Caselet #11 – Sparky Finds a Duration Anomaly?

Renowned Darla Moore School of Business graduate and bond analyst Ms. Jane Gotzrox calls to her intern.

“Sparky, yet another blunder that new fixed income analysts make occurs when they are examining pairs of bonds that they think they understood. One is three months longer in maturity than the other and it has a coupon rate that is 25bp lower. When they see the shorter bond, with the higher coupon having a longer duration, they are immediately convinced that the Yield Book Add-in has a bug in it. *Bonds with longer maturities and lower coupons have longer durations than bonds with shorter maturities and higher coupons,* is what they think, but it isn’t always the case.”

“Here’s what you are going to do. Open Excel with Yield Book Add-in and create two new bonds with Define User Data/Modify Bond. One should match the maturity of the current long bond and the other should be three months shorter. The longer bond should have a coupon rate of 6% and the shorter one should have a coupon rate of 6.25%. And, *Sparky,* don’t forget to make the dated date and first coupon date consistent with your bond’s maturity. Unless you do that part right, your results will be utter trash.”

“You with me so far? Once you’ve created the bonds, I want you to use the Yield Book Add-in to demonstrate what happens. Make a column with one year of dates, beginning with the most recent dated date (the one matching the long bond). Then, calculate both bonds’ durations for each date. For the first date, confirm that the results are correct using Excel’s MDURATION function. Do you remember the duration sawtooth that you just created? Plot both bonds’ duration daily for a year. That should make the whole thing clearer. Include a short write up about why you get the results that you get so that your interview notebook will be a powerful boost to you when it is job hunting time.”