

# **Bond Case Briefs**

*Municipal Finance Law Since 1971*

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## **Bond Math Bootcamp.**

**August 15-16, 2016 - New York City**

[See Full Agenda](#)

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The Bond Math Boot Camp program is a two-day training program delivered via interactive lecture format. The BootCamp is facilitated in a fashion that encourages group participation with numerous leading/rhetorical questions to draw the audience into focused discussions. The course concepts and methodologies discussion will be supplemented by in-class hands-on exercises as well as optional homework. This seminar will provide an in-depth exposure to yield, pricing and interest rate conventions for fixed income securities. The session begins with an introduction to such fundamental concepts as time value of money, interest/discount rates as well as the compounding and day count conventions upon which market measures are based.

The balance of the class will be devoted to exploring how these concepts are applied to the determination of price, yield, interest/discount rates, rates of return, accrued interest, etc. The presentation will incorporate the mechanics of the calculation: formula or methodology for determining a numeric value; source and nature of inputs into formula; implicit or explicit assumptions being used. This discussion of conventional calculations will be augmented by an introduction to the interpretation and application of the numbers – how market participants use the numbers for investment/market insights. We strongly recommend that you bring an HP12c calculator or a similar model to ensure you get the benefit of the hands-on activities during this two-day class.

Concepts and measures will be addressed in a pertinent fixed income market context, illustrating these ideas with a discussion of their use by bond traders and portfolio managers when assessing risk and return. The approach taken to address each of the major topics:

First, explain the concept and the related market intuition, what does the concept/number attempt to quantify and how do market participants interpret the number regarding any insight into market conditions/securities valuation

Second, review the specific methodology by which the measure/concept is quantified, what is the structure of the computation or process by which the number is determined, what are the inputs for the computation/process and how are they obtained as well as any implicit assumptions used in the calculation

Third, illustrate the computation/process using current market data, taking values/rates/contract details of treasury, corporate and mortgage-backed securities. To the extent possible the presentation will be guided by participant questions.

INTEREST RATES

What Is An Interest Rate?

Definitions

Interest rates, yields and rates of return compared

Interest Conventions

Simple interest

Compound interest

## FINANCIAL MATHEMATICS

Time Value of Money

Significant issues

Future value

Present value

## BOND PRICES AND YIELDS

Bond Prices

Present value of the cash flows to maturity (first call date)

Pricing zeros/strips and coupon bonds

Bond pricing versus bond valuation

Pricing discount securities (T-bills)

Bond Yields

Types of yields

Calculation and interpretation

Yield to maturity versus rate of return

Expected Risks Versus Expected Returns

Sources of return

Risks of fixed income securities

Yield to maturity reconsidered

## YIELD CURVES

Fundamentals

Terms and definitions

Types of yield curves by security type

Yield curve construction methodologies

Yield Curves Theory and Practice

Interest rate levels and shape of the yield curve

Yield Curve Movements And The Real Economy

Yield Curves And Securities Valuation

Spot rates and the spot rate curve

Construction/determination

Analytic applications

Treasury strip market

Forward Rates - Pricing and Analytic Applications

Forward rates

Riding the yield curve

Pricing derivative contracts

## QUANTIFYING AND MANAGING INTEREST RATE (PRICE) RISK

Factors Determining Sensitivity of Price to Change in YTM

Non callable bonds

Callable bonds - embedded options

Quantifying Price Sensitivity to Changes In Market Yields

Modified duration  
Effective duration  
Dollar duration  
Impact of convexity  
Non Callable Bonds  
Price behavior  
Modified duration and convexity  
Callable Bonds  
Price behavior  
Effective duration and convexity  
Applications of duration  
Portfolio management  
Hedging

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Registration Fee: The price for this two-day seminar is \$1,695. Group discounts are available.  
To Register: Please register online. Call 973-615-8967 or e-mail our registrar with registration questions.

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