

St. Joseph School finlit Course
7th Grade & 8th Grade
Winter Term 2022 - 2023
February 9, 2023

Planning for the future
Class 28:
Investments
Equities





NITWOM

News In The World Of Money

02/07/2023: There is not enough copper in the world. A copper deficit is set to inundate global markets throughout 2023, fueled by challenged supply streams and higher demand pressures. The copper shortage could last until 2030. The shortage may cause global inflationary pressures to worsen. If the copper shortage causes inflation to worsen, central banks might be forced to maintain higher interest rates and tighter monetary policies for longer. [[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
Investments

**Our Focus
Today**

1

Fixed Income

Investing in what
others owe – their
liabilities

Example: Bonds

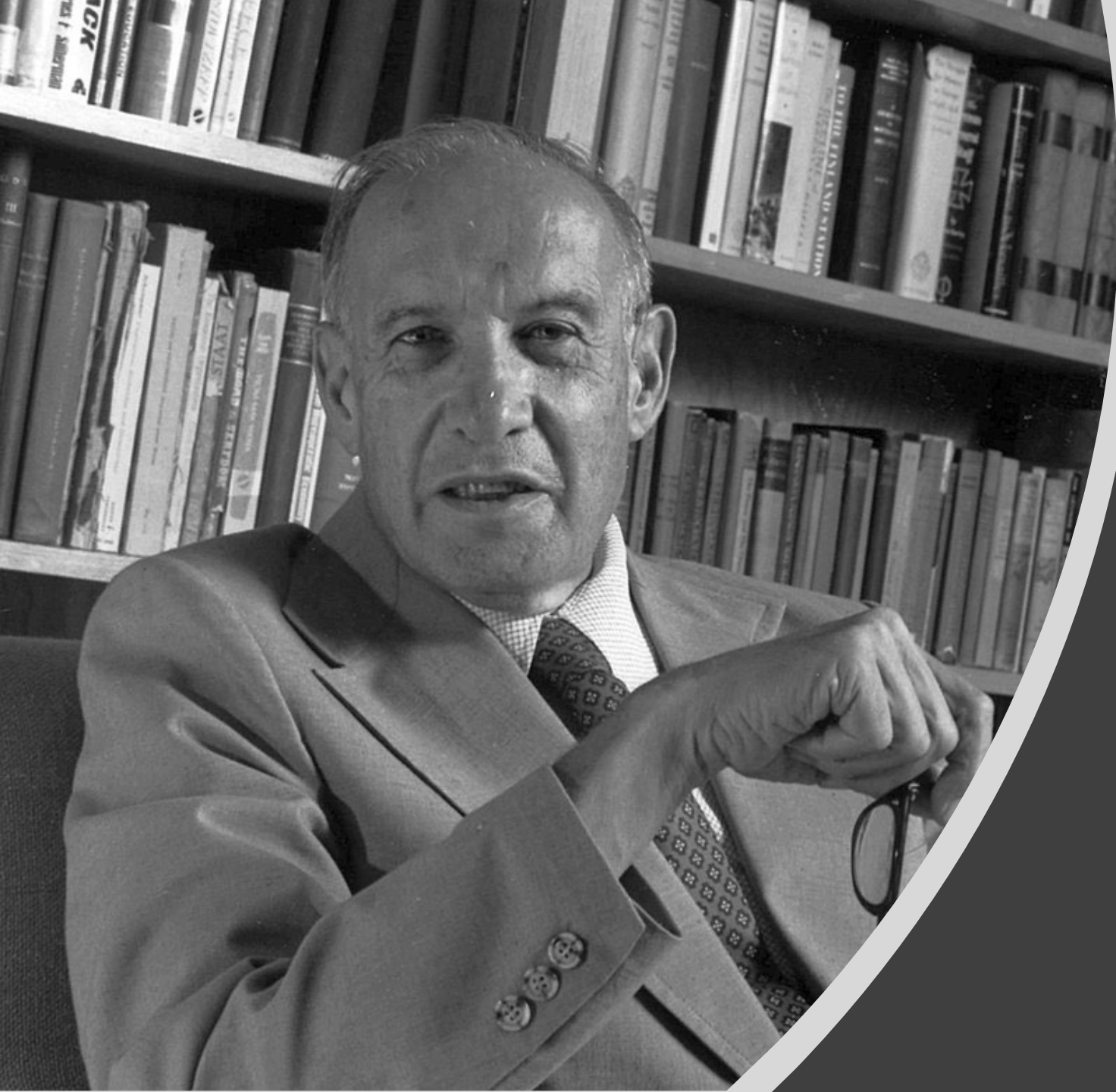
2

Equity

Investing in others'
net worth – their
equity

Example: Stocks

$$\text{Assets} = \text{Liabilities} + \text{Equity}$$



*“The purpose
of a business
is to create a
customer.”*

Peter Drucker

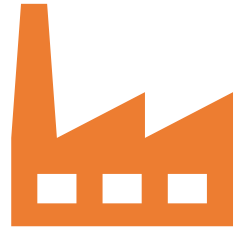
Management Consultant,
Educator, & Author

A person is holding a slice of cake on a black plate. The cake is decorated with strawberries, pineapple, and cream. In the foreground, there is a larger cake with similar decorations. The background is slightly blurred, showing a person's arm and a watch.

Stock

A security that represents ownership in an issuing corporation. Think of one share of stock as one slice of a cake. Some cakes are cut into larger or smaller slices than other cakes. Some cakes also taste better than other cakes. 😊

Investor Ownership and Stock Value



Investor's ownership % of a company:

number of stock shares the investor owns,
divided by total shares of stock outstanding.

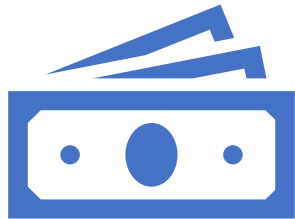


Investor's stock value:

number of stock shares the investor owns,
multiplied by the price per share of stock.

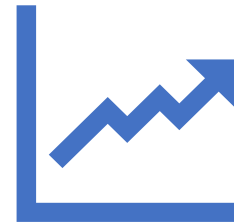
Example: Microsoft had 7,443,803,533 shares of stock outstanding as of January 19, 2023. 1 share of stock is a very tiny slice of Microsoft's cake! An investor who owns 100 shares of stock owns 0.00000134% of Microsoft = $100 \text{ shares} / 7,443,803,533 \text{ shares outstanding}$. Based on the February 8, 2023, closing price of \$266.78 per share of stock, the investor's Microsoft Stock value is \$26,678 = $100 \times \$266.78$.

Two ways to make money on stocks



Dividends

A **distribution** of corporate earnings to eligible shareholders. Corporate earnings is financial jargon for **profits**. We learned in finlit that profit or cash flow = **income** [money made] – **expenses** [money spent]. Dividends are **passive income**.



Capital Appreciation

An increase in the share price or value of a stock. When investors sell a stock for more than the invested principal, it is a capital gain, which is **portfolio income**. If investors sell a stock for less than the invested principal, it is a capital loss.



*What do you
think causes a
stock price to
rise or fall?*

Select Factors that Affect Stock Prices



Supply



Demand



Company
health



Economic
reports



Investor or
trader
sentiment

Time Value of Money Recap

Money today is worth more than the same amount of money in the future because of inflation and interest rates.

Money in the future must be *discounted back to the present*.

Equity Ownership

When investors buy a stock, they buy shares in the *future stream of company cash flows*.

The stock price per share investors pay is traded for *rights to the future stream of the cash flows*.

Putting it Together

The *fundamental value* of a company is the *present value of a company's discounted future cash flows*.

A stock's share price is a representation of the discounted future cash flows.

Future Cash Flows

- Companies can pay future cash flows to investors:
 - through **dividend growth**, paid to investors from a company's growing profits, and/or
 - by retaining profits within the company to finance more business growth, which can result in **capital appreciation**.
- The degree to which investors benefit depends on:
 - actual future cash flows – the greater the future cash flows, the greater the present value, and
 - the discount rate – the **higher the discount rate**, the **lower the present** value of future cash flows.



Since investors trade money now for a company's future cash flows, how do investors know whether the stock price is reasonable?



Analyzing Stock Valuations: Price-to-Earnings (“PE Ratio”)

- PE Ratio is **one way** to measure valuation.
- PE Ratio = Stock Price Per Share / Earnings Per Share
- Earnings is financial jargon for profits
- By comparing the PE Ratio of a company to the PE Ratio of a broad stock index, like the S&P 500, investors can see if a company is **more expensive** or **less expensive** than a broader financial market
- **Rational investors expect greater growth of revenues and profits from *more expensive* companies because stock investors are buying *future cash flows*.**

Compare the PE Ratio of Microsoft to the S&P 500

Microsoft

- Earnings Per Share for twelve months ending December 31, 2022 = **\$9.01**
- Closing price per share on January 8, 2023 = **\$266.78**
- PE Ratio = $266.78 / 9.01 = 29.61$

S&P 500

- Earnings as of September 30, 2022 = **\$187.07** [[Source](#)]
- Closing price on January 8, 2023 = **4,117.86** [[Source](#)]
- PE Ratio = $4,117.86 / 187.07 = 22.01$

VIEW **Map** • Bubbles

MAP FILTER

S&P 500

World

Full

Exchange Traded Funds

P/E

Quick search ticker

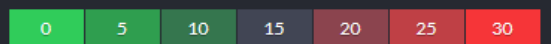
- A Agilent Technologies, Inc.
- AAL American Airlines Group...
- AAP Advance Auto Parts, Inc.
- AAPL Apple Inc.
- ABBV AbbVie Inc.
- ABC AmerisourceBergen Cor...
- ABT Abbott Laboratories
- ACGL Arch Capital Group Ltd.
- ACN Accenture plc
- ADBE Adobe Inc.

Standard and Poor's 500 index stocks categorized by sectors and industries. Size represents market cap.



Use mouse wheel to zoom in and out. Drag zoomed map to pan it.
 Double-click a ticker to display detailed information in a new window.
 Hover mouse cursor over a ticker to see its main competitors in a stacked view with a 3-month history graph.

Source: [S&P 500 Map \(finviz.com\)](https://finviz.com)



Equity
Investment
Styles:
Value and
Growth

Value

- Stocks that tend to trade at **lower PE Ratios**
- Often pay **higher dividends**
- Investors **expect** these companies will **grow future cash flows slower**

Growth

- Stocks that tend to trade at **higher PE Ratios**
- Often pay **lower or no dividends**
- Investors **expect** these companies will **grow future cash flows faster**



If a company with high expectations of profit and revenue growth fails to deliver results, what might happen?



A Challenge of PE Ratios to Value a Company's Future Cash flows



1. Profits or cash flows are **income** [money made] - **expenses** [money spent].



2. A company's earnings per share **always look backward** at prior profits



3. When investors buy a stock, they are buying ***future cash flows, not historical cash flows***



4. The PE Ratio is backward looking, but future cash flows are ***forward looking***

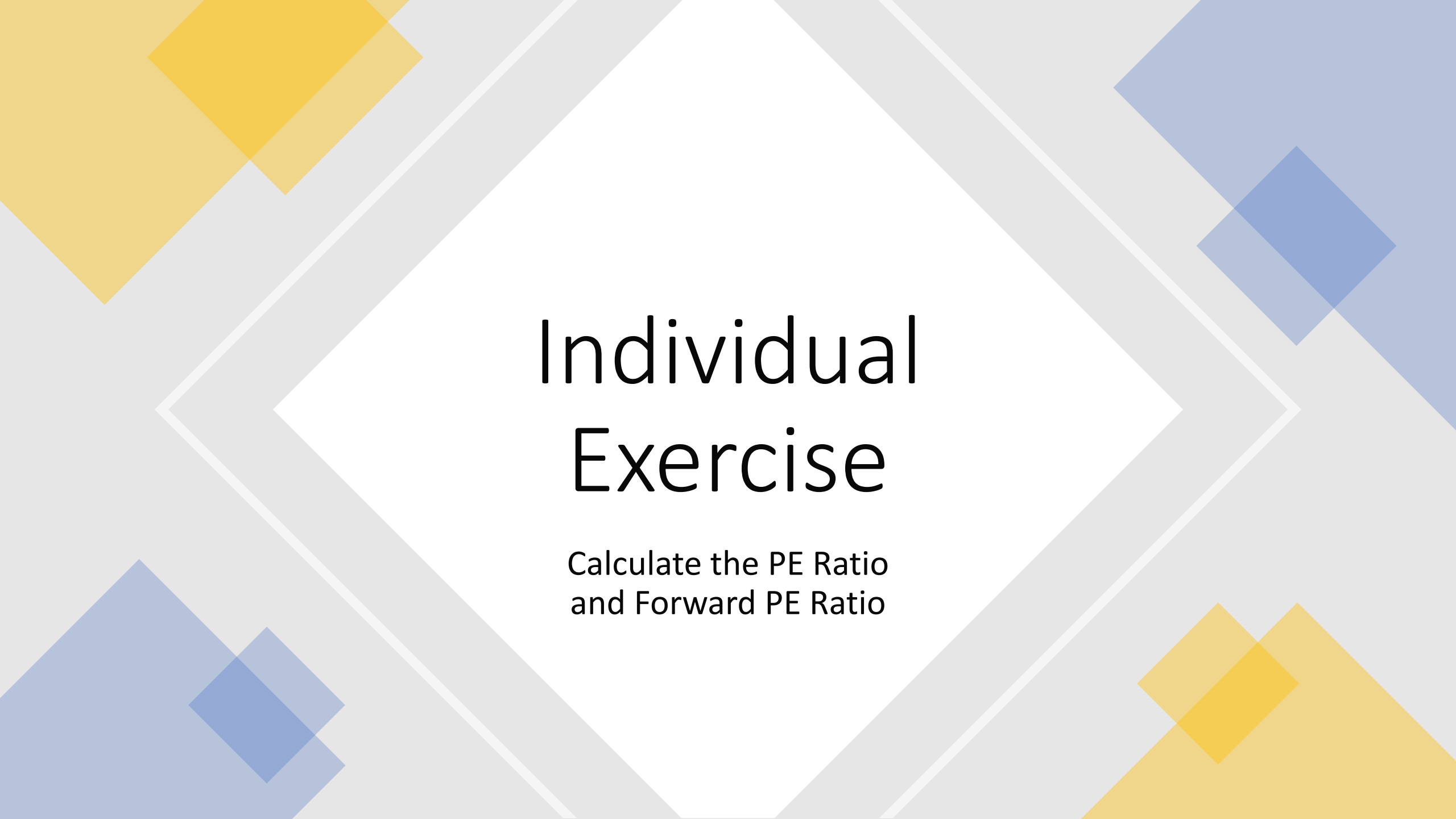


Since the PE Ratio looks backward, how might investors try to look forward?



Analyzing Stock Valuations: Forward PE Ratio

- Forward PE Ratio is **another way** to measure valuation
- Analysts and investors **forecast** a company's future earnings per share
- Forward PE Ratio = Stock Price Per Share / **Forecasted** Earnings Per Share
- By comparing the Forward PE Ratio of a company to the Forward PE Ratio of a broad stock index, like the S&P 500, investors can see if a company is **expected to be** more expensive or less expensive than a broader financial market



Individual Exercise

Calculate the PE Ratio
and Forward PE Ratio

Calculate the PE Ratio and Forward PE Ratio

Hint: First, determine the annual earnings per share & annual forecasted earnings per share

COMPANY	CURRENT STOCK PRICE PER SHARE	EARNINGS PER SHARE				FORECASTED EARNINGS PER SHARE				PE RATIO	FORWARD PE RATIO
		Q1'2022	Q2'2022	Q3'2022	Q4'2022	Q1'2023	Q2'2023	Q3'2023	Q4'2023		
Amazon (AMZN)	\$98	-\$0.38	-\$0.20	\$0.28	\$0.03	\$0.22	\$0.33	\$0.38	\$0.50	_____	_____
Apple (AAPL)	\$152	\$2.10	\$1.52	\$1.20	\$1.29	\$1.68	\$1.43	\$1.24	\$1.40	_____	_____
Exxon Mobile (XOM)	\$114	\$1.28	\$4.22	\$4.70	\$3.08	\$2.71	\$2.64	\$2.71	\$2.68	_____	_____

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

- Owning stock represents an investor's fractional ownership in a company
- Investors pay money now in exchange for a **company's future cash flows**, which may come from dividends and/or capital appreciation
- A company's PE Ratio and Forward PE Ratio relative to a broad financial market is one way to value a company