Caselet #14 – Sparky Learns about Portfolio Yield-to-Maturity

Learning Outcome Statement

After completing this caselet, students and trainees should be able to explain how to measure portfolio yield to maturity with duration-dollar weights, instead of market value weights.

Caselet #14

Renowned Darla Moore School of Business graduate and bond analyst, Ms. Jane Gotzrox, continues her intern’s training. “Sparky, some newbie portfolio managers think that they have found an arbitrage opportunity between the STRIPS market and the Treasury market because they find STRIPS matching the cash flows of a Treasury have a lower yield. Since there’s no credit risk on either side, they’re ready to do the trade ‘in size.’”

“The problem is that they have bollixed the analysis by using the market weighted average yield for the STRIPS. Sparky, it is imperative that you not make the same error. When you get to your industry job, I need for you uphold our reputation for skill.”

“Here’s the drill. With Yield Book Add-in, find six Treasury STRIPS that would match the cash flows of a 6% coupon, three-year note. Remember, your security search ticker is TINT. Make those STRIPS into a portfolio.

Once you have the STRIPS in portfolio, use the P/Y function to find the DataID holding par, price, yield and duration for each of the STRIPS. Price the 6-month zero at 4%, the 12-month at 4.5%, 18-month at 5%, 24-month at 5.5%, 30-month at 6% and 36-month at 6.6%.

“Once you have the pieces in place, calculate the market value weighted yield of the zeros – Sparky, make sure you get the par values right to match the three-year’s cash flows. Then calculate the duration-dollar weighted yield. Which is higher? Why do you think that happens?

Finally, calculate the yield to maturity for the note. Sparky, what do you think should be the yield comparison for two sets of IDENTICAL cash flows with IDENTICAL prices today? Keep that prediction in mind.”

Make sure that your write-up is presentable to portfolio managers with whom you would like to work, eh?