

Econ 265
Open Economy Macroeconomics
Spring 2003
MW 9:00 – 10:50 Landau 218

Mark L.J. Wright
mlwright@stanford.edu
Landau 336
725 9967

Open Economy Macroeconomics

This is a graduate course that covers selected topics in international macroeconomics and finance. The first part of the course will explore the major sources of data on international macroeconomics, and the main stylized facts contained in this data. We will then turn to models that attempt to explain these facts, starting with international real business cycle models and then moving on to models that contain frictions in either goods or asset markets. The last part of the course explores monetary issues such as the determination of exchange rates and currency crises.

We will not follow any one textbook closely. However, the following two books provide excellent treatments of some of the topics, and have been ordered at the campus bookstore.

Obstfeld, M. and K. Rogoff (1996), *Foundations of International Macroeconomics*, MIT Press.
Mark, N. C. (2001). *International Macroeconomics and Finance*. Oxford, Blackwell.

It is strongly recommended that students read the relevant chapters of these books. Class handouts, some lecture notes, and general course information are available on the class website:

<http://www.stanford.edu/~mlwright/teaching/>

The study of international macroeconomics is heavily influenced by the nature of international institutions. A good overview on these institutions and the workings of international financial markets is given in:

Dufey, G. and I. Giddy (1994). *The International Money Market*. London, Prentice-Hall.

Assessment for the course may take, at your discretion, the form of either (1) two referee reports, or (2) one term paper. Each referee report should be a critical review of one recent paper in international macroeconomics, and should not exceed ten pages in length. The report should be *critical*: in addition to reviewing the contribution of the paper, and its place within the wider literature, you should consider possible extensions, review possible criticisms and suggest possible ways to address these criticisms. The final two weeks of the quarter will be devoted to one hour in-class presentations based on these reports. Each student in the class is expected to present one of the papers they selected. Written versions of the referee reports are due on Monday 12th May in class and on Tuesday 10th June.

The term paper is designed to get you started on your own research. You should carefully outline a question in which you are interested, provide a review of the relevant literature, and outline a strategy for answering this question. The strategy may contain both theoretical and empirical elements. You may elect to begin with a referee report and then write a term paper that is an elaboration of the themes raised in your referee report. If you elect to write a term paper, you will be required to give a one hour presentation on your research during the final two weeks of the quarter. The term paper is due on Tuesday June 10th. You *must* get my approval before picking a paper to referee, and before deciding on a topic for your term paper.

Reading List

It is not expected that you read all of the papers on this list. They are collected here only as suggestions for further reading should you be interested in a particular topic. They may also serve as useful starting points in your search for a paper to referee and in selecting your term paper topic. The class will focus on the starred (*) readings.

1 Introduction and Some Facts

1. Agénor, P.-R., C. J. McDermott, et al. (2000). "Macroeconomic Fluctuations in Developing Countries: Some Stylized Facts." *World Bank Economic Review* 14(2): 251-285.
2. Backus, D. K. and P. J. Kehoe (1992). "International Evidence on the Historical Properties of Business Cycles." *American Economic Review* 82(4): 864-888.
3. Bayoumi, T. (1997): *Financial Integration and Real Activity*. Manchester: Manchester University Press.
4. Feldstein, M. and C. Horioka (1980): "Domestic Savings and International Capital Flows," *Economic Journal*, Vol. 90, pp. 314-329.
5. Feldstein, M. (1983): "Domestic Saving and International Capital Movements in the Long Run and the Short Run," *European Economic Review*, Vol. 21, pp. 129-151.
6. French, K. R. and J. M. Poterba (1991). "Investor Diversification and International Equity Markets." *American Economic Review* 81(2): 222-226.
7. Kraay, A., N. Loayza, L. Servén and J. Ventura (2000): "Country Portfolios," *unpublished paper, University of Chicago*.
8. Lane, P. R. and G. M. Milesi-Ferretti (2001). "The External Wealth of Nations: Measures of Foreign Assets and Liabilities for Industrial and Developing Nations." *Journal of International Economics* 55: 263-294.
9. Obstfeld, M. and K. Rogoff (2000). "The Six Major Puzzles in International Macroeconomics: Is There a Common Cause?" *National Bureau of Economic Research Macroeconomics Annual*: 339-389.

2 Complete Market Models

2.1 Frictionless Endowment economies

1. Obstfeld and Rogoff (1996), Chapter 1.
2. Lucas, Robert E. (1982), "Interest Rates and Currency Prices in a Two-Country World," *Journal of Monetary Economics* 10, 335-60.
3. Backus, D. K. (1993): "Interpreting Comovements in the Trade Balance and the Terms of Trade," *Journal of International Economics*, Vol. 34, pp. 375-387.

2.2 Frictionless Production Economies - International Real Business Cycles

1. Obstfeld and Rogoff (1996), Chapter 2 and 3; Mark Chapter 5.
2. * Backus, D. K., P. J. Kehoe and F. E. Kydland (1992): "International Real Business Cycles," *Journal of Political Economy*, Vol. 100, pp. 745-775.
3. Backus, D. K., P. J. Kehoe and F. E. Kydland (1994): "International Business Cycles: Theory and Evidence," in *Frontiers of Business Cycle Research*, ed. by Cooley, T. Princeton: Princeton University Press, pp. 331-356.
4. Backus, D. K., P. J. Kehoe and F. E. Kydland (1994): "Dynamics of the Trade Balance and the Terms of Trade: The J-Curve," *American Economic Review*, Vol. 84, pp. 84-110.
5. * Baxter, M. (1995). "International Trade and Business Cycles." *Handbook of International Economics*. G. M. Grossman and K. Rogoff. Amsterdam, North Holland. 3.
6. Cuñat, A. and M. Maffezzoli (2002). "Heckscher-Ohlin Business Cycles." unpublished paper, London School of Economics.
7. * Kose, M. A. and K.-M. Yi (2001). "International Trade and Business Cycles: Is Vertical Specialization the Missing Link." *American Economic Review* 91(2): 371-375.
8. * Mendoza, E. G. (1991). "Real Business Cycles in a Small Open Economy." *American Economic Review* 81(4): 797-818.
9. Sachs, J. (1982): "The Current Account in the Macroeconomic Adjustment Process," *Scandinavian Journal of Economics*, Vol. 84, pp. 147-159.
10. Stockman, A. C. and L. L. Tesar (1995): "Tastes and Technology in a Two-Country Model of the Business Cycle: Explaining International Comovements," *American Economic Review*, Vol. 85, pp. 168-85.

2.3 Goods and Factor Market Frictions

2.3.1 Models with exogenously non-traded goods and factors

1. * Backus, D. K. and G. W. Smith (1993). "Consumption and Real Exchange Rates in Dynamic Economies with Non-Traded Goods." *Journal of International Economics* 35: 297-316.
2. Baxter, M., U. J. Jermann and R. G. King (1997): "Nontraded Goods, Nontraded Factors, and International Non-Diversification," *Journal of International Economics*, Vol. 44, pp. 211-229.
3. Baxter, M. and U. J. Jermann (1997). "The International Diversification Puzzle is Worse Than You Think." *American Economic Review* 87(1): 170-180.
4. Bottazzi, L., P. Pesenti and E. Van Wincoop (1996): "Wages, Profits and the International Portfolio Puzzle," *European Economic Review* 40 (2), pp. 219-254
5. Jermann, U. J. (1998): "International Portfolio Diversification and Endogenous Labor Supply Choice," *Weiss Center Working Paper*, Vol. 98-6.

6. Pesenti, P. and E. Van Wincoop (2002): "Can Nontradeables Generate Substantial Home Bias?," *Journal of Money, Credit and Banking*, 34 (1), pp.25-50.

2.3.2 Transactions Costs on Goods

1. Obstfeld and Rogoff (1996), Chapter 4.
2. Cuñat, A. and M. Maffezzoli (2002). "Trade Integration and Growth." *Innocenzo Gasparini Institute for Economic Research Working Paper* 220.
3. Stockman, Alan and Harris Dellas (1989). "International Portfolio Nondiversification and Exchange Rate Variability," *Journal of International Economics* 26, no. 3/4, May 1989, 271-90.
4. * Dumas, B. (1992): "Dynamic Equilibrium and the Real Exchange Rate in a Spatially Separated World," *Review of Financial Studies*, Vol. 5, pp. 153-180.
5. Heathcote, J. and F. Perri (2002). "Financial Globalization and Real Regionalization." *National Bureau of Economic Research Working Paper* 9292.
6. Kraay, A. and J. Ventura (2002). "Trade Integration and Risk Sharing." *European Economic Review* 46(6): 1023-1048.
7. Mazzenga, E. and M. Ravn (2002). "International Business Cycles: The Quantitative Role of Transportation Costs." *Center for Economic Policy Research Discussion Paper* 3530.
8. * Obstfeld, M. and K. Rogoff (2000). "The Six Major Puzzles in International Macroeconomics: Is There a Common Cause?" *National Bureau of Economic Research Macroeconomics Annual*: 339-389.
9. Uppal, R. (1993). "A General Equilibrium Model of International Portfolio Choice." *Journal of Finance* 48(2): 529-553.

2.3.3 Time to Ship

1. Benninga, S. and A. Protopapadakis (1988): "The Equilibrium Pricing of Exchange Rates and Assets When Trade Takes Time," *Journal of International Money and Finance*, Vol. 7, pp. 129-149.

3 Incomplete Market Models

3.1 Exogenously incomplete Markets

1. Obstfeld and Rogoff (1996), Chapter 5.
2. Baxter, M. and M. J. Crucini (1993): "Explaining Savings-Investment Correlations," *American Economic Review*, Vol. 83, pp. 416-436.
3. Blankenau, W., M. A. Kose, and K. M. Yi (2001). "Can World Real Interest Rates Explain Business Cycles in a Small Open Economy?" *Journal of Economic Dynamics and Control* 25: 867-889.
4. Clarida, R. H. (1990): "International Lending and Borrowing in a Stochastic Stationary Equilibrium," *International Economic Review*, Vol. 31, pp. 543-558.

5. Cole, H. L. (1988): "Financial Structure and International Trade," *International Economic Review*, Vol. 29, pp. 237-259.
6. * Cole, H. L. and M. Obstfeld (1991): "Commodity Trade and International Risk Sharing," *Journal of Monetary Economics*, Vol. 28, pp. 3-24.
7. Crucini, M. J. (1997): "Country Size and Economic Fluctuations," *Review of International Economics*, Vol. 5, pp. 204-220.
8. Kollman, R. (1996): "Incomplete Asset Markets and the Cross-Country Consumption Correlation Puzzle," *Journal of Economic Dynamics and Control*, Vol. 20, pp. 945-961.
9. Kollman, R. (1995): "Consumption, Real Exchange Rates and the Structure of International Asset Markets," *Journal of International Money and Finance*, Vol. 14, pp. 191-211.
10. Kose, M. A. (2002). "Explaining Business Cycles in Small Open Economies: How Much do World Prices Matter?" *Journal of International Economics* 56(2): 299-327.
11. Kraay, A. and J. Ventura (2001): "Comparative Advantage and the Cross-Section of Business Cycles," *National Bureau of Economic Research Working Paper* 8104.
12. Kraay, A. and J. Ventura (2000): "Product Prices and the OECD Cycle," *National Bureau of Economic Research Working Paper* 7788.
13. * Kraay, A. and J. Ventura (2000). "Current Accounts in Debtor and Creditor Countries." *Quarterly Journal of Economics* 115(4): 1137-1166.
14. Ventura, J. (2002). "Bubbles and Capital Flows." unpublished paper, MIT.

3.2 Digression: The Gains from International Risk Sharing

1. Brandt, M. W., J. H. Cochrane, and P. Santa-Clara. (2001). "International Risk Sharing is Much Better Than You Think (Or Exchange Rates are Much too Smooth)." *National Bureau of Economic Research Working Paper* 8404.
2. Davis, S. J., J. Nalewaik and P. Willen (2000): "On the Gains to International Trade in Risky Financial Assets," *National Bureau of Economic Research Working Paper* 7796.
3. Lewis, K. K. (1996). "What Can Explain the Apparent Lack of International Consumption Risk Sharing?" *Journal of Political Economy* 104(2): 267-297.
4. * Lewis, K. K. (1999). "Trying to Explain Home Bias in Equities and Consumption." *Journal of Economic Literature* 37(2): 571-608.
5. * Lewis, K. K. (2000). "Why do Stocks and Consumption Imply Such Different Gains from International Risk Sharing?" *Journal of International Economics* 52(1): 1-35.
6. Obstfeld, M. (1994): "Risk-Taking, Global Diversification, and Growth," *American Economic Review*, Vol. 84, pp. 1310-1329.

7. van Wincoop, E. (1994). "Welfare gains from international risksharing." *Journal of Monetary Economics* 34(2): 175-200.
8. van Wincoop, E. (1999). "How Big are Potential Welfare Gains from International Risk Sharing." *Journal of International Economics* 47: 109-135.

3.3 Sovereign Risk

1. * Bulow, J. and K. Rogoff (1989): "Sovereign Debt: Is to Forgive to Forget?," *American Economic Review*, Vol. 79, pp. 43-50.
2. Bulow, J. and K. Rogoff (1989): "A Constant Recontracting Model of Sovereign Debt," *Journal of Political Economy*, Vol. 97, pp. 155-178.
3. Cole, H. L., J. Dow and W. B. English (1995): "Default, Settlement and Signalling: Lending Resumption in a Reputation Model of Sovereign Debt," *International Economic Review*, Vol. 36, pp. 365-385.
4. Cole, H. L. and P. J. Kehoe (1997): "Reviving Reputation Models of International Debt," *Federal Reserve Bank of Minneapolis Quarterly Review*, Vol. 21, pp. 21-30.
5. Cole, H. L. and P. J. Kehoe (1998): "Models of Sovereign Debt: Partial Versus General Reputations," *International Economic Review*, Vol. 39, pp. 55-70.
6. Eaton, J. (1993): "Sovereign Debt: A Primer," *World Bank Economic Review*, Vol. 7, pp. 137-172.
7. Eaton, J., M. Gersovitz and J. E. Stiglitz (1986): "The Pure Theory of Country Risk," *European Economic Review*, Vol. 30, pp. 481-513.
8. * Eaton, J. and R. Fernandez (1995): "Sovereign Debt," in *Handbook of International Economics*, ed. by Grossman, G. M. and K. Rogoff. Amsterdam: Elsevier, pp. 2031-2076.
9. English, W. B. (1996). "Understanding the Costs of Sovereign Default: America's State Debts in the 1840's." *American Economic Review* 86(1): 259-275.
10. Jeske, K. (2000): "Decentralizing International Debt with Risk of Repudiation," *Federal Reserve Bank of Minneapolis Working Paper*.
11. * Kletzer, K. M. and B. D. Wright (2000): "Sovereign Debt as Intertemporal Barter," *American Economic Review*, Vol. 90, pp. 621-639.
12. Kehoe, P. and F. Perri (1996): "International Business Cycles with Endogenous Incomplete Markets," *unpublished paper, Federal Reserve Bank of Minneapolis*.
13. Rose, A. K. (2002). "One Reason Countries Pay their Debts: Renegotiation and International Trade." *unpublished paper, University of California Berkeley*.
14. Rose, A. K. and M. M. Spiegel (2002). "A Gravity Model of Sovereign Lending: Trade, Default and Credit." *unpublished paper, University of California Berkeley*.

15. Worrall, T. (1990): "Debt with Potential Repudiation," *European Economic Review*, Vol. 34, pp. 1099-1109.
16. * Wright, M. L. J. (2002): "Reputations and Sovereign Risk," *unpublished paper, MIT*.
17. Wright, M. L. J. (2001): "Sovereign Risk and Creditor Coordination," *unpublished paper, University of Chicago*.

3.4 Asymmetric Information

3.4.1 about future returns

1. * Gehrig, T. (1993). "An Information Based Explanation of the Domestic Bias in International Equity Investment." *Scandinavian Journal of Economics* 95(1): 97-109.

3.4.2 about outcomes

1. Green, E. J. (1987): "Lending and the Smoothing of Uninsurable Income," in *Contractual Arrangements for Intertemporal Trade*, ed. by Prescott, E. C. and N. Wallace. Minneapolis: University of Minnesota Press.
2. Khan, A. and B. Ravikumar (1999): "Risk-Sharing and Growth with Private Information," *unpublished paper, University of Iowa*.
3. Khan, A. and B. Ravikumar (1997): "Enduring Relationships in an Economy with Capital," *unpublished paper, University of Iowa*.
4. Thomas, J. P. and T. Worrall (1990): "Income Fluctuation and Asymmetric Information: An Example of a Repeated Principal-Agent Problem," *Journal of Economic Theory*, Vol. 51, pp. 367-390.
5. Wright, M. (2000) "Notes on a Model of Khan and Ravikumar," *unpublished paper, University of Chicago*.

3.4.3 about actions

1. Obstfeld and Rogoff (1996), Chapter 6.
2. Atkeson, A. (1991): "International Lending with Moral Hazard and Risk of Repudiation," *Econometrica*, Vol. 59, pp. 1069-89.
3. * Gertler, M. and K. Rogoff (1990): "North-South Lending and Endogenous Domestic Capital Market Inefficiencies," *Journal of Monetary Economics*, Vol. 26, pp. 245-266.
4. Lane, P. R. (1999): "North-South Lending with Moral Hazard and Repudiation Risk," *Review of International Economics*, Vol. 7, pp. 50-58.

3.5 Costly Introduction of Assets

1. * Martin, P. and H. Rey (2002). "Financial Globalization and Emerging Markets: With or Without Crash?" *unpublished paper, Princeton University*.
2. Martin, P. and H. Rey (2000). "Financial Integration and Asset Returns." *European Economic Review* 44: 1327-1350.
3. Portes, Richard, and Hélène Rey. (1999) "The Determinants of Cross-Border Equity Flows." *Centre for Economic Policy Research Working Paper* 2225.

3.6 Transactions Costs on Assets

1. Heaton, J. and D. Lucas (1992): "The Effects of Incomplete Insurance Markets and Trading Costs in a Consumption-Based Asset Pricing Model," *Journal of Economic Dynamics and Control*, Vol. 16, pp. 601-620.
2. Heaton, J. and D. Lucas (1996): "Evaluating the Effects of Incomplete Markets on Risk Sharing and Asset Pricing," *Journal of Political Economy*, Vol. 104, pp. 443-487.
3. Heaton, J. and D. Lucas (1997): "Market Frictions, Savings Behavior and Portfolio Choice," *Macroeconomic Dynamics*, Vol. 1, pp. 97-101.
4. Rowland, P. F. (1999): "Transaction Costs and International Portfolio Diversification," *Journal of International Economics*, Vol. 49, pp. 145-170.
5. Wright, M. (2002): "An Equivalent Optimum Formulation of a Portfolio Problem with Transactions Costs," *unpublished paper, MIT*.

4 Models of Money and Exchange Rates

4.1 A Portfolio of Flexible Price Models

1. Obstfeld and Rogoff (1996), Chapter 8, Mark Chapter 4.
2. * Lucas, R. E., Jr. (1982): "Interest Rates and Currency Prices in a Two-Country World," *Journal of Monetary Economics*, Vol. 10, pp. 335-59.
3. Mussa, M. (1982): "A Model of Exchange Rate Dynamics," *Journal of Political Economy*, Vol., pp. 74-104.
4. Stockman, A. C. (1987). "The Equilibrium Approach to Exchange Rates." *Federal Reserve Bank of Richmond, Economic Review*: 12-31.
5. Alan C. Stockman, "A Theory of Exchange Rate Determination," *Journal of Political Economy* 88 (1980), 673-98.
6. Svensson, L. (1985): "Currency Prices, Terms of Trade and Interest Rates: A General Equilibrium Asset-Pricing Cash in Advance Approach," *Journal of International Economics*, Vol. 18, pp. 17-42.

7. * Alvarez, F., A. Atkeson and P. J. Kehoe (2000): "Money, Interest Rates, and Exchange Rates with Endogenously Segmented Asset Markets," *National Bureau of Economic Research Working Paper* 7871.
8. Kiyotaki, N. and J. Moore (2001). "A Cost of Unified Currency." unpublished paper, London School of Economics.
9. Matsuyama, K., N. Kiyotaki, et al. (1993). "Toward a Theory of International Currency." *Review of Economic Studies* 60(2): 283-307.
10. Petersen, B. (2001). "Endogenous Liquidity, Currency Flows and Currency Substitution." unpublished paper, Indiana University.
11. Petersen, B. (2001). "Dollarization: Fundamentals vs. Beliefs." unpublished paper, Indiana University.
12. Trejos, A. and R. Wright (1996). "Search-Theoretic Models of International Currency." *Federal Reserve Bank of St. Louis Review* 78(3): 117-132.

4.2 Sticky Price Models

1. Obstfeld and Rogoff (1996), Chapters 9 and 10, Mark Chapter 9.
2. Betts, C. and M. B. Devereux (1996). "The Exchange Rate in a Model of Pricing-to-Market." *European Economic Review* 40: 1007-1021.
3. * Betts, C. and M. B. Devereux (2000). "Exchange rate dynamics in a model of pricing-to-market." *Journal of International Economics* 50: 215-244.
4. * Chari, V. V., P. J. Kehoe and E. R. Mcgrattan (2000): "Can Sticky Price Models Generate Volatile and Persistent Real Exchange Rates?," *National Bureau of Economic Research Working Paper* 7869
5. Dornbusch, R. (1976). "Expectations and Exchange Rate Dynamics." *Journal of Political Economy* 84(6): 1161-1176.
6. * Lane, P. R. (2001). "The new open economy macroeconomics: a survey." *Journal of International Economics* 54: 235-266.
7. * Obstfeld, M. and K. Rogoff (1995). "Exchange Rate Economics Redux." *Journal of Political Economy* 103(3): 624-660.
8. * Obstfeld, M. and K. Rogoff (2000). "New directions for stochastic open economy models." *Journal of International Economics* 50: 117-153.
9. Rogoff, K. S. (2002). "Dornbusch's Overshooting Model After Twenty-Five Years." *Mundell Fleming Lecture, International Monetary Fund*.
10. Sarno, L. (2000). "Towards a New Paradigm in Open Economy Modeling: Where do we Stand?" *unpublished paper, Federal Reserve Bank of St. Louis*.

5 Models of Currency Crises

5.1 Overview

1. Mark Chapter 11.
2. Agenor, P.-R. and R. P. Flood (1994): "Macroeconomic Policy, Speculative Attacks, and Balance of Payments Crises," in *The Handbook of International Macroeconomics*, ed. by van der Ploeg, F. Oxford: Oxford University Press, pp. 224-250.
3. Flood, R. and N. Marion (1998): "Perspectives on the Recent Currency Crisis Literature," *NBER Working Paper*, Vol. 6380.
4. Jeanne, O. (1999): "Currency Crises: A Perspective on Recent Theoretical Advances," *Center for Economic Policy Research Discussion Paper*, Vol. 2170.
5. Krugman, P. R. (1996): "Are Currency Crises Self-Fulfilling?," *National Bureau of Economic Research Macroeconomics Annual*, pp. 345-378.
6. Obstfeld, M. (1994): "The Logic of Currency Crises," *Cahiers économiques et monétaires*, Vol. 43, pp. 189-213.

5.2 First Generation Models

1. * Burnside, C., M. Eichenbaum and S. Rebelo (2001): "On the Fiscal Implications of Twin Crises," *Federal Reserve Bank of Chicago Working Paper* 01-02.
2. Flood, R. P. and P. Garber (1984): "Collapsing Exchange Rate Regimes: Some Linear Examples," *Journal of International Economics*, Vol. 17, pp. 1-13.
3. Krugman, P. (1979): "A Model of Balance of Payments Crises," *Journal of Money, Credit and Banking*, Vol. 11, pp. 311-325.

5.3 Second Generation Models

1. * Obstfeld, M. (1996): "Models of Currency Crises with Self-Fulfilling Features," *European Economic Review*
2. Obstfeld, M. (1986): "Rational and Self-Fulfilling Balance-of-Payments Crises"," *American Economic Review*

5.4 Generation X Models

1. Chang, R. and A. Velasco (1999): "Liquidity Crises in Emerging Markets: Theory and Policy," *National Bureau of Economic Research Working Paper* 7272.
2. Chari, V. V. and P. Kehoe (1999): "Hot Money," *unpublished paper, Federal Reserve Bank of Minneapolis*.
3. * Morris, S. and H. S. Shin (2000). "Rethinking Multiple Equilibria in Macroeconomic Modeling," *National Bureau of Economic Research Macroeconomics Annual*: 139-161.

4. Morris, S. and H.S. Shin (1998), "Unique Equilibrium in an Model of Self-Fulfilling Currency Attacks", *American Economic Review*, 88:3, 587-596.