

Assignment 2

The objective of this exercise is to construct a short rate lattice given a set of spot interest rates, and use that to find the values of a mortgage pool, the PO's and the IO's. You are also required to find the OAS's for all these three components by assuming a 10% lower market value of each of these components.

The information required for this task is given below.

The current observed term structure of spot interest rates is:

Time (yr)	1	2	3	4	5	6	7	8
Spot Rate	0.05824	0.06512	0.07086	0.07566	0.07967	0.08302	0.08582	0.08815

The mortgage pool has a total value of \$100 and a fixed interest rate of 9.5% p.a. The number of annual interest payment periods is 8.

Consider the case when you are given coupon bond information instead of the spot rates to construct the short rate tree. Comment on the changes you have to make in the model to construct the short rate tree.

Deliverables:

Hand in no more than two pages (word processed report) describing briefly your approach (particularly any equation you think important) and the results i.e. the values of the pool, IO and the PO streams as well as the OAS's for these three component as mentioned above.

You should also include at least a paragraph describing the changes needed as explained above.

Needless to say that you must identify yourself on the first page with your full name and student ID.