

Brainteaser

Problem:

- Three men are buried in the sand all facing forwards with their heads above ground. Each man has a hat placed on his head selected from a bag containing 3 red hats, and 2 black hats. The men cannot turn around to see the men behind them. The man at the back is asked what hat he is wearing. He replies 'I do not know'. The middle man is asked what hat he is wearing. He also replies 'I do not know'. The man at the front is then asked what hat he is wearing. He replies 'I am wearing a red hat'. How did he know?

Announcements

Upcoming Events

- QFS Social Tomorrow!
 - Commerce Room – L101. There will be board games, food, and you'll have a great time!
- Charity Poker Tournament – April 15th
 - Event details posted online! We will increase marketing in upcoming weeks, but get hyped
- A message from our friends

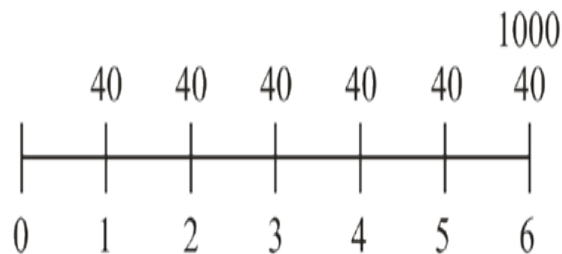
Rates & FX

So many products, such little time

What is a Bond?

A Few Basics

- Basic bond is essentially an asset that pays cash flows (coupon) on specific dates and the principal back on ending date
- Inverse relationship between bond price and bond yield



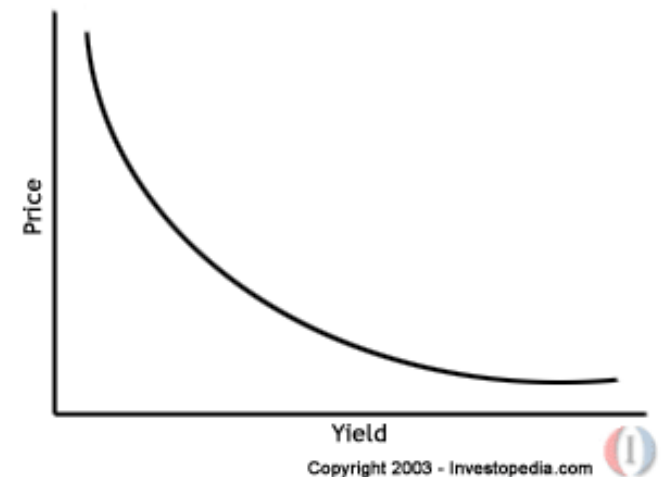
$$\text{Bond Price} = \frac{C}{(1+i)} + \frac{C}{(1+i)^2} + \dots + \frac{C}{(1+i)^n} + \frac{M}{(1+i)^n}$$

C = coupon payment

n = number of payments

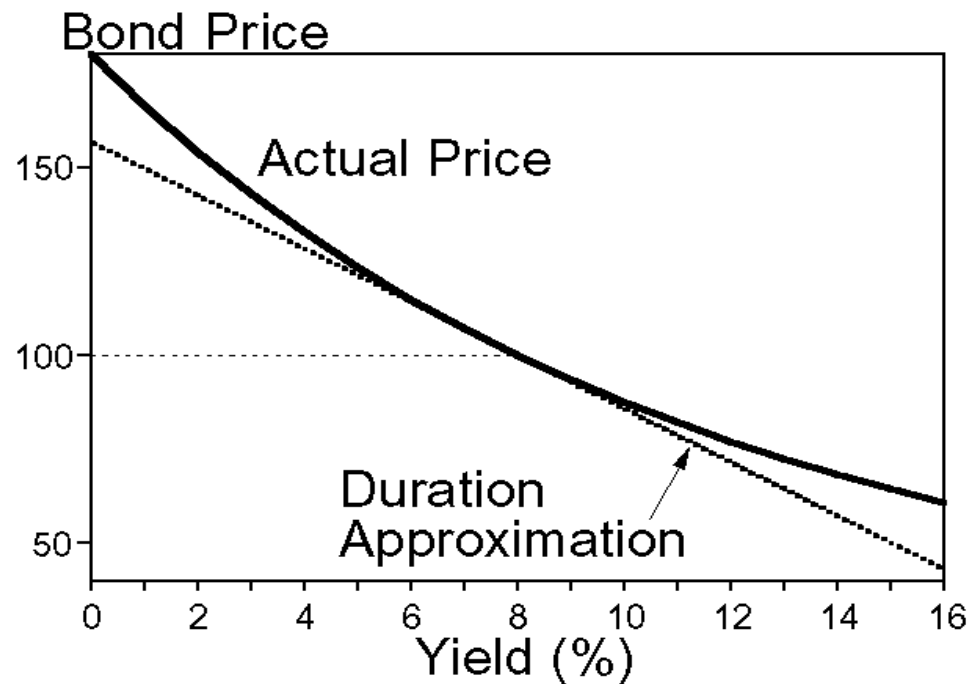
i = interest rate, or required yield

M = value at maturity, or par value



Duration & Convexity

Capital Structure and Seniority



Duration is price sensitivity of the bond to changes in yield

Convexity is the derivative of duration

Duration

More Intuitively – A Lever



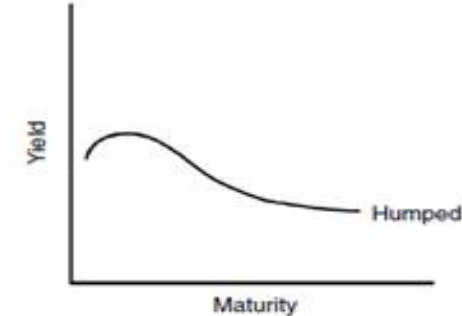
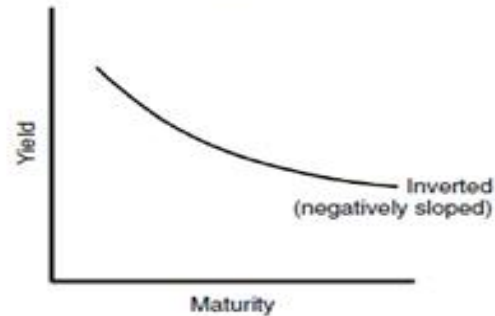
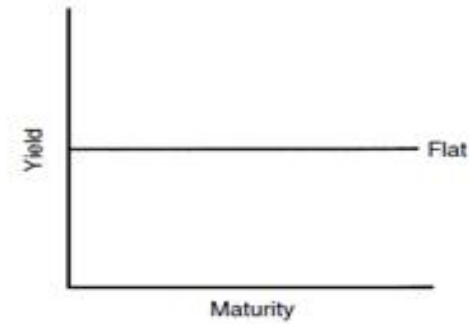
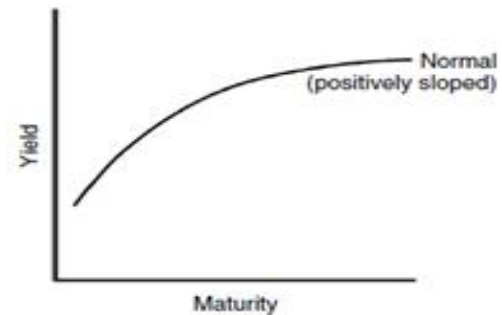
What Affects Interest Rates?

- Fischer equation: $\text{Nominal} = \text{Real} + \text{inflation expectations}$
- Central Bank
- Credit/Default risk
- Term Premium – bunch of different risk premiums
- Demand for the asset

The Yield Curve

Intuition & Drivers

- What influences the yield curve?
- When can it be upwards sloping? What about downwards? Flat?



Expression

Tons of Different Ways to Trade!

- Bonds
- Bond Spreads (Different Maturity, Same Maturity Diff Bonds)
- Interest Rate Swaps
- Bond Futures
- Swaptions
- Other nonconventional stuff

Foreign Exchange

World's Biggest Market

- Foreign exchange market is biggest market in the whole world
 - Operates 24 hours a day from Sunday 5pm to Friday 5pm EST
- Trading Currencies – You always trade one currency against another
 - Effectively always taking a view that one currency will strengthen versus another currency
- Fx pricing: EURUSD 1.10 means that 1 EUR = 1.10 USD; USDJPY 120 means that 1 USD = 120 JPY
 - Therefore, if USD was to strengthen, EURUSD would go down

What Affects Currency Values

- Central Bank Policy
- Interest Rates
- Politics
- Economy / Risk / Growth
- Commodity Prices

Expression

FX Products You Can Trade

- Spot FX trading – FX view
- FX forwards – FX + rates view
- FX options – FX + vol view
- Local currency bonds – way to express view on both foreign rates + currency
- Carry trades – FX view, primary view to make money on interest rate diff.

Examples

Suppose you...

- Believe Russian economy is going to do well and that oil – which Russia exports a lot of – will also go higher. What ways can you trade this?
- Believe Egyptian currency overvalued + they issuing bonds which have high yields + Egyptian economy alright. What ways can you trade this?
- Believe that people not pricing in inflation expectations for future well enough. What ways can you trade this?