

INSTITUT FÜR WELTWIRTSCHAFT
Advanced Studies in International Economic Policy Research

International Financial Markets and Institutions
Profs. Richard M. Levich and Ingo Walter

January 2004

This course offers an overview of international financial markets, including the basic elements of commercial and investment banking. The course focuses on two themes: first, an examination of the determinants of key international financial market prices (spot and forward exchange rates, currency option prices and swap rates), important pricing relationships and the characteristics of innovative financial products, and second, on the determinants of competitive performance among the players in the international financial services industry, covering a range of commercial and investment banking activities carried out internationally.

The first part of the course (Levich) begins with an overview of the institutional and organizational characteristics of the foreign exchange market. We review the basic arbitrage conditions that are relevant for international financial markets and then apply them to the case of several recent product innovations. Next, we cover the theory of efficiency as applied to the international financial market. We review the empirical evidence regarding the behavior of exchange rates and the efficiency of these markets, and examine the implications of these results for exchange rate forecasting. We then turn to specific segments of the international financial market — offshore deposit and bond markets, foreign currency options, and interest rate and currency swaps. Again we focus on the theoretical determinants of prices, the formulation of empirical tests for pricing and efficiency in these markets, institutional features of the markets, and other key issues for private agents and public policymakers.

The second part of the course (Walter) begins with a brief discussion of the international banking environment — the importance of factors affecting international corporate, institutional and individual financial services in global money and capital markets. We attempt to determine sources of competitive strength, market share, profitability, growth and similar dimensions of performance by financial institutions in the global marketplace. Specific sessions cover criteria for selecting bankers in providing short-term funding, international equity finance, mergers and acquisitions, project financing, and regulatory questions facing international banks and securities firms.

There follows a discussion of competitive performance in the international commercial and investment banking industry. Factors affecting top management decisions on whether and how to service international markets, and the implications for the structure of commercial banks and securities companies themselves, are examined

through case analyses. Emphasis is also placed on country risk assessment and the dynamics of competition in international financial services.

Instructors:

RICHARD M. LEVICH is Professor of Finance and International Business at the Stern School of Business, New York University, and a Research Associate at the National Bureau of Economic Research.

INGO WALTER is the Charles Simon Professor of Applied Financial Economics and Director of the Stern Global Business Institute at New York University, and holds a joint appointment as Professor of International Management at INSEAD in Fontainebleau, France.

Pedagogy:

The course consists of lectures/discussions, exercises, and case analyses allowing students to apply principles developed in class to actual international commercial and investment banking situations.

Schedule:

Each of the "Topics" listed in the outline below normally covers a half-day of in-class work. The remainder of each day is allocated to reading and preparation of exercises or case discussions, individually and in groups.

Readings:

Reading assignments are made from the following books:

Richard M. Levich, *International Financial Markets: Prices and Policies*, second edition, (New York: Irwin/McGraw-Hill, 2001).

Ingo Walter and Roy C. Smith, *Global Banking*, Second Edition (New York: Oxford University Press, 2003).

Ingo Walter, *Mergers and Acquisitions in Banking and Finance* (New York: Oxford University Press, 2004).

Some readings are marked with an asterisk (*) indicating that they are not required but copies will be available through the Institute's library or from Professor Lehment.

Student Evaluations:

The course grade will be determined as follows: Cases 30%, Final examination 70%.

SECTION I [Prof. Richard M. Levich]

Topic 1 — Monday 12 January 2004, 09.00 - 12.00

The Foreign Exchange Market, Market Microstructure and Financial Innovation

1. Foreign exchange market participants
2. Institutional features, dealing risks
3. Market size, growth, trading patterns
4. Topics in market microstructure
 - a. Quote shading versus inventory adjustment
 - b. Sources of trader profits
 - c. Competition and the bid-ask spread
5. Innovations based on covered interest arbitrage
 - a. Long-term forward contracts
 - b. Swap-driven issues
 - c. Synthetic commercial paper

Readings: Levich, Chapter 3.

Richard Lyons, *The Microstructure Approach to Exchange Rates*, Chapters 1-2, (Cambridge, MA: MIT Press), 2001.

(*) David Hsieh and Allan Kleidon, "Bid-Ask Spreads in Foreign Exchange Markets," in Frankel, Galli and Giovanni (eds.), *The Microstructure of Foreign Exchange Markets*, (Chicago: University of Chicago Press), 1996.

(*) Richard Lyons, "Tests of Microstructural Hypotheses in the Foreign Exchange Market," *Journal of Financial Economics*, 1995, pp. 321-51.

(*) Roger D. Huang and Ronald W. Masulis, "FX Spreads and Dealer Competition Across the 24-Hour Trading Day," *Review of Financial Studies*, Vol. 12, No. 1, Spring 1999.

(*) Jian Yao, "Market Making in the Interbank Foreign Exchange Market," NYU Salomon Center working paper #98-3, November 1997.

(*) Jian Yao, "Spread Components and Dealer Profits in the Interbank Foreign Exchange Market," NYU Salomon Center working paper #98-4, November 1997.

Assignment: None

Topic 2 — Tuesday, 13 January 2004, 09.00 - 12.00

Efficiency of Foreign Exchange Markets and Forecasting Exchange Rates

1. Theory of exchange market efficiency
2. Technical trading models
3. Trading models and the currency overlay
4. A taxonomy of approaches to forecasting exchange rates
5. Forecasting exchange rate jumps and crashes
6. Forecasting exchange rates in the long run
7. Forecast performance evaluation

Readings: Levich, Chapters 7 and 8.

Richard Lyons, "The Failure of Empirical Exchange Rate Models: Room for Optimism?" *Economic Policy*, web essay at www.economic-policy.org/commentaries.asp.

Kenneth Rogoff, "The Failure of Empirical Exchange Rate Models: No Longer New, But Still True," *Economic Policy*, web essay at www.economic-policy.org/commentaries.asp.

John F.O. Bilson, "The Forward Parity Puzzle," manuscript, Melbourne Business School, August 2003.

John Okunev and Derek White, "Do Momentum-Based Strategies Still Work in Foreign Currency Markets?," *Journal of Financial and Quantitative Analysis*, Vol. 38, no. 2 (June 2003), pp. 425-47.

Silber, "Technical Trading: When It Works and When It Doesn't," *Journal of Derivatives*, 1994.

(*) John F.O. Bilson, "Value, Yield and Trend: A Composite Approach to Foreign Exchange Trading," in A. Gitlin (ed.), *Strategic Currency Investing*, (Chicago: Probus Publishing), 1993.

(*) Nelson Mark, "Exchange Rates and Fundamentals: Evidence on Long-Horizon Predictability," *American Economic Review*, Mar. 1995, pp. 201-18.

(*) José Campa and Kevin Chang, "Arbitrage-Based Tests of Exchange-Rates Target Zones: Evidence from ERM Cross-Rate Options," *American Economic Review*, September 1996.

(*) James R. Lothian. and Mark P. Taylor. "Real Exchange Rate Behavior: The Recent Float from the Perspective of the Past Two Centuries," *Journal of Political Economy*, June 1996, pp. 488-509.

Assignment: Ford Motor Credit Company

Topic 3 — Wednesday, 14 January 2004, 09.00 - 12.00

The Offshore Markets: Eurocurrencies and Eurobonds

1. Eurocurrencies
 - a. First principles - credit creation, institutional setting
 - b. Market size, location of offshore centers
 - c. Determination of Eurocurrency deposit rates
 - d. Risks of Eurocurrency deposits
 - e. Competitive responses to offshore markets

2. Eurobonds
 - a. Background - market dimensions, currency composition
 - b. Regulatory and institutional features
 - c. Primary market - competitive conditions, the gray market
 - d. Problems and risks - excess competition, conflicts of interest
 - e. Pricing of Eurobonds, arbitrage opportunities
 - f. Global bond funds, with and without currency hedging

Readings: Levich, Chapters 9, 10 and 14

Kidwell, Marr and Thompson, "Eurodollar Bonds: Alternative Financing for U.S. Companies," *Financial Management*, Winter 1985.

Lee R. Thomas. "The Performance of Currency Hedged Foreign Bonds," *Financial Analysts Journal*, May-June 1989.

Levich and Thomas, "Internationally Diversified Bond Portfolios: The Merits of Active Currency Risk Management," *Financial Analysts Journal*, October 1993.

(*) Livingston and Zhou, "The Impact of Rule 144A Debt Offerings Upon Bond Yields and Underwriter Fees," *Financial Management*, Winter 2002.

Assignment: None

Topic 4 — Thursday, 15 January 2004, 13.30 - 16.30

Foreign Currency Options

1. First principles — Terminology, contract specifications
2. Pricing of Currency Options
 - a. Discrete time binomial approach
 - b. Continuous time lognormal approach
 - c. Options on spot and options on futures
 - d. The impact of early exercise
 - e. Pricing relationships: put-call-forward parity
3. Estimation of spot currency volatility
 - a. Historical estimates
 - b. Implied volatility
 - c. Time varying volatility
 - d. Practical problems with empirical estimates
4. Empirical studies of pricing models and efficiency
 - a. Options on spot - Philadelphia Exchange
 - b. Options on futures - Chicago Mercantile Exchange
 - c. Alternative models considered - the 'pure jump' process
5. Management of trading position risks
 - a. Delta hedging
 - b. Gamma and Theta risk

Readings: Levich, Chapter 12

Borensztein and Dooley, "Options on Foreign Exchange and Exchange Rate Expectations," *IMF Staff Papers*, December 1987.

(*) Bodurtha and Courtadon, *The Pricing of Foreign Currency Options*, Monograph Series in Economics and Finance, New York University Salomon Center, #1987-4/5.

(*) Baillie and Bollerslev, "The Message in Daily Exchange Rates: A Conditional Variance Tale," *Journal of Business and Economic Statistics*, July 1989.

Assignment: "Gifts from FX Students"

Topic 5 — Friday 16 January 2004, 09.00 - 12.00

Currency and Interest Rate Swaps

1. Background - Origins of swaps, comparative advantage
2. Market size, market structure
3. Institutional features - accounting treatment, notional value, Master Swap Agreement
4. Cash flow requirements in interest rate and currency swaps
5. Risks of swaps
6. Risk measurement - amortization and diffusion effects
7. Applications of swaps
8. Pricing of swaps

Readings: Levich, Chapter 13.

Peter Garber, "Derivatives in International Capital Flow," NBER Working Paper No. 6623, June 1998.

Feron and Handjinicolaou, "Swap Credit Risk: The Simulation Approach," *Journal of International Securities Markets*, Winter 1987, pp. 135-48.

(*) Sheridan Titman, "Interest Rate Swaps and Corporate Financing Choices," *Journal of Finance*, September 1992, pp. 1503-16.

Assignment: None

SECTION II [Prof. Ingo Walter]

Topic 6 — Monday 19 January 2004, 09.00 - 12.00

Reconfiguration of Global Commercial and Investment Banking

Developments in international debt and equity markets

Deregulation

Institutionalization

Securitization

Globalization

Technological change in the financial infrastructure

Cross-border exposures -- tracking and valuation

Problems of regulation and risk control

Readings: Smith & Walter, Preface and Chapters 1 12 and 13; Walter, Chapter 1

Topic 7 — Tuesday 20 January 2004, 09.00 - 12.00

Loan Syndications and Project Finance

Principles of international bank finance

International versus domestic credits

Commercial paper and Euro-CP

Alternative forms of medium-term international loans and revolving credit lines

Straight medium-term lending and loan syndication

Global bond financing

Convertibles and warrants

Asset-based securities

Readings: Smith & Walter, Chapter 5 and 6.

Case Assignment: "Hong Kong Disneyland"

Topic 8 — Wednesday 21 January 2004, 09.00 – 12.00

International Equity Finance, Mergers and Acquisitions

Primary international equity markets
Secondary markets for equity securities
Cross-border portfolio considerations
U.S., European and Japanese investor objectives
Arranging new equity issues
Worldwide equity infrastructure
Privatization programs
Foreign acquisitions versus green-field projects
Mergers and acquisitions
Assessment of risks and returns
Role of the investment banker

Readings: Smith & Walter, Chapters 7, 8 and 9.

Case Assignments: “The Acquisition of Martell” and “Allianz AG”

Topic 9: — Wednesday 21 January 2004, 14.00 – 17.00

Global Asset Management

The Global investor
Pension funds
Mutual funds
Private clients
Insurance companies
Portfolio performance
Structural change

Readings: Smith & Walter, Chapters 10 and 11.

Case Assignment: “UBS Private Banking”

Topic 10 — Thursday 22 January 2004, 09.00 - 12.00

Competitive Strategy and Execution in International Financial Markets

Review of the theory of multinational enterprise
Application to international banking
Criteria of competitiveness
Price and non-price competitive variables
Measures and determinants of performance
Barriers to international banking competition
Market positioning
Management philosophy
Geographic vs. industry design
Competing for multinational corporate clients
Profit attribution
Resource management and allocation
Integrated risk management and control

Readings: Smith & Walter, Chapters 14 and 15; Walter, Chapter 6.

Case Assignment: “Citigroup”

Final Examination