



Week 12 Term structure of interest rates

Bond Markets (Lancaster University)



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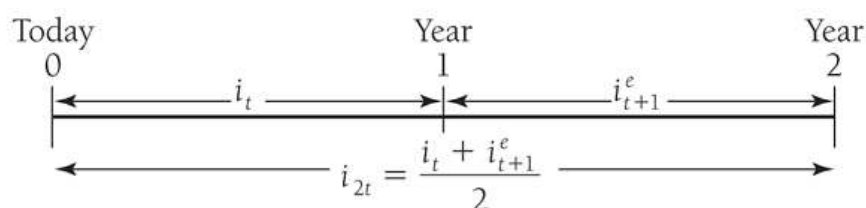
Week 12: Term structure of interest rates 2

Type	Lecture
Materials	Week 12_Topic 2 (part 2)_Term Structure of Interest Rates.pptx
Reviewed	<input type="checkbox"/>
chapter	Financial Markets and Institutions Global Edition ---- (Chapter 5 How Do Risk and Term Structure Affect Interest Rates.)_Knowt.pdf Chapter 12 - bond market summary.pdf

▼ Expectations theory

Key assumptions: bonds of different maturities are perfect substitutes

- the interest rates on a long-term bond will equal an average of the short-term interest rates that people expect to occur over the life of the long-term bond.



Expectations theory and term structure facts

- pure expectations theory explains fact 1 - that short and long rates move together

Short rate rises are persistent

If $i_t \uparrow$ today, i_{t+1}^e, i_{t+2}^e etc. $\uparrow \Rightarrow$ average of future rates

$\uparrow \Rightarrow i_{nt} \uparrow$

Therefore: $i_t \uparrow \Rightarrow i_{nt} \uparrow$ (i.e., short and long rates move together)

- explains fact 2 - that yield curves tend to have steep slope when short rates are low and downward slope when short rates are high

→ when short rates are low, they are expected to rise to normal level, and long rate ⇒ average of future short rates which will be well above today's short rate; yield curve will have steep upward slope.

→ when short rates are high, they will be expected to fall in future, and long rate will be below current short rate; yield curve will have downward slope.

- doesn't explain fact 3 - that yield curve usually has upward slope

→ short rates are as likely to fall in future as rise, so average of expected future short rates will not usually be higher than current short rate: therefore, yield curve will not usually slope upward

▼ Market Segmentation theory

Key assumption: bonds of different maturities are not substitutes at all

Implication: markets are completely segmented; interest rate at each maturity are determined separately

- explain fact 3 - people typically prefer short holding periods and thus have higher demand for short term bonds, which have higher prices and lower interest rates than long bonds
- does not explain fact 1 or fact 2 because it assumes long-term bonds and short-term rates are determined independently

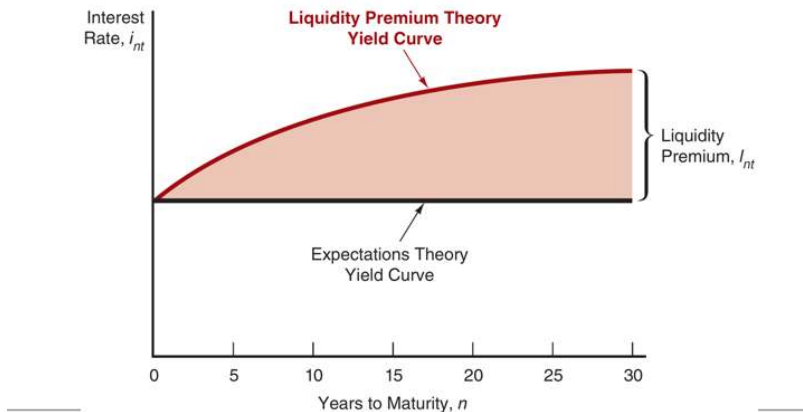
▼ Liquidity Premium theory

Key assumption: bonds of different maturities are substitutes, but are not perfect substitutes

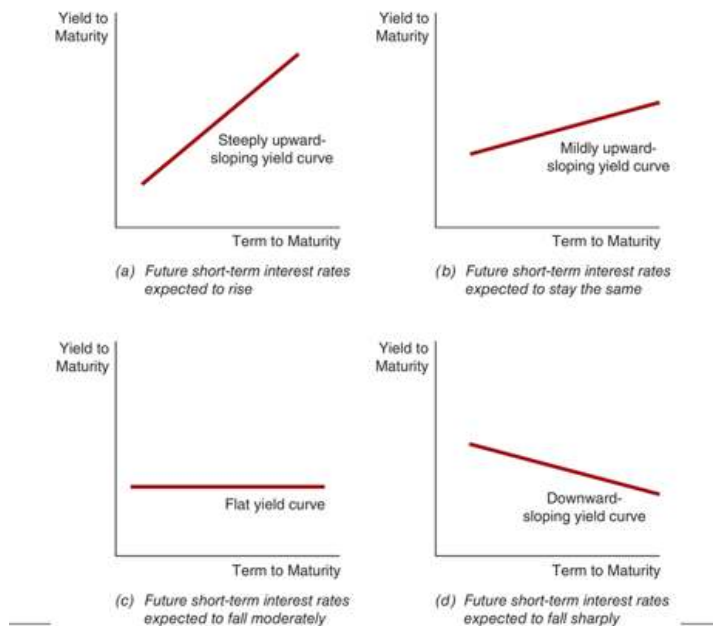
Implication: modifies pure expectations theory with features of market segmentation theory

- investors prefer short-term rather than long-term bonds. This implies that investors must be paid positive liquidity premium, to hold long term bonds
- liquidity premium theory produces yield curves more steeply upward sloped

Figure 5.5 The Relationship Between the Liquidity Premium and Expectations Theories



- explains all 3 facts
- explains fact 3 - that usual upward sloped curve yield curve by liquidity premium for long-term bonds
- explain fact 1 and 2 because it has average of future short rates as determinant of long rate (using pure expectations theory explanation)



Week 12(b): Bond markets