Creating and Monitoring
A Diversified Stock Portfolio

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Executive Summary

The purposes of this module are to present the financial advantages of diversification in investing, to give participants the opportunity to create a diversified stock portfolio (across industry sectors) and to monitor the performance of the diversified portfolio. The module can be divided into three related segments:

1. Conceptual discussion of diversification in investing
2. Selecting a diversified stock portfolio across industry sectors
3. Tracking your diversified portfolio

Segment 1 is a discussion to develop the risk reduction aspects of diversification in investing. Segment 2 is a hands-on internet exercise during which participants build a 10-stock diversified portfolio. This segment presents the opportunity to review financial information available to use in stock selection. Segment 3 is a hands-on internet exercise to build a portfolio monitoring template to track the financial performance of the diversified portfolio created in Segment 2. The exercise is designed so that the participant can continue to monitor the portfolio after the class session ends.

Throughout this document, the discussion and language are most often geared for the high school–aged student. However, more comprehensive explanations are provided for the facilitator and for use with more advanced students where appropriate.

Educational Motivation

- To appreciate the advantages of diversification in investing
- To become familiar with selecting stocks to achieve a level of diversification
- To reinforce the use of and to more effectively understand on-line computer-based technology for financial analysis

Overview of Material

Key Terminology:

Asset: Item of value. In this module, asset refers to financial assets such as stocks and bonds.

Asset class: A category of financial asset, such as stocks, bonds or real estate.

Bond: A financial asset that represents a loan made by the investor to the bond issuer. The issuer is legally bound to repay the face value of the bond at a set point in time. Many bonds also pay interest.

Diversification: A means of managing risk by investing in several different securities within an asset class, across asset classes and globally.

Market capitalization: The size of the corporation measured as the total dollar value of all of the company's shares outstanding.

Portfolio: A group of assets held at one time.

Return: Change in value of a security or portfolio over an evaluation period; may consist of interest, dividends, and/or change in market price.

Risk: Degree of uncertainty of the expected rate of return of a security or a portfolio.

Risk aversion: A preference to avoid risk or to be adequately compensated for investing in a risky investment.

Stock: A financial asset that represents ownership of a corporation. The corporation is not legally bound to make any payments or other forms of return to the investor.

Systematic risk: Risk associated with the random movements of the market; it normally cannot be eliminated by diversification. Also called market risk or nondiversifiable risk.

"The Market": The entire stock market, including all exchanges. Commonly a broad-based market index such as the S&P500 serves as a proxy for "the market."

Unsystematic risk: Risk associated with a particular asset; it can be reduced by holding the asset within a portfolio. Also called peculiar risk or diversifiable risk.

Background Information

The sections **Stocks**, **Risk and Return** and **Diversification** covered below, provide the basis for the discussion in Segment 1. Points that the facilitator may address:

- What is a stock?
- How does a stock differ from a bond?
- Why does an investor purchase a stock?
- How does an investor earn a return by investing in a stock?
- What is the downside to investing in a stock?
- What is the relationship between risk and expected return?
- How does a risk-averse investor feel about risk and expected return?
- How can diversification reduce risk?

Stocks

When you invest in (buy) a share of stock, you become an OWNER of the company that issued the stock. You (and all the other shareholders) OWN the factory, the equipment, the income and the expenses. On the other hand, if you invest in a bond issued by the company, you have essentially made a loan to the company. You expect to receive promised interest payments and return of principal from the company and nothing more. A bond is fundamentally different from a stock, and the two should not be confused. For purposes of this module, we will work exclusively with stocks.

As a stockholder, you (and all the other shareholders) OWN all the good things, as well as all the bad things, that happen to the company. The good things and bad things influence the price of the stock, which means they influence the value of the stock you own. When the price of the stock goes up, the value of your holdings increases, and you stand to make money on your investment if you sell. When the price of the stock goes down, the value of your holdings decreases, and you will likely lose money on your investment if you sell.

You also can earn a return on your stock investment if the company pays a dividend to shareholders. A dividend is a periodic cash payment (usually quarterly) made to owners of record of the stock. Whether a company pays a dividend — and, if so, how much — is up to company's board of directors. Companies are not required to pay dividends, and they can lower or stop paying dividends if they so choose.

So, stock price increases and receipt of dividends are the ways that an investor can earn a return on stock investments. On the other hand, if the stock price falls during the investment holding period, an investor would have lost money on the stock investment. This is the major downside risk to stock investing, and a typical investor will want to minimize exposure to this risk. The typical investor, therefore, is risk-averse—very much liking return but disliking risk. Diversification presents an opportunity to reduce risk.

Generally, over a long time, the prices of stocks tend to go up. However, not all stock prices move up and down together. What if you were to create a stock portfolio made up of stocks that tended to not move in lock step? The overall variation (volatility) of the return on your portfolio would be reduced because individual stock price changes would likely cancel each other out to some degree, leading to a more stable return on your portfolio. Your risk would be reduced via this diversification strategy. Diversification accomplishes risk reduction by forming a portfolio of stocks that are likely to move in a complementary fashion. In Segment 2, we will form a diversified portfolio by choosing individual stock investments from different industry sectors. The reasoning is that economic factors will affect each stock and industry sector differently, so we will accomplish risk reduction in the final portfolio.

Risk and Return

(Based on "Investing Strategies" found at www.finra.org/smart401k)

Investing carries some risk, meaning that at the time the investment is made, the investor does not know with certainty what the outcome will be. Risk in investing means the fluctuations of the value of a security or portfolio. If the value of a security varies greatly over time, it is risky. If the value of a security is relatively stable over time, it is less risky. The relationship between risk and return in investing is this: the greater the risk, the greater potential return on the investment. Conversely, a less risky investment is likely to yield a lower return.

An investor could invest money in very safe securities and thereby reduce the riskiness of his portfolio. However, in doing so, he would also be giving up some potential return. This strategy would be appropriate for an investor who planned to use the money for a financial goal in the short-term, i.e., someone who needed to know with some certainty the likely future value of the investment.

On the other hand, an investor could invest money in securities with higher potential return, but this would require taking on more risk. An investor with long term financial goals is likely to enjoy a greater return on investment with riskier securities. However, this investor has to be able tolerate the fluctuations in the value of his securities.

Most investors are risk-averse, meaning that they are anxious to earn greater potential returns on investment but dislike risk. Diversification will provide a mechanism that can be used to provide risk reduction for risk-averse investors.

Diversification

(Based on "A Beginner's Guide to Asset Allocation, Diversification, and Rebalancing" found at www.sec.gov/investor/pubs/assetallocation.htm)

The United States Securities and Exchange Commission describes diversification as follows: "The practice of spreading money among different investments to reduce risk is known as *diversification*. By picking the right group of investments, you may be able to limit your losses and reduce the fluctuations of investment returns without sacrificing too much potential gain." A level of diversification could be accomplished investing in a variety of stocks from different industries and in other types of assets (bonds, real estate, etc.). An investor may also diversify by investing in companies of various sizes and/or from various countries. In this module, we will talk just about stocks for purchase on US stock markets.

To highlight the essence of diversification, consider this simple example: There are only two companies and investment opportunities on a small Caribbean island, one company that sells suntan lotion and one that sells rain umbrellas. On a sunny day, the suntan lotion company will sell lots of lotion and the umbrella company will sell very few umbrellas (because the umbrellas are transparent and will not provide shade!). However, on a rainy day, the umbrella company will sell lots of umbrellas and the suntan lotion company will sell very little lotion. If you were to invest solely in either company, you would hope for either all sunny days or all rainy days. It is clear that either investment choice would be RISKY because the weather will be unknown in advance. Is there any way to lessen your exposure to any specific weather pattern? If you were to invest some of your funds in the suntan lotion company and the remaining funds in the umbrella company, you would earn a return if either weather condition would occur. By diversifying your portfolio

(holding two stocks instead of a single stock), you have reduced your risk exposure. Risk-averse investors would find the diversified portfolio more appealing than holding stock in only one of the two companies. (This example was taken from *Financial Leverage, The Capital Asset Pricing Model and The Cost of Equity Capital*, Harvard Business School Case #9-280-100, 1980.)

The stocks that are traded on the stock exchanges can be divided into 11 sectors. Think of the suntan lotion company and umbrella company as representatives from two different industry sectors. Stocks in the different sectors tend to react differently to different events; that is, something that makes stock prices in one sector go down may make stock prices in another sector go up. What makes stock prices in one sector change may not make stock prices in another sector change at all.

Most finance textbooks recommend a portfolio of 30–40 different stocks to achieve adequate diversification. Because of time constraints, our goal in segment 2 will be to create a diversified portfolio by choosing 10 stocks, each from a different industry sector.

Web Site Documentation

www.finra.org/smart401k
A tutorial about investing through 401(k) retirement plans published by the Financial Industry Regulatory Authority (FINRA). Includes a discussion of risk management and diversification that is also relevant for non-retirement investing.

www.sec.gov/investor/pubs/assetallocation.htm
A tutorial about asset allocation, diversification, and rebalancing published by the US Securities and Exchange Commission (SEC).

www.smartmoney.com/tools
Provides a Map of the Market, a wealth of information about any specific stock, and a portfolio management tool (used extensively in segments 2 and 3).

www.finance.yahoo.com
Provides a stock screener tool, stock specific information, and ticker symbol look-up (can be used during segment 2 to augment Map of the Market financial information).

www.streetauthority.com/education.asp
Provides a glossary of financial terms and profiles of the various market indices (provides good background information).

Lesson Plan and Relevant Assignments

Materials Needed:

- WEBSITES handout
- SELECTING DIVERSIFIED STOCKS worksheet
- MONITORING A DIVERSIFIED PORTFOLIO worksheet (with user name, password, and end date for monitoring)

90-minute Lesson Plan:

20 minutes: Segment 1. Pass out the WEBSITES handout and SELECTING DIVERSIFIED STOCKS and MONITORING A DIVERSIFIED PORTFOLIO worksheets. Review key terminology and background information.

40 minutes: Segment 2. Have students complete the assignment **Selecting Diversified Stocks** below. Encourage students to explore the variety of financial information available and to share their reasons for choosing a specific stock in a sector.

25 minutes: Segment 3. Have students create portfolios online according to the assignment **Monitoring a Diversified Portfolio** below.

5 minutes: Assign follow-up questions of the assignment **Monitoring a Diversified Portfolio** as homework.

35-minute Lesson Plan:

Even in this shorter session, it is recommended that both internet assignments be done. The class session will necessarily contain less conceptual discussion.

5 minutes: Segment 1. Pass out the WEBSITES handout and SELECTING DIVERSIFIED STOCKS and MONITORING A DIVERSIFIED PORTFOLIO worksheets. Review key terminology and background information.

15 minutes: Segment 2. Have students complete the assignment **Selecting Diversified Stocks** below. Encourage students to explore the variety of financial information available and to share their reasons for choosing a specific stock in a sector.

15 minutes: Segment 3. Have students create portfolios online according to the assignment **Monitoring a Diversified Portfolio** below.

Assignments:

Segment 2 - Selecting Diversified Stocks

The stocks that you own make up your portfolio. A diversified portfolio increases the likelihood that you will not be taking on unnecessary risk. Have each student select stocks to create a diversified portfolio of 10 stocks, one stock from each of ten industry sectors.

URL: www.smartmoney.com/tools

1. Click on "**Map of the Market.**" The map of the stock market is divided into 11 industry sectors. Within each sector, there are a number of companies in which you may choose to invest. Each colored block represents a company. The relative size of the block indicates the size of the company (by market capitalization) as compared to its competitors.
2. Note the Legend that pops up in a small window. (If the Legend doesn't pop up automatically, click on the "Controls" button at the upper left of the Map window.)

a) The **Color Key** in the Legend indicates whether the return of an investment in each company has been positive (green) or negative (red) over a given time period, as defined in the "Show change since" section of the Legend. (Note that there is an option to use blue/yellow instead of red/green.)

b) In the "**Highlight Top 5**" section of the Legend, you may select to have the five stocks with the largest increase in value or largest decrease in value over the given time period highlighted.

c) You may find a particular stock in the Market Map by typing its name or ticker in the "**Find**" section of the Legend.

3. Move the cursor over the Map. Note that as the cursor moves over a block, the name of the company, its ticker and its price performance over the time period selected in the Legend are displayed. When the cursor is on a stock of interest, click the mouse to see more options for available information about the company.

Note that more information about the Map of the Market is available by clicking the "Instructions" button at the upper left of the map webpage. If the Control Panel disappears, it can be recovered by clicking on the "Controls" button at the upper left of the map webpage.

Students should be given the opportunity to explore the Map of the Market. Eventually each participant should use the SELECTING A DIVERSIFIED PORTFOLIO worksheet provided below to record the 10 stocks (and each stock ticker symbol) in his/her diversified portfolio. The students will then use this worksheet in the **Monitoring a Diversified Portfolio** assignment. The facilitator will want to discuss alternative methods that students used to choose their 10 stocks. For example,

- Random selection – this method is not as silly as it first seems; there is much empirical evidence to suggest that investors cannot consistently pick high performing stocks.
- Contrarian selection – selection of stocks that have performed poorly recently with the hope that their fortunes will reverse; the famous investor Mr. Warren Buffet follows this approach.
- Familiarity selection – students pick stocks for which they know and like the company's products; Mr. Peter Lynch, the famous Fidelity Magellan Fund manager, uses this technique.
- Analysts selection – stocks are picked based on the consensus rating of analysts following the stock (this information is available on the Map of the Market).

Segment 3 - Monitoring a Diversified Portfolio

Prior to assigning this exercise, the facilitator will need to set up a portfolio account at the website.

URL: www.smartmoney.com/tools.

1. At www.smartmoney.com/tools, click on the "My Portfolio" tab.
2. Click on the "Click here to register" link below the Submit button.
3. Fill in the requested information.

   a) SmartMoney allows for one portfolio account per e-mail address. Therefore, it may be helpful to set up a separate internet e-mail account for each use of this exercise. For example, you might create a Hotmail account at www.hotmail.com with a user name applicable to the class for which it is intended, such as Invest_Fall_2010.

   b) It might be useful to choose a SmartMoney user name applicable to the class for which it is intended, e.g., Invest_Fall_2010.

   c) It might be useful to choose a password that is easy to remember, e.g., stocks.

   d) Check the e-mail used for setting up the SmartMoney account for a message requiring verification of the SmartMoney account. Failure to complete the verification will result in the account going dormant so that students will not be able to access their portfolios after several days.

4. Fill in the SmartMoney user name and password, as well as an end date for monitoring on the MONITORING A DIVERSIFIED PORTFOLIO worksheet provided below. An end date should be chosen that is suitable for the class schedule but that is at least a week after the start date.

Note that an account will allow for the creation of up to 50 separate portfolios, each of which can contain up to 50 stocks.

For explanations of the information provided on a portfolio report, click “Help” above your portfolio name. For answers to additional questions, click “FAQs” at the top of the Help page. Information here includes changing the font size and answers to many technical questions.

The data entry procedure to create the portfolio is outlined in the MONITORING A DIVERSIFIED PORTFOLIO worksheet. After the portfolio is entered, the value of the portfolio will automatically change as the market moves (subject to a 20-minute delay). The student can easily monitor portfolio performance on a dollar basis or rate of return basis.

DIVERSIFICATION WEBSITES

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www.sec.gov/investor/pubs/assetallocation.htm
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www.smartmoney.com/tools
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www.finance.yahoo.com
Provides a stock screener tool, stock specific information, and ticker symbol look-up.

www.streetauthority.com/education.asp
Provides a glossary of financial terms and profiles of the various market indices.

DIVERSIFICATION

SELECTING A DIVERSIFIED PORTFOLIO

List the 10 stocks of your choice here:

Stock Number	Name	Symbol
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

DIVERSIFICATION

MONITORING A DIVERSIFIED PORTFOLIO

To track your portfolio on the internet, go back to www.smartmoney.com/tools.
Click on the "My Portfolio" tab.

User ID: _____

Password: _____

1. Click the "Create New Portfolio" button. Type your name in the Portfolio Name box and put **100000** in the starting cash balance box. The radio dial by "Enter transactions" should be marked. Click "Submit."

2. Put the ticker symbol of the first stock in your list above in the Ticker box. Make sure that the Transaction box says "Buy." Click on the "(Date) Price" button so that the price pops into the "Price" box. Enter the number of shares of that stock you want to buy in the "Shares" box.

3. Repeat step 2 for each of the stocks. After you've entered the last stock, click "Submit." This will bring you to a portfolio report that summarizes your portfolio holdings.

4. To make changes to an already-recorded transaction, click "Transactions" above your portfolio name (Not Edit). For the transaction that you wish to change, click "Edit" at the end of the line for that transaction. To delete a transaction, click the box in the Delete column for that transaction and click the "Delete" button.

5. To delete an entire portfolio, click "Edit" above your portfolio name. Click the "Delete Portfolio" button.

   Check your portfolio on _____.
   (date)

Remember that the portfolios of all class members are contained within this log-in name. When you log in to monitor your portfolio, be sure to select YOUR portfolio name from the drop-down menu labeled View Other Portfolio.

For each stock, the Gain/Loss % column indicates the return on your investment in that stock. How do the returns on the various stocks differ? What events or conditions might have influenced the different returns?