to Productivity Shocks in Developing Countries,” *Journal of Political Economy*, 114, 538-575

**Lecture 10: Barriers to Sharing Risk (moral hazard, limited commitment):
Common Methods in Village Economies**

- **Kinnan, Cynthia, “Distinguishing barriers to insurance in Thai villages”**
- **Townsend, R.M. and A. Karaivanov, “Dynamic Financial Constraints: Distinguishing Mechanism Design from Exogenously Incomplete Regimes”**

Related Literature

- Ábrahám, A. & Pavoni, N., 2005. The Efficient Allocation of Consumption Under Moral Hazard and Hidden Access to the Credit Market. *Journal of the European Economic Association*, 3(2-3), pp.370–381.
- 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.
- Morten, M., 2012. “Temporary Migration and Endogenous Risk Sharing in Village India,” mimeo Yale University.

Lectures 11 and 12: Welfare and the Evaluation of Impact: Reduced Form Econometrics and Structural Parameters

Lecture 11: Program Evaluation: The Thai Million Baht Village Fund

- **Kaboski, J. and R.M. Townsend (2012), “The Impact of Credit on Village Economies.” *American Economic Journal: Applied Economics*, 4(2): 98-133.**
- **Kaboski, J. and R.M. Townsend (2011), “A Structural Evaluation of a Large-Scale Quasi-Experimental Microfinance Initiative,” *Econometrica* 79(5), September 2011: 1357-1406.**

Related literature

- Duflo et al (2010) “The Miracle of Microfinance: Evidence from a Randomized Evaluation”
- Duflo et. Al. (2012) “Impact of microcredit in rural areas of Morocco: Evidence from a Randomized Evaluation”
- Townsend, R.M. and S. Urzua, “Measuring the Impact of Financial Intermediation: Linking Contract Theory to Econometric Policy Evaluation,” *Macroeconomic Dynamics*, 13 (S2) 268-316, 2009.

Lecture 12: From Reduced-Form to Structural Evaluation: Expanding Financial Infrastructure and Impact

- **Townsend, R.M. and S. Urzua, “Measuring the Impact of Financial Intermediation: Linking Contract Theory to Econometric Policy Evaluation,” *Macroeconomic Dynamics*, 13 (S2) 268-316, 2009.**

Related literature

- Assuncao, J., S. Mityakov & R.M. Townsend (2012) “Ownership matters: the geographical dynamics of BAAC and commercial banks in Thailand,” mimeo.
- Bajari, P., Benkard, C.L. & Levin, J., 2007. Estimating Dynamic Models of Imperfect Competition. *Econometrica*, 75(5), pp.1331–1370.
- Raj Chetty, “Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced-Form Methods”, *Annual Review of Economics* 1: 451-488, 2009
- Hotz, V.J. & Miller, R.A., 1993. Conditional Choice Probabilities and the Estimation of Dynamic Models. *The Review of Economic Studies*, 60(3), pp.497–529.
- Keane, Wolpin, “Empirical Applications of discrete choice dynamic programming models,” RED, 2009
- Keniston et al (2012) “Expansion of Spanish Banks: Distance Costs and Proximity Gains”

Lecture 13: Discussion, Research Proposals