

# MGT 648: Fixed Income Trading and Investment Strategies

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## Introduction and Objectives

Global government bond markets enjoyed one of their best years in the year 2000. This happened at a time when central banks around world raced to raise short-term interest rates in an effort to slow down the rate of economic growth.

- In US, the **Fed** hiked short-term interest rates three times for a total of 100 basis points. Despite the higher cost of financing, bonds rallied across the curve and the Morgan Stanley US Government Bond Index ended the year with a total return of 13.57%. In contrast, S&P 500 index lost 10.14% while NASDAQ composite index lost a total of 39.29%.
- In continental Europe, the **European Central Bank** also hiked short-term interest rates, for a total of six times and a total of 175 basis points. Similar to its US counterpart, the Morgan Stanley German Government Bond Index registered a total return of 7.25%, beating all major European stock indexes (which ended the year all with the minus sign). In UK, the **Bank of England** hiked short-term interest rates twice for a total of 50 basis points. The Morgan Stanley UK Government Bond Index also registered a gain of 8.91%, comparing to a loss of 10.21% for the FTSE 100 Index.
- Meanwhile in Japan, the Bank of Japan hiked its short-term interest rates for the first time in a decade, ending its zero interest rate policy which was adopted since 1998. The Morgan Stanley Japanese Government Bond Index registered a total gain of 2.01%, while the Nikkei 225 recorded a loss of 27.19%.

Events in global bond markets are the main focus of this course. Specifically, this course offers a “real-time” and “real-world” coverage of global fixed-income markets and requires students to participate in the global fixed-income markets for the duration of the course. More important, it provides students with an economic framework for analyzing fixed-income markets. The emphasis is on how to apply financial and economic theory to the practice of fixed-income portfolio management. Since this course will be taught with an orientation towards trading and portfolio management, real time market data from **Bloomberg** is introduced into the classroom, giving students a chance to monitor global fixed-income markets as economic events unfold. Students are expected to learn how to use **Bloomberg** for accessing market data and conducting analyses. While quantitative tools will be introduced in classes, greater effort will be placed on understanding economic and market events, institutional background, trading techniques and investment strategies.

The course is intended for those who may pursue a career in the broad area of fixed-income markets (both for the sell-side and for the buy-side). As such, it aims to fulfill the followings:

- Provide coverage of global fixed-income markets, covering countries including US, UK, Euro-land and Japan and a wide range of fixed-income products such as bonds, swaps, bond futures, euro futures, and other interest rate derivatives;
- Cover basic fixed-income trading techniques, analytical tools, investment strategies, and risk management concept;
- Place strong emphasis on macroeconomic events, market structure, regulations, and their implications for global bond markets;
- Introduce **Bloomberg** for market news, market data, and fixed-income analytical tools;
- Cover operational issues such as settlement, margin requirements, Repo transaction, mark to market agreement, collateral agreement, P&L calculation, and performance tracking.

### Course Requirements:

1. Weekly market briefings and class participations
2. Investment project
3. Presentations

### Texts and References:

1. Lecture Notes: miscellaneous handouts
2. Reading Packets (available through Copy Center)
3. Cases: LTCM etc.
4. Textbooks:
  - Bruce Tuckman, *Fixed-Income Securities*, Princeton University Press, 1992.
  - Suresh Sundaresan, *Fixed-Income Markets and Their Derivatives*, South-Western College Publishing, 1997
5. Insightful Readings:
  - Roger Lowenstein, *When Genius Failed: The Rise and Fall of Long-Term Capital Management*, Random House, 2000
6. Other Reference Books:
  - Frank J. Fabozzi, *Fixed Income Mathematics*, Irwin, 1993
  - Evelina M. Tainer, *Using Economic Indicators to Improve Investment Analysis*, John Wiley & Sons, 1998
7. Newspapers: The Wall Street Journals, Financial Times

8. Useful Websites:

- *www.bloomberg.com*
- *www.bondmarkets.com*
- *www.govpx.com*
- *www.globalmarkets.com*

**Preliminary Class Schedule:**

- 1/16 Introduction to Global Fixed-Income Markets and Products/Introduction to Investment Project
- 1/18 Understanding Market Structure and Investment Opportunities in US
- 1/23 Understanding Trading Accounting: P&L Tracking
- 1/25 Understanding Market Structure and Investment Opportunities in Japan
- 1/30 Repo, Reverse Repo and Financing Adjustment
- 2/1 Understanding Market Structure and Investment Opportunities in Europe
- 2/6 Investment Styles and Understanding Risk-Reward Ratio or Sharpe Ratio
- 2/8 Investment Project: Open Discussion
- 2/13 Guest Lecture
- 2/15 Yield Curve Analytical Tools (I)
- 2/20 Yield Curve Analytical Tools (II)
- 2/22 Yield Curve Analytical Tools (III)
- 2/27 Yield Curve Analytical Tools (III)
- 3/1 Risk Management (I)
- **Spring Break**
- 3/20 Bond Futures, Delivery, Rolls, and Basis Trading (I)
- 3/22 Bond Futures, Delivery, Rolls, and Basis Trading (II)
- 3/27 Euro Futures, FRAs, and Trading Strategies (I)
- 3/29 Euro Futures, FRAs, and Trading Strategies (II)
- 4/3 Interest Rate Swaps, Derivatives, and Trading Strategies (I)
- 4/5 Interest Rate Swaps, Derivatives, and Trading Strategies (II)
- 4/10 Introduction to Mortgage-Backed Securities

- 4/12 Introduction to Corporate Bonds
- 4/17 Traditional Investment Management: Indexing and Enhanced Indexing
- 4/19 Hedge Fund Investment Strategies: Macro, Statistical Arb, Market Neutral/Relative Value
- 4/24, 26 Case Study: The Financial Crisis in 1998 and Market Summary
- 5/1, 3 Project Presentation and Performance Evaluation

## Reading Lists

### Economic Fundamentals and Bond Markets

- *What Moves Bond Prices*, M. Fleming and E. Remolona, *The Journal of Portfolio Management*, Summer 1999.
- *The Fed's Preemptive Strike and The Tricky Business of Inflation Forecast*, E. Renshaw, *The Journal of Fixed Income*, June 1995.
- *How to Build Your Own Fed Crystal Ball*, R. Barro, *Business Week*, December 1999.
- *The Fed Should not Abandon Nominal GDP*, *US Weekly*, Deutsche Bank, October 1999.
- *Interest Rates, Investment, and Economic Recessions*, E. Renshaw, *The Journal of Fixed Income*, December 1996.

### Yield Curve Smoothing Techniques

- *Fitting a Smooth Forward Rate Curve to Coupon Instruments*, V. Frishling and J. Yamamura, *The Journal of Fixed Income*, September 1996.
- *Fitting Yield Curves and Forward Rate Curves with Maximum Smoothness*, K. Adams and D. Van Deventer, *The Journal of Fixed Income*, June 1994.

### Investment Ideas and Techniques

- *When Genius Failed – The Rise and Fall of Long-Term Capital Management*, Chapter 3, R. Lowenstein, Random House, 2000.
- *The Trader – John Meriwether and his dream team of high-tech traders made billions for Salomon Brothers. How big will they score on their own?*, *Business Week*, August 1994.
- *Butterfly Trades*, R. Grieves, *The Journal of Portfolio Management*, Fall 1999.
- *Financing Advantages and Relative Value Tools*, A. Ilmanen, R. McAdie, C. Feng and J. Showers, *Salomon Brother Research Report*, September 1996.

- *Does Duration Extension Enhance Long-Term Expected Returns*, A. Ilmanen, *The Journal of Fixed Income*, September 1996.
- *A New Tool for Portfolio Managers: Level, Slope, and Curvature Durations*, R. Willner, *The Journal of Fixed Income*, June 1996.
- *Sharpe Ratio*, W. Sharpe, *The Journal of Portfolio Management*, Fall 1994.
- *Is Passive Investing Optimal*, *Financial Times*.
- *Case: Long-Term Capital Management (A)*, A. Perold, *Harvard Business School*, October 1999.

#### Understanding Yield Curves

- *Market Rate Expectations and Forward Rates*, A. Ilmanen, *The Journal of Fixed Income*, September 1996.
- *Adjusted Forward Rates as Predictors of Futures Spot Rates*, S. Buser, A. Karolyi, and A. Sanders, *The Journal of Fixed Income*, December 1996.
- *Dynamics of The Shape of the Yield Curve*, A. Ilmanen and R. Iwanowski, *The Journal of Fixed Income*, September 1997.
- *Forecasting the Yield Curve Shape: Evidence in Global Markets*, C. Dolan, *The Journal of Fixed Income*, June 1999.

#### Investment Styles

- *Bond Market Indexes*, F. Reilly and D. Wright, *The Handbook of Fixed Income Securities*, Chapter 7, edited by F. Fabozzi, 1997
- *Indexing Fixed Income Assets*, S. Mossavar-Rahmani, *The Handbook of Fixed Income Securities*, Chapter 7, edited by F. Fabozzi, 1997.
- *The Problem with Bond Index Funds*, M. Granito, *The Journal of Portfolio Management*, Summer 1987.
- *Hedge Funds Demystified – Their Role in Institutions Portfolios*, Goldman Sachs' Report, July 1998

#### Currency Hedging

- *Optimal Currency Hedging*, *Barclays Global Investors' Currency Management Handbook*, April 1999.
- *Global Fixed-Income Investing: The Impact of the Currency Hedge*, M. Leibowitz, L. Bader, and S. Kogelman, *Journal of Fixed Income*, June 1993.

### Credit-Sensitive Securities

- *Swap Spreads Do Matter*, M. Schumacher, *The Journal of Fixed Income*, June 1998.
- *Valuation of Defaultable Bonds*, L. Cathcart and L. El-Jahel, *The Journal of Fixed Income*, June 1998.
- *Corporate Bond Spreads and the Business Cycle: Introducing GS-Spread*, A. Bevan and F. Garzarelli, *Journal of Fixed Income*, March 2000.

### Miscellaneous

- *The Economics of Structured Finance*, G. Oldfield, *The Journal of Fixed Income*, September 1997.
- *US Treasury Inflation-Indexed Bonds: The Design of a New Security*, R. Roll, *The Journal of Fixed Income*, December 1996.