Danish zero coupon rates (and some significant events)

Year | Interest Rate
---|---
1995 | 0.00
2000 | 0.02
2005 | 0.04
2010 | 0.06

Events:
- Amsterdam Treaty Referendum
- Referendum
- Russian default
- LTCM collapse
- EU Referendum
- September 11
- Interst Only Mortgages
- US Subprime Crisis
- Lehman Default

Asset Pricing 2, Interest Rate Intro
What determines interest rates? And what moves them around?

- Agents' preferences for consuming now vs. saving for later.

- Supply and demand. Not to be forgotten.

- “Usual macroeconomic suspects” such as expected growth rates and inflation, fiscal policy (in the hand of politicians), monetary policy (central banks but subject to political pressure), international effects, exchange rates.

- Institutional structure (labor, housing and mortgage markets, legal and political systems, . . .)
Overload: Too much to model!

Randomness is a very large component. Let’s just accept that and build empirically plausible stochastic models. Worked well for stocks.

Wilmott and Rasmussen quote
Complication: Many assets (bonds) are different (because they pay at different times) but not too different.

That is what interest rate (or term structure or fixed income) modelling is about.

Fixed income markets are huge. DK government bonds at OMX: Around 800 billion \((0.8 \times 10^{12})\) DKK. And 3 times as much in mortgage bonds. (These two numbers used to be about equal.) And that’s only the securitized stuff. Add bank loans, credit cards, derivatives.

Nice: The martingale formalism, our fundamental theorems of asset pricing (absence of arbitrage, completeness, ...) carry over.

We will be looking only at non-trivial special cases. (And the more special, the more non-trivial.)