Speculation – Stocks

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SUBJECT(S): Computation

GRADE LEVEL(S): 9, 10, 11, 12

≡ OVERVIEW:

In this lesson, students are introduced to the idea of speculation, and specifically stock speculation. Students read the Knowledge@Wharton article: "Why Stock-price Volatility Should Never Be a Surprise, Even in the Long Run," and think about what makes investing in stocks risky. Then, students calculate the ROI (return on investment) in various stock scenarios (given) and have an opportunity to look at stocks of their own choosing to calculate the ROIs over different time periods. Finally, as a whole class, students discuss the role of stocks in an overall investment strategy or portfolio.

≡ RELATED ARTICLES:

- "What Are Your Investment Choices? From Condos to Gold to Plain Cash"
- "Strengths, Weaknesses, Opportunities, Threats: The SWOT Analysis"
- "Portfolio Management: Making Decisions about Your Investments"
- "Of Deals and Dolls: Entrepreneurs Train for the Real Thing"
- "Behind the Blue Chips of the Dow Jones Industrial Average"
- "Alibaba's Jack Ma: Lessons in Corporate Governance"

Standards:

WGYP:

- Mathematical Foundations

- Number Relationships
- Patterns, Functions, and Algebra
- Problem Solving

Common Core:

N-Q.1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

Objectives/Purposes: Students learn to think about stock volatility and the risks involved. Students learn how to compute the return on investment for different stocks over different periods of time.

Knowledge@Wharton Articles & Sources:

- "Taking a View: Corporate Speculation, Governance and Compensation"
- "Everything from Oil to Silver: Are Speculators Causing Too Much Volatility?"
- "Why Stock-price Volatility Should Never Be a Surprise, Even in the Long Run"
- "Stocks Revisited: Siegel and Shiller Debate"

Other Resources/Materials:

- Calculators
- Computer to look up current stock prices

Whole Class Discussion:

(*5 mins*)

Have students reflect upon what they learned about saving money, spending, budgeting and investing in previous lessons.

Remember, an **investment** is putting money into something with a highly secure, expected gain. We talked about investing money into savings accounts where you are guaranteed by the bank to get your principal back as well as a certain, predetermined amount of interest. While nothing is ever 100% secure, there is another type of investing that is less secure, called **speculation.**

Play the Wharton Global Youth Program (WGYP) Glossary: Speculation

“Speculation is a transaction in which you hope to make money, but you are not sure you will. The last time I went to Las Vegas, I bet $10 that the Phillies would win the upcoming World Series. But my bet was just speculation, because I’m not guaranteed to make money.”

You may have heard people talk about “investing in the stock market?”

Play the WGYP Glossary: Stock

“A stock is a share of ownership in a company. A stock usually pays dividends, which are variable payments from the company to its owners. I own a few shares of Nike stock, so when a lot of people buy Nike shoes, I’m happy, because the price of Nike stock is more likely to go up.”

Note that you only make money on a stock if you actually buy and sell the stock at specific times.

Play the WGYP Glossary: Dividend

“Dividends are payments made by corporations to their shareholders. A dividend is a means by which a corporation shares its income with its shareholders. My grandparents used the dividends they received from their investments in corporations to pay for their golf membership in Boca Raton.”

Reading (*10 mins*)

Have students read the article “Why Stock-price Volatility Should Never Be a Surprise, Even in the Long Run,” specifically focusing on the first page.

In pairs, answer the following questions:

1. Why are stocks more volatile than people might think?
2. What makes stocks and their future behavior unsure?
3. What are factors that might contribute to stock volatility?

Have students report back to the class on their findings.

If you receive guaranteed dividends on from your stock, that that is an investment, however, technically, buying stocks in hopes that the actual stock price will increase is not investing, but in fact **speculation,** since stock shares fluctuate daily due to many factors.

If students did not fully cover #1 in 3 above, do so now.

1. What are some things that might affect a stock price? ***(Consumer tastes, economic conditions, buyer's change in perception about the company, press, etc.)***

Think of a company, for example Nike, as mentioned in the glossary. Think about some specific things that might make Nike's stock prices go up or down. What would happen if Adidas or Reebok came out with shoes that consumers liked better? Or if there were reports that Nike had mistreated employees?

2. What other types of speculation exist besides stocks? ***(Financial speculation can involve the trade (buying, holding, selling) and short-selling of stocks, bonds, commodities, currencies, collectibles, real estate, derivatives, or any valuable financial instrument to attempt to profit from fluctuations in its price irrespective of its underlying value.)***

Play the WGYP Glossary: Commodity

"A commodity is a very common, typically inexpensive product that is largely and easily-available to the mass market. Toilet paper is a commodity, because it is very common and cheap, and usually consumers make the decision to buy it based on price and/or habit."

The buying and selling of commodities is speculation.

1. Given a sum of money to invest (that you do not need right at the moment), why might some people put this money into a guaranteed savings account, and why might other people choose to speculate and buy stocks or real estate? ***(It's like gambling – when speculating there is potential for making substantially more than in a savings account.)***

Note:

Certificate of Deposit (CD)

A certificate of deposit is a promissory note issued by a bank. It is a time deposit that restricts holders from withdrawing funds on demand. Although it is still possible to withdraw the money, this action will often incur a penalty.

For example, let's say that you purchase a $10,000 CD with an interest rate of 5% compounded annually and a term of one year. At year's end, the CD will have grown to $10,500 ($10,000 * 1.05).

CDs of less than $100,000 are called "small CDs"; CDs for more than $100,000 are called "large CDs" or "jumbo CDs". Almost all large CDs, as well as some small CDs, are negotiable.

Remember,

<u>Small Group/Pair Activity</u>: (*20 mins*)

Student Worksheet

(If students are particularly interested, it might be more interesting to skip directly to 5 and 6.)

Calculating gains and losses in stocks:

1. Five years ago, you had $2,000 that you were willing to invest or speculate on. At that time, the interest rate at your bank was 2% and shares of Coca-Cola (NASDAQ: COKE) were $50 per share. Currently, Coca-Cola shares are trading for $65.
    1. Calculate how much you would have made investing your money into a savings account at your bank (using annually compounded interest). ***($80.80)***
    2. Calculate how much you would have made speculating on Coca-Cola and if you sold today. ***($600)***
    3. What is ROI in the savings account? ***(4%)***
    4. What is the ROI on the Coke stock investment? ***(30%)***
2. Three years ago, Google (NASDAQ: GOOG) was trading for $715 per share. Today, it trades for $525. What is the 3-year yield of this stock? ***(-26.6%)***
3. One year ago you had $1,000 to invest. You looked around at some different options. Apple (NASDAQ: APPL) was trading for $250. Your local bank offered a 1-year CD for 4.7%. Gap Clothing Company (NYSE: GPS) was trading at $22 per share. Calculate what would have been your yield from:
    1. Investing in Apple (now $345 per share) ***(345 – 250 = 95; 95 x 4 = $380; 380/1000 = <u>38%</u>)***
    2. 1-year CD ***(w/ simple – $47 = 4.7%; w/ compound monthly – $48.03 = 4.8%)***

    3. Investing in Gap (now $18 per share) ***(buy 45 shares, lose $4 on each share, -$180 = -18%)***
4. On October 12, 2007, Goldman Sachs (NYSE: GS) traded for $233.38 per share. In November of the next year it traded for $53.13. Calculate the percentage yield of this stock in that time period? ***(-77%)***
5. Choose 5 publicly traded companies and calculate the percentage changes in the past
    1. Week
    2. Month
    3. Year
    4. 5 years
6. Choose 3 commodities (gold, oil, etc) and calculate the percentage changes in the past
    1. Week
    2. Month
    3. Year
    4. 5 years

Tying It All Together:

Whole Class Discussion: (10 mins)

1. What are some of the advantages and disadvantages of buying and selling stocks?
2. How do they compare to
    1. CDs?
    2. Regular savings accounts?
    3. Investing in real estate?

Have students discuss the stocks they investigated.

1. Are stock prices/changes predictable? Why or why not?
2. Discuss answers to whole class discussion.

What Worked and What I Would Do Differently: