

FIXED INCOME PRICING EXERCISE

With this document you should have received a .csv file which contains cashflows for a fixed income product. Your task will be to **write a calculator to infer the Yield to Maturity for the bond**, given its price and set of cashflows.

Cashflows are defined as having the following attributes:

- Date
- Coupon Amount
- Principal Amount

The calculator needs to take in pricing date and be able to deal with n cashflows.

You can use any method to get to the inferred Yield to Maturity, but there should be an attempt to be as efficient as possible. The error term can be as large or as small as you want, but it should be assumed that this will be used in a live trading environment.

The code should be written in an object orientated way, and if possible, please put all the code within one file. The preferred language is C# but feel free to use C++ instead.

Together with the code, include in your e-mail answers to the following questions:

- a) If the price of the bond is 102% of par, what is its YTM as of 27/03/2021?
- b) In turn, what is the YTM with price at 98% of par as of 27/03/2021?
- c) What is the YTM with price at 102% of par as of 07/04/2021?
- d) What should be the price of the bond if the yield is 4.22% as of 27/03/2021?
- e) Lastly, let us add further cashflows to the bond: the bond pays semi-annual coupon of \$22,750 from 20/05/2021 until maturity (20/05/2028) when it also pays a principal amount of \$1,000,000. Now, answer the questions from a)-d) using the extended cash flow structure.

Please note any assumptions made during your calculations.

Your answer should be submitted to us within 24 hours of receiving this assignment.

