
Chapter 10

Bond Prices and Yields

(Cont'd)

Credit Default Swaps

A credit default swap (CDS) is an insurance policy on the default risk of a bond or loan.

- The seller of the swap collects an annual premium (and sometimes an upfront fee) from the swap buyer.
- The buyer of the swap collects nothing unless the bond issuer or loan borrower defaults, in which case the seller of the swap essentially pays the drop in value from par to the swap buyer.

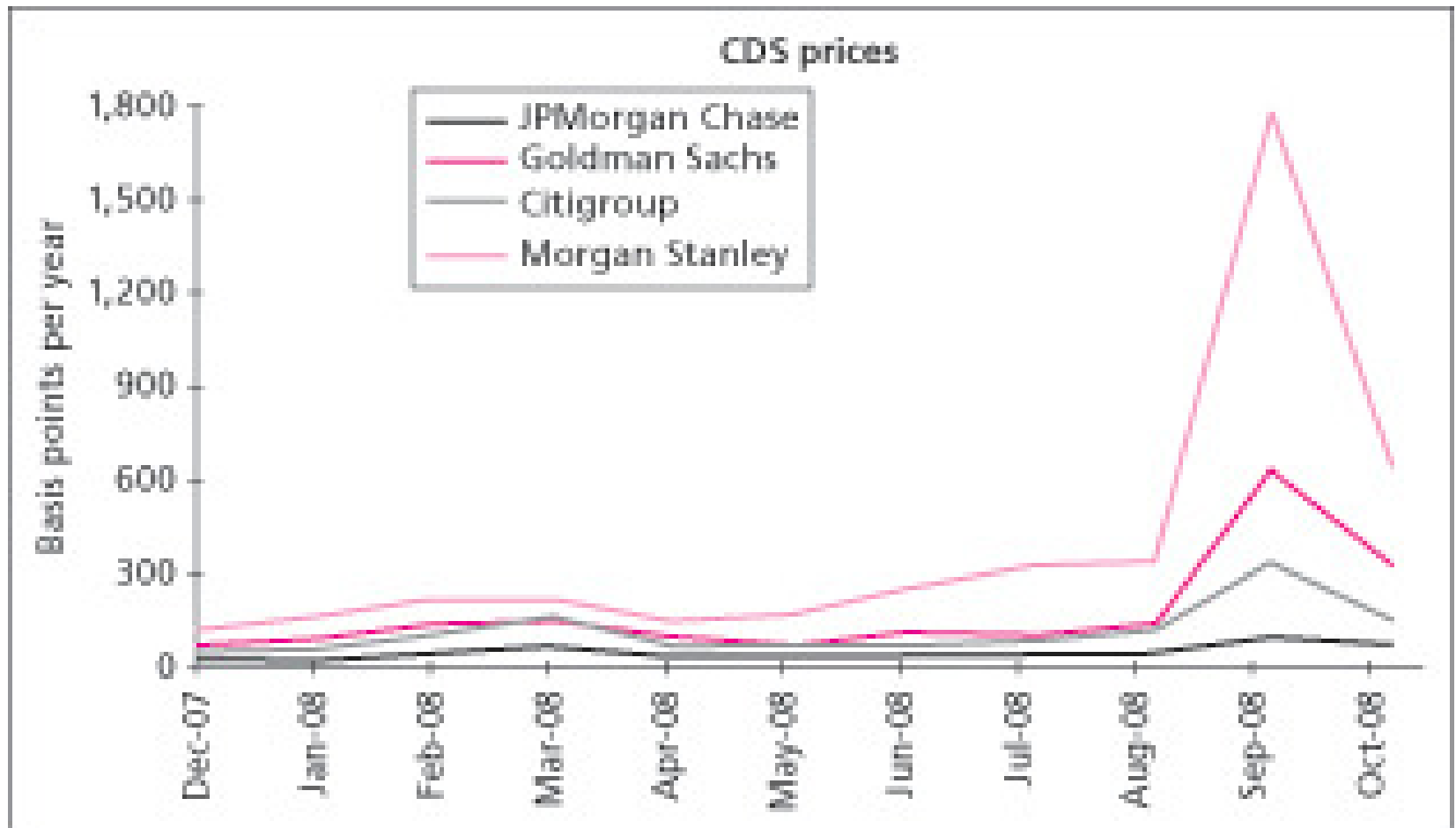
Credit Default Swaps

- CDSs can be used to speculate on financial health of firms.
 - Swap buyer need not hold the underlying bond or loan.
 - At their peak there were reportedly \$63 trillion worth of CDS; US GDP is about \$14 trillion.
 - What is the implication of the size of this market if the economy experiences greater than expected defaults?
 - Did this contribute to the Financial Crisis of 2008?

Credit Default Swaps

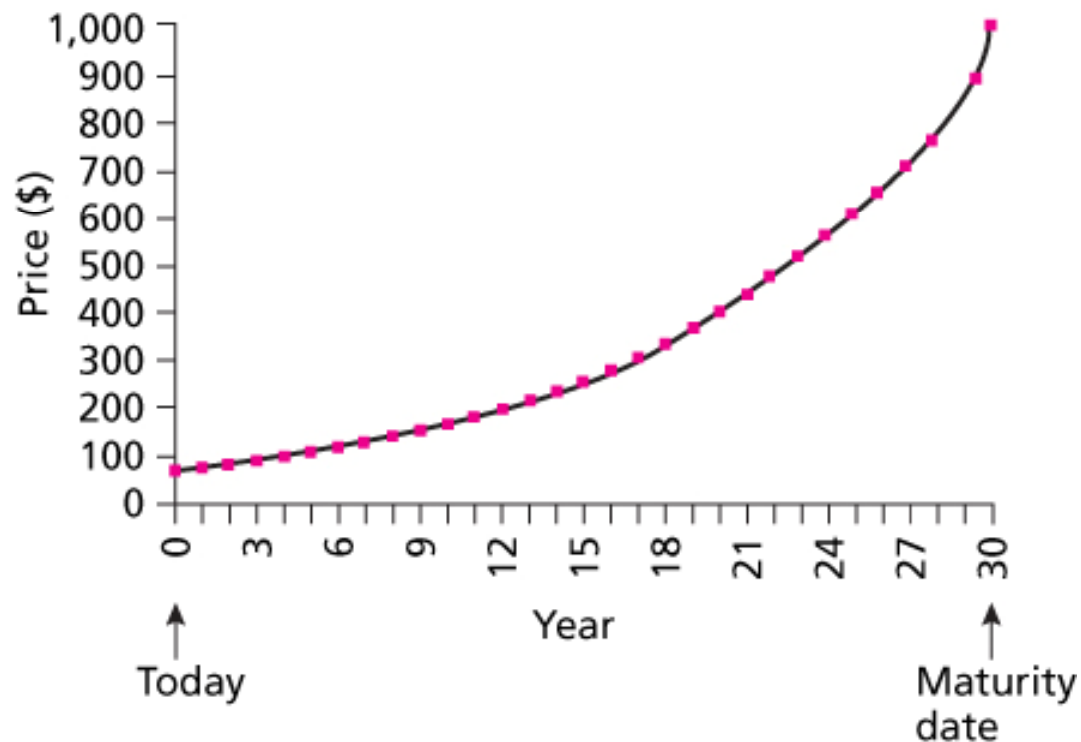
- New regulations on CDS will be implemented
 - CDS contracts will be required to be traded on an exchange with collateral requirements to limit risk.
 - Exchange trading will also increase transparency of positions of institutions.

Credit Default Swaps



The Price of a Zero Coupon Bond over Time

How does one earn a rate of return on a zero coupon bond?



$$P = \frac{\text{Par}}{(1+r)^N}$$

What are STRIPS?

How is the price appreciation taxed?

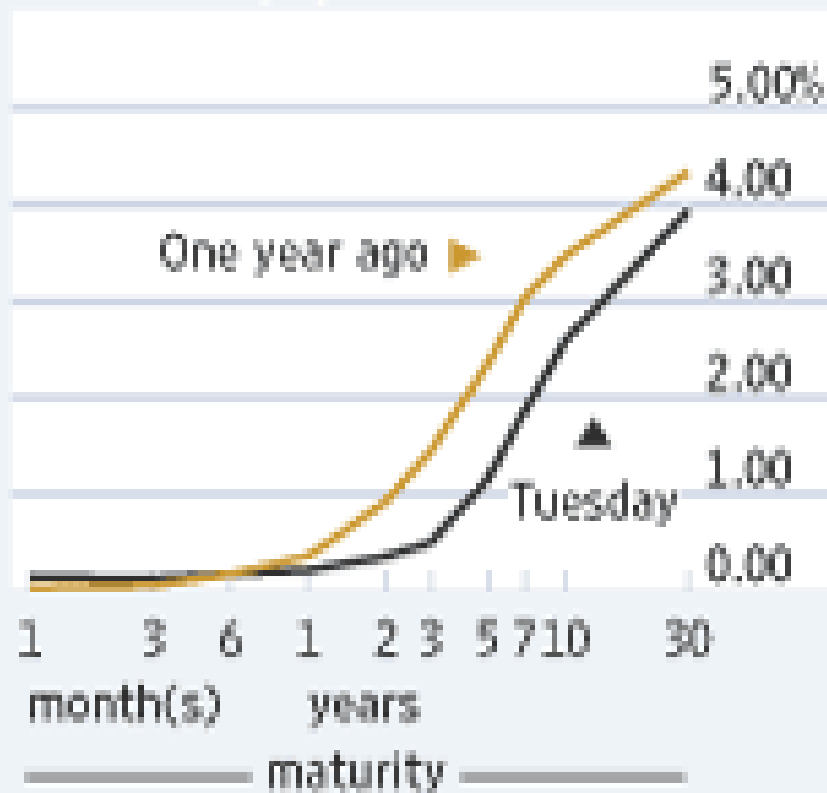
10.6 THE YIELD CURVE

Term Structure of Interest Rates

- Relationship between yields to maturity and maturity
- Yield curve: a graph of the yields on bonds relative to the number of years to maturity
 - Have to be similar risk or other factors would be influencing yields

WSJ. November 2, 2010

Treasury yield curve



Theories of the Term Structure

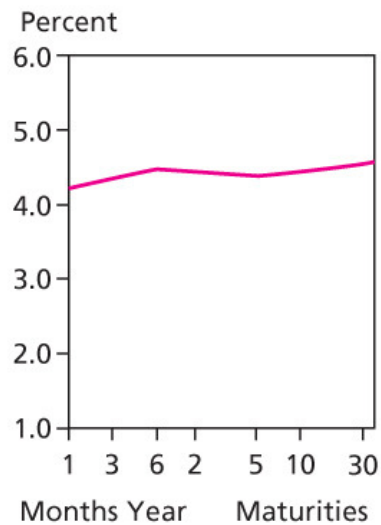
- **Expectations**

- Long term rates are a function of expected future short term rates
- Upward slope means that the market is expecting higher future short term rates
- Downward slope means that the market is expecting lower future short term rates

- **Liquidity Preference**

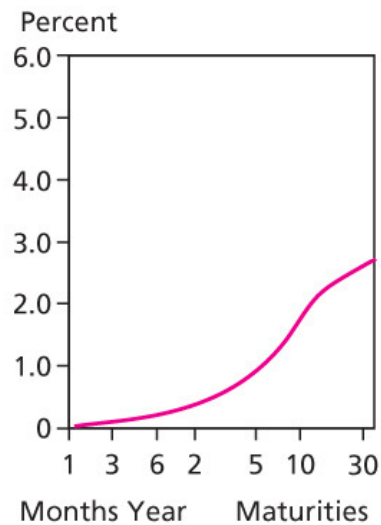
- Upward bias over expectations
- The observed long-term rate includes a risk premium

Treasury Yield Curve
Yields as of 4:30 P.M. Eastern time



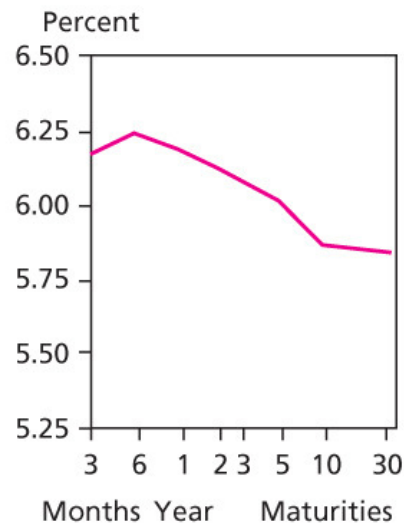
A. (January 2006)
Flat Yield Curve

Treasury Yield Curve
Yields as of 4:30 P.M. Eastern time



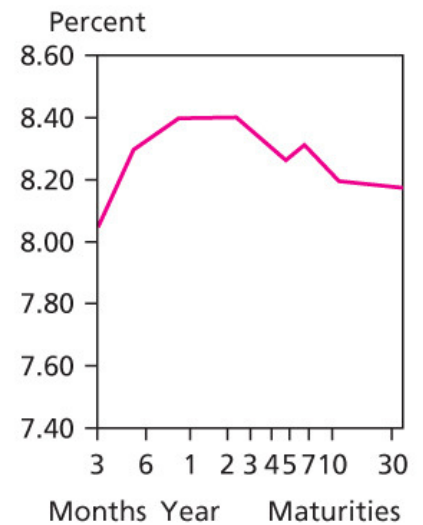
B. (January 2009)
Rising Yield Curve

Treasury Yield Curve
Yields as of 4:30 P.M. Eastern time



C. (September 11, 2000)
Inverted Yield Curve

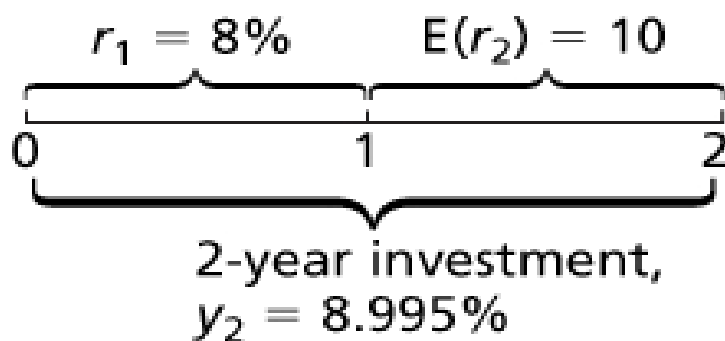
Treasury Yield Curve
Yields as of 4:30 P.M. Eastern time



D. (October 4, 1989)
Hump-Shaped Yield Curve

Expectations Hypothesis

Returns to Two 2-year Investment Strategies



2-year cumulative
expected returns

$$1.08 \times 1.10 = 1.188$$

$$1.08995^2 = 1.188$$

Expectations Hypothesis

Forward Rates Implied in the Yield Curve

$$(1 + y_n)^n = (1 + y_{n-1})^{n-1} (1 + f_n)$$

$$(1.12)^2 = (1.11)^1 (1.1301)$$

For example, using 1-yr and 2-yr rates

Longer term rate, $y_n = 12\%$

Shorter term rate, $y_{n-1} = 11\%$

Forward rate, a one-year rate in one year = 13.01%

Liquidity Preference Theory

$$f_n = E(r_n) + \textit{Liquidity Premium}$$

Figure 10.13 Illustrative Yield Curves

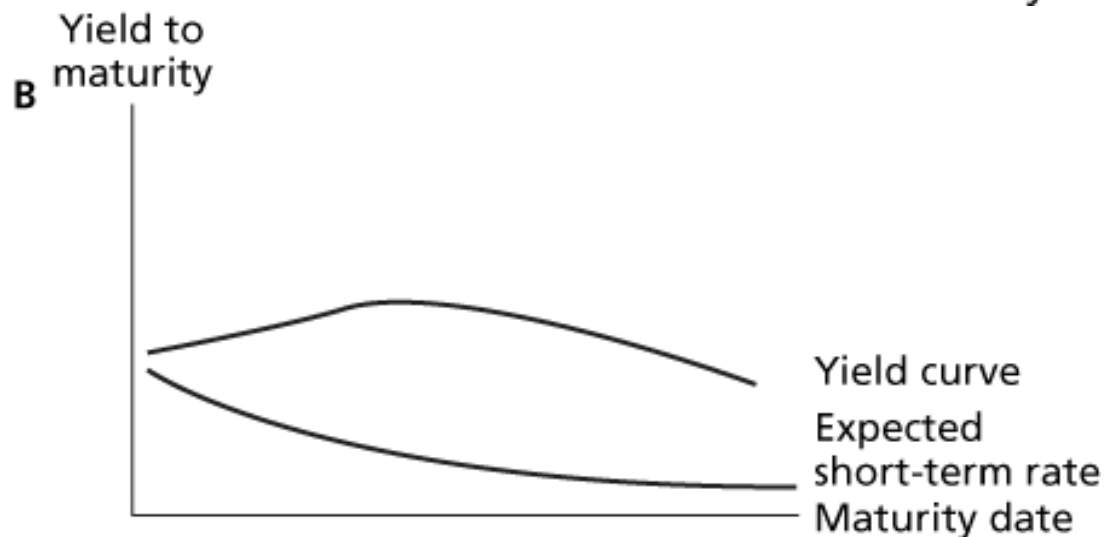
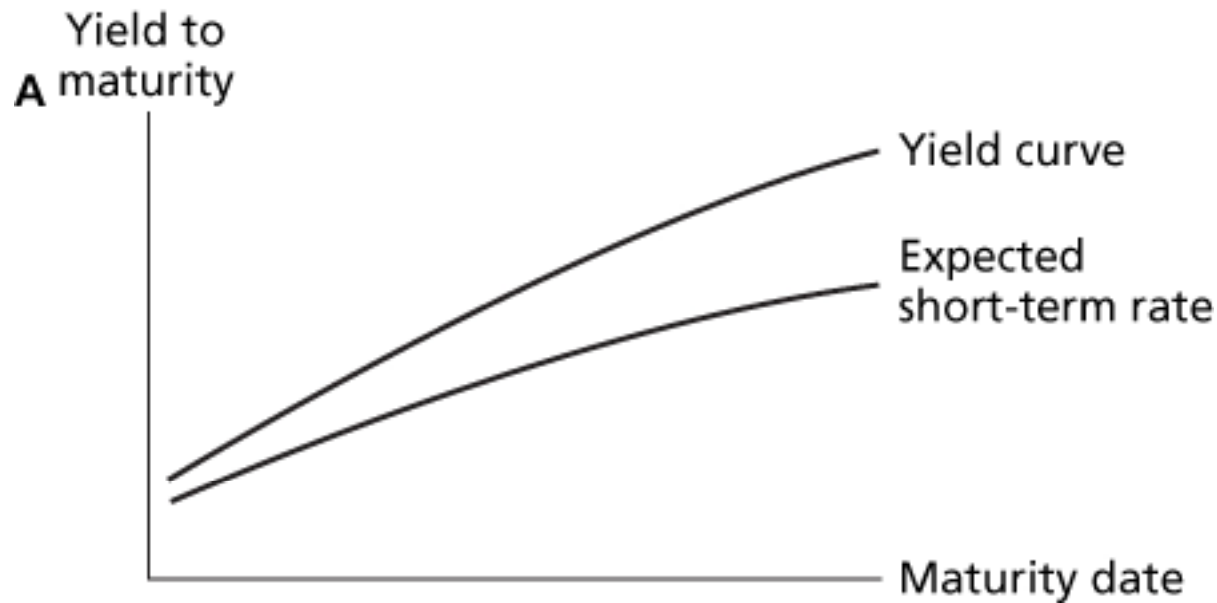


Figure 10.15 Term Spread

