Series 12

Introduction to Computational Finance

return no later than May 26th 2020 at 8:00

Bonds

Using the same bond as last week, and assuming the required yield is 10%: A bond with 3 years maturity, a face value of 100$ and coupons of 10% paid semi-annually:

time [years]	coupon [CHF]
0.5	5
1	5
1.5	5
2	5
2.5	5
3	5

- What is the present value of the bond ?
- Compute the duration and the convexity of the bond.
- Estimate (with and without convexity) what would be the effect of a x% parallel shift of the yield curve when x equals 0.1% and 1%.
- Compare your answer to the exact values.

If computing the exact value is so simple, why bothering using an approximation through duration ?

Report

Each student is expected to give back a personal work consisting of a report in PDF format presenting his/her results and answering the questions of the exercise, as well as the script used to generate the presented results. Both report and script have to be uploaded on Moodle (IFC/Series12).