

St. Joseph School finlit Course
 7th Grade & 8th Grade
 Winter Term 2022 - 2023
 February 13, 2023

Planning for the future

Class 29:

Investments

Fixed Income





NITWOM

News In The World Of Money

02/13/2023: A new inflation warning for consumers is coming from the supply chain. Lower consumer demand has bloated inventories of goods. Warehouses and distribution centers are pushing rates higher. U.S. storage prices are up 1.4% month-over-month and nearly 11% year-over-year. Charges to use cargo containers as temporary warehouse space may rise in the coming quarters. An inventory glut will impact consumer prices. [[Source](#)]

Recap: Two
Basic
Categories of
Investments

1

Fixed Income

Investing in what
others owe – their
liabilities

Example: **Bonds**

2

Equity

Investing in others'
net worth – their
equity

Example: **Stocks**

Assets = **Liabilities** + **Equity**

Recap: Two
Basic
Categories of
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**Our Focus
Today**

1

Fixed Income

Investing in what
others owe – their
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Example: **Bonds**

2

Equity

Investing in others'
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Example: **Stocks**

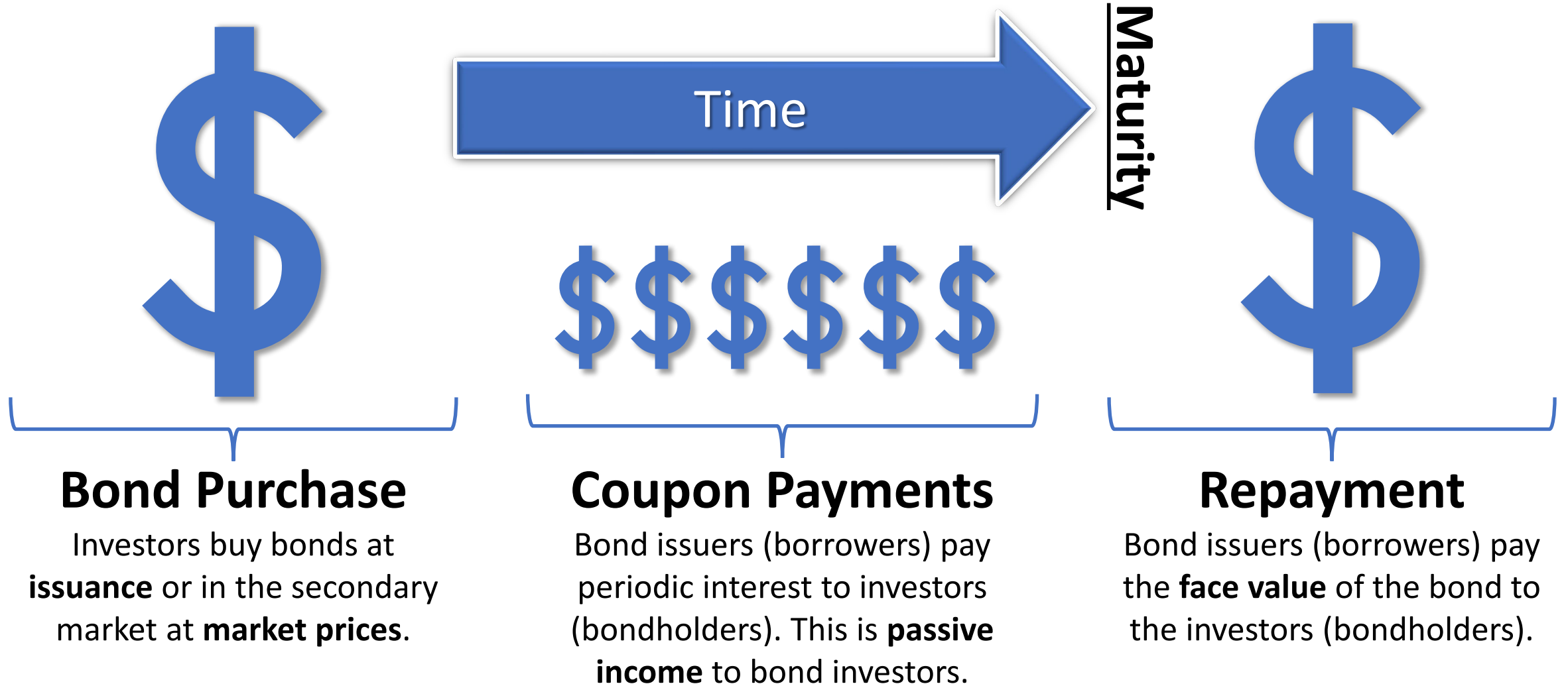
Assets = Liabilities + Equity



Bond

A fixed income investment that represents a loan made by an investor to a borrower, typically a corporation or government. Think of a bond as an I.O.U. between the lender and the borrower that includes the details of the loan and payments. Bond investors know how much income they will receive if the bond is held to maturity -- income is "fixed." This is different than stocks.

How Bonds Work for Investors



Key Bond Factors & Terms



COUPON (RATE & FREQUENCY)

Interest rate & interest payment frequency (ex. monthly, quarterly, semi-annually, etc.)



CREDIT RATING

Ability of the issuer to pay the interest and principal when due.



MATURITY

Date when the bond matures, and the bond issuer pays investors the face value.



FACE VALUE

Amount bond issuers pay to investors at the bond's maturity.



PREVAILING INTEREST RATES

Current interest rates in the economy, which significantly influence bond prices.



BOND PRICE

The price buyers are willing to pay, and sellers are willing to accept in the market.

Bond Market Prices

FACE VALUE	PRICE QUOTE	BOND PRICE	BOND TRADES AT
\$1,000	100	\$1,000	Par
\$1,000	102	\$1,020	Premium
\$1,000	97	\$970	Discount
\$2,000	99	\$1,980	Discount

- Bond prices are quoted as a **percent of the bond's face value**
- What this means. If the...
 - **Bond Price = Face Value**, a bond trades at **par**;
 - **Bond Price > Face Value**, a bond trades at a **premium**;
 - **Bond Price < Face Value**, a bond trades at a **discount**
- Most bonds are issued slightly below face value.
- When investors buy or sell bonds from other investors, the bond prices fluctuate



What happens
if the borrower
does not pay
the coupon or
does not pay
the bond's face
value at
maturity?

Bond Defaults

- The bond issuer (borrower) fails to pay within the specified time period
 - Coupon (interest), and/or
 - Face value
- Bondholders often receive a recovery %, but typically less than their face value
- The bond can still trade, but generally for much less than its face value



Defaulted bondholders often suffer losses on their investment

Bond Risks

- How credit worthy is the borrower (credit quality)?
- How sensitive is the bond to prevailing interest rates changes?
 - Short duration: less sensitive to rate changes
 - Long duration: more sensitive to rate changes

Interest Rate Sensitivity				
Limited	Moderate	Extensive		
a	b	c	High	Credit Quality
d	e	f	Medium	
g	h	i	Low	

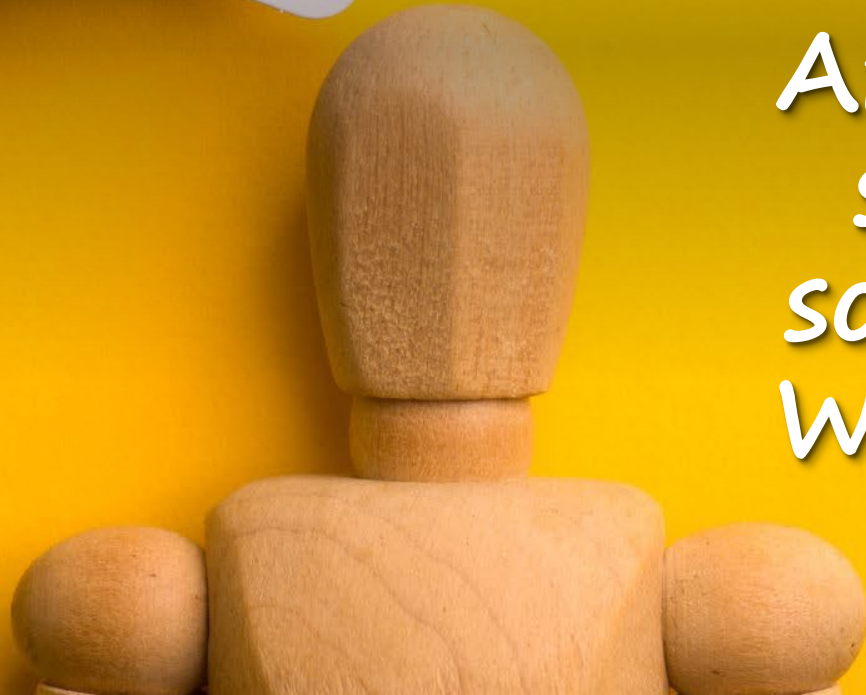


Bond Credit Ratings

- Independent credit rating services assess bond credit risks.
- Like a consumer credit score, bonds credit ratings help investors evaluate default risks based on the credit worthiness of the bond issuer (borrower).
- High credit quality bond issuers can pay lower coupon rates on their bonds because the default risk is lower.
 - High credit quality bonds are known as investment grade bonds
- Low credit quality bond issuers must pay higher coupon rates on their bonds because the default risk is higher.
 - Low credit quality bonds are known as junk bonds, high yield bonds, non-investment grade bonds, or speculative bonds



Suppose I loan someone \$100. They will pay me \$0.25 per week and repay \$100 in 52 weeks. After 12 weeks, I sell the loan to someone for \$98. Why might I have done this?



Bond Yields

- Yield is a bond investor's **total return on investment**
- Bonds can be bought or sold at **par**, above par (**premium**), or below par (**discount**)
- Calculate Current Bond Yields
 - Bond Yield = Annual Coupon Payment / Bond Price
 - Annual Coupon Payment = Bond Face Value x Coupon Rate

Bond 'A'

Face Value
\$1,000

Coupon Rate
5%

Bond Price
\$950

Yield = 5.26%

Bond 'B'

Face Value
\$1,000

Coupon Rate
5%

Bond Price
\$980

Yield = 5.10%

Bond 'C'

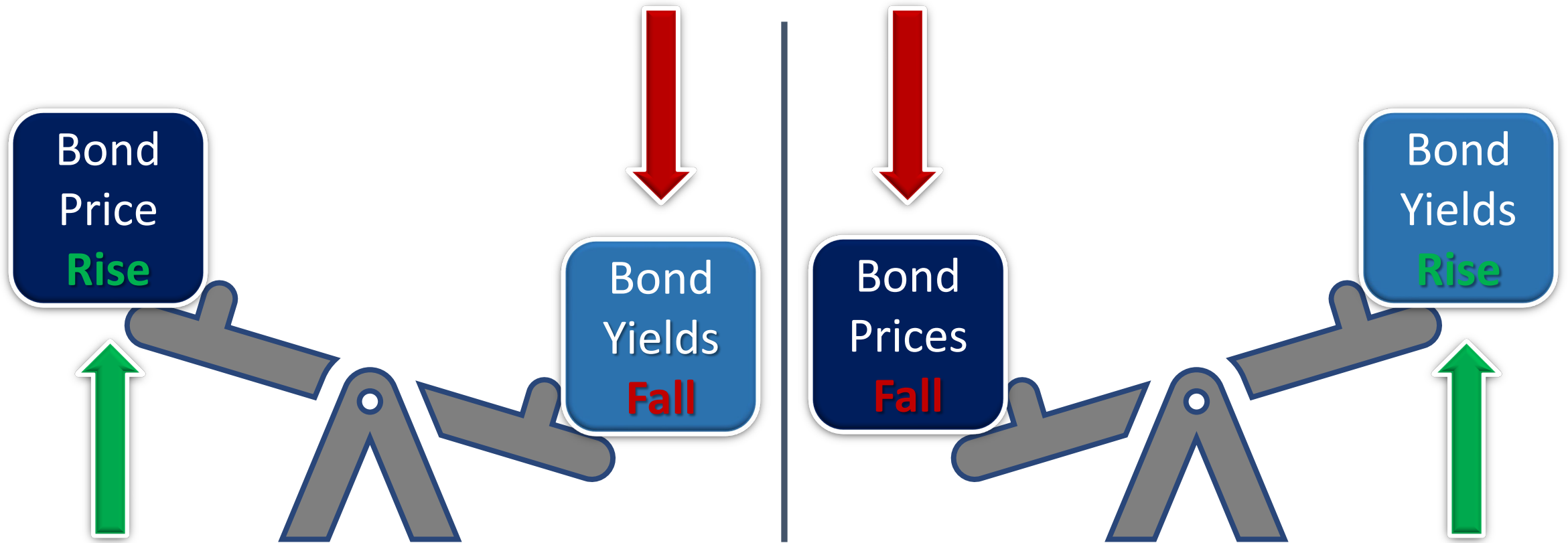
Face Value
\$1,000

Coupon Rate
5%

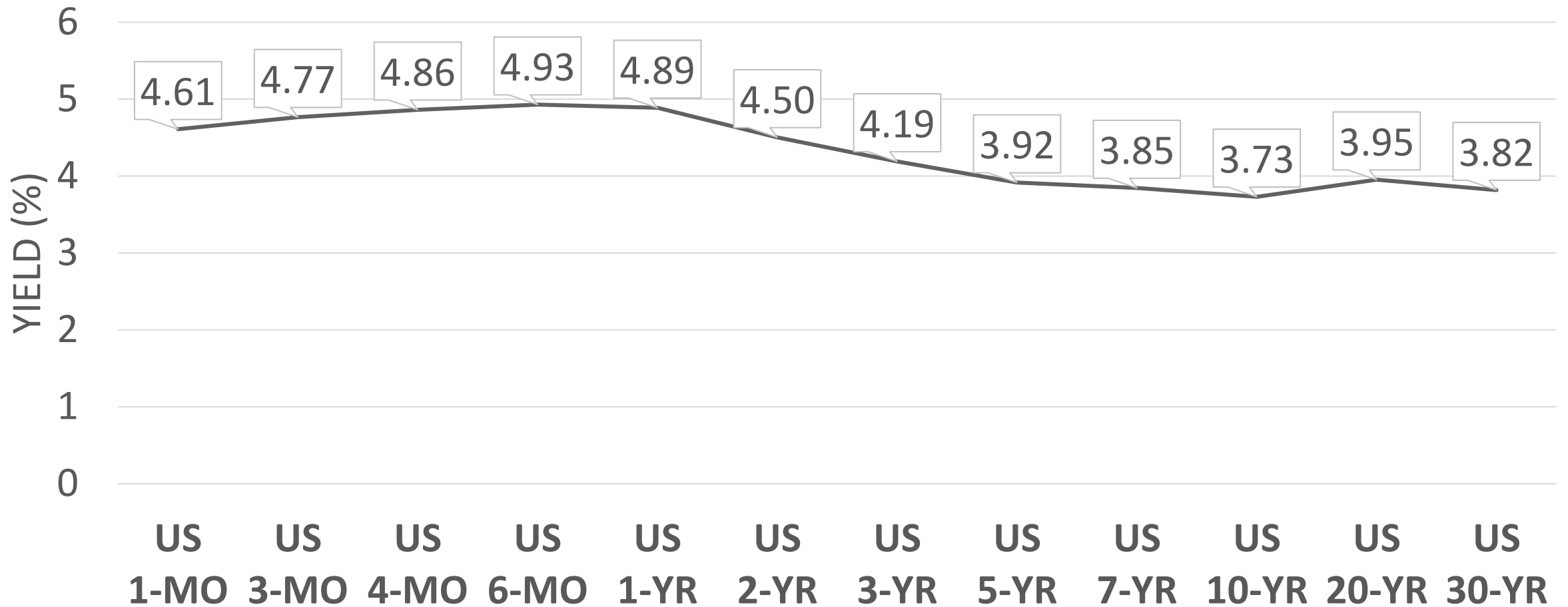
Bond Price
\$1,050

Yield = 4.77%

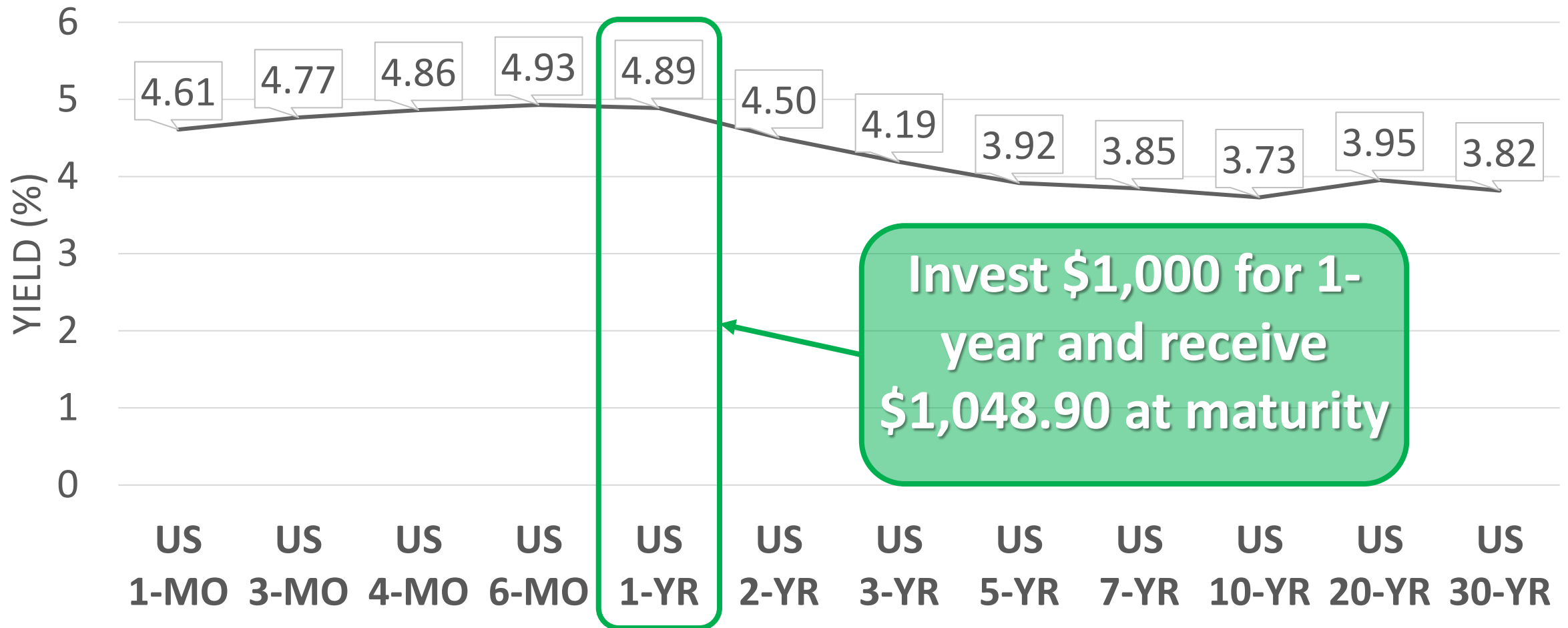
Bond Prices & Yield Relationship



U.S. Treasuries Yield Curve – 02/10/2023



U.S. Treasuries Yield Curve – 02/10/2023



Coming Up on Investments – Deep Dives Into...

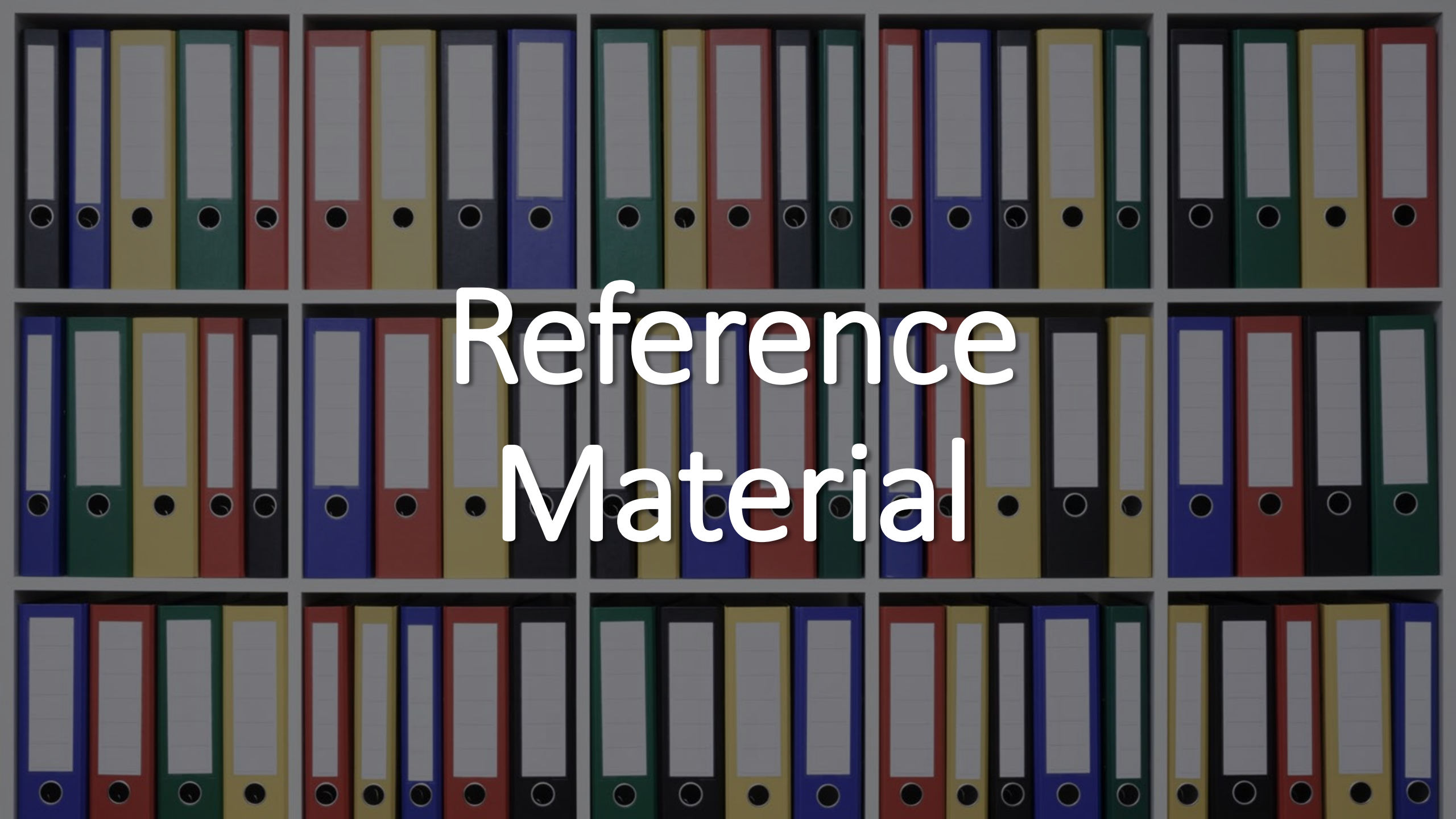
- ✓ 1. Introduction,
- ✓ 2. Financial Objectives,
- ✓ 3. Managing Risk,
- ✓ 4. Equities (Stocks),
- ✓ 5. Fixed Income (Bonds),
- 6. Mutual Funds & ETFs,**
- 7. Putting it All Together.





Key Takeaways

- Bonds are an I.O.U. between an issuer (borrower) and investors (bondholders)
- Long duration bonds are more sensitive to interest rate changes than short duration bonds, and lower credit quality issuers have increased risk of default
- When bond prices rise, bond yields fall decrease; when bond prices fall, bond yields rise



Reference Material

Bond Ratings Table

Classification	Bond Rating Agency			Description and Meaning of Rating
	Moody's	Standard & Poor's	Fitch	
Investment Grade Ratings	Aaa	AAA	AAA	High quality; lowest expectation of default risk; extremely strong capacity to meet obligations
	Aa1	AA+	AA+	High quality; very low credit risk; very strong capacity to meet obligations
	Aa2	AA	AA	
	Aa3	AA-	AA-	
	A1	A+	A+	Upper-medium grade; low credit risk but somewhat specific susceptible to adverse factors; strong capacity to meet obligations
	A2	A	A	
	A3	A-	A-	
	Baa1	BBB+	BBB+	Medium grade; moderate credit risk; may have some speculative qualities
	Baa2	BBB	BBB	
	Baa3	BBB-	BBB-	
Non-Investment Grade Ratings	Ba1	BB+	BB+	Highest speculative-grade; less vulnerable in near-term but substantial credit risk in long-term
	Ba2	BB	BB	
	Ba3	BB-	BB-	
	B1	B+	B+	High credit risk; can meet current obligations but future uncertain
	B2	B	B	
	B3	B-	B-	
	Caa1	CCC+	CCC+	Very high credit risk; judged to be of poor standing; currently vulnerable to default; unlikely to have capacity to meet obligations
	Caa2	CCC	CCC	
	Caa3	CCC-	CCC-	
	Ca	CC	CC	Highly speculative; default expected imminently; Principal and interest recovery possible
	C	C	C	Typically, in default with little prospect of recovering principal and interest
	D	D	Default; Bankruptcy filings, receivership, liquidation or other formal procedures	

Bond face value

5000

Annual Coupon Rate

8%

Issue Date & Maturity Date

DATED AUGUST 16, 1976
DUE AUGUST 15, 1986

Coupon Schedule

INTEREST PAYABLE
FEBRUARY 15 AND
AUGUST 15
CIRCULAR No. 19-76

Coupon Payment Date & Coupon Amount

FEB. 15, 1986
\$200.00

Today, bonds are issued and transacted electronically. This specimen of a physical U.S. Treasury Note shows how bonds were issued and identifies key information for bond investors.

