

Financial Literacy

Bob Miller, Ph.D.

Professor Emeritus of Finance
Northern Illinois University

Outline

- Financial Markets and Indexes
- Interest Rates
- Bonds
- Stocks
- Mutual Funds
- Exchange Traded Funds (ETFs)

Financial Markets & Indexes

- Major U.S. Markets
 - NYSE
 - NASDAQ
- Common Market Indexes
 - Dow Jones Industrial Average
 - S&P 500
 - Wilshire 5000 (now Dow Jones U.S. Total Stock Market Index)

Interest Rates

- All interest rates can be thought of having two components
 - Risk-free rate that incorporates expectations about inflation
 - Risk premium – compensation for the risk associated with the asset
 - Real Rates vs. Nominal Rates

e.g. Risk is different for investing in an oil well as compared to a government bond so you would require a higher rate of return for investing in an oil well

Bonds

- Corporate or government IOUs
 - Principal or par value, typically \$1,000
 - Coupon rate is the amount of interest paid (usually semi-annually) as a percent of par value
 - Fixed maturity (when the principal is repaid)
 - ≤ 1 -year is a bill
 - >1 -year and ≤ 10 years is a note
 - > 10 years is a bond

Interest rate standard for Wall Street is the 10-year note

Bonds (cont'd)

- Types of Risk
 - Liquidity risk
 - Interest rate risk
 - Re-investment rate risk
 - Default risk

Bonds (cont'd)

- When a bond is issued, the price paid may be higher than \$1,000, and the bond is said to be selling at a premium. If the price paid is less than a \$1,000, the bond is said to be selling at a discount
- Question: Why would you pay more or less for a bond that is worth \$1,000 at maturity?

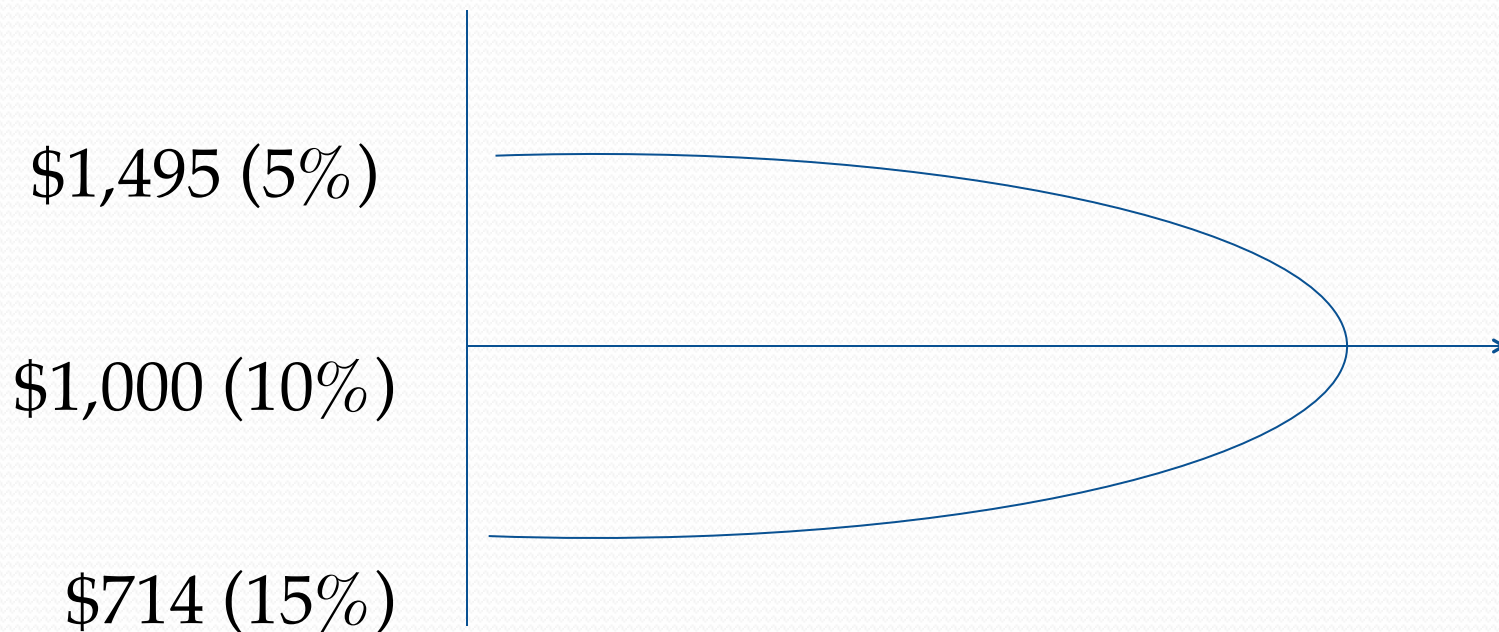
Bonds (cont'd)

- Yield-to-Maturity (YTM)
 - Rate of return earned if the bond is purchased today and held to maturity
 - $YTM = \text{Interest yield} + \text{Capital gains/losses yield}$

Consider a 10% coupon bond with 15 years to maturity, and a par value of \$1,000. If market interest rates are 15%, what would you pay for the bond? If market rates are 5%, what would you pay for the bond?

Changes in Market Interest Rates

A 10% coupon bond with 15 years to maturity, would sell for \$714 if market rates were 15%. If market rates were 5%, the bond would sell for \$1,495.



YTM = Interest yield + Capital gains/losses yield

Stocks

- Shares of common stock represent residual ownership in a corporation
 - Cash flows to investors of stock have two possible sources: dividends and capital appreciation

Dividends can be received as either cash or re-invested

Capital appreciation is an increase in stock price but not realized unless stock is sold

Stocks (cont'd)

→ → Dividends do NOT change the economic value for investors

For example, \$20 stock pays \$1.00 dividend then the stockholder has \$1 in cash and \$19 in stock

→ → Stock splits do NOT change the economic value for investors

A stockholder with 100 shares of an \$80 stock will have 200 shares of a \$40 stock after a 2-for-1 split

→ → Stock buybacks do NOT change the economic value for investors (considered economically equivalent to dividends)

Stocks (cont'd)

- Rate of return on a stock can be thought of having a risk-free rate of return plus a risk premium
- Risk premium is determined by the risk a stock adds to a diversified portfolio, its β , and not its total risk. This is due to being able to eliminate some of its risk through proper diversification in a portfolio.

Stocks (cont'd)

- Market Capitalization
 - Stock price times Shares Outstanding
 - Small-cap stocks
 - Mid-cap stocks
 - Large-cap stocks

Mutual Funds

- Investors buy shares in a fund (portfolio) that has a specific objective, i.e., growth, income, sector, balanced, etc.
 - Load vs. no-load funds
 - Open end vs. closed-end funds
 - Never invest in a fund with a 12b-1 fee

Mutual Funds (cont'd)

- A fund achieves diversification by investing in a large number of stocks identified to help realize the objective of the fund.
 - Securities have market risk and firm-specific risk
 - Proper diversification eliminates firm-specific risk
 - A sector fund invests in securities within a particular section of the economy such as Energy, Healthcare, Industrials, Information Technology, Real Estate, etc.

Mutual Funds (cont'd)

- An index fund attempts to mimic a specific financial index such as healthcare, European stocks, total U.S. stock market, technology, etc.
- Exchange traded funds are continuously priced in the market as opposed to a regular mutual fund that is priced at the end of the trading day

Historic Returns*

- Annual Returns from 1900 – 2018
 - Stocks 9.4%
 - Bonds 4.9%
 - Bills 3.7%
 - Inflation 2.9%

* Credit Suisse Global Investment Returns Yearbook 2019, p. 20

Recommendations

- Vanguard Total Stock Market Index Fund (VTSAX)

OR

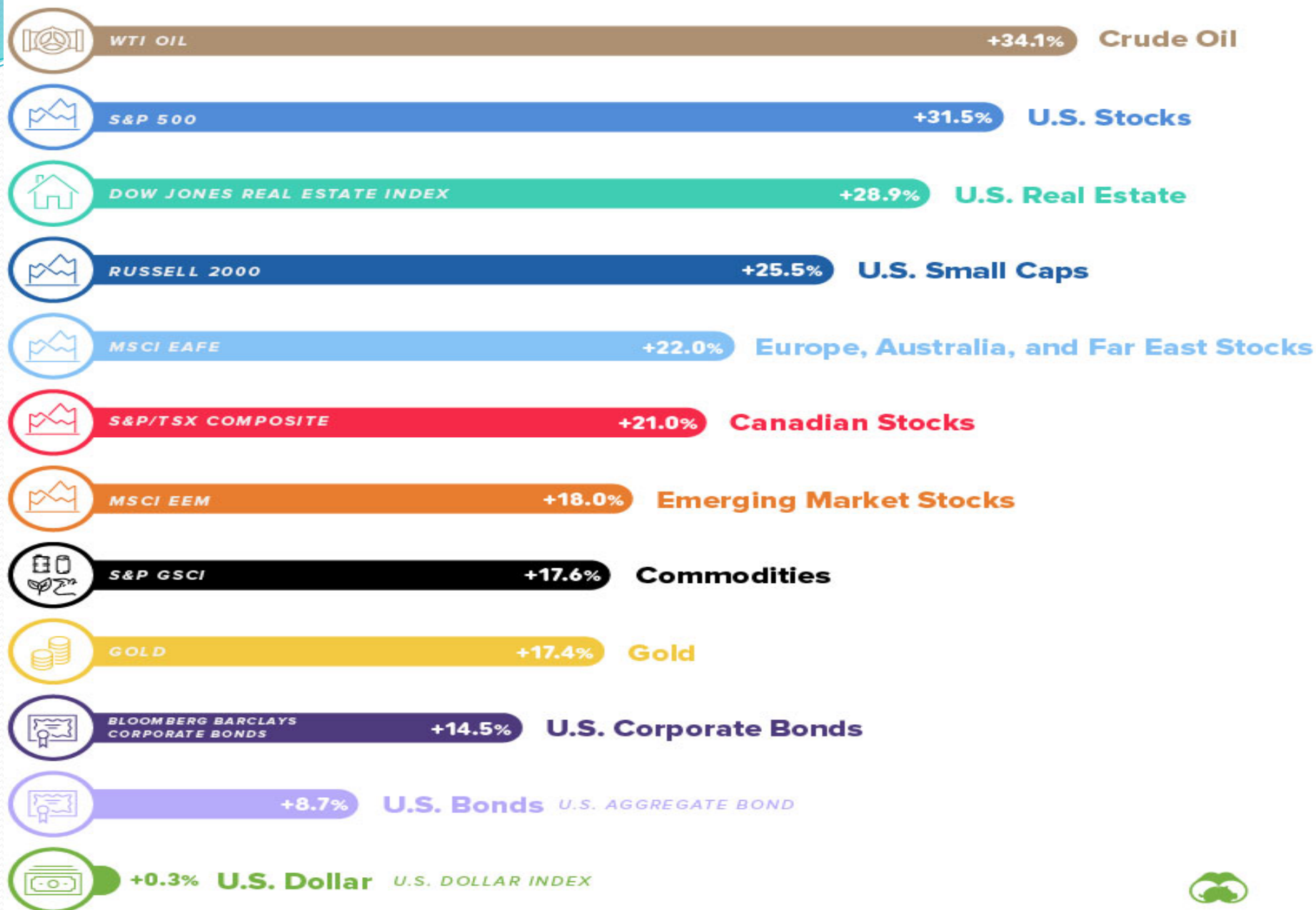
- Fidelity Total Market Index Fund (FSTVX)

Mutual Funds (cont'd)

Vanguard Total Stock Market Index Fund

<u>Year</u>	<u>Total Return (%)</u>
2009	8.76
2010	17.28
2011	1.08
2012	16.44
2013	33.51
2014	12.58
2015	0.40
2016	12.68
2017	21.19
2018	-5.17
Avg	11.36

ASSET CLASSES PERFORMANCE, 2019



Questions

- rmiller@niu.edu
- 815-762-3089

