

# MU\$EUM OF AMERICAN FINANCE

## THE FINANCIAL MARKETS

### OBJECTIVES

Students will be able to:

- Understand the trade-off between risk and reward in investing
- Identify and define the three major financial asset classes
- Explain what factors cause financial market fluctuations and crises
- List the three dates in the past century before 2007 when the US stock market declined dramatically
- Explain why governments and companies have issued bonds historically and today
- Describe what drove the history of the delivery of information to investors

### VOCABULARY

**Asset** – Something of value to an individual or a company. The major financial asset classes are stocks, bonds and commodities.

**Bear Market** – A market that is declining in value.

**Bonds** – A financial instrument that is a promise to repay borrowed money. Bonds are issued at a fixed rate of interest, and with a set maturity date. Bonds traded in the financial markets include treasuries, municipal bonds, corporate bonds and asset backed securities, such as those backed by a package of mortgage loans.

**Bubble** – An extended period of extreme overvaluation. During a bubble, investors are driven by contagious optimism and by the fear of missing out while others make millions. A bubble can occur to the stock, bond, commodity or real estate markets, or to the economy of one country or region.

**Bull Market** – A market that is rising in value.

**Commodities** – Any raw material, such as oil, silver, gold, wheat or pork bellies. Commodities can be sold for physical delivery, or traded as “futures” on a commodities exchange, where

investors or farmers or companies buy or sell a raw material for delivery at a certain price on a set date in the future. Financial futures, such as foreign exchange and interest rates, are also traded on commodity exchanges.

**Commodity Exchange** – A place which offers a regulated market in everything from the future price of pork bellies to stock indexes. The Chicago Mercantile Exchange Group (CME) is a futures exchange where interest rates, foreign exchange and stock indices, among other things, are traded.

**Credit** –The ability of a person(s) or organization(s) to borrow money.

**Diversification** – Investing in more than one type of asset to reduce investment risk. For example, a diverse portfolio includes different stocks from a variety of industries.

**Dividend** – A payment made to shareholders from a company's earnings, usually quarterly. The company's board of directors usually set the amount of the dividend.

**Dow Jones Industrial Average** – An index that measures the performance of a basket of 30 stocks, used widely to track the performance of the stock market. The first Dow Jones Industrial Average, created in 1896, consisted of only 12 stocks, 11 of which are still in business today.

**Earnings per share** –The profits allocated to each outstanding share of stock. This figure is determined by dividing the company's net income by the number of shares outstanding.

**Futures** – A financial instrument that represents a legally binding agreement to buy or sell a specified quantity of a commodity at a set price and location on a predetermined date.

**Insider Trading** – The illegal manipulation or communication of information by insiders to get an investing edge.

**Liquidity** – The ability of an asset to be changed into cash quickly and without a price decrease.

**Stocks** – A share of ownership in a company.

**Stock Exchange** – A marketplace where stocks are bought and sold.

**Ticker** – A scrolling print or electronic display of current stock prices.

**Volatility** – The rate at which the price of a stock, bond or commodity changes (fluctuates) in value. This may also be applied to an entire exchange, or the market in general.

**Yield** – For a bond, the yield is the income from the interest rate on the bond divided by its face value. For a stock, the yield is the dividend per share divided by the price of the stock.

## CURRICULUM UNIT GUIDE: THE FINANCIAL MARKETS

### **Risk and Reward**

Investors continually evaluate the trade-off between risk and reward when they make investment decisions. The riskier the investment, the greater the expectation for reward. Determining the right balance between risk and reward requires knowledge about the recent and historical past performance of the financial markets. Successful investors also rely on up-to-date, detailed, accurate and timely information about the economy and individual assets, and an understanding of their personal goals and appetite for risk. For example, the longer it will take for an investment to be profitable, the greater the reward required to attract investors. The greater the variability of return (*volatility*), the greater the perception of risk. Finally, past performance and theory have taught investors that a diversified investment portfolio reduces their risk and makes success more likely. Of course, each investor interprets and measures these trade-offs differently, and these millions of individual and collective decisions are what drive the performance of all financial markets.

### **Financial Assets**

There are three major classes of financial assets: *stocks*, *bonds* and *commodities*.

A *stock* is a share of ownership in a company. Stocks do not have a fixed price, like the prices of groceries in a store. Instead, the price of a stock is determined by supply and demand—how many investors want to buy it and how many investors want to sell it. A stock's value can increase when a company or its industry are booming, when its profits are growing or when investors, for whatever reason, expect them to grow. In a *bull market*, there are more buyers than sellers and stocks increase in value; in a *bear market*, there are more sellers than buyers, and the stock market declines. Although the Museum displays many paper stock certificates dating from the 1800s, today individual investors can buy stocks electronically – online, through a discount brokerage house, or on the phone, through a full-service broker or advisor.

Large blocks of stocks can be traded by institutional investors, such as pension funds or mutual funds, through investment middlemen or through *stock exchanges* such as the New York Stock Exchange (NYSE). The NYSE is the world's largest and most liquid stock exchange. Today, most of the trading on the NYSE is done electronically. Buyers and sellers compete for the best price determined through supply and demand. This exchange makes it possible for companies from the United States and around the world to raise funds, while enabling millions of investors to profit from their growth.

A *bond* is a financial instrument that is a promise to repay borrowed money. Bonds are issued at a fixed rate of interest, and a set maturity date. Bonds are issued when governments, municipalities, companies or countries want to borrow a large sum of money to fund their operations or growth. Bonds traded in the financial markets include treasuries, municipal bonds,

corporate bonds and asset backed securities, such as those backed by a package of mortgage loans.

The largest influence on the price of bonds is the economy, whose performance risk investors track by following interest rates, non-payment of credit, jobs and government policies. While stock investors can profit when their stock increases in value and when it pays a dividend; bond investors can make money when their bond increases in value, and more predictably, from the interest rate, or yield, offered them for loaning money. Historically, bonds have proven to be a less risky financial asset than stocks, and their return has reflected that. The average annual return of the bond market over the past 80 years has been 6%; the average annual return of the stock market over the same period was 11%.

Throughout US history, the government has issued bonds to fund itself and to grow. All of our nation's wars have put the country in debt. During the century following the Revolutionary War, the United States was a debtor country that relied on bonds to borrow money. Bonds have been issued after most of the other wars in our nation's history, with campaigns appealing to Americans' sense of patriotism and national unity. "Bonds Built the Nation" is a featured exhibit at the Museum, and bond certificates dating from the late 1700s are on display.

*Commodities* are the third financial asset class; they are any raw material, such as oil, silver, gold, wheat or pork bellies. Commodities can be sold for physical delivery, or traded as "futures" on a *commodities exchange*, where investors or farmers or companies buy or sell a raw material at a certain price for delivery at a set date in the future. Financial *futures*, such as foreign exchange, interest rates and stock indices, are also traded on commodity exchanges, which are regulated marketplaces. The former New York Mercantile Exchange, now part of the CME Group, is the largest physical commodities futures exchange in the world. The Chicago Mercantile Exchange Group (CME) is a futures exchange where interest rates, foreign exchange and stock indices are also traded.

## **Market Fluctuations and Crises**

It is natural for all financial markets to fluctuate, or change, in value. Between 1920 and 2007, the stock market experienced three major declines in value, and numerous dips. Fluctuations are inevitable, triggered by factors that range from normal economic cycles to the "herd" mentality that drives investors to buy irrationally, resulting in *bubbles*, or sell irrationally, resulting in crises. Rebounds have eventually followed every decline, and many buyers find opportunity in crisis. The drama of big fluctuations reminds us that there are often strong emotions behind every sophisticated investing decision. In finance, fear and greed can be very powerful forces.

During the optimistic decade of the 1920s, the euphoria brought by the age of flappers and the strength of the US economy found its way to Wall Street. The trading volume on the NYSE rose five-fold during the decade, creating a huge bubble. But investors who believed the market could not fall took risks that helped trigger a tragic crash. More and more investors borrowed

money to buy shares, and then used those shares as collateral to borrow money to buy even more shares. When stock prices began to fall on the morning of October 24, 1929, “Black Thursday,” investors who had borrowed rushed to sell their securities, leading to panic and even more selling. During that week, investors lost \$30 billion. By the time it bottomed out in 1932, the stock market had lost more than 80% of its value, and the Great Depression was in full stride. Had the Federal Reserve in 1929 created more liquidity through its monetary policy, the Great Depression might not have followed the crash. Instead, disaster took its course.

Even though the Crash of 1929 is imprinted in America’s historical memory, many people believed that it could never happen again. But on October 19, 1987, the stock market crashed again. A bull market had led to increased buying of stocks throughout 1987, but on October 19, some anxious investors began to sell their stocks. The effect of their sales was enlarged dramatically by “program trading,” as the falling prices of stocks triggered automatic sell orders on computers at brokerages around the world. These automated sell-offs sent prices falling faster. By the day’s end, US stock markets had lost \$500 billion in value. In percentage terms, the market fell further on the day of the 1987 crash than it had in 1929. This time, however, the Federal Reserve added *liquidity* through its policies and restored investor confidence. The market stabilized and recovered its lost ground within two years.

On March 13, 2000, the stock market again declined dramatically, caused by the Internet bubble. In the 1990s, the Internet had become a driving economic force. Many investors came to believe that innovations in technology had changed the rules of investing. In deciding what stocks to buy, many people focused on hypothetical future sales, not current profits. Companies associated with the Internet saw their stock prices soar, leading to a bubble in technology stocks. The dramatic upswing broadened interest in investing; in 1997 daily trading volume on the NYSE jumped 50% to three billion shares. Few technology companies could meet the profit expectations built into their stock price, and from 2000-2002 stock prices collapsed. In that two-year period, the technology sector of the stock market lost almost 80% of its value, while the market overall declined by more than 35%.

It is important to remember that bonds, as well as stocks, can fluctuate in value and lead to a crisis: the decline in the performance of mortgage-backed bonds figured significantly in the credit crisis of 2008.

## **Information and Technology on Wall Street**

Investors require accurate, timely information to make informed investment decisions. Most investors believe that the best information leads to the most profitable trades. The history of information delivery to investors on Wall Street has been a story of more information delivered faster across greater distances through the use of technology.

In the early years of our country, information traveled very slowly. In the era before instant global communication, investors could profit by simply being the first to get the news. Before the invention of the telegraph, when information about Europe came via ship, some brokers would

pay agents to board ships in the Boston harbor and send out homing pigeons to New York with information that could help some investors get a leg up on the market.

It wasn't until stock tickers were first introduced in 1867, made possible by the invention of the telegraph, that prices were available shortly after trades were made. The telegraph made it possible to relay information about trades on stock tickers, which reduced the lag in the delivery of information from weeks to hours and then minutes. The *Dow Jones Industrial Average*, an index that measures the performance of a basket of stocks, was created in 1896. It originally consisted of only 12 stocks, 11 of which are still in business today. Today, the Dow Jones Industrial Average consists of 30 stocks and is used widely to track the performance of the whole stock market.

Eventually, the stock ticker became too slow to adequately inform investors, especially during periods of heavy volume. During the Stock Market Crash of 1929, for example, there was a delay of up to two hours between trades and the tickers. The lack of confidence in the price information increased uncertainty and was one of the factors that fed the market's downturn. Today, computers have made it possible to communicate information about news or trades in seconds, and Bloomberg terminals are used by many traders.

The use of illegally obtained information to try to outsmart the market is called *insider trading*, and it is one of the factors that can lead to a lack of confidence in the financial markets. Throughout our nation's history, investors have manipulated information to try to get an edge. During the first century of the NYSE's history, deliberately placing unflattering articles in the press was a favorite technique of manipulators seeking to influence the price of a stock. Today, government regulators, especially the Securities and Exchange Commission (SEC), monitor trading to protect the public and investors against insider trading.

## **DISCUSSION QUESTIONS**

1. Name the three major financial asset classes.
2. How would you expect a riskier investment to perform vs. one that is less risky?
3. Choose one of the three dates when the stock market declined dramatically this century and explain some of the causes of the decline or crash.
4. Why do you think the government issued a Central Park bond in 1864?
5. How have inventions met investors' need for more information delivered faster throughout American history?

## **CLASSROOM ACTIVITY**

This challenging activity is designed to help students understand the trade-off between risk and reward. The table below gives students information about the Dow Jones Industrial Average and five stocks as of November 2009.

<b>Stock or Index</b>	<b>52 Week High Price</b>	<b>52 Week Low Price</b>	<b>Earnings Per Share</b>	<b>Dividend Yield</b>
Apple	215.59	78.20	6.29	0%
Citibank	7.58	0.97	-2.70	0%
Ford	11.56	1.50	-1.43	0%
Johnson & Johnson	65.41	46.25	4.58	3.07%
McDonalds	64.75	50.44	3.87	3.53%

1. Which stock has had the greatest percent variation in its price performance during the last year?
2. Explain why investors might believe that a high dividend yield makes a stock less risky.
3. Which stock do you think is most likely to have reached its peak in price compared to the average?
4. If you had \$1,000 to invest, which stock would you buy? Briefly explain your decision in terms of the trade-off between risk and reward for you.