

Boot Camp:

Risk Measurement: Statistical, Probabilistic, Scenario Based

TARGET AUDIENCES:

- Risk professionals
- Investment Analysts
- Fixed Income trading and Sales Associates
- Accounting/Treasury/ CFO Professionals
- Compliance professionals
- Regulators
- MBA's
- Private Equity Associates

PREREQUISITES:

- Understanding of Capital Markets
- Excel - Beginner Level

FORMAT:

Full course - 2 days
Course materials included

CONTINUING ED

CREDITS:

PRICING:

\$900 for CFALA members
\$1,000 for non-members

VENUE:

CONTACT:

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Overview

A 2-day intensive training program where students are instructed on a risk measurement approaches and methodologies. The program is designed to introduce participants to the broad variety of risk measurement statistics, explain the basis for determining reasonable levels and demonstrate how risk measurements are practically applied.

The program includes both in-depth presentation and modeling case studies using MS Excel. Participants will explore a wide variety of concepts while gaining experience in modeling security and portfolio level risk.

Boot Camp Agenda

Day 1: Introduction to risk measurement approaches, security and portfolio level calculations, key assumptions, and measurement sensitivities.

Day 2: Focus on the reliability and shortcomings of risk measurements, their interaction, predictability, scenario analysis and stress testing.

What sets this program apart?

- The program offers comprehensive instruction on the calculation and interpretation of risk measurements with a focus on fixed income securities including sections devoted to areas that are highly technical and difficult to teach.
- The program includes intensive Excel modeling sessions on:
 - Calculation of duration, convexity, spread duration and key rate durations
 - Generating the impact of changing non-linear measures (Gama, Vega, etc.)
 - Hands on dollar duration hedging with cash and derivative securities
 - Scenario analysis set up, execution and interpretation

Be sure to bring your Excel-enabled portable computers!

(Required for the modeling session)

- The program will be run by Greg Peeke of Skrimshaw Investment Management. Greg has taught classes in the fixed income program with the CFA-LA since 2003. He has 20+ years of investment experience including the design and implementation of risk management approaches for both institutional and private clients. He has served on multiple index advisory councils and was the moderator of the 2012 CFALA forecast dinner.

Boot Camp:

Agenda: Day 1

Morning Session (8:30—11:30)

- Introduction to risk and risk measurement
- Goals and objectives in measuring risk
- Excel modeling of:
 - Duration, \$ Duration, Yield
 - Convexity, Key Rate Duration
 - Basic Duration hedging
- Spread duration
 - Treasury, Agency, TIPS
 - Credit, MBS, ABS, etc.
 - Global, Peripheral
- Risk “betas”

Midday Session (11:30 - 2:00)

- Introduction to statistical approaches
- Standard deviation and variants
 - Semi and target deviation
- Introduction to Value-at-Risk (VAR)
- Interpretation of VAR
- Other useful measures
 - Drawdown, Max 1 day loss, etc.

Afternoon Session (2:30 - 4:00)

- Portfolio level statistics
- Excel modeling of:
 - Contribution statistics
 - Tracking error
 - Value at risk
- Correlations and other adjustments

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Day 1 - Risk Measurement

Summary

Participants will receive a thorough introduction to risk measurement and calculation. In addition to learning a variety of concepts and terms, participants will build increasingly complex spreadsheet calculators and models. Beginning with a practitioner's application of basic risk measures, the class quickly moves on to hedging, risk adjustment, and the application of 'spread' based measures. This is followed by an introduction to statistically based measures which are then incorporated into portfolio level analysis.

Subjects include:

- A brief discussion of risk
- Different approaches to measuring risk
- How risk measures are calculated and used
- Explaining the “unexplained variance”
- Portfolio level calculations
- Adjustments and considerations for practical application.

Boot Camp:

Agenda: Day 2

Morning Session (8:30—11:30)

- Introduction to non-linear risk measures
- Excel modeling of:
 - Convexity, Gamma, Volatility
- Discussion of BPPD's and their use
- Examination of distributions
- Volatility Smile

Midday Session (11:30 - 2:00)

- Considering the forward rate markets
- Basic Bootstrapping
- Overview of Swaps
- What is the volatility surface
- Eurodollars, Fed Fund futures and event risk
- Examining Event risk trades

Afternoon Session (2:30 - 4:00)

- Focus on problem solving
- Identifying hidden portfolio risks
- Scenario analysis
- Stress testing
- Excel modeling of:
 - Flight to quality
 - Interest rate hikes
 - European Deflation

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Day 2 - Understanding Risk

Summary

This session will focus on understanding and interpreting risk measures covered in the first session and transition into non-linear measures. We will then use these measures to identify outlying portfolio risks. After an introduction to the forward rate markets and volatility based market expectations, we will then move on to setting up and using scenario analysis and stress testing to identify the potential shortcomings associated with both the risk measures and the investment structure.

Subjects Include:

- An introduction to non-linear tools and measures.
- Approaches to measuring non-linear, non-financial, and event risk.
- The forward rate market and its distribution
- Scenario creation and analysis
- Stress test creation, execution, and understanding.