

LESSON SIXTEEN

LESSON 16 PLAYING ALONG WITH THE AVERAGES

INTRODUCTION

The stock market averages are reported every day by the media to show how the markets performed. This lesson will describe those market averages and explain why the performance of a particular stock may not conform to changes in the market average.

ECONOMICS BACKGROUND

Changes in the price of a particular stock involve a change in the supply and demand for that stock. Market averages do not provide a good guideline for predicting the performance of any given stock. Investors must research factors influencing particular stocks to pick stocks that will rise in price and to avoid stocks whose prices fall.

LANGUAGE OF ECONOMICS

Demand (for stocks): The various quantities of stock people are willing and able to buy at different possible prices.

Market: The process through which buyers and sellers exchange with each other.

Supply (of stocks): The various quantities of stock that people will offer for sale at different possible prices.

CROSS CURRICULM SKILLS

Students use computation to solve problems, compute and analyze averages in problem situations, and analyze percents of increase.

OBJECTIVES

1. Students identify the different stock market averages reported by the media.
2. Students identify differences between two different stock market indexes used to measure the performance of the stock markets.
3. Students recognize why stock market averages are not good indicators of the performance of individual stocks.

MATERIALS

- Visuals 1, 2, 3, 4, 5, 6, and 7
- A bowl of warm water and a bowl of ice water

TIME REQUIRED

One class period

PROCEDURE

1. Explain to students that they are going to learn what the different stock market indexes are and how information from different indexes might be useful to investors.
2. Display Visuals 1-5. Ask the students to note the different companies in each index. Explain that these indexes report stock prices in each of the four stock markets. Ask: What do you think will happen to the percentage change in these indexes on the same day? Will they be the same or different?
(Because different stocks are chosen to make up each index, the percentage changes should be different each day.)
3. Show students Visual 6, *Comparing Index Changes*. Explain that in 1995 the general rise in the stock market was led by technology stocks for relatively new companies listed on the NASDAQ Stock Market. Ask students why the Dow Jones and NASDAQ index averages did not rise at the same rate.
(Individual stock prices change at different rates. When indexes use different stocks to calculate an average, the indexes will not measure the same degree of change.)
4. Suggest to students that they follow an index that is closely related to their stocks. Then suggest that they remain skeptical of any index or average because it will not accurately reflect price changes in the particular stocks they own. To demonstrate that point, the class will do a few *Are you an average thinker?* experiments.

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5. Ask students to participate in a few averages experiments.

One small group should solve the following problem: If stock market club has 20 members, with 10 in the 10th grade and 10 in the 12th grade, what is the average grade level of the members?
(11th grade)

One small group should solve the following problem: For a stock market club with 20 members, of whom 19 members have \$1 to invest and 1 member has \$999,981 to invest, what is the average investment contribution per member in the club?
(\$50,000)

Put a bowl of hot water and a bowl of ice water on a table in front of the classroom. Ask one student to put her hands into the water, one into each bowl. Ask if she is comfortable. If she says she is not comfortable have her explain the problem – after all, the average water temperature in the bowl is moderate.
(*She does not feel an average. She feels the two extreme temperatures. The average is a false indicator of temperature in this situation.*)

6. Ask students to describe the problem with Average Thinking.
(*Averages mask extremes. By adding the highs and the lows and dividing, we get a number that is unlikely to reflect the frequent or usual occurrence. Rarely are fractions, people, or stock prices average.*)
7. Optional activity. Show students Visual 7, *What Is an Index?* After reading Visual 7, ask them to answer the following questions:

How is a market index different from a market average?
(*An index measures only a sample of market stocks to gain its measurements. An average would include all stocks listed on the market exchange.*)

What is meant by applying different “weights” to different sectors?
(*You give the most important sectors “weight” in your calculations to increase their value more than the others. For example, a teacher may weight a student’s final examination grade more than other tests. Each test has 25 questions, but the final test questions are worth 4 points while the other test questions are worth 1 point. Four stocks in an index may all have changed plus \$2, but if one stock is weighted double, the index will show a larger increase than if it had not been weighted double.*)

8. When would an index average reflect your investment success accurately?
(*If you owned the same stocks used in the index calculation and the same mix of stocks used in the index calculation, your investments would move at the same rate as the index. Remind students they can buy mutual funds that reflect the same changes as the stock market indexes. These are called indexed funds.*)

CLOSURE

Review the main points of the lesson:

1. Several different indexes report the general level of stock prices. We looked at the Dow Jones Industrial Average, the S&P 500, The NASDAQ Composite, and the AMEX Composite.
2. Stock buyers follow changes in the indexes to see how the stock market as a whole is changing.
3. Individual stocks move at rates that differ from the general indexes.
4. Averages can be misleading.

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ASSESSMENT

Multiple Choice Questions:

1. Which of the following indexes does not measure the performance of stocks in one of the major stock exchanges?
 - *a. Consumer Price Index
 - b. Dow Jones Industrial Average
 - c. NASDAQ Composite
 - d. S&P 500
2. Five different stocks have the following prices:
Stock A = \$10, Stock B = \$10, Stock C = \$10,
Stock D = \$10, Stock E = \$100.
What is the average price of these five stocks?
 - a. \$10
 - b. \$10
 - c. \$55
 - *d. \$28

ESSAY

A friend of yours makes the following comment:

"I could make money in the stock market easily. Just wait for a time when the Dow Jones Average begins to rise. Buy a cheap stock and watch its price rise as the DJ Average rises. Sell the stock as soon as the Dow Jones Average begins to fall. What is so hard about playing the stock market?" Explain to your friend why this strategy might not work.

(First, an individual stock might not move in the same direction as the average. Even during rising stock markets, individual stocks may fall. Second, picking a cheap stock could cause a problem. Stocks are often cheap for a good reason. It may be a stock that is under-performing the market, and it may continue to do so. Third, it is hard to know when an average is going to rise for a long period of time and when it will begin to fall.

Predicting the movement of the average in the future is difficult to do.)

JOURNAL

Track the Dow Jones Average for one week.

Take note of the percentage change in the index; compare that change to the price changes of your stocks and explain why the two rates of change are different.

Graph out all four of the indexes for 1 to 4 weeks. Compare to see if the graphs are similar at the end of the time period and if the trends were similar during the time period.

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VISUAL I STOCK MARKET INDEXES

Dow Jones Industrial Average: An average of 30 industrial stock prices used to indicate the general level of stock prices in the New York Stock Exchange.

The S&P 500: An average of 500 popular stock prices used to indicate the general level of stock prices in the New York Stock Exchange.

Nasdaq Composite Index: A snapshot of the ups and downs of the more than 5,000 companies listed on The Nasdaq Stock Market. Each company affects the index in proportion to its size, which means bigger companies have more of an impact than do smaller ones.

AMEX: An average of several representative stock prices used to indicate the general level of stock prices in the American Stock Exchange.

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VISUAL 2 DOW JONES INDUSTRIALS

1. AT&T Corporation
2. Allied Signal
3. Alcoa
4. American Express
5. Boeing Company
6. Caterpillar, Inc.
7. Chevron Corp.
8. Coca-Cola Company
9. Disney Company
10. DuPont
11. Eastman Kodak Co.
12. Exxon Corporation
13. General Electric Co.
14. General Motors Corp.
15. Goodyear Tire & Rubber Co
16. Hewlett Packard
17. IBM
18. International Paper Company
19. Johnson & Johnson
20. McDonald Corporation
21. Merck and Company
22. Minn. Mining & Manu.
23. JP Morgan
24. Philip Morris Companies, Inc.
25. Procter & Gamble Company
26. Sears, Roebuck & Company
27. Travelers Group
28. Union Carbide Corp.
29. United Technologies Corp.
30. Wal-Mart Stores

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VISUAL 3

30 STOCKS IN THE S&P 500

- | | |
|---------------------------|--------------------------|
| 1. Abbot Laboratories | 16. Green Tree Financial |
| 2. Advanced Micro Devices | 17. GTE Corp. |
| 3. Aetna Life & Casualty | 18. Lockheed Martin |
| 4. AirTouch Communic. | 19. Microsoft Corp. |
| 5. Bally Entertainment | 20. Micron Technology |
| 6. Bausch & Lomb | 21. Nike, Inc. |
| 7. Black & Decker Corp. | 22. PepsiCo, Inc. |
| 8. Campbell Soup | 23. Reebok International |
| 9. Caterpillar, Inc. | 24. Sears, Roebuck & Co. |
| 10. Chrysler Corp. | 25. 3Com Corp. |
| 11. Delta Airlines | 26. Unisys Corp. |
| 12. Digital Equipment | 27. Viacom |
| 13. Exxon Corporation | 28. Wal-Mart Stores |
| 14. Federal Express | 29. Xerox Corp. |
| 15. First Data Corp. | 30. Yellow Corp. |

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VISUAL 4

20 STOCKS IN THE AMERICAN STOCK EXCHANGE COMPOSITE

- | | |
|--------------------------------|------------------------------------|
| 1. Action Industries | 11. Ohio Art |
| 2. Cable Vision | 12. PLC Systems, Inc. |
| 3. Digital Commun. | 13. Rio Algom Limited |
| 4. Financial Fed. Corp. | 14. Saga Communication, Inc. |
| 5. Genovese Drug Stores, Inc. | 15. Thermo Instrument Systems, Inc |
| 6. Hasbro, Inc. | 16. Trans World Airlines (TWA) |
| 7. Interdigital Communications | 17. UTI Energy |
| 8. Kinark Corp. | 18. Vulcan Corp. |
| 9. Laser Industries | 19. Wesco Financial |
| 10. Maxxam, Inc. | 20. Ziegler Companies |

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VISUAL 5

18 STOCKS IN THE NASDAQ COMPOSITE

- | | |
|--------------------------------|-------------------------------|
| 1. Acclaim Entertainment, Inc. | 10. Microsoft Corporation |
| 2. Ben and Jerry's Homemade | 11. NEXTEL Communications |
| 3. Boston Chicken, Inc. | 12. Nordstrom, Inc. |
| 4. Cirrus Logic, Inc. | 13. Outback Steakhouse, Inc. |
| 5. Dell Computer Corp. | 14. Oxford Health Plans, Inc. |
| 6. General Nutrition Companies | 15. Parametric Technology |
| 7. Intel Corporation | 16. Staples, Inc. |
| 8. Intuit Inc. | 17. U.S.Robotics Corp. |
| 9. Micron Electronics, Inc. | 18. Trak Auto |

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VISUAL 6 COMPARING INDEX CHANGES

	Nasdaq Index	Dow Jones Industrial
December 15, 1994	729.07	3807.19
December 15, 1995	1030.48	5176.73
Percent change	41.34	35.97

Why did the two indexes change at different rates during the same time period?

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VISUAL 7

WHAT IS AN INDEX?

While a market (e.g., NYSE, Nasdaq, or AMEX) lists all stocks, an index *often* comprises only a small subset of stocks. In general, when creating an index, the economy is divided into different sectors, such as semiconductors, airlines, footwear, retailers, software, trucking, etc. Once the appropriate sectors are created, leading stocks in those sectors will be chosen to include in the index.

There is no explicit formula used to develop an index. In general, most indexes are made up of stocks from a given sector, but each index applies different weights. When creating an index, you need to determine (a) what sectors to use, (b) how many stocks to use within each sector, and (c) the percentage or weight given to each sector.