A Random Walk Down Wall Street

Chapter 1-Firm Foundations and Castles in the Air:

What is a Random Walk?

Many people say it is hard for an individual investor to beat Wall Street Professionals. However, this is false. There are many strategies to do this. First, what is a random walk? A random walk is one in which future steps or directions cannot be predicted on the basis of past history. In the stock market, it is saying that short -run changes in stock prices are unpredictable. To the extreme, it means a blind-folded monkey can throw darts at the stocks listings and select a portfolio that would do as well as one selected by the experts. There are two techniques that professionals arm themselves with: fundamental analysis and technical analysis. Academics parry these tactics by obfuscating the random walk theory by creating their own theory called the new investment technology, which includes a concept called beta, including "smart beta".

Investing as a Way of Life Today

The author defines investing as a method of purchasing assets to gain profit in the form of reasonably predictable income and/or appreciate over the long term. A speculator buys stocks hoping for a short-term gain over the next days or weeks. An investor buys stocks likely to produce dependable future stream of cash returns and capital gains when measured over years or decades. In the US and most of the world, inflation fell to 2 percent or below in early 2000s, and experts believed that this would continue for decades to continue. However, the author believes that that they should dismiss the possibility of inflation in the future, as productivity growth has been slowing down, as salaries rise, the products and services' prices will rise as well. Thus, upward pressure on prices cannot be dismissed.

If inflation were to proceed at a 2 to precent rate, the effect on purchasing power would be devastating. If we are to cope with even a mild inflation, we must undertake investment strategies that maintain our real purchasing power; otherwise, we are doomed to an ever-decreasing standard of living.

Investing in Theory

All investment returns are depending on future events. It's a gamble whose success depends on an ability to predict the future. There were two approaches to asset valuation that the pros used: the firm foundation theory or the castle-in-the-air theory. They are mutually exclusive.

The Firm-Foundation Theory

The firm-foundation theory argues that each investment instrument has a firm anchor of something called intrinsic value. When market prices below a firm foundation of intrinsic value, a buying opportunity arises, because this fluctuation will eventually be corrected. Williams presented a formula for determining intrinsic value. This was called discounting, which is looking at income backwards and looking at money expected in the future and seeing how much less it is worth currently. Williams argued that the intrinsic value of a stock was equal to the present value of all its future dividends. This theory stresses that a stock's value ought to be based on the stream of earnings a firm will be able to distribute in the future in the form of dividends or stock buybacks, this differences in growth rates are a major factor in stock valuation. However, the foundation of intrinsic value may be less dependable than claimed because it relies on some tricky forecasts of the extent and duration of future growth.

The Castle-In-The-Air Theory

The Castle-in-the-air theory of investing concentrates on psychic values. John Maynard Keynes opinion leads to pros to prefer to devote their energies not to estimating intrinsic values

but rather analyzing how the crowd of investors is likely to behave in the future and how during periods of optimism they tend to build their hopes into castles in the air. Keynes noted that no one knows for sure what will influence future earnings' prospects and dividend payments. Thus it is more important to see changes in the conventional basis of valuation a short time ahead of the general public rather than long-term forecasts. Keynes focused on psychological principles rather than financial evaluations. In short, an investment is worth a certain price to a buyer because she expects to sell it to someone else at a higher price. The new buyer in turn anticipates that future buyers will assign a still higher value. Any price will do as long as others may be willing to pay more so the investor only has to beat the gun. It is also known as the "greater fool" theory.

Chapter 2- The Madness of Crowds:

Although castle in the air theory can well explain such speculative binges, outguessing the reactions of a fickle crowd is a most dangerous game. There is because there is a lot of stupid people in this world. Unsustainable prices may persist for years, but eventually they reverse themselves.

The Tulip-Bulb Craze

In old Holland in the early seventeenth century, a botany professor was growing tulips and one time it got stolen by a thief. Over the next decade, the tulip became popular and expensive. Many of these flowers got infected with a nonfatal virus known as mosaic, which caused colored stripes or "flames" on them. Having more flames caused it to be more expensive. Slowly, tulipmania settled in and people tried to predict which tulip will be the most popular and buy them in bulks. Tulip-bulb prices began to rise wildly, and bulbs became more expensive, leading them to be smart investments for people. Everyone thought the craze for tulips would last

forever. The temptation to not buy tulips was very high. They would even barter personal belongings to buy tulips. Part of the genius of financial markets is that when there is a real demand for a method to enhance speculative opportunities, the market will surely provide it. The method for tulip purchases were similar to call options, where a call option conferred on the holder the right to buy tulip bulbs at a fixed price during a specified period. Options provide one way to leverage one's instrument to increase the potential rewards as well as the risks. Another story is that a sailor traded an "onion" for a breakfast at the harbor but turned out to be a very rare tulip called the Semper Augustus tulip bulb. However, after a couple of months, there was a large decline in the prices. Like a snowball rolling downhill, bulb deflation grew at an increasingly rapid pace, and in no time at all, panic reigned.

The South Sea Bubble

Fraud can make greedy people even more eager to part with their money. At the time of the South Sea Bubble, the British were ripe for throwing away money. In 1693, having a stock was a luxury and only 499 people had ownership of East India stock. The South Sea Company was formed in 1711 to restore faith in the government's ability to meet its obligations. The company took on a government IOU of almost 10 million euros. As a reward, it was given a monopoly over all trade to the South Seas. It reaped profits at the expense of others. Holders of government securities exchanged it for South Sea Company shares. However, not a single director of the company had the slightest experience in South American Trade. This did not stop them for being involved in the slave trade, which did not prove to be profitable. The directors though were wise in the art of public appearance. They bought a fancy headquarters and recovered from mistakes. John Law made another company by acquiring a derelict concern called the Mississippi Company and proceeded to build a conglomerate that became on the of the

largest capital enterprises to exist. Its stock price rose from 100 to 2000 is 2 years. To counter this, South Sea Company started to reap benefits of peace around the world, showing free enterprise at its finest. The South Sea company used some gimmicks to pass a bill, and issued many lucrative stocks, that even the king couldn't resist. They even issued stocks to ease the public appetite. As this wasn't enough, another issue was floated. The South Sea Company had a tough time handling the demands of all the fools. People also looked for new ventures that would be next South Sea Company. There were nearly one hundred different projects, each more extravagant and deceptive than the other. They were called "bubbles" because they popped quickly.

Signs that the end was near appeared with the issuance of a pack of South Sea playing cards. Each of these cards contained a caricature of bubble company. This led to an irreparable puncture to the company, leading to directors and officers selling out. As the news leaked, the stock fell, and panic reigned. Mississippi Company also fell as the public realized printing money only increased inflation. To protect the public from further abuses, Parliament passed the Bubble Act, which forbade the issuing of stock certificates by companies.

Wall Street Lays an Egg

In the 1920s, the country was experiencing unrivaled prosperity. In 1928, stock-market speculation became a national pastime. Not everyone was speculating in the market, but there were hundreds of operators glad to help the public construct castles in the air. There was a lot of manipulation in the stock market. The prime example is the investment pool. An investment pool required close cooperation on the one hand and complete disdain for the public in the other. It started with a number of traders banded together to manipulate a particular stock. They would manipulate the stock price, as well as ensure that the flow of news from the company's

management was increasingly favorable. As the public came in, the public did the buying, and the pool did the selling. This lead to the pool netting large profits and the public holding the suddenly deflated stock. Albert Wiggin, the head of Chase, in July 1929, he short sold 42000 shares of his own stock because he believed the price of the stock had reached a high. Selling short is a way to make money if stock prices fall. It involves selling stock you do not currently own in the expectation of buying it back later at a lower price. The Chase price fell, and Wiggins made a fortune. Now, there are rules against insider trading.

September 5th was the Babson Break, as the market suffered a sharp decline after an all-time high on September 3rd. Roger Babson predicted that this crash was going to happen. As his words were released to the public, the market went into a nosedive. By October 21st, the stage was set for a classic stock market break. The decline led to many people having to sell their shares. More than 6 million shares were sold that day. October 24th, the Black Thursday, the market volume was almost 13 million shares, which prices falling tremendously. October 29th , 1929 was the most catastrophic day in the New York Exchange. More than 16.4 million shares were traded that day and prices fell perpendicularly and kept falling. The speculative boom was dead, and billions of dollars of share values were wiped out.

Some smart people like Irving Fisher and John Keynes believed that the stocks were reasonably priced. Harold Bierman Jr even said that the extreme optimism undergirding the stock market might even have been justified had it not been for inappropriate monetary policies. The crash itself was precipitated by the Federal Reserve Board's policy of raising interest rates to punish speculators. However, history teaches us that sharp increases in stock prices are seldom followed by a gradual return to relative price stability. Thus, the stock prices of the late 1920s couldn't have been sustained even if prosperity continued. The anomalous behavior of

closed-end investment company shares provides evidence of a wide-scale stock market irrationality in 1920s. The premiums of the some of the best-known funds were astronomical. It was irrational speculative enthusiasm that drove the prices of these funds far above the value at which their individual security holdings could be purchased.

Chapter 3-Speculative Bubbles from the Sixties into the Nineties

The Sanity of Institutions

By the 1990s, institutions accounted for more than 90 percent of the trading volume on the New York Stock Exchange. Professional institutions bid actively for stocks not because they anticipated that fools would take rebuy the shares at even more inflated prices.

The Soaring Sixties-The New "New Era": The Growth-Stock/New-Issue Craze

Growth companies were the hottest topics in the 60s. Promoters of these firms issued more stocks in the 1959–62 period than at any previous time in history. Even if the companies had nothing to do with technology, as long as they sounded electronic, then the stocks boomed, aka the tronics boom. To protect against fraud, the SEC was there, but they could not do anything as long as the companies prepared an adequate prospectus. A model prospectus said this:

WARNING: THIS COMPANY HAS NO ASSETS OR EARNINGS AND WILL BE UNABLE TO PAY DIVIDENDS IN THE FORESEEABLE FUTURE. THE SHARES ARE HIGHLY RISKY.

This was not enough to keep buyers away. Tronics boom fell in 1962.

Synergy Generates Energy: The Conglomerate Boom

Part of the genius of the financial market is that if a product is demanded, it is produced. By the mid-1960s, creative entrepreneurs suggested that growth could be created by synergism. This new creation was called a conglomerate. Antitrust laws during that time prohibited large

companies from buying firms in the same industry, but allowed purchases of firms in different industries without government interference. The consolidations were done to achieve higher sales and earnings through synergism. The conglomerate wave of the 1960s was driven by the ability to produce growth in earnings per share through acquisitions. Managers of conglomerates lacked operating skills but possessed financial expertise and could combine companies with no basic potential to create steadily rising per-share earnings. This was accomplished by offering stock swaps to acquire companies with lower earnings multiples, resulting in an increase in earnings per share and higher market value of the conglomerate. The example of Able Circuit and Baker Candy Company showed how this was done through a stock swap that resulted in higher earnings per share and market value. The same process was repeated with Charlie Company, leading to even higher earnings per share. Here, growth was manufactured. They created Synergon. An example of a conglomerate movement in the 1960s was where companies like Automatic Sprinkler Corporation, now known as Figgie International, made multiple acquisitions to show growth and earn a high price-earnings multiple. The CEO, Mr. Figgie, used his public relations skills to present the company as technologically advanced and a player in the market, attracting interest from Wall Street. The language used by the conglomerate managers to describe their businesses was also changed to make it seem more advanced and profitable. However, the speculation around the conglomerates came to an end when Litton Industries announced a decrease in earnings and the government and accounting profession expressed concern about the pace of mergers and potential abuse. The aftermath of the speculative phase showed that conglomerates couldn't control their empires and investors became disillusioned with the results. Also, it showed that the government and accounting profession expressed concern about the pace of mergers and possible abuses. Leveraged buyouts (LBOs) were a

popular form of financing of these sales in the 1980s where the management of a division assisted by professional deal makers would put up a small amount of equity and borrow the majority of funds needed for the transaction. This allowed for low or nonexistent taxes for the entity due to high interest payments and larger depreciation charges. However, as the LBO wave accelerated and prices and debt levels increased, fewer transactions proved successful. The financial instability in the early 1990s due to poorly considered LBOs caused injury to individual investors, banks, and life insurance companies.

Performance Comes to the Market: The Bubble in Concept Stocks

In the late 1960s, investment funds began to focus on "performance" to attract new investors. The fund managers would concentrate their portfolio in dynamic stocks with good stories and switch quickly at the first sign of a better story. This led to the birth of "concept stocks", which were stocks with exciting concepts and believable stories that the market would recognize immediately. This approach worked well for a while, leading to many imitators and new money flowing into the riskiest of these performance funds. The focus on near-term performance was important and even if the story behind a stock wasn't totally believable, as long as the investment manager believed that others would believe it, that was enough. This approach to investing was considered radical, but John Maynard Keynes had already spotted it in 1936. Cortes W. Randell founded National Student Marketing (NSM) with the idea of creating a company for the youth market. He sold an image of success through his lavish lifestyle and sold the concept of NSM to Wall Street as a single company that could specialize in serving the needs of young people. NSM grew through mergers, bringing together companies related to the college-age youth market. Randell's optimistic earnings projections and press releases made NSM appealing to the youth-oriented investors, also known as "youthful gunslingers." The stock performance of many

concept companies in the late 1960s was poor due to inflated price-earnings multiples, operating difficulties, and fraudulent practices. A company named Minnie Pearl changed its name to Performance Systems to appeal to performance-oriented investors, but the stock performed badly as the company had no earnings at the time it reached its high in 1968. Cortes Randell, the founder and president of National Student Marketing (NSM), was convicted of accounting fraud and served time in prison.

The Nifty Fifty

The Nifty Fifty concept stocks of the late 1960s, such as Minnie Pearl (renamed Performance Systems), National Student Marketing (NSM), and others, were unsuccessful due to high and unrealistic price-earnings multiples, operational problems, and fraudulent practices. These stocks were hyped by executives who were more interested in promoting the companies than running them efficiently. The bubble eventually burst, and the stocks lost significant value.

The Roaring Eighties

The Return of New Issues

The 1983 high-tech, new-issue boom was similar to the 1960s craze with new fields of biotechnology and microelectronics included. The value of new issues in 1983 was greater than the previous decade. Investors were enthusiastic about initial public offerings (IPOs). Companies like Androbot, which planned to mass-produce personal robots, and Stuff Your Face, a chain of restaurants, were popular. Fine Art Acquisitions, which distributed fine prints and Art Deco sculptures, was also in demand. However, most of these new issues ended poorly, with Fine Arts eventually defaulting in 1993. The offering of Muhammad Ali Arcades International marked the end of the boom as investors began to realize the worthlessness of these new issues. Many small-company stocks declined and investors lost up to 90% of their money. The IPO of

Muhammad Ali Arcades never materialized, and the investors who bought into the new technology-focused stocks got stung.

Concepts Conquer Again: The Biotechnology Bubble

The biotechnology revolution of the 1980s was compared to the electronics revolution of the 1960s and the computer revolution. The industry was driven by optimism and high demand for gene-splicing. The biggest company in the biotech industry, Genentech, went public in 1980 and its stock value almost tripled in 20 minutes. Investors eagerly bought new biotech stocks as analysts predicted an explosion of earnings for these companies, but these predictions were frequently disappointing. Biotech stocks had high valuations, with some stocks selling at 50 times sales, requiring new valuation methods such as the "product asset valuation" method. However, there were potential problems like FDA approval delays, patent clashes, and profit siphoning by marketing partners that were ignored. By the late 1980s, most biotech stocks lost 75% of their market value, proving that even real technology revolutions do not guarantee profits for investors.

***ZZZZ* Best Bubble of All**

Barry Minkow started ZZZZ Best, a carpet-cleaning business, at age 15 in his family's garage. By age 18, he became a millionaire with a lavish lifestyle, multiple locations and book, and public image. However, ZZZZ Best was found to be a front for money laundering for the mob and Minkow was charged with 57 counts of fraud and sentenced to 25 years in prison. He became a born-again Christian in prison, where he earned two degrees, and after his release he became a pastor and a lecturer. He also wrote several books, worked as a special adviser for the FBI on spotting fraud, and was the subject of a movie in 2010 that portrayed him as a tale of redemption and inspiration.

What Does It All Mean?

In summary, there are dangers of buying securities based on trends and fashions in the market. They suggest that the stock market can be heavily influenced by hype and emotional investment decisions, and that this can lead to bubble-like conditions where the prices of securities become disconnected from their actual value. Also, there is a danger in buying initial public offerings (IPOs) as they often underperform the stock market and are usually sold by the managers of the companies at a peak in their prosperity or in the height of investor enthusiasm. Investors are advised to exercise skepticism when considering new issues

The Japanese Yen for Land and Stocks

In the late 20th century, Japan experienced a major boom and bust in its real estate and stock markets. From 1955 to 1990, the value of Japanese real estate increased 75 times, with the total value of all Japanese property estimated at nearly $20 trillion, equal to 20% of the world's wealth. The Japanese stock market also rose 100-fold, reaching a total market value of $4 trillion at its peak in 1989. However, these high stock prices were not supported by fundamentals and were not sustainable, leading to a collapse in the early 1990s. The Japanese stock market fell 63% and the real estate market also experienced a significant decline. The bursting of the bubble destroyed the myth of Japanese economic invincibility.

Chapter 4- The Explosive Bubbles of the Early 2000s

The Internet Bubble

The dot-com bubble of the late 1990s was caused by the excitement surrounding the internet, which represented a new technology and business opportunity. It created a positive feedback loop where the rise of internet-related stocks attracted more investors, leading to more media coverage, higher profits for early investors, and ultimately larger groups of investors. The bubble

burst when the realization set in that many of the internet companies were burning through cash and were not sustainable, leading to hundreds of bankruptcies. Wall Street firms, including Goldman Sachs, initially believed the cash burn rate was not a long-term risk, but it proved to be a short-term risk. The NASDAQ composite stock index, representing high-tech companies, more than tripled from 1998 to 2000, with price-earnings multiples reaching over 100.

A Broad-Scale High Tech Bubble

During the Internet bubble in early 2000, investor expectations for stock returns were high, ranging from 15-25% per year or more. Companies like Cisco and JDS Uniphase, known for producing the backbone of the Internet, were expected to deliver 15% returns per year. However, Cisco was selling at a high multiple of earnings with a market capitalization of almost $600 billion. This disconnect between stock-market valuations and reasonable expectations of future growth resulted in a 90% loss in market value for blue-chip Cisco when the bubble burst. The prices of JDS Uniphase compared to the NASDAQ Index also showed a significant bubble.

Comparison of JDS Uniphase Stock with the NASDAQ Composite Index, July 1997-July 2022

During the internet boom, many companies changed their names to include "dot-com" or other web-oriented designations to increase their attractiveness. A study by three researchers from Purdue University found that companies that changed their names in 1998 and 1999 saw a 125% increase in their stock price during a ten-day period. However, during the market decline that followed, these companies' shares became worthless and investors suffered significant losses, including in leading internet companies.

How Even the Leading New Economy Stocks Ruined Investors

PalmPilot, the maker of PDAs, was owned by 3Com and was spun off to its shareholders. It was expected to be a popular stock due to the hype around digital revolution. In an initial public offering, 3Com sold 5% of its shares in Palm which took off so fast that its market capitalization became twice as large as that of 3Com. This caused the market value of 95% of Palm owned by 3Com to be worth almost $25 billion more than the total market capitalization of 3Com. The market created strange anomalies in its search for riches, with the value of Palm being worth more than the rest of 3Com's business.

Yet Another New-Issue Craze

In the early 2000s, the dot-com bubble was fueled by the hype surrounding the Internet and digital technology. A large amount of venture capital money was invested into internet startups, leading to many absurd and unrealistic businesses. Examples include Digiscents (a peripheral to make websites and computer games smell), Flooz (an e-mailed alternative currency), Pets.com (an online pet supply store), and SwapIt (a platform for trading CDs and video games). Many of these businesses failed due to their lack of feasibility or sustainability. Philip J. Kaplan roasted these companies through his website F**kedcompany.com and his book of the same name.

TheGlobe.com

The author was interviewed alongside the two young founders of TheGlobe.com, an online message board system that planned to generate revenue through banner advertising. Despite having no actual revenues or profits, TheGlobe.com was brought to market by Credit Suisse First Boston at $9 per share, which immediately soared to $97, giving the company a market value of nearly $1 billion and making the founders multimillionaires. This event was the catalyst for the pathological phase of the Internet bubble as money-losing ventures rushed to the market with

IPOs and investors threw money at businesses without considering normal due diligence. TheGlobe.com eventually closed its website in 2001 and its founders became symbols of internet excess. In 2000, John Doerr, a leading venture capitalist, referred to the rise in internet-related stocks as the "greatest legal creation of wealth in the history of the planet" but later in 2002 he neglected to mention it was also the greatest legal destruction of wealth.

Security Analysts Speak Up

During the internet bubble of the late 90s and early 2000s, high-profile securities analysts such as Mary Meeker, Henry Blodgett, and Jack Grubman became well known and were seen as superstars in their field. They were earning multimillion-dollar salaries, not based on the quality of their analysis, but on their ability to steer investment banking business to their firms. The separation between research and investment banking, known as the "Chinese Wall," became porous. Analysts were bullish on the market, using terms such as "Four Bagger" and "Ten Bagger" to describe stock performance. The general public became convinced that investing was easy and relied on the analysts' coverage. When the bubble burst, the celebrity analysts faced death threats and lawsuits, while their firms faced investigations and fines. The question of trust in Wall Street was raised, with Fortune magazine asking "Can We Ever Trust Wall Street Again?"

New Valuation Metrics

In the late 1990s and early 2000s, security analysts used unconventional "new metrics" to value Internet-related companies as they believed that the traditional valuation methods used for old-economy companies were not applicable. These metrics included "eyeballs," which were the number of people viewing a Web page, and "engaged shoppers," who spent at least three minutes on a Web site. Another popular metric was "mind share," which was the amount of time spent by

Internet users on a particular website. For telecom companies, analysts looked at the miles of fiber-optic cable in the ground instead of the lit-up cable with traffic. This led to oversupply, massive borrowing, and ultimately, bankruptcy of several telecom companies like WorldCom and loss for companies like Lucent and Nortel. By the fall of 2002, the investments made in these stocks during the bubble had vaporized, leading to significant losses for investors.

The Writes of the Media

The internet bubble of the late 1990s was fueled by media, online brokers, and cable networks. Magazines devoted to the internet and investment opportunities sprouted to meet the public's need for information, and online brokers made trading cheap and easy. Cable networks like CNBC treated the stock market like a sports event and focused on guests who were bullish. The market became a hotter topic than sex, and turnover reached an all-time high with day traders dominating the scene. However, studies showed that most internet traders actually lost money and had a short average survival time of six months.

Fraud Slithers in and Strangles the Market

There were many negative impacts of speculative manias, such as the internet bubble, on the capitalist system. The rise and fall of Enron as a prime example of the negative consequences of this type of mania. Enron was portrayed as the perfect company for the new economy and was highly favored by Wall Street analysts. However, it was later discovered that the company was involved in a number of accounting frauds and had hidden its true financial position through complex partnerships. The collapse of Enron had a significant impact on its employees and shareholders. There are other accounting frauds, such as those committed by telecom companies and WorldCom, and argues that some CEOs and CFOs acted more like embezzlement and fraud officers, respectively.

Should We Have Known the Dangers?

There are dangers of speculative investments and the history of various technology transformations that did not justify the prices of stocks in the past. The key to successful investing is the ability to make and sustain profits, not just the growth of an industry. There are roles of various parties such as underwriters, research analysts, corporate executives, and individual investors in the expansion of speculative bubbles. A cautionary tale is of a friend who invested in an Internet retailer called Boo.com, which went bankrupt after spending $135 million in two years, and lost his entire investment.

The U.S. Housing Bubble and Crash of the Early 2000s

The biggest U.S. real estate bubble of all time was the bubble in single-family home prices that inflated during the early years of the new millennium, which had greater significance for the average American than the Internet bubble. The deflation of the housing bubble almost brought down the financial system and led to a worldwide recession. The story of a woman who had a near-death experience and underwent cosmetic surgery only to be hit by an ambulance is told to illustrate the idea that life is unpredictable and can change in an instant.

The New System of Banking

In the early 2000s, the traditional "originate and hold" model of banking where banks would make loans and hold them as assets changed to the "originate and distribute" model, where loans were quickly sold to investment bankers who created mortgage-backed securities (MBS) by assembling packages of these loans. MBS were sliced into different “tranches”, each with a different bond rating and claim priority, and were sold all over the world. Second-order derivatives were also sold on the MBS and credit-default swaps were issued as insurance on the bonds. The market for credit-default swaps grew to ten times the value of the underlying bonds,

with anyone from any country able to buy the insurance, even without owning the underlying bonds. This created a riskier and more interconnected financial system.

Looser Lending Standards

The financiers created structured investment vehicles (SIVs) to keep derivative securities off their books and out of reach from banking regulators. This led to looser lending standards by bankers and mortgage companies and to the availability of mortgage loans with no equity down and no documentation of ability to pay, known as NINJA and NODOC loans. The government also played a role in inflating the housing bubble by directing the Federal Housing Administration to guarantee the mortgages of low-income borrowers, contributing to the bad mortgages on the financial system. Thus, it was not just "predatory lenders" but also the government's own policies that caused many loans to be made to people who could not repay them.

The Housing Bubble

The graph "Inflation-Adjusted Home Prices" shows that prior to the early 2000s, house prices were stable and in line with the general price level. However, in the early 2000s, the house price index doubled due to the combination of government policies and changed lending practices that increased the demand for housing, fueled by easy credit. This caused a housing bubble, where house prices appeared to consistently go up, encouraging even more buyers, and leading some to purchase homes with the objective of flipping them for a higher price. The “Bursting of the Bubble” graph shows the damaging effects of the housing bubble, which eventually popped. Many home buyers found that their mortgage was larger than the value of their home, leading to a high rate of default and return of house keys to the lender. This resulted in an average decline of two-thirds in home prices, wiping out the real estate equity of millions of Americans and

bankrupting many large financial institutions. The collapse of the housing bubble had severe consequences on the economy. As home prices declined, people reduced their spending and could no longer finance their consumption with a second mortgage. The drop in house prices also caused the value of mortgage-backed securities and the leveraged financial institutions holding these toxic assets to be destroyed, leading to spectacular bankruptcies and some of the largest financial institutions needing to be rescued by the government. This resulted in a credit freeze for both small businesses and consumers, leading to a painful and prolonged recession in the US, exceeded in intensity only by the Great Depression of the 1930s.

Bubbles and Economic Activity

The bursting of asset-price bubbles can have severe consequences on the real economy, particularly when they are associated with a credit boom and increases in leverage for both consumers and financial institutions. The early 2000s in the United States provides an example, where a housing bubble was fueled by easy credit and lending practices. The bubble burst resulted in declining home prices and mortgage defaults, causing a chain reaction of deleveraging and reduced spending. The outcome of this negative feedback loop was a severe recession. Credit boom bubbles are the most dangerous for real economic activity.

Does this Mean that Markets are Inefficient?

The chapter reviews the Internet and housing bubbles and concludes that they don't challenge the theory of efficient markets. The market will eventually correct itself and any irrationality. The important thing for investors is to determine the true value of a stock, which will be covered in chapter 5. There is no evidence of anyone being able to consistently generate excess returns by making correct bets against the market. Market prices are always incorrect to some extent, but it's hard to beat the market as professional investors cannot distinguish correct valuations from

incorrect ones. The housing bubble and bust in the early 2000s was not caused by the belief in efficient markets, but rather due to perverse incentives and lax regulations.

Chapter 5- Technical and Fundamental Analysis

Technical Versus Fundamental Analysis

Investors have long tried to predict the future course of stock prices and timing of buying and selling stocks, using various methods including technical and fundamental analysis. Technical analysis involves the interpretation of stock charts and past price movements to anticipate future changes, while fundamental analysis focuses on a company's assets, expected growth rate, dividends, interest rates, and risk to estimate its intrinsic value. Fundamentalists believe that eventually the market will reflect a security's true worth, while chartists believe that the market is largely psychological and that anticipating how other players will behave is key. Many analysts consider themselves fundamentalists and view chartists as lacking professionalism.

What Can Charts Tell You?

This section discusses the principles of technical analysis used in stock market investing. The technique relies on charts that depict past market prices and trading volume, and identifies patterns and trends that indicate future stock movements. It describes how chartists draw lines connecting tops and bottoms of stock price movements to identify trends, and look for patterns like head-and-shoulders formations to predict stock price movements. Technical analysis is focused on short-term trading and relies on timing stock purchases and sales based on chart patterns rather than fundamental analysis. Here, it is also suggested that technical analysis is often associated with an almost romantic approach to trading and that traders who use it have a game-like approach to investing.

The Rationale For The Charting Method

Technical analysts use charting to predict future market trends, but they do not always understand why it works. There are several plausible explanations for technical analysis. First, mass psychology can perpetuate trends as investors jump on the bandwagon and contribute to a self-fulfilling prophecy. Second, insiders may have unequal access to fundamental information, giving them an advantage in buying and causing the price to rise. Third, investors may underreact initially to new information, resulting in a sustained period of price momentum. Chartists also believe in the concepts of resistance and support areas, where investors may be anxious to sell or buy a stock to break even or regain lost profits, respectively. If a stock breaks through a resistance area, it becomes a support area, signaling a bullish trend.

Why Might Charting Fail To Work?

There are also some arguments against charting as a method of predicting stock prices. It points out that chartists often miss the boat as sharp reversals in the market can occur suddenly, and the value of any technique depreciates as more people use it. Traders tend to anticipate technical signals, and profit-maximizing behavior can drive up prices too quickly for chartists to act on them. It is also suggested that the market may be the most efficient mechanism as people who know that the price will go up will buy today, not tomorrow.

From Chartist to Technician

manufacturing and distribution companies, as well as computer programmers who provide charting software for individuals and financial news networks. In the past, charting was a laborious task done by hand, but now computer services make it easier for chartists, now called technicians, to produce every conceivable chart, including measures of volume, the 200-day moving average, strength of stock relative to the market and its industry, and other averages,

ratios, oscillators, and indicators. People can access a variety of charts for different time periods through Internet sites such as Yahoo!.

The Technique of Fundamental Analysis

The fundamentalist approach to stock valuation is focused on determining the actual worth of a company, including estimates of its future stream of earnings and dividends. The expected growth rate is a critical determinant of the stock's value, with the rule of 72 providing a useful shortcut to determine how long it will take for the investment to double in value. The fundamentalist uses four basic determinants to estimate the proper value for any stock. In almost all professional investment firms, security analysts specialize in particular industry groups, which is a starting point for the security analyst. The fundamentalist approach is in sharp contrast to the technician, who is only interested in the record of the stock's price. The passage describes four rules for evaluating securities. Rule 1 states that a rational investor should be willing to pay a higher price for a share, the larger the growth rate of dividends and earnings. The corollary to Rule 1 states that a rational investor should be willing to pay a higher price for a share, the longer an extraordinary growth rate is expected to last. Rule 2 states that a rational investor should consider the risk associated with an investment and invest in securities with lower risk, all other things being equal. Rule 3 states that a rational investor should be skeptical of any company's growth projections, as high growth rates cannot be sustained indefinitely. Rule 4 states that a rational investor should analyze the company's financial statements and consider other factors, such as management quality and industry trends, when evaluating a security.

Three Important Caveats

The four valuation rules suggest that a security's fundamental value will be higher for a company that has a higher growth rate, longer duration, larger dividend payout, less risky stocks and a

lower general level of interest rates. However, there are three caveats to using these rules. The first is that expectations about the future cannot be proven in the present. The second is that precise figures cannot be calculated from undetermined data. The third is that the formulas for predicting the future are based on treacherous ground. Therefore, the intrinsic value of a share cannot be calculated with mathematical precision.

Why Might Fundamental Analysis Fail to Work?

Fundamental analysis involves analyzing a company's financial and economic data to estimate its intrinsic value and potential for growth. However, this approach may have potential flaws, including incorrect information, faulty value estimates, and market fluctuations that do not reflect a stock's value. These problems may result in wasted effort, inaccurate estimates of future earnings, and potential losses for investors. Therefore, investors should not assume that fundamental analysis always leads to success.

Using Fundamental and Technical Analysis Together

The author provides three rules that can help investors judge whether an individual stock is an attractive purchase. Rule 1 advises buying only companies that are expected to have above-average earnings growth for five or more years. Rule 2 suggests never paying more for a stock than its firm foundation of value, and Rule 3 recommends looking for stocks whose stories of anticipated growth are the kind on which investors can build castles in the air. The author also stresses the importance of psychological elements in stock-price determination and advises investors to take these elements into account when making investment decisions.

Chapter 6- Technical Analysis and the Random-Walk Theory

Holes In Their Shoes and Ambiguity In Their Forecasts

University professors are often asked by their students why they aren't rich if they're so smart, but the question is more appropriate for technicians, who teach technical analysis to make money. However, technicians are often unsuccessful themselves, and their advice can be difficult to understand. Technical analysis is not favored in the academic world because it does not perform better than a buy-and-hold strategy, and it is easy to criticize. While technology has initially enhanced the standing of technicians, it has ultimately proved to be their undoing as academics can easily test their trading rules on the computer.

Is There Momentum In The Stock Market

The "wallpaper principle" of technical analysis suggests that past behavior of a stock can predict its future behavior. However, tests reveal that past movements in stock prices cannot reliably predict future movements, and the stock market behaves very much like a random walk. While there is some short-term momentum, it is not dependable enough to make trend-following strategies consistently profitable. "Persistent patterns" in the stock market occur no more frequently than the runs of luck in the fortunes of any gambler.

Just What Exactly Is A Random Walk?

The idea that stock market trends can be predicted by chart analysis is a fallacy based on statistical illusion. Even randomly generated stock charts can exhibit patterns and cycles, yet history does not repeat itself in ways that are useful to investors trying to predict trends. Even in cases of short-term momentum, such relationships are too small to generate useful profits due to transactions charges and taxes. Ultimately, the weak form of the random-walk hypothesis

suggests that technical analysis is no more effective than astrology. The most reliable strategy is simply to buy and hold a stock or group of stocks for a long period of time.

Some More Elaborate Technical Systems

Those who practice technical analysis may argue that my previous tests do not fully capture the complexity of technical analysis. However, more elaborate trading rules have been subject to scientific testing, and the results have been consistent. For example, the "filter" system, where a stock is considered to be in an uptrend if it has moved up a certain percentage from a low and is in a downtrend if it has moved down a certain percentage from a peak, cannot consistently outperform a simple buy-and-hold strategy. Similarly, the Dow theory, which involves buying when the market rises above the last peak and selling when it falls below the preceding valley, has no significance for predicting future price movements. The relative-strength system, which involves buying stocks that are outperforming the market and selling those that are not, has also been found to be not consistently useful for investors. Price-volume systems, which use the volume of trades to signal buying or selling, have also been found to generate no useful information for predicting future price movements. Finally, chart patterns such as the head-and-shoulders formation have not been found to reliably predict future stock prices. As a result, investors may be better off avoiding technical analysis strategies and following a simple buy-and-hold strategy.

A Gaggle of Other Technical Theories To Help You Lose Money

After focusing on standard technical trading rules, the academic world turned its attention towards more imaginative financial analysis. Some of the unconventional techniques include the Hemline Indicator, which suggests that the direction of stock prices can be predicted by the length of women's hemlines. The Super Bowl Indicator is another technique that predicts how

the stock market will perform based on the winning team of the Super Bowl. Meanwhile, the Odd-Lot Theory maintains that an investor who is always wrong can help determine a successful investment strategy, and by examining the trading activities of odd-lotters, one can supposedly make a profit. While these techniques may seem effective in certain circumstances, they are generally unreliable and not based on sound reasoning.

Why Are Technicians Still Hired?

Technical analysis, including chart reading, is not a useful investment strategy and cannot consistently outperform a buy-and-hold strategy, according to the random-walk theory. Despite this, chartists or technical analysts play a role in generating commissions for brokerage houses, which is important for their business. The author notes that even though some people believe that the capitalist system will eliminate technicians, they seem to persist.

Appraising the Counterattack

The dismissal of charting by the random-walk theory is not popular among technicians, who consider the theory to be "academic drivel." One common complaint about the theory is a distrust of mathematics and a misconception of what the theory means. The market may not be random, but the theory suggests that stock prices cannot be predicted based on past prices alone. Fundamental information about a company is also unpredictable and occurs randomly over time. Technical analysts argue that the academic world has not tested every technical scheme, and while no economist or mathematician can prove conclusively that technical methods can never work, the small amount of information contained in stock-market pricing patterns has not been shown to be sufficient to overcome the transactions costs and taxes involved in acting on that information. Even if a technical scheme were found to be reliable, it would be bound to destroy

itself because any regularity in the stock market that can be discovered and acted upon profitably is bound to destroy itself.

Implications for Investors

In essence, the past history of stock prices is of no use in predicting future prices, and technical analysis provides little value beyond providing entertainment and comfort. This represents the weak form of the efficient market hypothesis, as technical theories only enrich those who provide technical services or brokerage firms. Using technical analysis for market timing is risky, as investors may miss out on the infrequent large sprints that are major contributors to performance. Therefore, a buy-and-hold strategy is preferable, as it allows investors to avoid capital gains taxes and achieve an overall performance record that is at least as good as that obtained using technical methods. Consequently, investors should discontinue their subscriptions to worthless technical services and eschew brokers who read charts and continually recommend trades.

Chapter 7- How Good is Fundamental Analysis

The Views From Wall Street and Academia

Most Wall Street professionals prioritize fundamental analysis over technical analysis. There are conflicting views on the effectiveness of fundamental analysis, with some believing it is becoming more powerful while others argue that even a blindfolded monkey could choose stocks as well as professional portfolio managers. Understanding the research on this topic is crucial for intelligent investors. This ongoing battle between academics and market professionals is significant for investors' wallets.

Are Security Analysts Fundamentally Clairvoyant?

The primary responsibility of security analysts is to forecast future earnings. They believe that past earnings growth is a reliable indicator of future earnings growth. However, academic studies

have shown that past earnings growth is not a good predictor of future earnings growth. Analysts argue that there is much more to forecasting than examining past records. To evaluate the efficacy of security analysts' forecasts, John Cragg and the author wrote to nineteen of the most respected Wall Street firms engaged in fundamental analysis. They asked for estimates of future earnings for a sample of S&P 500 companies, and the results were surprising. The estimates of security analysts did not do much better than the predictions from several naive forecasting models. Even their one-year forecasts were worse than their five-year projections. The analysts argued that their forecasts should be judged on their ability to project earnings changes one year ahead. However, the study found that no industry is easy to predict, and no analysts proved consistently superior to others.

Why the Crystal Ball is Clouded

It can be unsettling to discover that highly trained and well-paid professionals may not be particularly skilled at their jobs, but this is not uncommon. This is exemplified by a study on tonsillectomies where multiple groups of physicians recommended different amounts of children for the procedure, despite not having tonsil problems. Similar results have been found in studies on radiologists and psychiatric hospital staff. Therefore, the accuracy of expert judgments should not be taken for granted, including those of security analysts who face five factors that contribute to their difficulty in predicting the future: random events, "creative" accounting procedures, errors made by analysts, the loss of top analysts to other departments, and conflicts of interest.

1. **The Influence of Random Events**

The unpredictability of important events makes it difficult to forecast the basic prospects for corporate earnings, even in supposedly stable industries like utilities. Factors such as unfavorable rulings, increased fuel costs, deregulation and competition can impact profits. This makes

forecasting even more challenging in other industries, as unforeseeable events such as government decisions, product defects, and natural disasters can greatly affect company fortunes.

2. **The Productions of Dubious Reported Earnings through “Creative” Accounting Procedures**

Comparing a firm's income statement to a bikini, what it reveals is interesting, but what it conceals is vital. Enron was notorious for leading the beauty parade in using aggressive fictions to report soaring sales and earnings during the late 1990s bull market. This, unfortunately, was not unique to Enron, as many companies engaged in accounting abuses to inflate their earnings and mislead investors and analysts. Companies stretched accounting rules to mislead the public and analysts, such as Enron and Qwest exaggerating the value of their fiber-optic network capacity, Motorola, Lucent, and Nortel lending large amounts to customers that became uncollectable, and Xerox booking long-term copier leases as one-time revenue. Pro forma earnings, where companies exclude certain costs they deem "special," "extraordinary," and "non-recurring," make it challenging for security analysts to estimate future earnings accurately.

3. **Errors Made by the Analysts Themselves**

There is a lack of attention to detail and understanding of industries among some security analysts. An example is of a metals specialist who made an error in a recommendation due to a misplaced decimal point but did not correct it. There is also an article by a plastic surgeon who found biotech analysts' diagnoses of stocks to be wide of the mark, as they did not understand the industry. Many analysts prefer to copy the forecasts of others or corporate managements rather than making their own projections, and that analysts can be misguided, sloppy, self-important, and susceptible to pressure.

4. **The Loss of the Best Analysts to the Sales Desk, to Portfolio Management, or to Hedge Funds**

The author's fourth argument against the security analyst profession is that many of the best analysts end up in higher-paying positions such as institutional salespeople or portfolio managers. Institutional investors prefer to hear investment ideas from analysts rather than regular salespeople, so the most articulate analysts spend their time with institutional clients instead of analyzing financial reports. Many analysts were lured away from research to take highly compensated positions in portfolio management or hedge funds, which are more exciting, prestigious, and remunerative than being a security analyst. Consequently, many respected security

5. **The Conflicts of Interest between Research and Investment Banking Departments**

The investment banking division is the most profitable part of major brokerage firms, and analysts' salaries and bonuses are determined in part by their role in assisting this division. As a result, research analysts were increasingly paid to be bullish rather than accurate, and most analysts have purged their prose of negative comments that might give offense to current or prospective investment banking clients. Studies have shown that analyst recommendations are tainted by the very profitable investment banking relationships of the brokerage firms, and that stock recommendations of Wall Street firms without investment banking relationships did much better than the recommendations of brokerage firms that were involved in profitable investment banking relationships with the companies they covered. The situation improved somewhat after the Sarbanes-Oxley legislation and the SEC's policy of "fair disclosure," but many disgruntled security analysts dubbed the situation as one of "no disclosure," and there is no reason to believe that the recommendations of security analysts will improve in the future.

Do Security Analysts Pick Winners?- The Performance of the Mutual Funds

The performance of stocks recommended by analysts is often seen as the real test of their abilities, but the records of mutual funds, which have some of the best analysts and portfolio managers, show that investors have not done any better with the average mutual fund than they could have done by purchasing and holding an unmanaged broad stock index. Although funds may have good records for certain short time periods, there is no consistent superior performance, and there is no way to predict how funds will perform in the future. Studies have consistently found that simply buying and holding the stocks in a broad market index is a strategy that is very hard for the professional portfolio manager to beat.

1. **Mutual Funds vs the Market Index**

Academic studies and informal tests have shown that mutual fund portfolios have not outperformed randomly selected groups of stocks. Although some funds may have very good records for short periods, superior performance is not consistent and cannot be predicted. This lack of consistency is not a recent phenomenon, as even top-performing funds from the past have often turned out to be disastrous later on. The performance rankings of mutual funds show many funds beating the averages, but this is due to luck rather than skill. Even star fund managers like Peter Lynch cannot guarantee consistent superior performance.

2. **How the Top 20 Equity Funds of the 1970s Performed During the 1980s**

There is a lack of consistency in mutual fund performance over time. The data shows that while some funds may outperform in one period, their performance is not necessarily indicative of future success.

3. **How the Top 20 Equity Funds of the 1980s Performed During the 1990s**

During the 1990s, the top 20 funds had a higher average annual return than the S&P 500-stock index. However, during the 2000-09 period, these funds performed worse than the market as a whole. Many of these funds had loaded up their portfolios with New Economy stocks, and when the Internet bubble burst, they collapsed as well. Making 100 percent one year and losing 50 percent the next left investors with no progress.

4. **How the Top 20 Equity Funds of the 1990s Performed During the Naughties**

The performance of top mutual funds in one decade does not predict their performance in the next decade. The laws of chance can explain some extraordinary performances in the investment management business, and it is rare for investors to consistently beat the market. The very small number of really good performers is not inconsistent with the laws of chance. Even when a mutual fund has a past record of beating the market, it is impossible to count on its future performance

It's Down to One

The discussion so far has focused on mutual funds, but it should not be assumed that they are the worst of all investment managers. In fact, mutual funds have performed slightly better than many other professional investors, including life insurance companies, property and casualty insurance companies, pension funds, foundations, state and local trust funds, personal trusts administered by banks, and individual discretionary accounts handled by investment advisers. However, no significant differences in investment performance exist among these professional investors or between these groups and the market as a whole, and there is no scientific evidence to suggest that the investment performance of professionally managed portfolios as a group has been any better than that of a broad-based index.

Can Any Fundamental System Pick Winners?

Research has shown that trading systems based on press announcements of new fundamental information do not result in above-average returns. Stock prices usually react well in advance of unexpectedly good or bad earnings reports, and the market adjusts so rapidly to new information that successful trading strategies cannot be devised on the basis of such news announcements. Similarly, companies that split their stocks have generally enjoyed rising stock prices in the period before the announcement, but subsequent performance is in line with that of the general market. Dividend increases are usually an accurate indicator of increases in future earnings, but any rise in price resulting from the dividend increase is reflected reasonably completely by the end of the announcement month.

The Verdict on Market Timing

Professional investors often try to time the market based on their forecasts of economic conditions. However, research indicates that market timing is unlikely to be successful, and attempting it may be counterproductive. Mutual-fund managers have often been incorrect in their allocation of assets into cash in recent market cycles, with high cash positions coinciding with market troughs and low positions coinciding with peak periods. The odds of being successful when in cash rather than stocks are almost three to one against you, and holding stocks as long-term investments works better than market timing. A market timer would have to make correct decisions 70 percent of the time to outperform a buy-and-hold investor, which is a difficult feat.

The Semi-Strong and Strong Forms of the Efficient-Market Theory

The efficient-market theory argues that stock prices are always fairly priced because all publicly available information is already reflected in the stock price. Fundamental analysis, which looks

at company financials and other information, and technical analysis, which looks at past price trends, are both considered useless in predicting stock prices. The theory states that even inside information cannot help investors because the market is so efficient that prices move too quickly for anyone to benefit. Benjamin Graham, the father of fundamental security analysis, and other legendary investors such as Peter Lynch and Warren Buffet, have also suggested that investors would be better off in an index fund rather than actively managed equity mutual funds.

The Middle of the Road: A Personal Viewpoint

There are two opposing viewpoints about the functioning of the stock market: investment managers believe professionals outperform amateurs, while academics believe professionally managed portfolios cannot outperform randomly selected portfolios. The author takes a middle road, acknowledging that exceptions to the efficient market theory exist but warning against accepting all its tenets. The author expresses skepticism about the theory's assumptions of instant news dissemination, the absence of psychological influences, and the difficulty of estimating a stock's true value. While acknowledging the possibility of superior professional investment performance, the evidence does not support it, and exceptional managers are rare and difficult to identify in advance.

Part 3- The New Investment Technology

Chapter 8- A New Walking Shoe: Modern Portfolio Theory

The Role of Risk

The efficient-market theory suggests that the stock market is so efficient in processing new information that no one can predict its future course in a superior manner. This means that the prices of individual stocks quickly reflect all available news, making it difficult to select superior stocks or anticipate the general direction of the market. However, some academics argue that it is

possible to beat the market by assuming greater risk, as risk alone determines the degree to which returns will be above or below average.

Defining Risk: The Dispersion of Returns

Risk is difficult to define precisely and refers to the possibility of suffering harm or loss. Investment risk is the chance that expected security returns will not materialize, and the probable dispersion of future returns is used to measure financial risk. A security that carries little or no risk has returns that are not likely to depart much from its average return, while a security that is risky has returns that are likely to be quite volatile and may result in sharp losses.

Illustration: Expected Return and Variance Measures of Reward and Risk

Imagine you buy a stock and expect it to give you a certain return under different economic conditions. Based on past events, you can guess the probability of these economic conditions happening again in the future. By calculating the expected return, you can estimate the average return you will get over time. However, the actual returns can vary a lot and go up or down. Variance measures this dispersion of returns. It tells you how much the returns vary from their average. The greater the variance, the higher the chances of getting disappointing returns. The standard deviation is the square root of the variance. Although variance and standard deviation are not perfect measures of risk, they work well as long as the chances of extraordinary gain and disappointing returns are roughly the same. The returns from a well-diversified portfolio of stocks are usually symmetric. This means that the chances of getting good or bad returns are similar. However, there is always a risk of losing money when the market declines sharply.

Distribution of Monthly Returns for a Portfolio Invested in the S&P 500-Stock Index, January 1940-June 2010

Two-thirds of monthly returns tend to fall within one standard deviation of the average return, and 95% of returns fall within two standard deviations. The standard deviation is used as a measure of portfolio risk, and the higher the standard deviation, the greater the risk that an investor will experience significant losses. Therefore, standard deviation is often used as an indication of risk.

Documenting Risk: A Long-Run Study

A well-established principle in finance is that investors who take on more risk generally receive higher rates of return. Ibbotson Associates conducted a comprehensive study from 1926 to 2009 that analyzed the returns of various investment options such as stocks, bonds, and Treasury bills. They created a chart that displayed the number of years returns fell within specific percentage ranges, which allowed them to calculate the standard deviation and show the dispersion of returns.

Basic Series: Summary Statistics of Annual Total Returns from 1926 to 2009

The average rate of return on common stocks has exceeded that of long-term bonds, Treasury bills, and inflation rates over long periods of time. However, stock returns are highly variable and have ranged from significant gains to losses. The high returns have come at the expense of assuming considerably higher risk. Small-company stocks have provided an even higher rate of return since 1926, but the dispersion of those returns has been even larger than for equities in general. There have been several periods of negative returns for common stocks over five years or longer. Despite this, over the long run, investors have been rewarded with higher returns for taking on more risk. The subject of modern portfolio theory focuses on ways for investors to reduce risk.

Reducing Risk: Modern Portfolio Theory (MPT)

Portfolio theory explains how investors can combine stocks to minimize risk and achieve the desired return. It was developed by Harry Markowitz in the 1950s and tells investors that diversification is a sensible strategy for reducing risks. The theory is based on the idea that the portfolios of volatile stocks can be put together in such a way that the portfolio as a whole could be less risky than the individual stocks in it. The theory has a rigorous mathematical justification but can be explained using simple illustrations. The key advantage of diversification is that it can reduce risk as long as there is some lack of parallelism in the fortunes of individual companies in the economy. However, when the fortunes of most companies move in tandem, diversification may not help much. Portfolio construction needs to be done carefully, taking into account the covariance between the returns of the companies being considered.

- **The Correlation Coefficient and the Ability of Diversification to Reduce Risk**

The correlation coefficient plays a crucial role in determining the effect of diversification on risk. A correlation coefficient of +1.0 indicates that no risk reduction is possible, while a correlation coefficient of -1.0 indicates that all risk can be eliminated. However, Markowitz's research showed that anything less than perfect positive correlation can potentially reduce risk, meaning negative correlation is not necessary to achieve risk reduction benefits from diversification. The correlation coefficient is therefore an important factor to consider when deciding to add a security or an asset class to a portfolio.

Diversification in Practice

Studies show that there is a point at which diversification no longer guarantees returns. The ideal number of well-diversified US stocks is at least 50, reducing total risk by over 60%. However, further increases in the number of holdings do not produce much additional risk reduction.

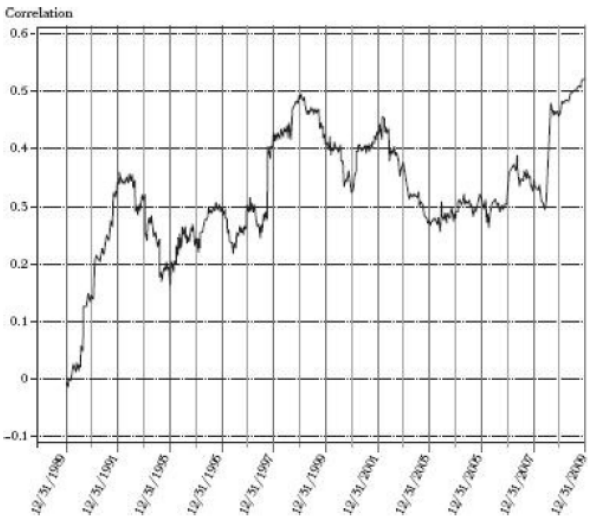
The Benefits of Diversification

International diversification can provide greater protection for investors as foreign economies may not move synchronously with the US economy. Investing in countries with natural resources that benefit from commodity price increases, such as oil-producing countries in the Middle East and Australia, can provide positive returns. The benefits of international diversification are documented, with foreign stocks having slightly higher average annual returns than US stocks, although US stocks are safer with less volatile year-to-year returns. Combining domestic and foreign stocks can increase returns while reducing risk, but adding too many riskier foreign stocks can eventually increase overall risk.

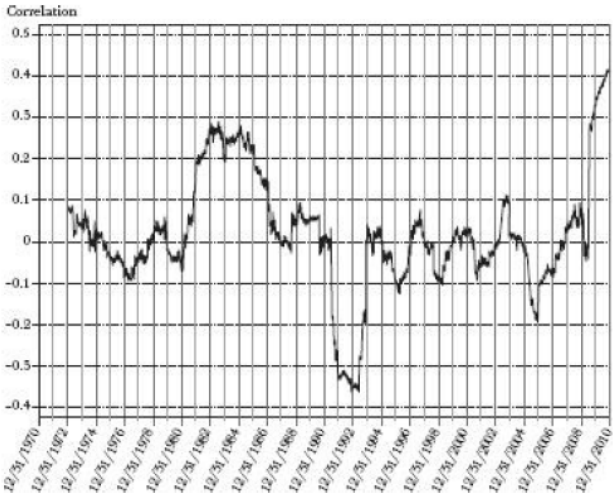
Diversification of U.S. and Developed Foreign Country Stocks, January 1970- December 2009

The analysis shows that adding a small amount of riskier foreign securities can actually reduce overall portfolio risk, as good returns from foreign manufacturers can offset poor returns from domestic ones, and vice versa. The ideal portfolio for minimum risk consists of 17% foreign securities and 83% U.S. securities, and adding foreign stocks tends to increase portfolio returns. However, some portfolio managers argue that diversification may no longer provide the same benefits as globalization has increased the correlation between U.S. and foreign markets, as well as between stocks and commodities, particularly during market downturns. This has led some investors to question the effectiveness of diversification as a risk-reducing strategy.

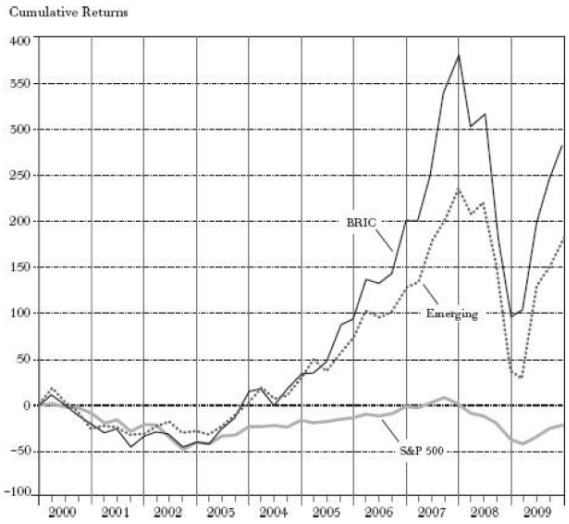
Two-Year Rolling Correlation Between S&P 500 and MSCI EAFE Index



Two-Year Rolling Correlation Between S&P 500 and MSCI Emerging-Markets Index

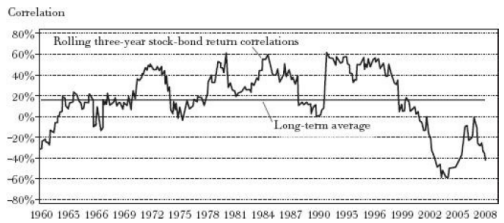


Two-Year Rolling Correlation Between S&P 500 and GSCI Community Index



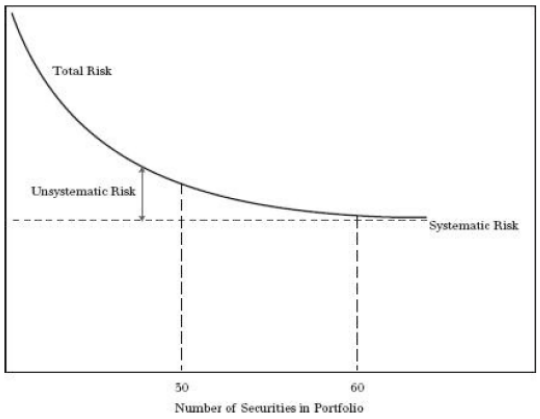
It's important to note that although there has been an increase in correlations between markets, they are still not perfectly correlated. Therefore, having a diversified portfolio can help reduce volatility. Even during periods where different equity markets moved together, diversification provided significant benefits. For instance, the first decade of the 21st century was considered a "lost decade" for US equity investors as markets in developed countries did not yield satisfactory returns. However, investors who diversified their portfolios to include equities from emerging markets experienced satisfactory investment performance. This can be seen in the graph where investing in the S&P 500 resulted in losses, while investing in a broad emerging-market index or BRIC countries generated satisfactory or generous returns. Hence, broad international diversification could have greatly benefited US investors even during the "lost decade."

Diversification into Emerging Markets Helped During “The Lost Decade” : Cumulative Returns from Alternative Markets



In addition, during the 2008-09 financial crisis, safe bonds demonstrated their ability to reduce risk. As shown in the "Time Varying Stock-Bond Correlation" graph, the correlation coefficients between US Treasury bonds and large-cap US equities decreased during the crisis. Even amidst the terrible stock market of 2008, a diversified portfolio of bonds invested in the Barclay's Capital broad bond index yielded a return of 5.2 percent. Bonds served as a safe haven during the financial crisis and have shown to be an effective diversifier.

Time Varying Stock-Bond Correlation



Timeless lessons of diversification are as powerful today as they were in the past.

Chapter 9- Reaping Reward by Increasing Risk

Beta and Systematic Risk

Beta is a measure of systematic risk or market risk, which is the portion of total risk that cannot be eliminated by diversification. It measures the sensitivity of an individual stock or portfolio to market movements, with a beta of 1 representing the market average. High-beta stocks are considered aggressive investments, while low-beta stocks are labeled as defensive. Diversification can reduce unsystematic risk, which is the variability in stock prices resulting from factors peculiar to an individual company, but not systematic risk. As more securities are added to a portfolio, the unsystematic risk is reduced, and additional diversification yields little

further risk reduction. However, the remaining systematic risk may still be large, especially if the average beta of the securities in the portfolio is higher than 1.

How Diversification Reduces Risk: Risk of Portfolio (Standard Deviation of Return)

According to financial theory, investors should be compensated for taking on more risk with a higher expected return, which means that stock prices must adjust to offer higher returns where more risk is perceived. However, not all of the risk of individual securities is relevant in determining the premium for bearing risk. The unsystematic part of the total risk is easily eliminated by adequate diversification, so investors will not receive extra compensation for bearing unsystematic risk. The only part of total risk that investors will get paid for bearing is systematic risk, which is the risk that cannot be diversified away. Therefore, the capital-asset pricing model suggests that returns and risk premiums for any stock or portfolio will be related to beta, the systematic risk that cannot be diversified away.

The Capital-Asset Pricing Model (CAPM)

The concept that risk and reward are connected has been established in finance for a long time, and experts agree that investors must receive compensation for accepting more risk. The difference with new investment technology is how risk is defined and measured. The old theory, which was widely accepted before the capital-asset pricing model, held that the return on a security was related to its total risk. The new theory, however, posits that only the systematic component of risk counts when it comes to extra rewards, and the total risk of each individual security is irrelevant. The capital-asset pricing model demonstrates that a portfolio made up of securities with a higher total risk will not yield higher returns than a portfolio of securities with lower total risk if both are diversified. This is because unsystematic risk can be diversified away,

and only the systematic risk commands a risk premium. If investors were compensated for bearing unsystematic risk, it would result in inconsistent market efficiency.

Risk and Return According to the Capital-Asset Pricing Model

In the early 1970s, beta became a popular way to measure risk in the investment world, with Institutional Investor magazine featuring it on its cover and the SEC approving it as a risk measure. Some investors believed that buying high-beta stocks could result in higher returns, and others tried to time the market by buying high-beta stocks when the market was up and low-beta stocks when it was down. Beta measurement services became common among brokers and investment houses, and the enthusiasm for beta was oversold by some on Wall Street.

Let's Look at the Record

The usefulness of beta as a measure of risk is a subject of intense debate among practitioners and academics. Although beta has been embraced by many institutional investors and is used as a method of evaluating a portfolio manager's performance, there are questions about whether high-beta portfolios will provide larger long-term returns than lower-beta ones. A study by Eugene Fama and Kenneth French found that there was essentially no relationship between the return of portfolios and their beta measures over the 1963-90 period. Similarly, there was no relationship between returns for stocks or portfolios and their beta risk measures in the case of mutual funds.

Average Monthly Return vs Beta: 1963-90 (Fama and French Study)

The study conducted by Fama and French covering almost thirty years found that beta is not a useful single measure to capture the relationship between risk and return. By the mid-1990s, practitioners and academics began to assign beta to the scrap heap. The financial press ran

feature stories with titles such as “The Death of Beta,” and many tools of the new investment technology, including modern portfolio theory, came under suspicion.

An Appraisal of the Evidence

There is a notion that beta is dead as a useful investment tool, despite the unearthing of cracks in the Capital Asset Pricing Model (CAPM). Beta, as a measure of relative volatility, captures some aspects of risk, and past portfolio betas do a reasonably good job of predicting relative volatility in the future. However, it is difficult to measure beta with precision and conclusions about beta and the CAPM depend on how beta is measured. The author believes that beta can still be a useful investment management tool, especially during market swings, and low-beta stocks may provide investors with attractive returns with less risk. Reports of beta's demise are premature.

The Quant Quest for Better Measures of Risk: Arbitrage Pricing Theory

Stephen Ross, a pioneer in risk measurement, has developed a theory of pricing in capital markets known as arbitrage pricing theory (APT). APT is based on the insight that the only risk investors should be compensated for is the risk that cannot be diversified away, which is systematic risk. However, systematic risk can be complicated to capture using beta, which only measures a stock's tendency to move with the market. Moreover, beta may fail to capture other systematic risk elements that can affect individual stock and portfolio returns. For instance, changes in national income, personal income, and other forms of property income can influence stock returns systematically. The same goes for changes in interest rates and inflation rates. These factors affect the returns from individual stocks in a nondiversifiable way and are essential systematic risk elements. Fixed-income securities are especially vulnerable to changes in interest rates, making this risk factor crucial for institutional investors who hold these securities in their portfolios. Similarly, inflation can squeeze profit margins for certain groups of companies,

affecting their stock prices. Statistical tests have shown promising results when using systematic risk variables, such as sensitivity to changes in national income, interest rates, and inflation rates, in addition to beta, to explain the variation in returns among different securities. However, the APT measures of risk are still faced with some of the same challenges as the CAPM.

The Fama-French Three-Factor Model

Eugene Fama and Kenneth French have developed a factor model to account for risk in addition to beta, using empirical evidence to show that returns are related to a company's market capitalization and market price relative to book value. They argue that smaller firms and those with low market prices relative to book value are relatively risky due to potential financial distress. This view is debated, but the factors were considered useful during the early 2009 recession when major banks had low stock prices relative to book values. The Fama-French risk factors are also used by those who argue that low-market-to-book-value stocks provide higher returns due to investor irrationality.

The Fama-French Risk Factors

The Fama-French three-factor risk model includes beta, size (measured by total equity market capitalization), and value (measured by the ratio of market to book value) to describe risk. Some analysts suggest adding a momentum factor to capture the tendency for rising or falling stocks to continue moving in the same direction, and a liquidity factor to reflect the return premium investors need to hold illiquid securities.

A Summing Up

The stock market is efficient and adjusts quickly to new information, making it difficult for technical and fundamental analysis to consistently yield higher returns. Beta, a risk measure from the capital-asset pricing model, has its flaws and is not a perfect measure of risk. There is no

single measure that can adequately capture all systematic risk influences on individual stocks and portfolios. Risk analysis techniques will continue to improve, but we should not rely on a single measure to assess risk and predict future returns with certainty. The investment technology can be useful, but there is no perfect solution to all investment problems.

Chapter 10- Behavioral Finance

Until recently, stock-market theories and techniques have been based on the assumption that investors are completely rational, make decisions to maximize their wealth, and are only constrained by their risk tolerance. However, a new school of financial economists called behavioralists has emerged, which suggests that many investors in the stock market are far from rational. Behavioral finance, the whole new economic discipline fathered by psychologists Daniel Kahneman and Amos Tversky, argues that people are not as rational as economic models assume. They believe that market prices are highly imprecise, and irrational trades of investors tend to be correlated due to factors such as overconfidence, biased judgments, herd mentality, and loss aversion. Behavioralists assert that it is possible to quantify or classify such irrational behavior. However, efficient-market theory believers argue that the distortions caused by such factors are countered by the work of arbitrageurs. These people profit from any deviation of market prices from their rational value. Behavioralists believe that there are substantial barriers to efficient arbitrage, and therefore market prices can be expected to deviate substantially from those that could be expected in an efficient market. This chapter will explore the key arguments of behavioral finance in explaining why markets are not efficient and how an understanding of this work can help protect individual investors from some systematic errors that they are prone to.

The Irrational Behavior of Individual Investors

- **Overconfidence**
    - Studies in cognitive psychology have demonstrated that people exhibit systematic biases in their judgments when dealing with uncertainty. One of the most common biases is overconfidence in beliefs and abilities, as well as overoptimism about future events. Experiments conducted among college students and investors show that individuals often overestimate their skills and are too optimistic about future outcomes. They believe they are above average in most areas, including driving, getting along with others, and athletic ability, which is not always the case. The same applies to investors, who tend to overestimate their knowledge, control, and ability to predict future events. Male investors, in particular, exhibit more overconfidence than women, leading to poor investment decisions. This illusion of financial skill is often fueled by hindsight bias, which causes people to selectively remember successful investments while ignoring bad outcomes. Therefore, people should set less precise confidence intervals for their predictions and avoid overestimating their abilities, as this can lead to poor decision-making in the stock market.
- **Biased Judgements**
    - Investors often believe they can control their investment results, especially chartists who use past prices to predict future trends. However, long streaks of high stock returns do not persist, and the laws of financial gravity work in reverse. Psychologists suggest that people tend to be fooled by an illusion of control in situations where they have none, which can lead investors to see trends that don't

exist. Despite many efforts to find some form of predictability in stock price data, stock prices from period to period closely resemble a random walk. People also tend to use similarity or representativeness as a proxy for sound probabilistic thinking, leading to biases in judgments. The Kahneman and Tversky experiment showed that people are likely to violate the fundamental axiom of probability theory by judging that Linda, who majored in philosophy and participated in anti-nuclear demonstrations, was both a bank teller and a feminist rather than just a bank teller.

- **Herding**
    - Research suggests that group decision-making tends to be more effective than individual decision-making, especially when diverse perspectives and information are considered. The concept of the wisdom of the crowd is exemplified by the free-market price system, which is guided by the forces of supply and demand. In contrast, centrally planned economies have failed to achieve market efficiency. The collective buying and selling decisions of millions of investors lead to stock market prices, which can be more accurate than individual forecasts. However, pathological crowd behavior can occur, as seen in the case of seventeenth-century tulip bulbs and twenty-first-century Internet stocks. Groupthink is a phenomenon in which individuals reinforce incorrect viewpoints in a group, which can lead to incorrect decision-making. Social psychologist Solomon Asch conducted an experiment in which participants were asked a simple question, and six of the seven participants deliberately gave the wrong answer. This led to the seventh participant giving the incorrect answer as well due to social pressure.

- **Sample Cards used in Asch Experiment**
    - Gregory Berns, a neuroscientist, conducted an MRI study in 2005 to determine whether people conform to group beliefs due to social pressure or because their perceptions have actually changed. The study found that when people gave incorrect answers in a group setting, the brain's activity increased in the area responsible for spatial awareness, indicating that people's perceptions were influenced by what others said. Another study conducted by social psychologists showed that increasing the number of people looking skyward on a street corner led to more pedestrians stopping to gaze at the empty sky, demonstrating the power of herd behavior.The Internet bubble of the late 1990s and early 2000s is an example of herd behavior leading to incorrect investment judgments. Individual investors were influenced by word-of-mouth communications and a desire to make quick profits, resulting in a positive feedback loop where rising prices encouraged more people to buy. Mutual fund managers also tend to follow similar strategies and invest in the same stocks, leading to poor returns for individual investors. In addition, investors tend to put their money into funds with recent good performance, which can exacerbate poor returns due to timing penalties. The lesson from behavioral finance is that individual investors should avoid herd behavior.
- **Loss Aversion**
    - Kahneman and Tversky's prospect theory challenges the assumption made by financial economists that individuals make decisions based on the likely effect of those choices on their final wealth. Instead, prospect theory argues that people's

choices are motivated by the values they assign to gains and losses, and that losses are considered far more undesirable than equivalent gains are desirable. Additionally, the language used to present the possible gains and losses will influence the final decision that is made. For instance, Kahneman and Tversky found that losses were 2.5 times as undesirable as equivalent gains were desirable. People exhibit extreme loss aversion, even though a change of $100 of wealth would hardly be noticed for most people with substantial assets. The two psychologists also discovered a related and important "framing" effect. The way choices are framed to the decision-maker can lead to quite different outcomes. This is illustrated by the fact that when doctors are faced with decisions regarding treatment options for people with cancer, different choices tend to be made if the problem is stated in terms of survival probabilities rather than mortality probabilities.

- **Pride and Regret**
    - The emotions of pride and regret play a significant role in influencing investor behavior. Many investors hold on to their losing positions, hoping they will recover, to avoid the painful feeling of regret. However, this tendency to hold on to losing positions and sell winning stocks is not optimal according to rational investment theory. Investors should sell stocks with gains and take advantage of tax benefits. The reluctance to take losses is evident in both the stock market and residential housing market. Extreme loss aversion explains why sellers are reluctant to sell their properties at a loss.

Behavioral Finance and Savings

Behavioral finance theory helps explain why many employees refuse to join their company's 401(k) savings plan, even when the company matches their contributions. This is because individuals weigh losses much more heavily than gains and view an increase in retirement contributions as a loss of current spending availability. In addition, the difficulty of exhibiting self-control, procrastination, and status quo bias also contribute to people saving too little. To overcome these tendencies, suggestions have been made to change the framing of the choice, such as automatically enrolling employees in the savings plan with an opt-out feature and using the "Save More Tomorrow" plan developed by economists Richard Thaler and Shlomo Benartzi. This plan has employees commit in advance to allocate a portion of any salary increases toward retirement savings, which mitigates the perceived loss aversion of a cut in take-home pay. The Save More Tomorrow plan has proven to be very popular and effective at increasing employee participation and savings.

The Limits to Arbitrage

It has been discussed how investors' cognitive biases can impact security prices, leading to irrational behavior or actions that do not align with ideal decision-making. Some investors may even bid certain stocks to unreasonable heights. Despite the belief that "arbitrage" will make the market efficient, even if individual investors are irrational, behavioralists argue that there are limits to arbitrage that prevent the correction of mispricings. While arbitrageurs, such as Wall Street traders and hedge-fund managers, are expected to take offsetting positions, such as selling overpriced stocks short and buying underpriced ones, any mispricing caused by irrational investors is not always quickly corrected. However, this kind of arbitrage is risky and may lead to losses on both sides of the trade, especially if investors become even more overenthusiastic

about the overpriced security. Hedge funds, with trillions of dollars to invest, should be the natural players in selling overpriced securities short and buying underpriced ones. But, surprisingly, sophisticated speculators such as hedge funds were not a correcting force during the bubble period. They actually helped inflate the bubble by riding it rather than attacking it. Hedge funds were net buyers of Internet stocks throughout the 1998–early 2000 period. While arbitrage trades to correct a perceived price bubble are inherently risky, there are also times when short selling is not possible or at least severely constrained. Typically in selling short, the security that is shorted is borrowed to be delivered to the buyer. However, in some cases, it may be impossible to find stock to borrow, and thus it is technically impossible even to execute a short sale.

What are the Lessons for Investors from Behavioral Finance?

Investors often behave like the owners and pets on David Letterman's "Stupid Pet Tricks" segment, being overconfident and refusing to recognize their investment mistakes. Understanding the influence of human behavior on investing can help avoid financial mistakes. Charles Ellis argues that most investors beat themselves by engaging in mistaken stock-market strategies. Recognizing these behavioral foibles and following a passive buy-and-hold indexing approach can avoid stupid investor tricks.

1. **Avoid Herb Behavior**
    a. Behavioral financial economists have found that investors often follow the crowd, influenced by friends and media hype. However, this can lead to hazardous investment decisions, as the hottest investments in one period often become the worst performers in the next. Investors' tendency to buy and sell based on emotion rather than logic can result in a "timing penalty," where they earn lower returns than simply holding a market index fund. Additionally, the "selection penalty"

occurs when investors chase hot investments and miss out on more profitable options.

2. **Avoid Overtrading**
    a. Behavioral finance specialists have found that investors tend to be overconfident in their judgments, do too much trading, and incur transaction costs and taxes as a result. The buy-and-hold strategy is often the most effective, and overtrading can lead to underperformance compared to more passive benchmarks. Men tend to be more overconfident and trade more frequently than women. Odean suggests that investors seek their spouse's advice before making a stock trade.
3. **If You Do Trade: Sell Losers, Not Winners**
    a. Investors are more averse to losses than they are motivated by gains, leading them to take greater risks to avoid losses. They also tend to avoid selling stocks that have gone down to avoid admitting they made a mistake. However, it may be sensible to hold on to a stock that has declined if the company is still successful, and it's not reasonable to hold on to losing stocks such as Enron and WorldCom. A "paper loss" is just as real as a realized loss, and selling allows you to take a tax loss, while holding on to winners adds to your tax burden.
4. **Other Stupid Investor Tricks**
    a. Be Wary of New Issues
        i. Investors should not buy IPOs at their initial offering price, as historically IPOs have been a bad deal. Researchers have found that IPOs underperform the total stock market by about four percentage points per year. The poor performance starts about six months after the issue is sold.

Only the poorest new issues will be offered to individual investors, as the hot IPOs are usually snapped up by big institutional investors or the best wealthy clients of the underwriting firm.

b. Stay Cool to Hot Tips
    i. There needs to be a warning against investing in "hot tips" from various sources, such as relatives or the internet, as they are likely to be poor investments. It also advises to never buy anything from someone who is out of breath. The examples given include a diamond mine in Zaire and an undiscovered biotech company that are supposedly guaranteed winners, but are likely to be scams.
c. Distrust Foolproof Schemes
    i. Both amateurs and professionals will tell you that there are schemes to pick the best fund managers and to avoid investing in the market when prices are falling, but it can't be done. Even successful market-timing strategies in the past don't work in the long run. Investors should be wary of anything that seems too good to be true, such as the Bernard L. Madoff fraud that cost investors $50 billion. Madoff offered modest and safe returns, but earning consistent returns of 10 to 12 percent per year in the stock market is not possible. Investors should not rely on regulators to protect them from fraudulent schemes and should remember that anything that seems too good to be true is likely untrue.

Does Behavioral Finance Teach Ways to Beat the Market?

Behavioralists argue that the mistakes of irrational investors can create predictable market patterns that rational investors can take advantage of.

Chapter 11- POTSHOTS AT THE EFFICIENT-MARKET THEORY AND WHY THEY MISS

The stock market has experienced significant declines in various periods, leading some critics to question the efficient-market theory. Behavioral theorists argue that the market is not efficient and that stock prices show predictable patterns. However, the author argues that the extent to which the stock market is predictable has been overstated and that following the efficient-market theory, specifically buying and holding a broad-based market index fund, is still the best approach. While the market may not always behave rationally in the short term, it always does over the long haul, and no one can consistently predict the future.

WHAT DO WE MEAN BY SAYING MARKETS ARE EFFICIENT?

Efficient markets theory (EMT) does not mean that the market is always correct in its valuation. The market can make errors, and participants can be irrational. However, EMT argues that the market is efficient if it rapidly and accurately reflects new information, and it does not allow investors to earn above-average returns without accepting above-average risks. EMT proponents believe that no one can consistently predict the direction of the stock market or the relative attractiveness of individual stocks, and no one can consistently obtain better overall returns than the market. The advice is to buy a broad-based index fund that simply buys and holds all the stocks in the market, as it charges very low expenses and offers a good return.

POTSHOTS THAT COMPLETELY MISS THE TARGET

1. **Dogs of the Dow**

   The "Dogs of the Dow" strategy involved buying the ten stocks with the highest dividend yields in the Dow Jones Industrial Average each year, based on the theory that these stocks were the most out of favor and would eventually reverse direction. The strategy was popularized by money manager Michael O'Higgins in his book "Beating the Dow," and it gained a significant following, with over $20 billion invested in Dogs of the Dow funds by the mid-1990s. However, the strategy eventually underperformed the market, likely due to its popularity and the resulting increase in demand for the stocks. The strategy is no longer successful.

2. **January Effect**

   Studies have shown that January tends to be a unique month for stock-market returns, with high returns especially during the first two weeks of the month. This effect is particularly strong for smaller firms, which offer investors higher than usual returns that are largely produced during the first few days of the year. The tax effects of investors selling securities at the end of the calendar year to establish capital losses for income tax purposes may contribute to this effect. However, the transaction costs of trading in the stocks of small companies are much higher than those for larger companies, and the effect is not dependable in each year. Therefore, it is not a dependable anomaly that ordinary investors can exploit.

3. **“Thank God It’s Monday Afternoon” Pattern**

   The "weekend effect" is a pattern of negative stock returns from Friday's close to Monday's close, leading to lower prices on Monday. However, the effect is not significant enough to offset transaction costs, and it is not reliable from week to week.

4. **Hot News Response**

   According to some academics, stock prices tend to underreact to news events, leading to potential abnormal returns for investors who purchase (sell) stocks where good (bad) news comes out. However, Eugene Fama found that there is often an overreaction to information, and post-event continuation of abnormal returns is not much more frequent than post-event reversals. Many return "anomalies" tend to disappear when exposed to different models for expected "normal" returns, leading Fama to conclude that most of the anomalies discovered by researchers "can reasonably be attributed to chance" and do not offer investors a dependable way to earn abnormal returns.

5. **Why the Aim Is So Bad**

   The stock market is unpredictable, but some researchers have identified certain patterns, such as the weekend effect and underreaction to news events, that could potentially be exploited for abnormal returns. However, any pattern that can be discovered and arbitraged away will eventually self-destruct. Moreover, many of these patterns may be the result of data mining, which can lead to spurious correlations. As a result, many of these predictable patterns are not dependable ways to earn abnormal returns. Data mining problems are unique to financial economics because it relies on statistical analysis and cannot test hypotheses through repeated controlled experiments.

POTSHOTS THAT GET CLOSE BUT STILL MISS THE TARGET

Academics and analysts have attempted to create theories and strategies to exploit the stock market's patterns and destroy its unpredictability. These strategies fall into three categories: those that predict the market's direction, those that forecast long-term market returns, and those that identify profitable stocks. However, none of these strategies has consistently been able to overcome the unpredictability of the market. The first two categories are called time series strategies, which include the Trend Is Your Friend, the Dividend Jackpot Approach, the Initial P/E Predictor, and the "Back We Go Again" Strategy. The third category is called cross-sectional studies, which include the "Smaller Is Better Effect" and the claim that "Value Will Win." Although these strategies have some merit, they are not dependable enough to penetrate the veil of unpredictability in the stock market.

1. **The Trend Is Your Friend (Otherwise Known as Short-Term Momentum)**

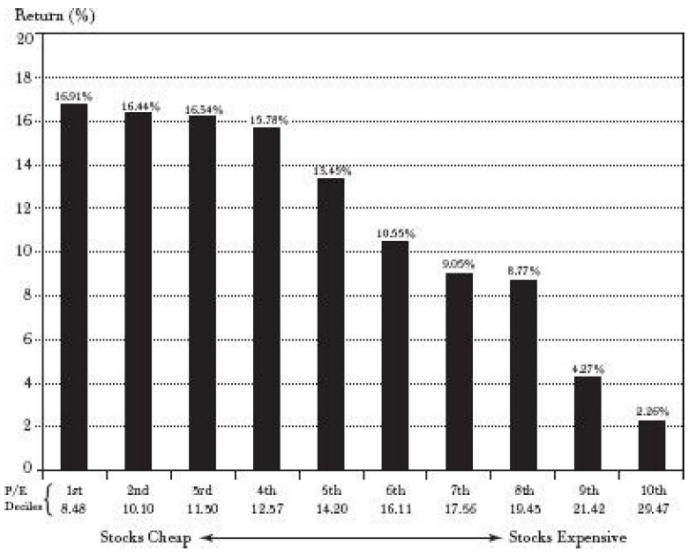
   The belief that stock prices follow a purely random walk has been challenged by studies indicating the presence of momentum in the market. However, the statistical dependencies giving rise to momentum are small, making it unlikely for a momentum-based trading strategy to beat a buy-and-hold strategy. Additionally, momentum strategies do not consistently produce excess returns, and predictable patterns often disappear after being published in the finance literature. These patterns may reflect a bias in data samples or the tendency of practitioners to quickly exploit profitable patterns, making them no longer profitable.

2. **The Dividend Jackpot Approach**

   The technique of using dividend yields to predict future stock market returns is based on the assumption that if stocks in general provide above-average dividend yields, then

future returns for investors will be relatively generous. Studies by Eugene Fama and Kenneth French, and John Campbell and Robert Shiller concluded that up to 40% of the variability in future market returns can be predicted based on the initial dividend yield of the market as a whole. However, high initial dividend yields may simply reflect the adjustment of the stock market to general economic conditions, and the dividend behavior of corporations may have changed over time. This technique does not work consistently with individual stocks, and investors who simply purchase a portfolio of individual stocks with the highest dividend yields in the market will not earn a particularly high rate of return.

FUTURE TEN-YEAR RETURNS AT ALTERNATIVE INITIAL DIVIDEND YIELDS (D/P), 1926–2009

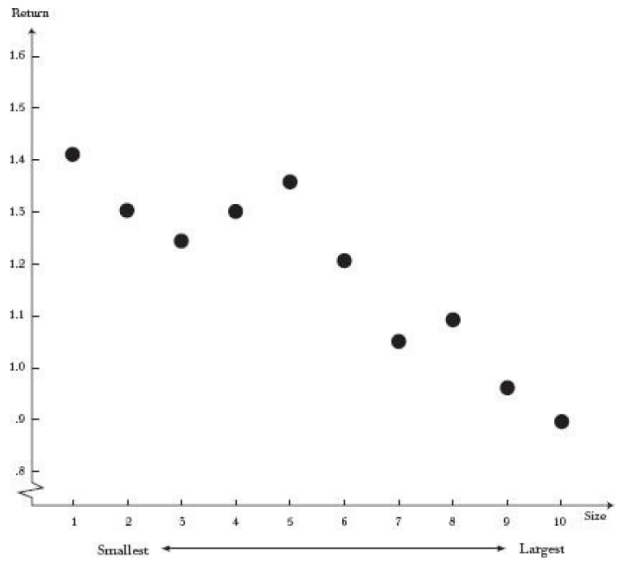


- **The Initial P/ E Predictor**

  Academic studies have shown that the initial dividend yield and price-earnings ratio (P/E) of the market can be used to predict future market returns to some extent. In general,

investors tend to earn higher rates of return when purchasing stocks at relatively high dividend yields or low P/Es. However, blind reliance on these patterns can lead to large investment mistakes. The predictability of stock prices does not necessarily contradict market efficiency, as the predictability could be due to the adjustment of the stock market to general economic conditions. Moreover, dividend yields and P/Es may not be as meaningful in the current market environment as they were in the past, and these patterns do not work consistently with individual stocks. Therefore, while there is some forecastability of stock prices, investors should be cautious in relying too heavily on these patterns.

FUTURE TEN-YEAR RETURNS AT ALTERNATIVE INITIAL PRICE-TO-EARNINGS (P/E) MULTIPLES, 1926–2009



- **The “Back We Go Again” Strategy (Otherwise Known as Long-Run Return Reversals)**

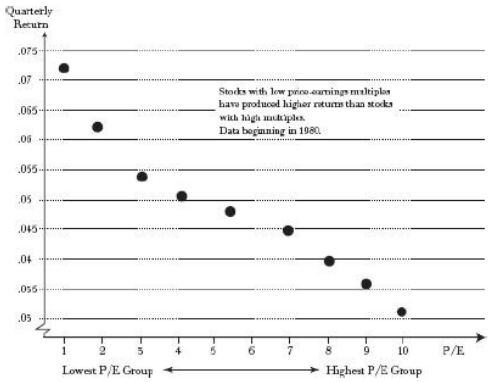
  Research by Eugene Fama, Kenneth French, James Poterba, Lawrence Summers, Werner De Bondt, and Richard Thaler has found that a contrarian investment strategy of buying

stocks that have underperformed recently is likely to outperform a strategy of buying stocks that have recently outperformed. They suggest that the market often overreacts and that it is wise to avoid fashionable stocks and concentrate on those out of favor. However, while return reversals over different time periods can be due to fads and fashion, they can also result from the logical and efficient reaction of stock-market participants to fluctuations in interest rates. While return reversals may be statistically significant, they may only represent reversion to the mean, rather than predictable opportunities to earn above-average returns. Moreover, stocks that have gone down sharply after unfavorable business reversals exhibit heightened uncertainty and volatility and, therefore, greater risk for investors. Investors may benefit from a contrarian approach when it is wedded to a fundamental-value approach to avoid buying stocks simply because they are unpopular.

- **The "Smaller Is Better" Effect**

  Studies have shown that small-company stocks tend to generate larger returns than those of large-company stocks over long periods of time. Fama and French found that the smallest companies had the largest rates of return while the largest companies had the smallest rate of return. However, small firms may be riskier than larger firms and investors may receive higher returns to compensate for the added risk. The small-firm effect may also be due to survivorship bias, as only the surviving small firms are included in the data. The dependability of the small-firm effect's continuing is also uncertain, as small firms did well in the early 2000s but not in the 1990s. Therefore, investing in a portfolio of small firms is not a guaranteed way to earn high returns.

AVERAGE MONTHLY RETURNS VS. SIZE: 1963–90



1. **The “Value Will Win” Record**

   In 1934, Dodd and Graham published an influential investment guide advocating for the value investing approach, which has been embraced by Warren Buffett and others. Value investing involves seeking out stocks with low price-earning ratios and low prices relative to book value, and focusing on current realities rather than projections of future growth. This approach aligns with the behavioralist perspective that investors often overpay for growth stocks due to overconfidence in their ability to predict high earnings growth.

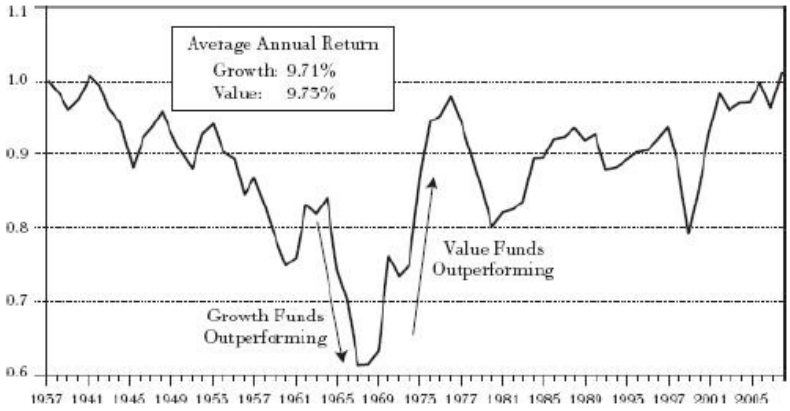
2. **Stocks with Low Price-Earnings Multiples Outperform Those with High Multiples**

   The author favors investing in stocks with good growth prospects but low earnings multiples, known as "Growth at a Reasonable Price" (GARP) strategy, rather than in high-multiple stocks. This is because high-multiple stocks are prone to price drops when earnings growth fails to materialize. Studies have shown that investing in stocks with low earnings multiples can generate higher returns even after adjusting for risk. However, this "P/E effect" may not be reliable over every investment period, and low P/Es can sometimes reflect a concern about a company's viability.

3. **Stocks That Sell at Low Multiples of Their Book Values Tend to Produce Higher Subsequent Returns**

   According to Fama and French, stocks with low ratios of price to book value tend to produce higher future returns, as evidenced in both US and foreign markets. Behavioralists argue that this suggests market inefficiency, but it could also be due to companies in financial distress selling at lower prices relative to their book value. Fama and French propose a three-factor risk model that includes P/BV, size, and beta as measures of risk to benchmark any supposed inefficiencies.

AVERAGE QUARTERLY RETURNS VS. P/E RATIO

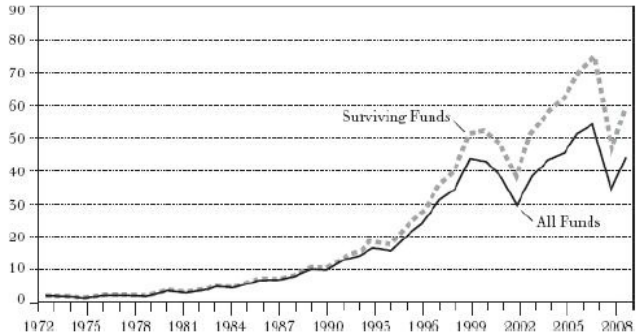


1. **Does “Value & #8221; Really Trump Growth on a Consistent Basis?**

   Even published studies can be time-dependent, and questions whether the return patterns of academic studies can actually be achieved with real money. The chart shows the average actual returns generated by mutual funds classified by either their "growth" or their "value" objectives. It suggests that investors may not have been able to realize higher rates of return from mutual funds specializing in value stocks, and that the period studied by Fama and French from the early 1960s may have been a unique period in which value stocks consistently produced higher rates of return. However, investment

funds that are formed by selecting stocks quantitatively according to the Fama-French criteria are available, such as Dimensional Fund Advisors (DFA) and Research Affiliates. These funds tend to overweight both "value" stocks and smaller stocks.

REVERSION TO THE MEAN: "GROWTH" FUNDS VS. "VALUE" FUNDS, 1937–2008



The graph compares the market value of an investment in all "value" funds to the same investment in all "growth" funds. The value stocks and small-capitalization stocks in these portfolios are overweighted compared to their weights in a cap-weighted index. During times when value and small-cap stocks have performed well, both Dimensional Fund Advisors (DFA) portfolios and fundamentally weighted portfolios have outperformed cap-weighted index funds. However, during periods when valuation metrics are less dispersed, tilting portfolios towards "value" and "small cap" has not resulted in larger returns.

WHY EVEN CLOSE SHOTS MISS

The existence of market bubbles, such as the internet bubble of the early 2000s, is often cited as evidence that markets are not efficient. However, even in hindsight, it was difficult for investors to identify the bubble and take advantage of any mispricing. Despite the occasional mispricing, equity valuations are based on uncertain future forecasts, and rational investors can still price stocks correctly. While there are some anomalies in the market, such as investors choosing high-expense, actively managed mutual funds instead of low-cost index funds, overall, these examples should not shake our faith in the long-run efficiency of the stock market.

AND THE WINNER IS…

1. **The Performance of Professional Investors**

   The author believes that direct tests of professional fund managers' ability to outperform the market provide convincing evidence of market efficiency. If market prices were irrational and predictable, fund managers should be able to beat the market. However, a large body of evidence suggests that professional managers are unable to outperform index funds that hold the entire stock-market portfolio. Even though the index may not win every year, two-thirds or more of professionally managed funds are beaten by index funds decade after decade. This is evident from the performance of all existing US mutual funds compared to their benchmarks over the five years ending in January 2010, where actively managed funds fail to beat their benchmarks regardless of the category.

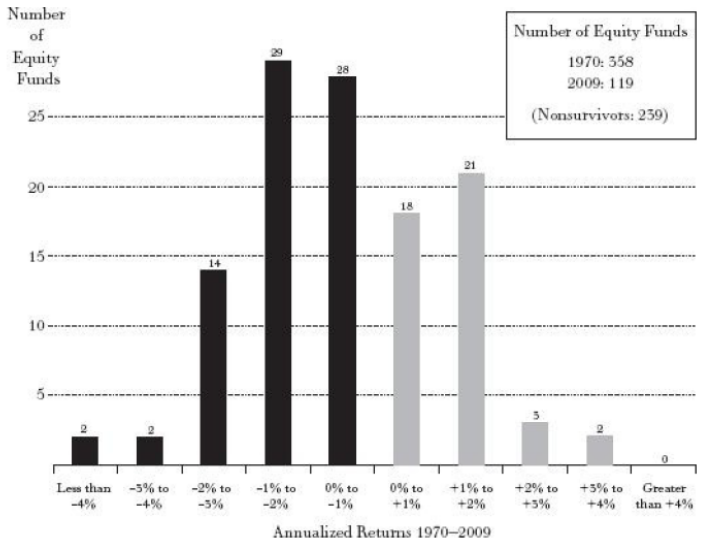
2. **PERCENTAGE OF U.S. EQUITY FUNDS OUTPERFORMED BY BENCHMARKS: FIVE YEARS TO JANUARY 2010**

Fund Category	*Benchmark Index*	*Percent Outperformed*
All Domestic Equity	S&P 1500	60.6%
All Large-Cap Funds	S&P 500	60.8
All Mid-Cap Funds	S&P Mid-Cap 400	77.2
All Small-Cap Funds	S&P Small-Cap 600	66.6
All Multi-Cap Funds	S&P Small-Cap 1500	61.9
Global Funds	S&P Global 1200	60.0
International Funds	S&P 700	88.6
Emerging Markets Funds	S&P/IFCI Composite	90.0

While some academic studies have claimed that mutual fund returns are predictable and that investors could earn better returns by purchasing recently good-performing funds, these studies may be flawed by survivorship bias. Survivorship bias occurs when studies include only successful funds that have survived over a long period of time while excluding unsuccessful funds that fell by the wayside. Many mutual funds that are unsuccessful usually do not survive, and mutual fund complexes typically allow these

funds to suffer a painless death by merging them into a more successful fund in the complex. This creates the possibility of significant biases in the return figures calculated from most of the available data sets. The chart shows the magnitude of the bias from 1972 through 2009, with surviving funds earning returns that were two percentage points greater than the returns for all mutual funds in existence each year. When reading press stories of how well mutual funds do, investors are likely seeing only the records of surviving funds, and no one knows in advance which funds will survive.

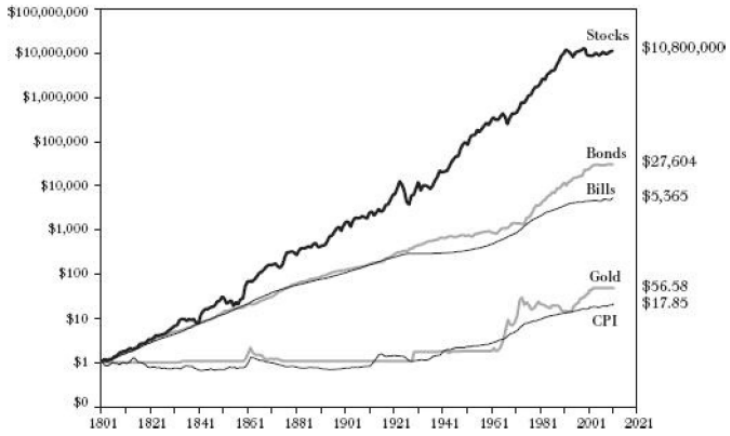
3. THE SURVIVORSHIP BIAS EFFECT



The first edition of "A Random Walk Down Wall Street" from 1973 continues to hold up today: about two-thirds of mutual funds, pension-fund managers, and hedge-fund managers perform worse than the market as a whole. Active managers who try to outguess the market could have done better by following the efficient-market theory. Hot funds that outperformed the market in one period are not likely to do so in the next, and there is no dependable persistence in performance when all mutual funds are considered. The few professional portfolio managers who have managed to beat the market by a

significant amount are rare. Overall, the record of professionals suggests that the stock market has little predictability and few recognizable irrationalities that could produce exploitable opportunities for excess returns.

4. THE ODDS OF SUCCESS: RETURNS OF SURVIVING FUNDS



A SUMMING UP

The author explains that market valuations are based on both logical and psychological factors, which can lead to prices fluctuating within a fuzzy band of possible values. However, stock prices display a remarkable degree of efficiency in rapidly assimilating information into market prices, making it difficult to consistently beat the market. While identifying asset-price bubbles from historical prices is not possible, it is known that bubbles have existed and substantial profits were available for those who sold at inflated prices. It is also difficult to determine whether market prices can be supported by fundamentals, and mispricings that are obvious after the fact are not necessarily clear in advance. Thus, the existence of a bubble does not invalidate the main lesson of the efficient-market hypothesis (EMH) that it is virtually impossible to consistently beat the market. Critics of the EMH have not distinguished between mispricings that were obvious after the fact and those that were clear in advance.

Part Four

A PRACTICAL GUIDE FOR RANDOM WALKERS AND OTHER INVESTORS

CHAPTER 12- A FITNESS MANUAL FOR RANDOM WALKERS

EXERCISE 1: GATHER THE NECESSARY SUPPLIES

Many people believe that buying individual stocks or mutual funds is the key to a comfortable retirement and a large investment portfolio, but this is a misconception. The most important factor in asset growth is how much one saves, which requires discipline. Starting a regular savings program early is crucial for achieving financial security, as the miracle of compound interest can work wonders over time. The power of compounding is demonstrated by the returns of various financial assets from 1800 to 2010. Starting early and consistently saving can lead to significant growth in one's assets over time, while delaying investments only makes it more difficult to achieve retirement goals.

EXERCISE 2: DON'T BE CAUGHT EMPTY-HANDED: COVER YOURSELF WITH CASH RESERVES AND INSURANCE

The author emphasizes the need for a cash reserve and adequate insurance to cope with the unexpected financial needs that everyone faces in life. This is because life is a risky proposition and bad things can happen to good people, as Murphy's Law suggests.

- **Cash Reserves**

  The author advises keeping some cash reserves in safe and liquid investments to cover unexpected expenses like medical bills and unemployment. A reserve of three months of living expenses is recommended assuming that medical and disability insurance at work are in place. Large future expenditures, such as college tuition, should be funded with short-term investments whose maturity matches the date when the funds will be needed.

- **Insurance**

  The author recommends that individuals protect themselves against the unpredictable by purchasing home and auto insurance, health and disability insurance, and life insurance. For those with a family, life insurance is a necessity to protect against the death of the breadwinner. Two broad categories of life insurance products are available: high-premium policies that combine insurance with an investment account, and low-premium term insurance that provides death benefits only, with no buildup of cash value. The author recommends buying renewable term insurance and investing the difference in a tax-deferred retirement plan. It is important to shop around for the best deal and only buy insurance from companies with an A. M. Best rating of at least A.

- **Deferred Variable Annuities**

  The author advises against buying variable annuity products, especially the high-cost ones offered by insurance salespeople. The deferred variable annuity is an investment product with an insurance feature that pays back your full investment if the value of the investment fund has fallen below what you put in when you die. However, these policies are expensive due to high sales commissions and insurance premiums. The author suggests keeping it simple and avoiding complex financial products and sales agents. Only consider a variable annuity if you are super wealthy and have maxed out on other tax-deferred savings alternatives, and even then purchase it directly from a low-cost provider like Vanguard.

EXERCISE 3: BE COMPETITIVE—LET THE YIELD ON YOUR CASH RESERVE KEEP PACE WITH INFLATION

- **Money-Market Mutual Funds (Money Funds)**

Money-market mutual funds are a good option for investors to park their cash reserves, as they offer safety, relatively generous yields, and the ability to write large checks against fund balances. Interest rates on these funds typically range from 1 to 5 percent, although they were near zero in 2010. Investors should be aware that not all money-market funds have the same expense ratios, and lower expenses typically mean higher returns. A list of relatively low-expense funds is provided in the Random Walker's Address Book and Reference Guide at the end of the book.

- **Bank Certificates of Deposit (CDs)**

  To invest a reserve for a known future expenditure, one should choose a safe instrument with a maturity that matches the expenditure date. Bank CDs are an appropriate investment plan that can be used for funds that will be needed in the future. They are safer than money funds and offer higher yields. However, penalties are usually imposed for early withdrawal, and they are subject to state and local income taxes. Treasury bills are exempt from state and local taxes. Bank CD rates vary widely, and the most attractive returns can be found on websites such as bankrate.com.

- **Internet Banks**

  Investors who are comfortable with online banking can take advantage of online financial institutions that conduct all their business electronically, thereby reducing their expenses by having no branches or tellers. These online banks can offer significantly higher rates than traditional savings accounts and money-market funds due to their low overhead. Additionally, those that are members of the Federal Deposit Insurance Corporation can guarantee the safety of your funds.

- **Treasury Bills**

T-bills, or Treasury bills, are considered to be the safest financial instruments available as they are issued and guaranteed by the U.S. government. They are auctioned with maturities of four weeks, three months, six months, or one year, and are sold in $1,000 increments. T-bills have the advantage of being exempt from state and local taxes and often offer higher yields than money-market funds and bank CDs.

- **Tax-Exempt Money-Market Funds**

  Tax-exempt money-market funds invest in short-term issues of state and local government entities, generating income that is exempt from both federal and state taxes. These funds offer lower yields than taxable funds but are suitable for individuals in the highest income tax brackets who find the earnings more attractive than the after-tax yields on regular money-market funds. Most mutual-fund complexes offer selected state tax-exempt funds that can be very attractive on an after-tax basis for people living in states with high state income taxes.

EXERCISE 4: LEARN HOW TO DODGE THE TAX COLLECTOR

- **Individual Retirement Accounts**

  The simplest form of retirement plan is an Individual Retirement Account (IRA), which allows you to invest up to $5,000 per year in an investment vehicle such as a mutual fund. For people with moderate incomes, the entire $5,000 can be deducted from taxes. The earnings from funds deposited in an IRA are not taxed, which can lead to a final value of more than two million dollars after forty-five years of contributions. This is significantly higher than the final value without the benefit of an IRA, where all earnings are taxed at 28 percent each year.

THE ADVANTAGE OF INVESTING THROUGH AN IRA TAX-DEFERRED VS. TAXABLE INVESTING OF $5,000 A YEAR

Sleeping Point	TYPE OF ASSET *Risk Level*	*2010 Expected Rate of Return before Income Taxes (%)*	*Length of Time Investment Must Be Held to Get Expected Rate of Return*
Semicomatose state	BANK ACCOUNTS *Risk Level:* No risk of losing what you put in. Deposits up to $100,000 guaranteed by an agency of the federal government. An almost sure loser with high inflation, however.	0–1	No specific investment period required. Many thrift institutions calculate interest from day of deposit to day of withdrawal.
Sound night's sleep	MONEY-MARKET FUNDS *Risk Level:* Very little risk because most funds are invested in government securities and bank certificates. Not usually guaranteed. Rates vary with expected inflation.	0–2	No specific investment period required. Most funds provide check-writing privileges.
	SPECIAL SIX-MONTH CERTIFICATES *Risk Level:* Early withdrawals subject to penalty. Rates geared to expected inflation and will vary.	1–3	Money must be left on deposit for the entire six months to take advantage of higher rate.
	TREASURY INFLATION-PROTECTION SECURITIES (TIPS) *Risk Level:* Prices can vary if sold before maturity.	2+	These are long-term securities maturing in five years or longer. Base rates vary with maturity.
An occasional dream or two, some possibly unpleasant	HIGH-QUALITY CORPORATE BONDS (PRIME-QUALITY PUBLIC UTILITIES) *Risk Level:* Very little risk if held to maturity. Moderate to substantial fluctuations can be expected in realized return if bonds are sold before maturity. Rate geared to expected long-run inflation rate. "Junk bonds" promise much higher returns but with much higher risk.	5–6¼	Investments must be held until maturity (20–30 years) to be assured of the stated rate. (The bonds also need to be protected against redemption.) The bonds may be sold at any time, but market prices vary with interest rates.

- **Roth IRAs**

  Investors can choose a traditional IRA or a Roth IRA for retirement savings. The traditional IRA offers an immediate tax deduction, but taxes are paid on withdrawals during retirement. The Roth IRA does not offer an up-front tax deduction, but withdrawals and investment earnings are tax-free. It is possible to convert a traditional IRA to a Roth IRA and pay taxes on the funds converted. Whether to convert depends on individual circumstances, and free software is available to analyze the decision. If an individual's income is too high to take a tax deduction on a regular IRA but low enough to qualify for a Roth, then a Roth IRA is the best option.

- **Pension Plans**

Employers offer various pension plans such as 401(k) and 403(b) profit-sharing plans that allow you to save and invest money that gets taken out of your salary before tax. Employers often match some portion of employee contributions. Self-employed individuals can establish a Keogh plan, allowing them to contribute up to 25% of their income, up to $49,000 annually, with tax-deductible contributions and untaxed earnings until withdrawal. It is recommended to save as much as possible through these tax-sheltered means.

- **Saving for College: As Easy as 529**

  The "529" college savings accounts allow tax-free investment earnings as long as the withdrawals are used for qualified higher education purposes. As of 2010, an individual donor can contribute up to $65,000 to a 529 plan without gift taxes. However, some high-expense 529 plans could shortchange investment returns due to hefty commissions. Investors should consider low-expense alternatives like those offered by Vanguard. 529 plans are sanctioned by individual states and some allow tax deductions on state income tax returns. Colleges are likely to consider 529 assets in determining need-based financial aid, so parents could keep the assets in their own names or in the names of grandparents to maximize eligibility.

EXERCISE 5: MAKE SURE THE SHOE FITS: UNDERSTAND YOUR INVESTMENT OBJECTIVES

To invest successfully, clear goals are essential, and investors must decide at the outset the degree of risk they are willing to assume and what kinds of investments are most suitable for their tax bracket. There is no one investment that is best for all investors. Every investor must decide the trade-off they are willing to make between eating well and sleeping well. High

investment rewards can be achieved only at the cost of substantial risk-taking. Finding your sleeping point, or your comfort level with risk, is one of the most important investment steps you must take. The securities markets are like a large restaurant with a variety of menu choices suitable for different tastes and needs. The author discusses various types of investments, including common stocks, real estate, and more exotic options like venture capital, hedge funds, and commodities. He explains that the returns on common stocks and real estate have historically been generous and predicts that portfolios of stocks from emerging markets will provide even greater returns. The author notes that investors should consider their psychological makeup and risk tolerance when selecting investments and that their investment strategy should be tailored to their stage in the "life cycle." Lastly, the author advises investors to consider their tax bracket and income needs when selecting investments.

EXERCISE 6: BEGIN YOUR WALK AT YOUR OWN HOME—RENTING LEADS TO FLABBY INVESTMENT MUSCLES

Real estate has proven to be a good investment providing generous returns and excellent inflation-hedging characteristics. Owning a single-family home or condominium has tax advantages and provides emotional satisfaction. Real estate investment trusts (REITs) offer an opportunity for individuals to add commercial real estate to their investment portfolios. REITs have produced comparable rates of return to common stocks, good dividend yields, and are an excellent vehicle for diversification. Real estate mutual funds and low-expense REIT index funds are recommended for investors to ensure a diversified portfolio.

EXERCISE 7: INVESTIGATE A PROMENADE THROUGH BOND COUNTRY

From World War II until the early 1980s, bonds were a poor investment choice due to inflation eroding the real value of the bonds. However, bond prices adjusted in the early 1980s to provide excellent returns and proved to be excellent diversifiers with low correlation with common stocks from 1980 through 2010. In 2010, good-quality long-term bonds were yielding almost 6 percent, providing protection against a long-term inflation rate of 2 percent and a real rate of return above inflation of 4 percent. Zero-coupon bonds, no-load bond mutual funds, tax-exempt bonds and bond funds, and U.S. Treasury inflation-protection securities are suggested bond purchases to consider.

- **Zero-Coupon Bonds Can Generate Large Future Returns**

  Zero-coupon securities, also known as zero coupons or simply zeros, are purchased at a deep discount from their face value and gradually rise to their face value over the years. The holder receives no periodic interest payments but is paid the full stated amount of the bond if held to maturity. These securities are excellent for putting money aside for future expenditures on specific dates, and they offer the advantage of no reinvestment risk. However, the IRS requires taxable investors to declare a pro-rata share of the dollar difference between the purchase price and the par value of the bond as income annually. High-commission brokers may charge small investors large commissions, and redemption at face value is only assured if the bonds are held to maturity.

- **No-Load Bond Funds Are Appropriate Vehicles for Individual Investors**

  Open-end bond funds offer some long-term advantages similar to zero-coupon securities, but are easier and less expensive to buy or sell. They provide long-term stability of income and are suitable for investors who plan to live off their interest income. Bond index funds are recommended over actively managed bond funds, and load funds should

be avoided. The Address Book lists various types of funds, including those specializing in corporate bonds, GNMA mortgage-backed bonds, tax-exempt bonds, and high-yield funds. The Total Bond Market Index Fund is the author's favorite, as it holds all the different categories of bonds.

- **Tax-Exempt Bonds Are Useful for High-Bracket Investors**

  For those in high tax brackets, tax-exempt bonds issued by state and local governments are a better investment than taxable money funds, zeros, and taxable bond funds. The interest from these bonds is not counted as taxable income on federal tax forms and may also be exempt from state income taxes. The after-tax income from tax-exempt bonds is higher than that from taxable bonds, even for individuals in lower tax brackets. When buying bonds directly, it is recommended to buy new issues rather than already outstanding securities, and to stick with issues rated at least A by Moody's and Standard & Poor's rating services. Additionally, ensure that long-term bonds have a ten-year call-protection provision to protect against bond prices going down if interest rates go up. Investing in high-quality bonds individually is recommended for investments over $25,000, while investing in funds is convenient for smaller investments and provides liquidity and diversification. There are also funds that invest in the bonds of a single state to avoid state and federal income taxes.

- **Hot TIPS: Inflation-Indexed Bonds**

  Treasury inflation-protection securities (TIPS) are immune to inflation erosion and offer guaranteed real rates of return and repayment of principal. TIPS pay a basic interest rate of about 2 percent, and the interest payment is based on a principal amount that rises with the consumer price index (CPI). TIPS are effective portfolio diversifiers, as they have low

correlations with other assets, making them a great insurance policy for the white-knuckle crowd. However, taxes on TIPS returns are due on both the coupon payment and the increase in principal amount reflecting inflation, making them less ideal for taxable investors and best used in tax-advantaged retirement plans.

- **Should You Be a Bond-Market Junkie?**

  Investing in junk bonds, which have lower credit quality and higher yields, has historically given investors a net rate of return two percentage points higher than investment-grade bonds with high-quality credit ratings. Despite the risk of default, a diversified portfolio of low-quality bonds could still produce comparable net returns to a high-quality bond portfolio. However, there is a school of thought that advises investors to avoid junk bonds due to their susceptibility to economic downturns. The decision to invest in junk bonds ultimately depends on the investor's risk tolerance and need for income. While historically the gross-yield premium from junk bonds has compensated for actual default experience, investors must diversify their holdings adequately.

EXERCISE 8: TIPTOE THROUGH THE FIELDS OF GOLD, COLLECTIBLES, AND OTHER INVESTMENTS

The author's stance on gold as a part of a well-diversified portfolio has changed over time. While he was negative towards gold in the 1980s and more positive in the early 2000s, he finds it hard to be enthusiastic about it at its current high price. However, gold could still have a modest role in a portfolio to reduce its variability, and it could produce acceptable returns if inflation were to reemerge. Other collectibles such as diamonds and art have their risks and disadvantages, including commission costs, difficulties in judging quality, and the need for insurance and maintenance charges. The author advises buying collectibles for love rather than expecting them

to appreciate in value. The author advises against investing in commodities futures contracts, hedge-fund and private-equity and venture-capital funds for nonprofessional investors. These instruments can be profitable for professionals, but individuals who don't know what they're doing can easily get hurt. The average performance of these funds is deeply disappointing, and unless one is an institutional investor with preferential access, the chance of investing with the best is zero.

EXERCISE 9: REMEMBER THAT COMMISSION COSTS ARE NOT RANDOM; SOME ARE LOWER THAN OTHERS

Discount brokers provide a cheaper alternative for buying and selling stocks, but they do not offer investment advice. Electronic trading is also an option but investors should be cautious of trying to trade in and out of stocks each day as few are successful. The "wrap account" is an expensive option where a professional money manager selects a portfolio of stocks, bonds, and real estate for you. When buying mutual funds, it is important to consider the fees charged as those with the lowest fees often produce the best net returns.

EXERCISE 10: AVOID SINKHOLES AND STUMBLING BLOCKS: DIVERSIFY YOUR INVESTMENT STEPS

The final warm-up exercise before discussing common stock investments is about diversification. Diversification reduces risk and improves the chances of achieving good long-term returns. It's important to hold a variety of individual issues within each investment category and not to rely solely on common stocks. The lesson of Enron's collapse highlights the importance of diversification. The investor who is wise diversifies. Also, investors should be aware of the common pitfalls that can make them stumble on their walk down Wall Street.

Chapter 13- HANDICAPPING THE FINANCIAL RACE: A PRIMER IN UNDERSTANDING AND PROJECTING RETURNS FROM STOCKS AND BONDS

WHAT DETERMINES THE RETURNS FROM STOCKS AND BONDS?

The long-term returns from common stocks are determined by two factors: the dividend yield at the time of purchase and the growth rate of earnings and dividends in the future. For buyers who hold onto their stocks indefinitely, a share of common stock is worth the discounted value of its future dividends. The long-run equity return is equal to the initial dividend yield plus the growth rate. In the short-term, the change in valuation relationships, such as price-dividend or price-earnings multiples, also plays a crucial role in determining returns. Dividends may no longer be as relevant since firms prefer stock buybacks due to tax laws and the benefit to management compensation from rising stock prices.

FOUR ERAS OF FINANCIAL MARKET RETURNS

There are four eras of stock and bond-market history from 1946 to 2009 and how investors fared during those times based on the determinants of returns, such as initial dividend yield, growth rate of earnings, changes in valuation, and interest rates. Era I was called the Age of Comfort, where stockholders had high returns after inflation, but bondholders had low returns. Era II was the Age of Angst, where neither stocks nor bonds fared well due to political instability and inflation. Era III was the Age of Exuberance, where both stockholders and bondholders had high returns. Era IV was the Age of Disenchantment, where the promise of the new millennium was not reflected in common-stock returns.

ERA I: THE AGE OF COMFORT

After World War II, consumers spent lavishly on goods they had gone without during the war, creating a mini-boom with some inflation. However, economists were worried about a deep

recession or depression, and investors in the stock market were also concerned. Dividend yields were high and P/E multiples were below their long-term average. Despite some mild recessions, the economy grew reasonably well through the 1950s and 1960s, aided by a large tax cut proposed by President Kennedy in the early 1960s, which was enacted after his death. Investors became increasingly confident, resulting in higher P/Es, lower initial dividend yields, and more comfortable conditions for common-stock investors. However, bond investors did not fare nearly as well, with low initial bond yields, artificially low interest rates, and capital losses when interest rates rose, resulting in nominal returns below 2% and negative real returns.

ERA II: THE AGE OF ANGST

There was an impact of inflation on securities markets from the late 1960s through the early 1980s. It notes that inflation was initially unnoticeable, but rose significantly due to demand-pull inflation, the oil, and food shocks of 1973-74, and policy mistakes leading to excess demand. The Federal Reserve took action to combat inflation, but it led to a sharp economic decline and high unemployment. The fallout in financial markets was significant, with nominal returns for stockholders and bondholders being meager, and real returns being negative. However, hard assets such as gold, collectibles, and real estate provided double-digit returns. The failure of bonds to protect against inflation is discussed, as well as the common-stock flop, where stocks were not the inflation hedge they were supposed to be. Various explanations for this are explored, such as faltering dividends and earnings growth, but none were found to hold up under careful analysis.

ERA III: THE AGE OF EXUBERANCE

The third era, from 1982 to early 2000, was the golden age of financial asset returns, with both stocks and bonds providing unusually generous real rates of return. Corporate bonds provided a

prospective real rate of return of about 5 percent, and the initial yield of 13 percent guaranteed long-term holders double-digit returns. The anticipated long-run rate of return on stocks was well above the core rate of inflation, and market sentiment went from despair to euphoria. The change in valuation lifted stock returns from unusually good to absolutely extraordinary. This era offered a once-in-a-lifetime opportunity to invest in financial assets, while hard assets like gold and oil produced negative rates of return.

ERA IV: THE AGE OF DISENCHANTMENT

The Age of Disenchantment followed the Age of Exuberance, and it was considered one of the worst decades for the stock market. The Internet bubble and bear market were followed by another bubble and crash caused by falling real estate prices, reminding investors of the high risks involved. Valuation relationships changed, with price-earning ratios falling and dividend yields rising. Bond investments were able to mitigate the suffering as they produced positive returns over the decade. The table in the text shows how returns developed during this period.

HANDICAPPING FUTURE RETURNS

There are ways to judge returns from financial assets for the years ahead. It is difficult to predict short-term movements in securities markets, but it is possible to estimate the range of long-run rates of return that investors can expect from financial assets. Holders of good-quality corporate bonds will earn approximately 5 to 6 percent if the bonds are held to maturity. Those who buy and hold long-term TIPS (the Treasury's inflation-protection securities) will earn a real (after-inflation) return of 2 percent. Adding the initial yield and growth rate together, we get a projected total return for the S&P 500 of 7½ to 8 percent per year. Investors should not to invest with a rearview mirror and not to project past returns into the new millennium. The most likely estimate for the stock market is that the total rate of return over the longer run will be in the

upper single digits. Also, investors should be aware of unexpected events and to expect meaningful risk premiums if they are to accept the risks of equity ownership.

CHAPTER 14- A LIFE-CYCLE GUIDE TO INVESTING

Investment strategy should be based on an individual's life cycle, with different financial instruments used by a 34-year-old and a 64-year-old. A younger person just entering their peak earning years can take on more risk, while an older person who depends on investment income cannot risk incurring losses. The balancing of asset categories, such as stocks, bonds, and real estate, is crucial in determining an investor's total return, with more than 90 percent of it determined by asset selection and proportional representation. Age, income, and specific responsibilities also play a role in determining an individual's portfolio mix.

FIVE ASSET-ALLOCATION PRINCIPLES

1. **Risk and Reward Are Related**

   The assumption of greater risk is essential to increase investment rewards, which is supported by centuries of historical data. The table presented shows the average annual return and risk index for different asset classes from 1926-2009. Common stocks have provided generous long-run rates of return but come with substantial risk to investors. As investors reach for higher returns, they must remember that higher risk is the price to pay for more generous returns.

2. **Your Actual Risk in Stock and Bond Investing Depends on the Length of Time You Hold Your Investment**

   The length of time an investment is held plays a critical role in the risk an investor assumes. For example, while long-term government bonds have provided an average annual rate of return of 5.4 percent over an eighty-three-year period, they still pose

significant risk in any given year. Similarly, while common stocks have provided generous long-term rates of return, holding them for longer periods of time reduces the risk of investing in them. The longer an investor can hold their investments, the greater the share of common stocks in their portfolio should be, as they are reasonably sure to earn generous rates of return only if they can hold them for longer periods of time. Stocks are risky over long holding periods, but for investors with holding periods of twenty-five years or more, stocks are likely to provide higher returns than safe bonds or government-guaranteed savings accounts, especially when dividends are reinvested and dollar-cost averaging is used. As people have fewer years of paid labor ahead of them, they become more conservative with their investments and should have a smaller proportion of stocks in their portfolio to protect their standard of living in case of negative returns in the stock market.

3. **Dollar-Cost Averaging Can Reduce the Risks of Investing in Stocks and Bonds**

   Dollar-cost averaging, a technique used for investing in which a fixed amount of money is invested regularly in a stock or bond market over a long period of time. The technique reduces the risks associated with equity investment and helps avoid investing all the money at the wrong time. The technique is not a panacea but is a reasonable insurance policy against poor future stock markets. The benefits of dollar-cost averaging can be seen through a real example of a $500 initial investment in the Vanguard 500 Index mutual fund in 1978, which resulted in a final value of over $265,000 after consistently following the program. However, dollar-cost averaging is not necessarily appropriate if one needs to invest a lump sum such as a bequest. Investors should keep a small reserve

to take advantage of market declines and buy a few extra shares if the market is down sharply.

4. **Rebalancing Can Reduce Investment Risk and Possibly Increase Returns**

   Rebalancing is a simple investment technique that involves bringing the proportions of assets devoted to different asset classes back into proportions suited to an investor's age and attitude toward risk. Rebalancing can reduce investment risk and increase investment returns. The technique involves selling some assets and buying others to bring the asset allocation back to the target level. Rebalancing can help investors to buy low and sell high, reducing volatility in the portfolio and improving returns. The strategy involves investing in low-cost index funds and rebalancing the portfolio no more than once a year. The results of a rebalancing strategy over 14 years showed that the volatility of the market value of the portfolio was reduced, and the average annual portfolio return improved compared to a portfolio that was not rebalanced.

5. **Distinguishing between Your Attitude toward and Your Capacity for Risk**

   The appropriate investments for an individual depend on their non-investment sources of income and capacity for risk, which is related to age. Mildred, a recently widowed 64-year-old with a mortgage and no ability to earn outside her investments, should have a safe portfolio of investments generating substantial income. Tiffany, a single, ambitious 26-year-old MBA graduate, can safely have an aggressive portfolio as she has both the life expectancy and earning power to maintain her standard of living in the face of financial loss. It is crucial not to take on the same risks in one's portfolio as one's primary source of income, as demonstrated by the examples of Carl, who lost his job and

investment portfolio in GM bankruptcy, and Enron employees who lost all their savings in Enron stock when the company went under.

THREE GUIDELINES TO TAILORING A LIFE-CYCLE INVESTMENT PLAN

1. **Specific Needs Require Dedicated Specific Assets**

   The principle of "specific need-specific assets" should always be kept in mind when investing. For example, if a young couple needs to save $30,000 for a down payment on a house in a year, that money should be invested in a safe security maturing when the money is required, such as a one-year CD. Similarly, if college tuition will be needed in different years, funds should be invested in securities of the appropriate maturity or in different CDs.

2. **Recognize Your Tolerance for Risk**

   Successful financial planning requires taking into account one's attitude towards risk, which is a subjective factor. General guidelines can be helpful in determining how to allocate funds among different assets, but whether a recommended allocation works for an individual depends on their ability to tolerate risk. Risk tolerance is essential, and only the individual can evaluate their own attitude towards risk. The longer the time period over which investments are held, the lower the risk involved in investing in common stocks and long-term bonds. However, an individual must have the temperament to accept short-term fluctuations in their portfolio's value. Subjective considerations play a major role in asset allocation, and an individual may deviate from recommended allocations based on their aversion to risk.

3. **Persistent Saving in Regular Amounts, No Matter How Small, Pays Off**

   People who have no assets need to allocate that regular savings each week to produce substantial amounts of money over time. A table showing the results from a regular savings program of $100 per month with an assumed interest rate of 8 percent is presented, and it is stated that even moderate savings can lead to significant sums of money. Additionally, investing in no-load mutual funds can be less expensive than direct investments, and people should check if their employer offers a matched savings plan.

THE LIFE-CYCLE INVESTMENT GUIDE

The life-cycle investment guide recommends a very aggressive investment portfolio for those in their twenties, with a heavy proportion of common and international stocks. As investors age, they should reduce riskier investments and increase the proportion of the portfolio committed to bonds and stocks that pay generous dividends. By age 55, investors should start transitioning to retirement and moving towards income production, with a portfolio heavily weighted in a variety of bonds. Even in one's late sixties, the recommended portfolio includes 40% ordinary common stocks and 15% real estate equities (REITs) to cope with inflation and give some income growth. The author recommends broad-based, Total Stock Market index funds instead of individual stocks for most people due to insufficient capital and the need for mutual funds. It is important to ensure that any mutual funds bought are "no-load" and low cost. Real estate should also be included in portfolios, and part of equity holdings should be in real estate investment trust (REIT) index mutual funds. Taxable bonds are recommended, but for those in the highest tax bracket in high-tax states, tax-exempt money funds and bond funds tailored to the state are suggested.

LIFE- CYCLE FUNDS

The "life-cycle fund" is a new type of product that automatically adjusts and rebalances your portfolio as you age and move towards retirement. This is a useful option for those who want to set up a program and forget about it, as the fund becomes more conservative over time. You choose the appropriate fund by selecting a date when you expect to retire, and major mutual-fund complexes like Vanguard, Fidelity, and T. Rowe Price offer life-cycle funds. However, before signing up, check the fee schedule to ensure low fees.

INVESTMENT MANAGEMENT ONCE YOU HAVE RETIRED

The baby boom generation is reaching retirement age, with more than one million expected to live beyond the age of 100. However, many boomers have failed to save adequately for retirement and the government cannot be relied upon to bail them out due to the long-term state of the federal budget.

- **Inadequate Preparation for Retirement**

  The typical American family has little savings and considerable credit card debt, and less than half of Americans have any kind of retirement account, with those who do having only around $35,000 saved. This means that many Americans are likely to face grim retirements unless they begin saving seriously or work during their retirement years to control expenses and save as much as possible. Working in retirement can also have psychological and health benefits, and delaying retirement and taking Social Security until full retirement age can maximize annual benefits.

INVESTING A RETIREMENT NEST EGG

- **Annuities**

  Annuities are contracts made with an insurance company where the investor pays a sum of money to guarantee a series of periodic payments that will last as long as the annuitant lives. An investor may choose fixed annuities, which have a set payout, or variable annuities, which provide the possibility of rising payments over time based on investment assets chosen. Annuities have an advantage over a strategy of investing your retirement nest egg yourself as they guarantee that you will not outlive your money. However, annuitization is inconsistent with a bequest motive, gives the annuitant an inflexible path of consumption, can involve high transaction costs, and can be tax inefficient.

  1. **Desire to Leave a Bequest**

     If a retiree can live off the dividends and interest from their investments, annuitization may not be necessary as it would leave no money for bequests when the annuitant dies. Many individuals desire to leave some funds for their heirs or charitable organizations, which is inconsistent with full annuitization.

  2. **Flexibility of Consumption**

     Annuitization can give retirees an inflexible path of consumption, as they cannot adjust their annual payments even if circumstances change. For example, if a couple purchases a joint-life annuity but both partners are diagnosed with incurable diseases shortly after, they may want to take an expensive around-the-world trip, but annuitization would not allow them to adjust their payments to cover the cost

3. **Annuities Can Be Costly**

   Annuities can be costly, with the purchaser paying fees, expenses, and sales commission to the insurance company and selling agent, making some annuities poor investments.

4. **Annuities Can Be Tax Inefficient**

   Fixed annuities have some tax advantages over bonds, but variable annuities turn capital gains into ordinary income with higher tax rates. Additionally, partial annuitization of retirement account assets does not offset the required minimum distributions (RMDs) that must be taken. Even if you annuitize 50% of your IRA, you still have to take RMDs on the other half, which can be tax inefficient if you are not spending at least the total amount.

THE DO-IT-YOURSELF METHOD

The "4 percent solution" suggests that retirees should not spend more than 4 percent of their total nest egg annually to ensure that their money will last through retirement. This rule takes into account inflation and the possibility of bear markets in the stock market. By spending less than the total return from the portfolio, the retiree can preserve the purchasing power of both the investment fund and its annual income. The spending rate is set below the estimated rate of return to maximize the chances of never running out of money. To smooth out withdrawals over time, it's recommended to start out spending 4 percent of the retirement fund and let the amount taken out grow by 2 percent per year. It's also important to develop a strategy of tapping assets to defer paying income taxes as long as possible.

CHAPTER 15- THREE GIANT STEPS DOWN WALL STREET

This chapter provides rules for buying stocks and specific recommendations for following the asset-allocation guidelines presented in chapter 14. There are three ways to buy stocks: the No-Brainer Step, the Do-It-Yourself Step, and the Substitute-Player Step. Domestic and international index funds for the entire investment portfolio are recommended, but if investors prefer to pick their own stocks, the author provides a series of rules to help them tilt the odds of success in their favor. The chapter also discusses the option of using professional investment managers through managed mutual funds and describes a strategy called the Malkiel Step for buying closed-end investment company shares at a discount.

THE NO-BRAINER STEP: INVESTING IN INDEX FUNDS

The S&P 500-Stock Index beats most experts over the long term, making it an attractive investment option for small investors. The idea of creating a no-load, minimum-management-fee mutual fund that buys all stocks in the broad stock-market averages and does not attempt to catch the winners caught on, resulting in the creation of the index fund. S&P 500 index funds are now available from several mutual-fund complexes and exchange-traded funds. This investment strategy follows the logic of the efficient-market hypothesis and achieves the market return with minimal expenses, making it a useful investment strategy even if the market is not efficient. Numerous studies confirm that the S&P 500 outperforms most mutual funds and major institutional investors in the long run.

- **The Index-Fund Solution: A Summary**

  Index funds have several advantages as an investment vehicle. They have regularly produced rates of return exceeding those of active managers due to their low management fees and trading costs. They are also tax-friendly, as investors can defer or avoid capital

gains taxes. Index funds are relatively predictable, as they tend to track their index and outperform average managers. They are also easier to evaluate and the investment process is simplified. The rarity of superior investment management and the difficulty of identifying it before it has been demonstrated means that investors should forsake the search for it. Institutional investors have put substantial portions of their assets into index funds, with about one-third of institutional investment funds being "indexed" by 2010. Index funds offer broad diversification, reduce brokerage charges, and are a sensible and serviceable method for obtaining the market's rate of return with minimal expense. Despite the lack of extraordinary gains, experience shows that index-fund buyers are likely to obtain results exceeding those of typical fund managers, whose large advisory fees and substantial portfolio turnover tend to reduce investment yields.

- **A Broader Definition of Indexing**

  The author recommends indexing as a strategy for investing, but argues that people should not equate indexing with buying the S&P 500 Index alone. Instead, they should consider investing in a broader index that includes smaller companies with growth potential. The author also recommends international diversification and investing in asset classes such as real estate and bonds. The author suggests that a substantial portion of every portfolio should be invested in emerging markets, which have been growing faster than developed economies.

- **A Specific Index-Fund Portfolio**

  A table for aging baby boomers is presented to use as a guide for building their investment portfolios. It recommends specific percentages of cash, bonds, real estate equities, and U.S. stocks for investors in their mid-fifties. However, the article suggests

that investors may want to adjust the percentages based on their personal capacity for risk and income needs. The author assumes that the reader holds most, if not all, of their securities in tax-advantaged retirement plans, and recommends holding bonds in such accounts. They suggest using tax-exempt bonds if bonds are held outside of retirement accounts, and considering tax-managed index funds for common stocks held in taxable accounts. The author also provides a choice of index funds from different mutual-fund complexes, including non-Vanguard funds with moderate expense ratios and no-load fees. More information on these funds can be found in the Random Walker's Address Book listed after the chapter.

- **ETFs and the Tax-Managed Index Fund**

  Passive portfolio management, such as buying and holding an index fund, minimizes transaction costs and taxes. Index mutual funds tend to avoid capital gains taxes but may realize some taxable capital gains, whereas exchange-traded index funds (ETFs) can be more tax-efficient as they make “in-kind” redemptions. However, ETFs require the payment of transaction costs, including brokerage fees and bid-asked spreads, making no-load index mutual funds a better option for investors accumulating shares over time in small amounts. The Vanguard Tax-Managed Fund: Growth and Income Portfolio is an S&P 500 index fund that minimizes taxes by deferring capital gains realizations. The fund defers capital gains by indexing to the S&P 500, selling the highest-cost securities first, and offsetting unavoidable gains by selling other securities on which there is a loss. Vanguard also has two additional tax-managed funds, the Capital Appreciation Portfolio, and the Balanced Portfolio. These low-cost index-oriented funds are advantageous for wealthy individuals with long-term investment horizons held outside of a tax-advantaged

retirement plan. Indexing the core of a portfolio with index funds and taking active bets with extra funds is a time-tested method to achieve superior investment results with low risk.

THE DO-IT-YOURSELF STEP: POTENTIALLY USEFUL STOCK-PICKING RULES

The author highly recommends indexing as a strategy for individuals and institutions but acknowledges that some prefer to pick winners themselves. For those individuals, the author suggests the Do-It-Yourself Step, which involves a sensible strategy to minimize risks and produce substantial rewards. To put this strategy into practice, investors need to know the sources of investment information, such as financial newspapers, business magazines, investment advisory services, and the Internet. The author then proposes four rules for successful stock selection:

1. Rule 1: Confine stock purchases to companies that appear able to sustain above-average earnings growth for at least five years.
2. Rule 2: Never pay more for a stock than can reasonably be justified by a firm foundation of value.
3. Rule 3: It helps to buy stocks with the kinds of stories of anticipated growth on which investors can build castles in the air.
4. Rule 4: Trade as little as possible

THE SUBSTITUTE-PLAYER STEP: HIRING A PROFESSIONAL WALL STREET WALKER

The author suggests that instead of trying to pick individual stocks, investors should choose the best active mutual fund managers as their "coaches". However, the author also notes that past performance records of mutual fund managers are essentially worthless in predicting future

success. Financial advertisements claiming a fund is the "number one" performer can be misleading, as rankings are often self-selected and compared to a particular group of funds. The author tested strategies of ranking and buying top-performing funds, but found that there is no consistent way to beat the market by purchasing mutual funds that have performed well in the past.

THE MORNINGSTAR MUTUAL-FUND INFORMATION SERVICE

Past performance is not a reliable indicator of future returns for mutual funds. Instead, investors should use resources such as Morningstar to look at a fund's risk ratings, portfolio composition, investment style, fees, and expense ratios. Morningstar also uses a five-star rating system to categorize past performance, but it does not guarantee future superior performance. The two variables that predict future performance are expense ratios and turnover. The best-performing actively managed funds have moderate expense ratios and low turnover, so investors should look for funds with expense ratios below 50 basis points and turnover of less than 50 percent.

THE MALKIEL STEP

The author recommends buying shares in closed-end funds that are available at attractive discounts, which can provide investors with extraordinary rewards. Closed-end funds differ from open-end mutual funds in that they neither issue nor redeem shares after the initial offering. The price of shares in closed-end funds is not necessarily related to net asset value and can sell at a premium above or at a discount from its net asset value. The author believes that the discounts on closed-end funds were due to an unexploited market inefficiency. Although discounts have narrowed significantly on U.S. closed-end funds, discounts still exist for some international funds and funds investing in emerging markets. Diversified portfolios of emerging-market closed-end funds selling at discounts are a viable alternative to an emerging-market index fund.

A PARADOX

During 2010, some emerging-market closed-end funds seemed like a good investment, but domestic funds holding US equities were no longer selling at low prices. Investment advice is paradoxical because if too many people act on it, the advice loses its value. Efficient-market theory suggests that if news is spread easily, prices will quickly reflect all known information. The author is skeptical that simple popular rules or large discounts will persistently produce high returns. Although it is unlikely that unexploited opportunities will exist in markets where intelligent people are searching for value, history shows that such opportunities do arise from time to time. Thus, the author considers himself a "random walker" who believes that true value will prevail but recognizes that anomalies may exist.

SOME LAST REFLECTIONS ON OUR WALK

The ability to consistently beat the stock market averages is extremely rare, and sensible investment policies should be developed based on understanding risk-return trade-offs and tailoring securities to individual needs. The author recommends the indexing strategy as the best approach for most investors but also provides four rules for those who want to try to beat the market. Investing is an art that requires talent and luck, and the game is too much fun to give up. The author's rules can help limit risks and make the game more enjoyable.