***EXERCICE 1***

Consider a 10-year bond with a face value of $100 and a 10% coupon. The current market yield (for all maturities) is 8%.

1- Calculate Macaulays duration for the bond.

2- What happens if immediately after we bought this bond for $113.42, the market yield decreases from 8% to 4% ?

***EXERCICE 2***

A bond has a face value of $1’000, expires in 4 years and offers a 6% coupon rate. The market yield is 7%. The bonds duration is 3.67 years. What happens if the yield changes by plus 50 basis points (+0.5%, and goes to 7.5%)? How about a 200 basis points change (+2%, to 9%)?

***EXERCICE 3***

Consider a portfolio made of 3 bonds.

30 years zero coupon issue price was $3.05 (for 100 nominal).

10 years bond *at 5*% coupon, $1’000 face value.

A perpetual bond with annual coupon of 7%, face value 100

Calculate Macaulays duration for the portfolio