

## **INTERNATIONAL FINANCE**

**Finance 933, Fall 2020**

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Monday 1:30 – 4:30

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### **Goals of the course**

To provide an understanding of selected topics of current academic research in the areas of international finance and its intersection with international macroeconomics; to teach interested students the tools for conducting research in this field. Each topic will be developed beginning with early classic papers and then updated through the current status of the profession. The typical target audience comprises students in their second year or later.

### **Readings**

Most papers assigned for this course are available on the web. For published papers, <http://www.library.upenn.edu> link to *E-journals* and then link to *Economics* or *Finance*, for most working papers [www.google.com](http://www.google.com). Older and more difficult-to-find papers will be posted on Canvas.

### **Requirements**

(1) Final Exam comprising 60% of grade; (2) Critical analysis of a research paper given by oral presentation comprising 40% of grade. For students falling between a letter grade, a third category may be relevant: (3) Course participation.

The Final exam is tentatively scheduled for December 7.

In order to further understand concepts, one or two homework sets will be assigned during the semester. I will check the assignments but they will not count toward your final grade.

### **Student presentations**

Students will be required to choose a paper that they wish to critique from a list that will be made available in September and posted on Canvas. Papers are chosen on a first-come first-serve basis. I will provide detailed information about how this presentation should be prepared by the end of October.

### **Auditors**

Any students sitting in on the course who are not registered for a grade will be expected to read the relevant papers and participate in the discussions.

### **Lectures**

Papers marked with a \* will be covered in class by me. Professor Roussanov will be a guest lecturer for one class. The readings for that class are marked with a \*\*. The other papers provide

background reading that I may touch on during lectures.

## TOPICS AND READINGS

### **1. Basic International Model**

\*Lucas, Robert E, Jr., 1982, Interest Rates and Currency Prices in a Two-Country World. *Journal of Monetary Economics*. Vol. 10 (3). p 335-59. November

### **2. General Equilibrium Models of International Business Cycles**

#### **2.1. Basic model with complete markets**

\*Backus, David K; Kehoe, Patrick J; Kydland, Finn E., 1992, *International Real Business Cycle*, *The Journal of Political Economy*, Vol 100, No. 4, pp 745-775.

\*Backus, David K; Kehoe, Patrick J; Kydland, Finn E., *International Business Cycles: Theory and Evidence*, National Bureau of Economic Research Working Paper: 4493. p 23. October 1993, also in Cooley, *Frontiers of Business Cycle Research*.

Backus, David, Kehoe, Patrick and Kydland Finn, 1994, *Dynamics of the trade balance and the terms of trade: The J-Curve*, *American Economic Review* 84:84-10.

Baxter, Marianne, 1995, *International Trade and Business Cycles*, National Bureau of Economic Research Working Paper: 5025. p 44. February

Dumas B. C. R. Harvey and P. Ruiz, 2003. *Are Correlations in International Stock Returns Justified by Subsequent Changes in National Outputs?*, *The Journal of International Money and Finance*, 22 (2003), 777-811.

#### **2.2. Incomplete markets, default and moral hazard**

Atkeson Andrew, 1991, *International lending with moral hazard and risk of repudiation*, *Econometrica*, vol, 59., 1069-1089.

\*Baxter, Marianne, 1995, *International Trade and Business Cycles*, see above

Baxter, Marianne; Crucini, Mario J., 1995, *Business Cycles and the Asset Structure of Foreign Trade*, *International Economic Review*. Vol. 36 (4). p 821-54. November

Kollmann, Robert, 1996, *Incomplete Asset Markets and the Cross-Country Consumption Correlation Puzzle*, *Journal of Economic Dynamics & Control*. Vol. 20 (5). p 945-61.

\*Alvarez, Fernando and Jermann, Urban, 2001, *Quantitative Asset Pricing Implications of Endogenous Solvency Constraints*, *The Review of Financial Studies*, 1117-51

\*Kehoe, Patrick and Perri, Fabrizio, 2002, *International Business Cycles with Endogenous Incomplete Markets*, *Econometrica*, vol 70(3), 907-928.

### **3. Exchange Rate Basics**

#### **3.1 Exchange Rate Basics**

Dornbusch, Rudiger, 1976, *Expectations and Exchange Rate Dynamics*, *Journal of Political Economy*. Vol. 84 (6). p 1161-76. Dec.

\*Lucas, Robert E, Jr., 1982, Interest Rates and Currency Prices in a Two-Country World. *Journal of Monetary Economics*. Vol. 10 (3). p 335-59. November

Mussa, Michael, 1982, *A model of exchange rate dynamics*, *Journal of Political Economy*, 74-104

Meese, Richard; and Rogoff, Kenneth. 1983, *The out of sample failure of empirical exchange rate models*, in: J.A. Frenkel, ed., *Exchange rates and international macroeconomics* (University of Chicago Press, Chicago), chapter 3

Svensson, Lars, 1985, *Currency prices, terms of trade and interest rates: a general equilibrium asset-pricing cash in advance approach*, *Journal of International Economics*, vol 18, 17-42

\*Mark, N., 1995, *Exchange rates and fundamentals: evidence on long-horizon predictability*, *American Economic Review*, March, 201-218

Engel, Charles, 1999, *Accounting for U.S. Real Exchange Rate Changes*, *Journal of Political Economy*, 107:3, 507-538.

\*Chari, V V, Kehoe, Patrick J, McGrattan, Ellen R., 2002, *Can Sticky Price Models Generate Volatile and Persistent Real Exchange Rates*, *The Review of Economic Studies*, Vol 69:3, pp. 533-563.

\*Chen, Y; Rogoff, Kenneth, 2003, *Commodity Currencies*, *Journal of International Economics*, Vol. 60:1, pp. 133-160.

\*Engel, Charles; West, Kenneth D, 2005, *Exchange Rates and Fundamentals*, *Journal of Political Economy*, vol. 113, no. 3, June pp. 485-517

Rossi, Barbara, 2013, *Exchange Rate Predictability*, *Journal of Economic Literature*, Vol. 51:4, pp. 1063-1119.

## **3.2 The Foreign Exchange Risk and Returns**

### a) **Foreign Premium Anamoly**

Hansen, Lars, Hodrick R., 1983, *Risk averse speculation in the forward foreign exchange market: An econometric Analysis of Linear Models*, in: J.A. Frenkel, ed., *Exchange rates and international macroeconomics* (University of Chicago Press, Chicago).

Fama, Eugene, 1984, *Forward and Spot Exchange Rates*, *Journal of Monetary Economics*, 14, 319-338.

Bekaert, Geert; Hodrick, Robert J., 1992, *Characterizing Predictable Components in Excess Returns on Equity and Foreign Exchange Markets*, *Journal of Finance*. Vol. 47 (2). p 467-509. June

\*Backus, David K; Gregory, Allan W; Telmer, Chris I., 1993, *Accounting for Forward Rates in Markets for Foreign Currency*,. *Journal of Finance*. Vol. 48 (5). p 1887-1908. December

Alvarez, Fernando, Andy Atkeson and Pat Kehoe, 2002, *Volatile Exchange Rates and the Forward Premium Anomaly: A Segmented Asset Market View*,

\*Lewis, Karen K; 1995, *Puzzles in International Finance*, *Handbook of international economics*. Volume 3. Grossman, Gene M. Rogoff, Kenneth, eds., *Handbooks in Economics*, vol. 3. Amsterdam; New York and Oxford: Elsevier, North-Holland. p 1913-1949 .

### b) **The Carry Trade**

\*Lustig Hanno, and Adrien Verdelhan, *The Cross-Section of Foreign Currency Risk Premia and US Consumption Growth*, *American Economic Review*, 2007.

Brunnermeier, Markus K., Stefan Nagel and Lasse Pedersen, *Carry Trades and Currency Crashes*, with, *NBER Macroeconomics Annual 2008*, Vol. 23

Lewis, Karen K.; 2011, *Global Asset Pricing*, *Annual Reviews of Financial Economics*, 3:7.1-32

\*Burnside Craig, Martin Eichenbaum , Isaac Kleshchelski and Sergio Rebelo, 2011, *Do Peso Problems Explain the Returns to the Carry Trade?* *The Review of Financial Studies*, Vol 24:3, pp. 853-891.

Lustig Hanno, Adrien Verdelhan and Nick Roussanov, 2011, *Common Risk Factors in Currency Markets*, *Review of Financial Studies*, Vol 24: 11, pp. 3731-3777

Lustig Hanno, Adrien Verdelhan and Nick Roussanov, 2014, *Countercyclical Currency Risk Premia*, *Journal of Financial Economics*, Vol 111: 3, pp. 527-53

c) **Foreign Exchange Risk Models**

- \*Verdelhan, Adrien, 2010, *A Habit-Based Explanation of the Exchange Rate Risk Premium*, Journal of Finance, Journal of Finance, 65:1, 123-145.
- \* Colacito, Riccardo; Croce, Mariano M.; 2011, "Risks for the Long Run and the Real Exchange Rate," Journal of Political Economy, 119(1), pp. 153-181
- \*\*Ready, Robert; Roussanov, Nikolai; Ward, Colin, 2017, *Commodity Trade and the Carry Trade: A Tale of Two Countries*, The Journal of Finance, Vol 72:6, pp. 2629-2684.
- \*\*Ready, Robert; Roussanov, Nikolai; Ward, Colin, 2017, *After the Tide: Commodity currencies and Global Trade*, Vol 85, pp. 69-86.

**3.3 Exchange Rates and Risk-sharing**

- Samuelson, Paul A. 1948, "International Trade and Equalization of Factor Prices," Economic Journal, June, 163-184.
- \*Cole, Harold L.; Obstfeld, Maurice, 1991, *Commodity Trade and International Risk Sharing: How Much Do Financial Markets Matter?* Journal of Monetary Economics, 28, 3-24.
- Dumas, B. and R. Uppal, 2001, "Global Diversification, Growth and Welfare with Imperfectly Integrated Markets for Goods," *The Review of Financial Studies*, 14 (Spring 2001), 1, 277-305.
- \*Dave Backus, Silverio Foresi Telmer Chris, 2001, *Affine Term Structure Models and the Forward Premium Anomaly*, Journal of Finance 56, 279-304.
- \*Brandt, Michael W., John H. Cochrane, and Pedro Santa-Clara, *International Risk Sharing is Better Than You Think, or Exchange Rates are Too Smooth*, Journal of Monetary Economics 53, 2006, 671-698.
- Pavlova, Anna; Rigobon, Roberto, 2008, "Asset Prices and Exchange Rates," The Review of Financial Economics, 20:4, 1139-1180.
- \*Bakshi, Gurdip; Cerrato, Mario; Crosby, John, 2018, "Implications of Incomplete Markets for International Economies," Review of Financial Studies, 31:10, pp. 4017-4062.

\*Lustig, Hanno; Verdelhan, Adrien, 2019, "Does Incomplete Spanning in International Financial Markets Help to Explain Exchange Rates?" *American Economic Review*, 109(6), pp.2208-44.

\*Sandulescu, Mirela; Trojani, Fabio; Vedolin, Andrea, 2020, "Model-Free International Stochastic Discount Factors," *Journal of Finance* forthcoming (also Swiss Finance Institute Research Paper Series, N°18-18.)

#### **4. International Diversification and Segmentation**

##### **4.1. Home bias**

\*French and Poterba, 1991, *International diversification and international equity markets*, *American Economic Review*, 81: 222-226

Cooper, Ian; Kaplanis, Evi, 1994, *Home Bias in Equity Portfolios, Inflation Hedging, and International Capital Market Equilibrium*, *Review of Financial Studies*. Vol. 7 (1). p 45-60.

Bekaert, G. and C. R. Harvey, 1995, "Time-Varying World Market Integration," *Journal of Finance*, 50, 403-444.

Tesar, I. And I. M. Werner, 1995, "Home Bias and High Turnover," *Journal of International Money and Finance*.

Lewis, K., 1996, "What Can Explain the Apparent Lack of International Consumption Risk-Sharing?" *Journal of Political Economy*, 104, 267-297.

\*Lewis, K., 1999, "Trying to Explain Home Bias in Equities and Consumption," *Journal of Economic Literature*, XXXVII, 571-608.

Coval, J. and T. J. Moskowitz, 1999, "Home Bias at Home: Local Equity Preference in Domestic Portfolios," *The Journal of Finance*, 54, 2045-2074.

Ahearne, A., W. Grier, and F. Warnock. 2004. Information costs and home bias: An analysis of U.S. holdings of foreign equities. *Journal of International Economics* 62:313–36.

\*Coeurdacier, Nicolas; Rey, Helene, 2013, *Home Bias in Open Economy Financial Macroeconomics* *Journal of Economic Literature*, Vol 51:1, pp. 63-115.

## **4.2. International Portfolio Choice**

- \* Adler, M. and B. Dumas, 1983, "*International Portfolio Choice and Corporation Finance: a Synthesis*," The Journal of Finance, 38, 925-984.
- Black, Fisher, 1990, *Equilibrium Exchange Rate Hedging*, Journal of Finance, Volume: 45, Issue: 3.
- Dumas, Bernard; Solnik, Bruno, 1995, "*The World Price of Foreign Exchange Risk*," Journal of Finance, 50:2, 445-79.
- Baxter, Marianne; Jermann, Urban J; King, Robert G., 1997, *Nontraded Goods, Nontraded Factors, and International Non-diversification*, Journal of International Economics. Vol. 44 (2). p 211-29. April
- Pukthuanthong, Kuntara; Roll, Richard, 2009, "*Global Market Integration: An Alternative Measure and Its Application*," Journal of Financial Economics 94,2, 214-232.
- Bekaert, Geert; Harvey, Campbell R; Lundblad, Christian T; Siegel, Stephan, 2011, "*What Segments Equity Markets?*" Review of Financial Studies, 24.12, 3841-3890.

## **4.3. Welfare Gains from International Diversification**

- \*Obstfeld, M., 1994, "*Risk Taking, Global Diversification and Growth*," American Economic Review, 84, 1310-1329.
- Tesar, Linda L., 1995, "*Evaluating the gains from international risksharing*," Carnegie-Rochester Conference Series on Public Policy, 42, 95-143.
- Basak, S., 2000, "*An Intertemporal Model of International Capital Market Segmentation*," Journal of Financial and Quantitative Analysis, 31, 161-188.
- Lewis, Karen K, 2000, *Why Do Stocks and Consumption Imply Such Different Gains from International Risk Sharing?* Journal of International Economics, vol. 52, no. 1, October pp. 1-35
- \* Lewis, Karen K.; Liu, Edith X., 2015, "*Evaluating International Consumption Risk Sharing Gains: An Asset Return View*," Journal of Monetary Economics, 71, 84 - 98.

## **5. Capital flows**

### **5.1. Capital Flow Basics**

\*Brennan, M. J. and H. H. Cao, 1997, "International Portfolio Investment Flows," *Journal of Finance*, 52(5), 1851-80.

Rey, H, Gourinchas P.O., 2007, *International Financial Adjustment*, Journal of Political Economy, 115:4, pp. 665- 703, August.

VanWincoop, E. and Tille C., 2010, *International Capital Flows*, Journal of International Economics, 80:2, pp. 157-175, March

\*Curcuru, S., C. Thomas, F. Warnock, and J. Wongswan. 2011. *U.S. international equity investment and past and prospective returns*. American Economic Review 101:3440–55

Forbes, K., and F. Warnock. 2012. *Capital flow waves: Surges, stops, flight, and retrenchment*. Journal of Financial Economics 88:235–51.

### **5.1 Informational Frictions**

Gehrig, T.P., 1993, "An Information-based Explanation of the Domestic Bias in International Equity Investment," *The Scandinavian Journal of Economics*, 97-109.

Albuquerque, R., G. Bauer, and M. Schneider. 2007. *International equity flows and returns: A quantitative equilibrium approach*. Review of Economic Studies 74:1–30.

\*Albuquerque, R., G. Bauer, and M. Schneider. 2009. Global private information in international equity markets. Journal of Financial Economics 94:18–46.

\*Van Nieuwerburgh, Stijn; Veldkamp, Laura; 2009, *Information Immobility and the Home Bias Puzzle*, Journal of Finance, 64:3, 1187-1215.

### **5.2. Segmented Asset Markets Models**

\*Alvarez, Fernando, Atkeson, Andrew, 1997, *Money and Exchange Rates in the Grossman-Weiss-Rotemberg Model*, Journal of Monetary Economics. Vol. 40 (3). p 619-40, December

Alvarez Fernando, Andrew Atkeson, and Patrick J. Kehoe, 2002, *Money, interest rates, and exchange rates with endogenously segmented markets*. Journal of Political Economy 110 (1, February): 73—112.

Hau, Harald; Rey, Helene, 2006, *Exchange Rates, Equity Prices, and Capital Flows*, The Review of Financial Studies, Vol 19:1, pp. 273-317.

### **5.3. Differences of Opinion Models**

Scheinkman, J., and W. Xiong. 2003. *Overconfidence and speculative bubbles*. Journal of Political Economy 111:1183–1219.

Xiong, W., and H. Yan. 2010. *Heterogeneous expectations and bond markets*. Review of Financial Studies 23:1433–66.

\*Dumas, Bernard; Lewis, Karen K.; Osambela, Emilio, 2017, "Differences of Opinion and International Equity Markets," The Review of Financial Studies, 30:3, 750-800.

### **5.4. Capital Flows at the Investor Level**

Hau, Harald, and Helene Rey. "Home Bias at the Fund Level." American Economic Review P&P, 98: 2, 2008, pp. 333-338.

\*Maggiore, Matteo; Neiman, Brent; Schreger, Jesse, 2020, *International Currencies and Capital Allocation*, Journal of Political Economy, Vol 128:6, pp. 2019-2066.

## **6. Sovereign Risk**

### **6.1. Sovereign Default**

Bulow, Jeremy; Rogoff, Kenneth, 1989, *Sovereign Debt: Is to Forgive to Forget?* American Economic Review, Volume 79:1 pp 43-50.

\*Eaton, Jonathan, Fernandez, Raquel, 1995, *Sovereign Debt*, Handbook of international economics. Volume 3. Grossman, Gene M. Rogoff, Kenneth, eds., Elsevier, North-Holland. p 2031-77. 1995. Also NBER working paper 5131.

\*Cole, Harold; Kehoe, Tim. 2000, *Self-Fulfilling Debt Crises* Review of Economic Studies, 67(1), 91–116.

Aguiar, Mark; Chatterjee, Sathajit; Cole, Harold; Stangebye, Zachary, 2020, *Self-Fulfilling Debt Crises, Revisited* Federal Reserve Bank of Philadelphia Working paper #20-03.

### **6.2. Emerging Market Debt**

\*Arellano, Cristina, 2008, *Default Risk and Income Fluctuations in Emerging Economies*, American Economic Review, June.

Eichengreen, Barry; Hausmann, Ricardo; Panizza, Ugo, 2003 *The Pain of Original Sin*. Revision of paper presented to a conference at the Inter-American Development Bank (November 2002). This version appears in Barry Eichengreen and Ricardo Hausmann (eds.), *Other People's Money: Debt Denomination and Financial Instability in Emerging Market Economics* (University of Chicago Press, 2004).

Arellano, Cristina; Ramanarayanan, Ananth, 2012, "Default and the Maturity Structure in Sovereign Bonds," *Journal of Political Economy*, 120: 2, pp. 187-232.

\*Du, Wenxin; Schreger, Jesse, 2016, "Local Currency Sovereign Risk," *Journal of Finance*, 71: 3, pp. 1027-1069.

\*Otonello, Pablo; Perez, Diego J. 2019, "The Currency Composition of Sovereign Debt," *American Economic Journal: Macroeconomics*, 11(3), pp. 174-208.

## **7. International Disaster Risk**

Backus, David; Chernov, Mikhail; Martin, Ian, 2011, "Disasters Implied by Equity Index Options," *Journal of Finance*, 66: 6, 1969-2012.

\*Nakamura, Emi; Steinsson, Jon; Barro, Robert; Ursua, Jose, 2013, "Crises and Recoveries in an Empirical Model of Consumption Disasters," *American Economic Journal: Macroeconomics*, 5.3, 35-74.

Farhi, Emmanuel; Gabaix, Xavier, 2016, "Rare Disasters and Exchange Rates," *The Quarterly Journal of Economics* 131, 1-52.

Gourio, François; Siemer, Michael; Verdelhan, Adrien, 2013, "International Risk Cycles," *Journal of International Economics*, 89:2, 471--484.

\*Lewis, Karen K.; Liu, Edith X., 2017, "Disaster Risk and Asset Returns: An International Perspective," *Journal of International Economics*, 108,S1, S42-S48.

## **Appendix: Additional Topics (Reference only)**

### **A1 "Peso Problems," Rare Events, and Learning**

\*Karen Lewis, *Puzzles in International Finance*, Handbook of international economics. Volume 3. Grossman, Gene M. Rogoff, Kenneth, eds., Handbooks in Economics, vol. 3. Amsterdam; New York and Oxford: Elsevier, North-Holland. p 1913-1949 . 1995.

Karen Lewis, "Peso Problem," 2007, *The New Palgrave Dictionary of Money & Finance*  
Engel, Charles; Hamilton, James D, 1990, *Long Swings in the Dollar: Are They in the Data and Do Markets Know It?* *American Economic Review*, vol. 80, no. 4, September, pp. 689-713

- Evans, Martin D D; Lewis, Karen K, 1995, *Do Long-Term Swings in the Dollar Affect Estimates of the Risk Premia?* Review of Financial Studies, vol. 8, no. 3, Fall, pp. 709-42
- Bates, David S, 1996, *Dollar Jump Fears, 1984-1992: Distributional Abnormalities Implicit in Currency Futures Options*, Journal of International Money and Finance, vol. 15, no. 1, February, pp. 65-93

## **A2. International managerial decisions: Exports, Corporate Governance, and Financing**

### **A2.1 Exports, profitability, and business cycles**

- Melitz, Marc J, 2003, *The Impact of Trade on Intra-industry Reallocations and Aggregate Industry Productivity*, Econometrica, vol. 71, no. 6, November, pp. 1695-1725
- \* Ghironi, Fabio; Melitz, Marc J, 2005, *International Trade and Macroeconomic Dynamics with Heterogeneous Firms*, Quarterly Journal of Economics, vol. 120, no. 3, August, pp. 865-915
- Atkeson, Andrew; Burstein, Ariel, 2006, *Innovation, Firm Dynamics, and International Trade*, UCLA working paper

### **A2.2 Firm financing**

#### **a) Financing/dual listings/ADR programs**

- \*Karolyi, G. Andrew, 2006, Review of Finance, "The World of Cross-Listings and Cross-Listings of the World: Challenging Conventional Wisdom"
- Karolyi, G. A. and R. M. Stulz, 2001, "Are Financial Assets Priced Locally or Globally?" in G. Constantinides, M. Harris and R. Stulz, eds, *Handbook of the Economics of Finance* (North Holland).
- Chaplinsky, S. and L. Ramchand, 2000, "The Impact of Global Equity Offerings," *Journal of Finance*, 55, 2767-2789.

#### **b) Investor protection/governance**

- \*La Porta, R., F. Lopez-de-Silanes, A. Shleifer and R. Vishny, 1998, "Corporate Ownership Around the World," *Journal of Finance*, 471-517.
- Rajan, R. and L. Zingales, 1998, "Financial Dependence and Growth," *American Economic Review*, 88, 559-586.

#### **c) International Cost of Capital Basics**

- Harvey, C., 1991, "The World Price of Covariance Risk," *The Journal of Finance*, 111-158.
- \*Dumas, B. and B. Solnik, 1995, "The World Price of Foreign Exchange Risk," *The Journal of Finance*, 50, 445-479.
- Ferson, W. and C. Harvey, 1993, "The Risk and Predictability of International Equity Returns," *Review of Financial Studies*, 527-566.

#### **d) International Cost of Capital: Industry or Country Factors?**

- Heston, Steven L; Rouwenhorst, K Geert, 1994, Does Industrial Structure Explain the Benefits of International Diversification? *Journal of Financial Economics*, vol. 36, no. 1, 1994, pp. 3-27
- Bekaert, G., R. Hodrick, and X. Zhang. 2009. *International stock return comovements*. *Journal of Finance* 64:2591–2626.