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An Introduction to Bonds

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Presented By:

**Stephen H. Weiss, CFA
Senior Vice President
Income Research & Management**

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What is a Bond?

- An agreement between the issuer and the investor whereby the investor lends the issuer money, in return for a promise that the issuer will pay the principal back to the investor on a specified date, with interest
- The typical issue is in multiples of \$1,000 and pay a stated rate of interest usually on a semi-annual basis
- Unlike stockholders, bondholders do NOT have ownership interest in the issuing corporation



Why Issue Bonds?

Proceeds can be used for any number of purposes, for example:

- building new facilities
- purchasing new equipment
- refinance existing debt
- “General Corporate Purposes” to expand a business



Types of Bonds

U.S. Treasury

Bills (4, 13, 26, 52 week maturities)
Notes (2, 3, 5, 7 year maturities)
Bonds (10, 30 year maturities)
Inflation Protection Securities (TIPS)

Government Agencies

Fannie Mae
Freddie Mac

Corporations

Investment Grade
High Yield

Securitized

Mortgage-backed (MBS)
Asset-backed (ABS)
Commercial Mortgage-backed (CMBS)

Municipal

General Obligation
Revenue
Build America Bonds

Sovereign

Yankee

Non-U.S. Dollar

Representative list of bonds



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Bond Market

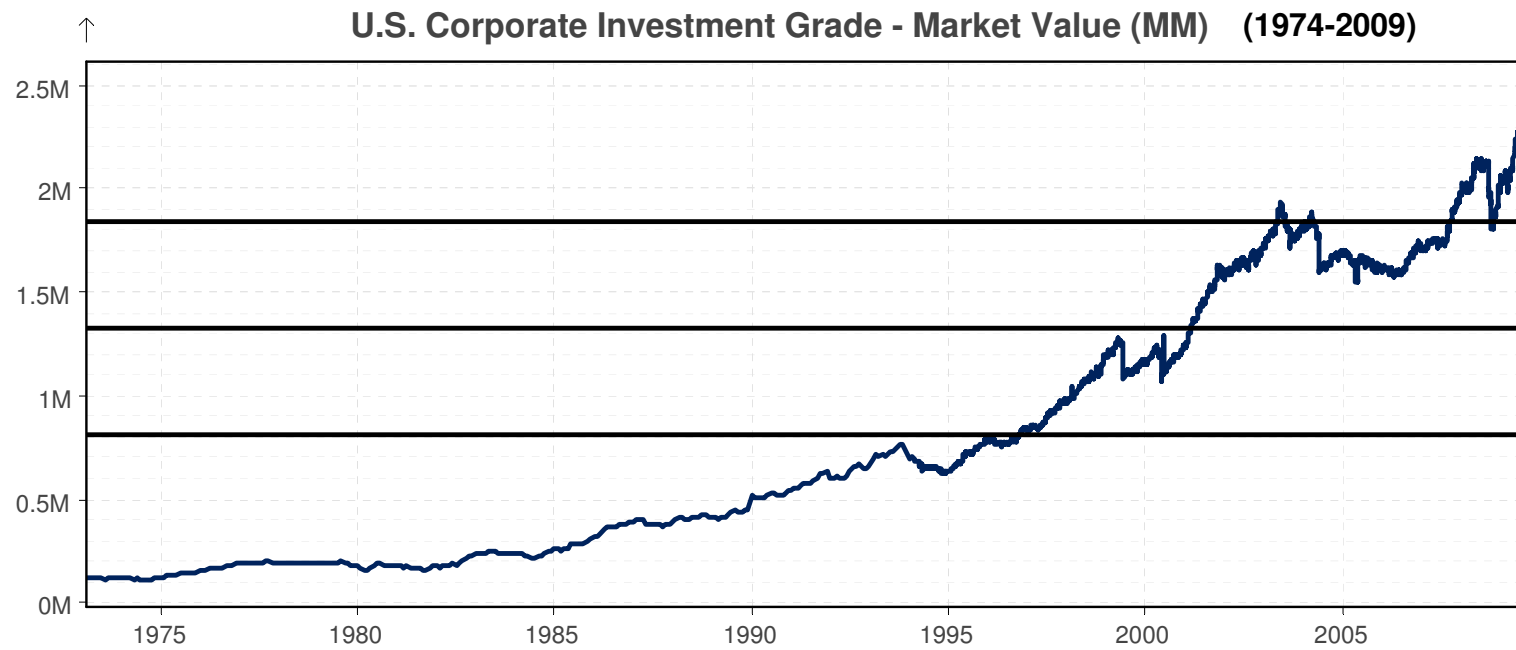
- Daily corporate bond trade volume currently averages between \$10-15 billion
- Most bonds trade over-the-counter (OTC)
- No physical central location
- Investors may include:
 - pension funds
 - endowments
 - mutual funds
 - insurance companies
 - banks

As of 9/30/09



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Investment Grade Corporate Market



Source: Barclays Capital



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Credit Ratings

Credit Risk

Standard &

Moody's

Poor's

Fitch

Investment Grade

Highest quality	Aaa	AAA	AAA
High quality (very strong)	Aa	AA	AA
Upper medium (strong)	A	A	A
Medium grade	Baa	BBB	BBB

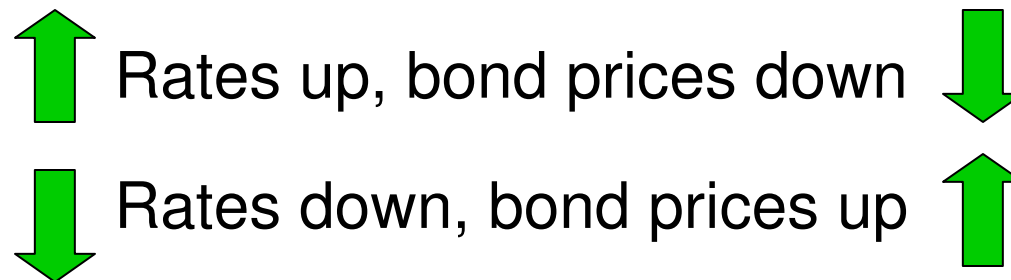
Not investment Grade

Somewhat speculative	Ba	BB	BB
Speculative	B	B	B
Highly speculative	Caa	CCC	CCC
Most speculative	Ca	CC	CC
Imminent default	C	C	C



Interest Rates

- Inverse relationship between interest rates and bond prices
- When interest rates rise, new issues will price at higher yields than existing bonds, making the older outstanding bonds worth less



Inverse relationship between Yield and Price

- ▶ Yesterday “Bottle Company ABC” issued Bond 1 that matures in approximately five years
 - ▶ Investors demanded a 10% return in exchange for lending “Bottle Company ABC” this money
- ▶ Overnight 50 people reported getting sick from drinking “Bottle Company ABC’s” product
- ▶ Today “Bottle Company ABC” wants to issue a new bond (Bond 2) with the same maturity date as Bond 1
 - ▶ Because of the increase in credit risk associated with last night’s negative news, Investors are demanding a 12% return
 - ▶ Bond 1 should therefore trade in the secondary market at the same 12% yield
 - ▶ Because Bond 1 pays interest at 10% versus 12% for Bond 2, investors will pay less for that bond

		Bond 1	
Yesterday	Coupon		10%
	Maturity		6/15/2014
	Duration		4.64
	Yield		10%
	Price		\$100.00



		Bond 1	
Today	Coupon		10%
	Maturity		6/15/2014
	Duration		4.63
	Yield		12%
	Price		\$90.74

		Bond 2	
	Coupon		12%
	Maturity		6/15/2014
	Duration		4.63
	Yield		12%
	Price		\$100.00



The above scenario is a hypothetical example. Actual scenario does not exist.
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Duration

- The sensitivity of a bond's price to changes in interest rates
- Measured in years
- Longer maturity bonds have greater duration. The further out the cash flows, the greater the impact rate changes can have on price
- Higher coupon bonds have lower duration. This higher coupon/discount rate lowers the present value of all future cash flows
- Example:
Duration of 5 years means the bond price will  5% for every 1%  in rates (assuming a parallel shift in rates)

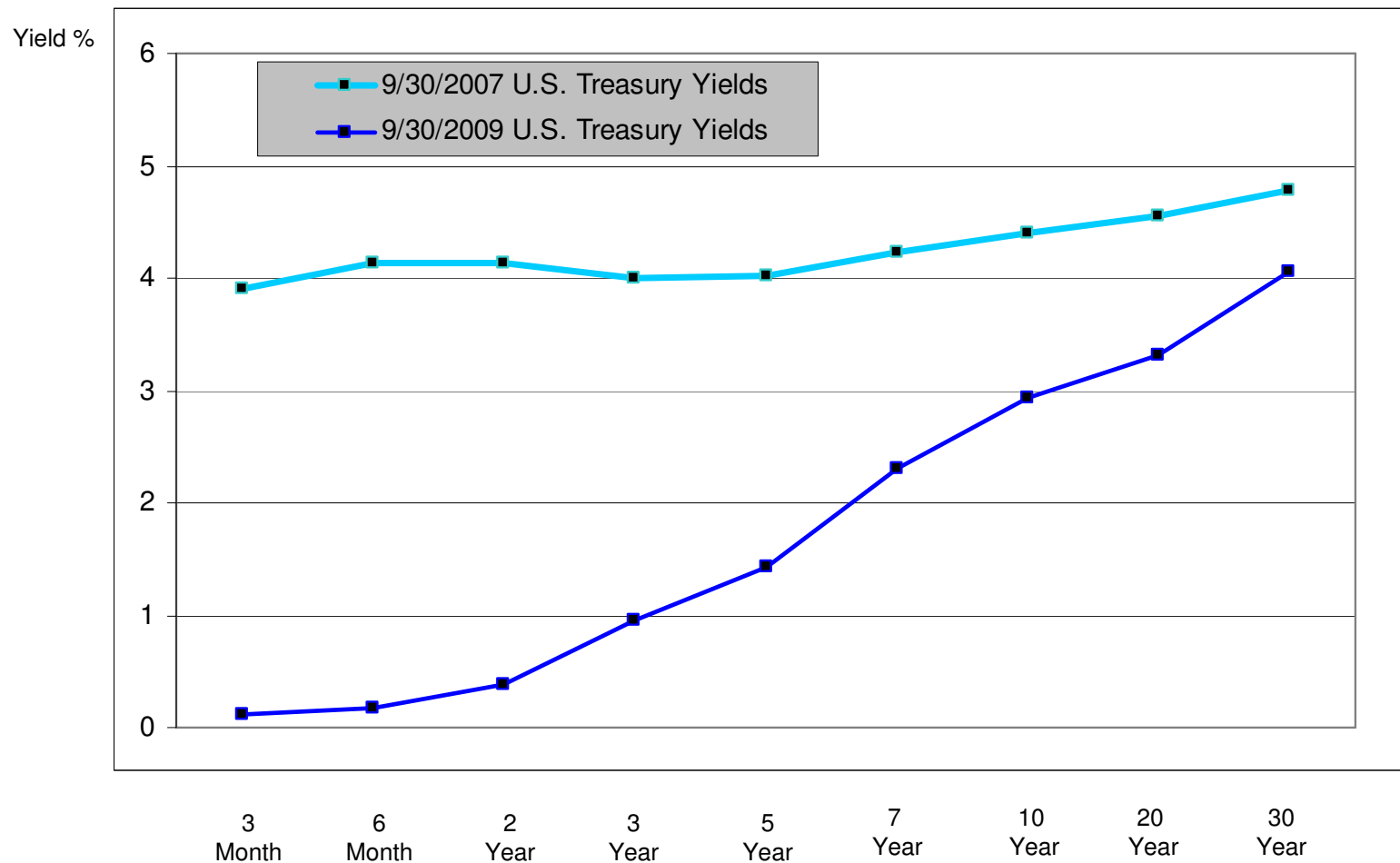


The Yield Curve

- A yield curve is the relationship between the interest rate and the time to maturity of debt for a given borrower
- The U.S. Treasury yield curve is the most commonly followed yield curve
- An upward sloping yield curve is normal - you would expect to receive a higher interest rate for a longer maturity as you are assuming more risk and need to be compensated for inflation; reflects expectation for growth
- A downward sloping yield curve is referred to as being inverted; an indication of a worsening economy
- A flat yield curve typically signals uncertainty



Nominal Risk-Free Rate (Yield Curve)



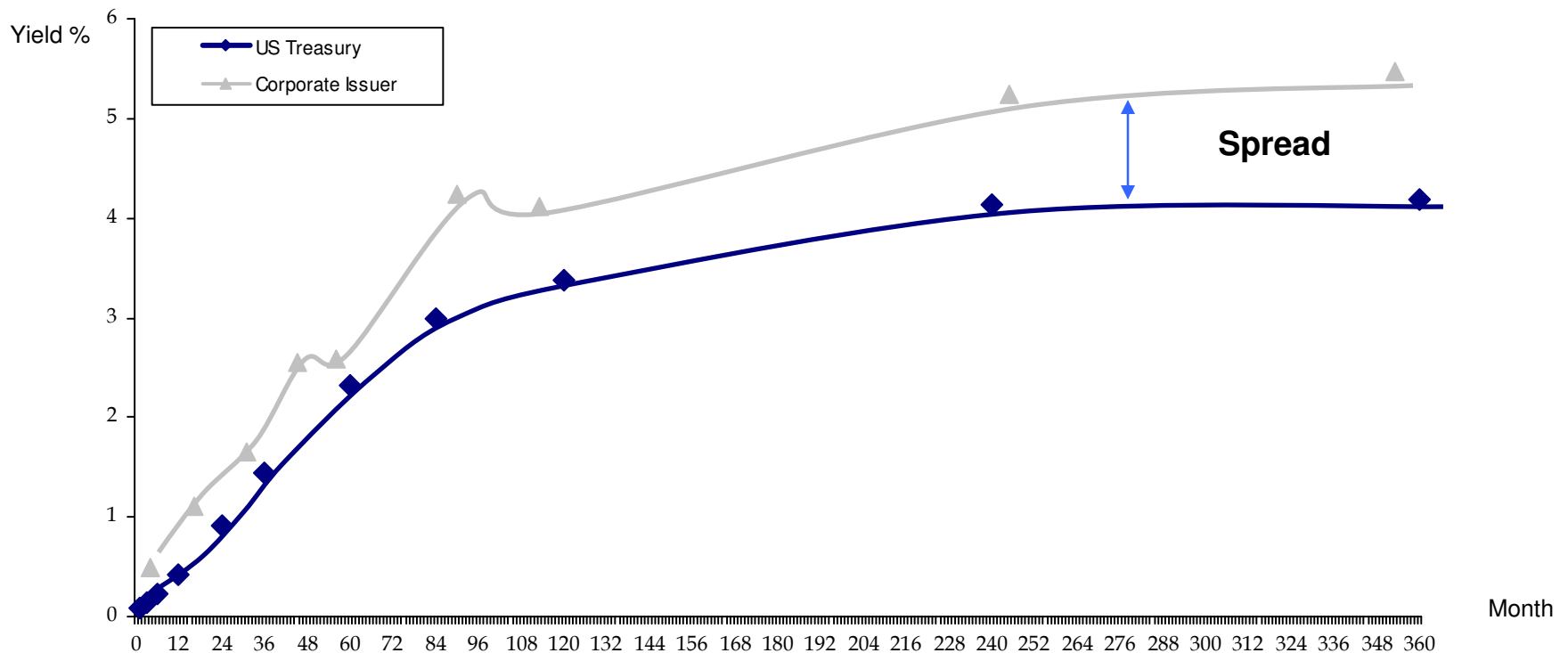
Source: Bloomberg



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Spread

- The yield on a U.S. Treasury security is referred to as the risk-free rate, as it believed to have no risk of default
- If you purchase a security with default risk you need to be compensated for it with a higher yield
- Spread is a security's yield in excess of the risk-free rate



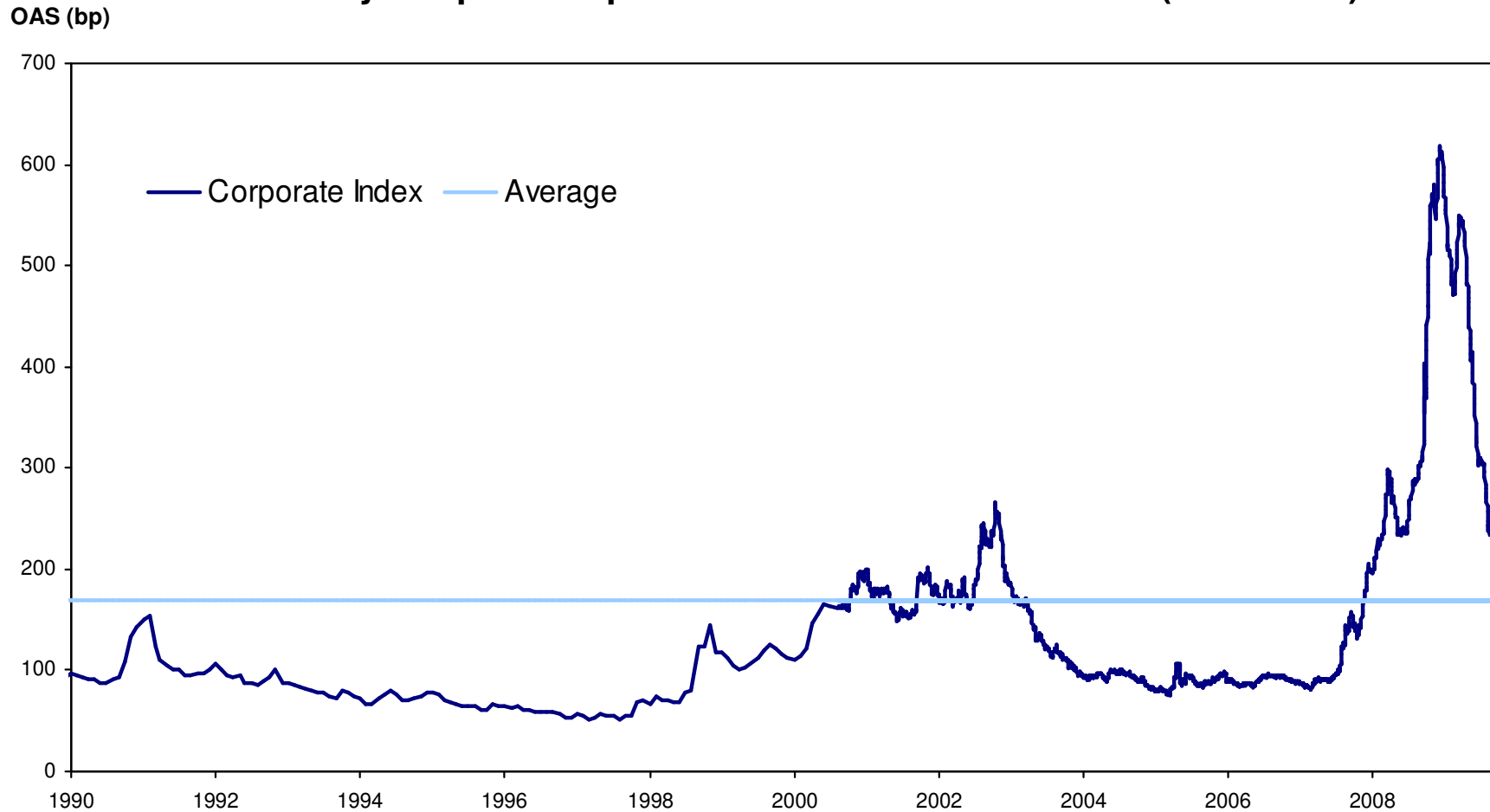
Source: Bloomberg as of 9/30/09.



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Historical Spreads

Barclays Capital Corporate Investment Grade Index (1990-2009)



Source: Barclays Capital



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