

Exercise 1

Bond pricing

You observe the following bond yields on your Bloomberg screen:

Term (Yrs)	Yield
1	2.24%
2	2.61%
3	2.80%
4	2.99%
5	3.16%

Price the following annual coupon bonds off this yield curve:

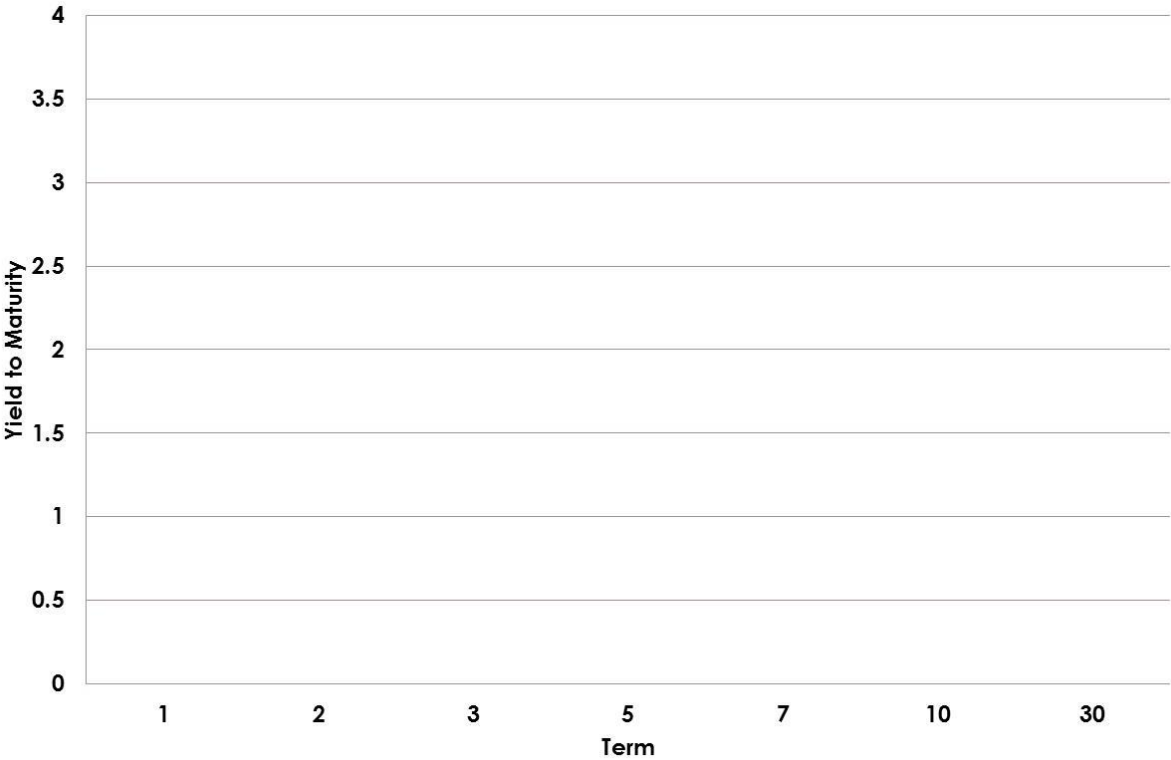
- 2 year, 2% annual coupon bond
- 3 year, 3% annual coupon bond
- 5 year, 3.16% annual coupon bond

Exercise 2

Building a Curve

Table shows some observed bond prices, terms and (annual) coupons. Build the yield curve for this currency, and plot on the chart.

Term (Yrs)	Price	Coupon
1	\$99.81	0.500%
2	\$100.27	1.250%
3	\$101.45	2.000%
5	\$104.51	3.100%
7	\$105.22	3.875%
10	\$103.82	4.125%
30	\$110.56	4.375%



Exercise 3

Pricing Bonds from Forward Expectations

Your forward expectations of interest rates for the next 3 years are as follows. Derive spot rates, then price the following annual paying bonds from your spot curve:

Year	Forward Rate	Period
1	7.10%	0 x 12
2	4.20%	12 x 24
3	3.40%	24 x 36

Bond	Maturity (Yrs)	Coupon
P	1	6.25%
Q	2	5.00%
R	3	4.35%

Exercise 4

Bootstrapping

You observe the following three annual paying bonds, priced at par. Produce:

- Par yield curve.
- Spots, and 12x24 and 24x36 forward rates.

Bond	Maturity (Yrs)	Coupon
S	1	3.2500%
T	2	4.1500%
U	3	4.4500%

Exercise 5

Recommend a FRA Trade

Suppose we have an upward-sloping spot curve which looks like this:

Term (Yrs)	Spot Rate
1	4.00000%
2	4.50000%
3	4.58000%
4	4.75000%
5	4.78000%

Calculate the market-implied evolution of the 12m spot rate over the next 5 years (i.e. the forward 1yr rates). Assume that the annual FRAs are priced at these rates.

The observed 12m spot rate usually follows a path close to the central bank policy rate. Given that assumption and your knowledge of central bank behaviour, but ignoring any economic data from the current market conditions, does today's FRA curve seem a likely prediction of how 12m spot might evolve over time? What FRA trade might you recommend?

Exercise 6

NOK Expectations

You observe the following bond prices in Norwegian government bonds. Calculate the 12x24, 24x36 and 12x36 forward rates.

Term (Yrs)	Spot Rate	Price
1	7.40%	100
2	8.90%	101.288
3	8.90%	100.913

Exercise 7

SEK New Issue

The Swedish government is planning a new bond issue:

- 4 year maturity.
- 10% annual coupon.

Given the market's assumptions on 12m rates during each of the next 4 years, where would you price this bond?

Year	12m Forward Rate
1	14.23%
2	13.92%
3	8.61%
4	4.88%

Exercise 8

DKK Bond Trade

Your expectations for DKK rates over the next 3 years are as follows:

Year	12m Forward Rate
1	4.14%
2	4.54%
3	4.79%

A 3yr 4.5% annual coupon DKK Danish government bond is yielding 4.5600%. Is that cheap or expensive?