

Portfolio Management

Economic Analysis, Active Management, and Trading

This study session begins by identifying and explaining the ties between the real economy and financial markets, including effects on asset values. The “fundamental pricing equation” is presented as a basic pricing framework for financial instruments. The asset prices of risk-free debt, risky debt, public equities, and real estate are shown to be affected via the business cycle’s impact on risk-free rates, the yield curve, inflation, and risk premiums. Analysis of active portfolio management follows, including a discussion of active risk and active return (Sharpe, information ratios). The fundamental law of active management is presented along with several investment applications. The session concludes with an overview of algorithmic and high-frequency trading. The two main types (execution, high-frequency trading) along with examples, key drivers, benefits, and dangers are considered.

READING ASSIGNMENTS

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| Reading 50 | Economics and Investment Markets
by Andrew Clare, PhD, and Thomas F. Cosimano, PhD |
| Reading 51 | Analysis of Active Portfolio Management
by Roger G. Clarke, PhD, Harindra de Silva, PhD, CFA, and
Steven Thorley, PhD, CFA |
| Reading 52 | Algorithmic Trading and High-Frequency Trading
by John Bates, PhD |

LEARNING OUTCOMES**READING 50. ECONOMICS AND INVESTMENT MARKETS**

The candidate should be able to:

- a** explain the notion that to affect market values, economic factors must affect one or more of the following: 1) default-free interest rates across maturities, 2) the timing and/or magnitude of expected cash flows, and 3) risk premiums;
- b** explain the role of expectations and changes in expectations in market valuation;
- c** explain the relationship between the long-term growth rate of the economy, the volatility of the growth rate, and the average level of real short-term interest rates;
- d** explain how the phase of the business cycle affects policy and short-term interest rates, the slope of the term structure of interest rates, and the relative performance of bonds of differing maturities;
- e** describe the factors that affect yield spreads between non-inflation-adjusted and inflation-indexed bonds;
- f** explain how the phase of the business cycle affects credit spreads and the performance of credit-sensitive fixed-income instruments;
- g** explain how the characteristics of the markets for a company's products affect the company's credit quality;
- h** explain how the phase of the business cycle affects short-term and long-term earnings growth expectations;
- i** explain the relationship between the consumption-hedging properties of equity and the equity risk premium;
- j** describe cyclical effects on valuation multiples;
- k** describe the implications of the business cycle for a given style strategy (value, growth, small capitalization, large capitalization);
- l** describe how economic analysis is used in sector rotation strategies;
- m** describe the economic factors affecting investment in commercial real estate.

READING 51. ANALYSIS OF ACTIVE PORTFOLIO MANAGEMENT

The candidate should be able to:

- a** describe how value added by active management is measured;
- b** calculate and interpret the information ratio (*ex post* and *ex ante*) and contrast it to the Sharpe ratio;
- c** state and interpret the fundamental law of active portfolio management including its component terms—transfer coefficient, information coefficient, breadth, and active risk (aggressiveness);
- d** explain how the information ratio may be useful in investment manager selection and choosing the level of active portfolio risk;
- e** compare active management strategies (including market timing and security selection) and evaluate strategy changes in terms of the fundamental law of active management;
- f** describe the practical strengths and limitations of the fundamental law of active management.

READING 52. ALGORITHMIC TRADING AND HIGH-FREQUENCY TRADING

The candidate should be able to:

- a** define algorithmic trading;
- b** distinguish between execution algorithms and high-frequency trading algorithms;
- c** describe types of execution algorithms and high-frequency trading algorithms;
- d** describe market fragmentation and its effects on how trades are placed;
- e** describe the use of technology in risk management and regulatory oversight;
- f** describe issues and concerns related to the impact of algorithmic and high-frequency trading on securities markets.