

STUDY SESSION

16

Fixed Income Analysis of Risk

This study session examines the fundamental elements underlying bond returns and risks with a specific focus on interest rate and credit risk. Duration, convexity, and other key measures for assessing a bond's sensitivity to interest rate risk are introduced. An explanation of credit risk and the use of credit analysis for risky bonds concludes the session.

READING ASSIGNMENTS

Reading 54	Understanding Fixed-Income Risk and Return by James F. Adams, PhD, CFA, and Donald J. Smith, PhD
Reading 55	Fundamentals of Credit Analysis by Christopher L. Gootkind, CFA

LEARNING OUTCOMES

READING 54. UNDERSTANDING FIXED-INCOME RISK AND RETURN

The candidate should be able to:

- a** calculate and interpret the sources of return from investing in a fixed-rate bond;
- b** define, calculate, and interpret Macaulay, modified, and effective durations;
- c** explain why effective duration is the most appropriate measure of interest rate risk for bonds with embedded options;
- d** define key rate duration and describe the use of key rate durations in measuring the sensitivity of bonds to changes in the shape of the benchmark yield curve;

- e** explain how a bond's maturity, coupon, and yield level affect its interest rate risk;
- f** calculate the duration of a portfolio and explain the limitations of portfolio duration;
- g** calculate and interpret the money duration of a bond and price value of a basis point (PVBP);
- h** calculate and interpret approximate convexity and distinguish between approximate and effective convexity;
- i** estimate the percentage price change of a bond for a specified change in yield, given the bond's approximate duration and convexity;
- j** describe how the term structure of yield volatility affects the interest rate risk of a bond;
- k** describe the relationships among a bond's holding period return, its duration, and the investment horizon;
- l** explain how changes in credit spread and liquidity affect yield-to-maturity of a bond and how duration and convexity can be used to estimate the price effect of the changes.

READING 55. FUNDAMENTALS OF CREDIT ANALYSIS

The candidate should be able to:

- a** describe credit risk and credit-related risks affecting corporate bonds;
- b** describe default probability and loss severity as components of credit risk;
- c** describe seniority rankings of corporate debt and explain the potential violation of the priority of claims in a bankruptcy proceeding;
- d** distinguish between corporate issuer credit ratings and issue credit ratings and describe the rating agency practice of "notching";
- e** explain risks in relying on ratings from credit rating agencies;
- f** explain the four Cs (Capacity, Collateral, Covenants, and Character) of traditional credit analysis;
- g** calculate and interpret financial ratios used in credit analysis;
- h** evaluate the credit quality of a corporate bond issuer and a bond of that issuer, given key financial ratios of the issuer and the industry;
- i** describe factors that influence the level and volatility of yield spreads;
- j** explain special considerations when evaluating the credit of high yield, sovereign, and non-sovereign government debt issuers and issues.