THE GREAT WEALTH EROSION

How Wall Street Converts Your Capital To Their Income



GUY E. BAKER



THE GREAT WEALTH EROSION

Guy E. Baker.

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To Richard Young Whose intellect and friendship Inspired me to write this book.

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Forward

With over 45 years of experience, working with families, retirees and business owners, I have learned a lot of practical lessons. Those lessons are no more apparent than when we help clients manage their money for long term income and security.

I wanted to write a book that clearly showed WHY a safe money investment strategy was so important for our clients. I also wanted to show HOW I came to these conclusions. This book is the culmination of over twenty years of analysis, study and practical experience. While the book may seem short and overly simplified, it is well documented and is the essence of market based investing.

The Great Wealth Erosion is the result of putting words to the client presentation we developed in 2011 to tell prospective investors why using our methodology was superior to what we were seeing investors using. The presentation was so well received, it seemed only natural to try and create a way for others to read what I discovered in 1991 at a Reinhardt, Werba and Bowen seminar. This was when I first heard about Modern Portfolio Theory and the power of investing in markets.

In the subsequent years, we implemented the Dimensional Funds strategy using their research and investment tools.

The results have been spectacular, especially compared to what most investors have experienced using the traditional investment approach. The question is why? This book is my attempt to answer that question.

As you read this book, ultimately you will have to answer this one question, "What is your philosophy?" If after reading this, you decide you believe there is a magic guru who has the golden touch, then you need to pursue that belief. Nothing written in this book is likely going to dissuade you.

On the other hand, you may decide this book makes a lot of sense and market based investing is the smartest way to achieve your investment objectives. That being the case, we have a story to tell.

This book is the result of the efforts of a lot of people who have contributed to the body of knowledge I have synthesized in this book. I would like to thank them all, but I will only mention a few for special thanks and appreciation.

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Jeff Oberholtzer did all of the numbers and graphs in this book to illustrate the principles we use to protect client capital. Jeff has diligently served our clients since 1983. I am indebted to him in so many ways. His guidance, wisdom and input have been instrumental in our development as a company. Without him, our firm never would have survived, let alone succeeded.

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Jill Boocock and Buff Woodrow have been ardent editors. Their love and editing skill has made my prose readable. They spend many hours trying to figure out what I am trying to say and then help me say it. They have both been loyal and loving partners with me for many, many years. Without them, nothing I write would make any sense.

I also have to acknowledge Gary Million for all of his

efforts to keep us on the straight and narrow. As our corporate counsel, he has been key to helping us stay compliant and make certain we are meeting the fiduciary standards our clients expect of us.

LizAnne Allen has worked diligently to bring these principles to our 401k clients. It has only been recently that we have been able to deliver this technology to the individual participants in these important plans. LizAnne has provided continual service and support to the trustees and helped them meet their fiduciary requirements.

Dan McBride was a constant encouragement. He encouraged me to write the book and then read every word to make sure I was not overstating our case or leaving anything out of the book. His constant oversight and suggestions helped to make this better. What a great thing to have a sidekick who has the same vision also possesses great communication skills.

And no book or effort could go forward without mentioning Kent Richardson. Kent has been part of my professional life for decades. His efforts to find prospective clients who will listen to our story has been the grease that has kept us going all these years. His encouragement and constant insistence on quality and integrity have kept me on track.

I also have to include my wife, Colleen in these acknowledgements. Her patience while I sat and wrote these pages were gracious and understanding. In fact, that is probably a consistent comment throughout our 45 years of marriage. She has been willing to allow me time to pursue these various whims.

It takes a team to complete any meaningful venture. There

are many contributors to the team. These friends have been key to building and maintaining the team for many years. My appreciation and love for them is endless. Without them, this book (or any of the others) never would have become a reality.

The Holy Grail of wealth accumulation has been pursued for decades. Magazines, books, talk shows, radio programs, seminars, webinars – you name it – are dedicated to helping you, the average investor, discover the "best" way or ways to invest. There are as many concepts and ideas as there are authors. There is no consensus among professionals. So, is it any wonder the average mom and pop, the Middle America investor, struggles to find the right answer? The overwhelming abundance of literature and investment concepts are available for all to read and digest. But in the final analysis, the question remains, "Where should I invest my money?"

Dalbar, a national research organization, announced in 2012 an updated version of their ongoing measurement of behavior performance in the market¹. The results were consistent with their studies in prior periods. The average stock market investor over the last 20 years, on average has received 3.49%. During this time, the stock market, as a whole, returned 8.14%. That is a 4.65% differential and illustrates a big part of the story disclosed in this book. Most investors who belong in the 4.6 Club have to be asking, "why did this happen?"

¹ Dalbar QAIB 2012 Study http://qaib.com/public/freelook. aspx?activeMenu=GLB-1; Annualized Investor Returns vs Benchmark Table, page 10

Understanding the choices and reaction to market turmoil can be a positive lesson for investors. It also helps us understand why investors are asking this BIG question, "Where should I invest my money?" This important question needs to be asked, if for no other reason, than so they can protect themselves from having it happen again.

Before we explore why so many investors belong to the 4.6 Club, we should first define terms. By market, I mean all of the publicly traded stocks in the US and around the world. There are numerous markets available to investors. Contrast this to picking one particular stock and hoping it is the ticket to great wealth. The Facebook phenomenon, in mid 2012, is a great example. Investors lined up to buy the Initial Public Offering. Thinking Facebook would grow like other successful IPOs, investors threw money at it the day Facebook went public. Unfortunately, the overall experience was negative and the stock dropped 10% or more during the first day of trading. Billions of dollars were lost in a heartbeat. Markets are predictable over long time periods. Stocks are not.

Here is a classic example of how the 4.6 Club responds to market fluctuations. In March of 2000, the internet bubble

Year	Capital	Return*	End of Year
2000	\$100,000	-10.8%	\$89,175
2001	\$89,175	-10.9%	\$79,428
2002	\$79,428	-21.3%	\$62,526
2003	\$62,526	31.8%	\$82,386
2004	\$82,386	11.9%	\$92,170
2005	\$92,170	6.2%	\$97,873
2006	\$97,873	15.4%	\$112,935

* Fama/French Total US Market Index Portfolio

burst and sent the market into a 3 year tailspin. The market declined in 2000, 2001 and again in 2002 for a total loss of 43%. But in 2003, the market bounced back up 31.8% and then in 2004 it went up an additional 11.9%. If you had invested \$100,000 into stocks, you were probably worried you might never see your \$100,000 again. Worst case scenarios plague most investors. Their minds overcome common sense. But look at the math. The \$100,000 not only recovered but grew to \$112,935 by the end of 2006. But if you were in the 4.6 Club and bailed out early and then tried to reinvest, you would have likely missed the rallies that occurred in 2003 through 2006 and sustained a significant loss. This is the behavioral mindset of most investors, buy high and sell low. Everyone has done it. Everyone is susceptible to the fears. But is it rational?

Year	Capital	Return*	End of Year
2008	\$100,000	-36.7%	\$63,303
2009	\$63,303	29.1%	\$81,755
2010	\$81,755	17.8%	\$96,299
2011	\$96,299	1.0%	\$97,277

* Fama/French Total US Market Index Portfolio

In 2008, the decline was much more pronounced. The market plummeted downward, 37% in one year. But we saw the same bounce in 2009 when the market rebounded 29% and then in 2010, the market added an additional 17.8% in value. So even though, 2008 was one of the worst periods in history, one of 6 years out of the prior 86 where the market loss was greater than 20%, the next two years came very close to getting the account back to even. Remember, the Law of Markets – markets go up

and markets go down. The 4.6 Club ran for the hills when the market shook and when they did, they left behind any chance of regaining their lost capital for years. They froze their funds and guaranteed their losses.

Is it any wonder investors continually ask this daunting and haunting question - "What happened to my money?" Had those same investors remained in the market, their portfolio would be higher than when they first invested in early 2000. The same is true in 2008. But once someone pulls out of the market, it is very difficult to make the decision to jump back in. If they do, it is usually at the wrong time. It is usually after the market has recovered most of its losses. Too many in the 4.6 Club sit on the sidelines, with significant losses, waiting for just the right time to re-enter the market, if they do at all. The financial media has often described 2000–2010 as the Lost Decade and with the exception of some commodities, like gold and oil, most of the markets have been flat during this period. Predominantly, most investors are fortunate to have come through these years with their capital intact. But those who held fast and didn't hit the eject button, were rewarded

Let me frame the problem. Think about the Rule of 72 (money doubles every "x" years at a "y" interest rate. So if the IRR is 6%, then money will double in 12 years.). An investor, instead of having twice as much in their retirement account in the 10 years following the 2000 meltdown, might have as little as half of their initial capital at the end of 2011. Why? Because they allowed their emotions to override the Law of Markets. You must stay invested to achieve long term growth.

It is only natural for the 4.6 Club to want an explanation



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and understanding of why the stock market, which has averaged nearly 10% over the last 85 years, yielded such poor results from 2000–2011. A look at the historical evidence shows clearly, while markets do go up and markets do go down, predominately, they go up. Market turbulence is a fact of life. It is a reality every investor must understand and manage. But over long periods of time, the market has produced a very stable return for investors.

Here is an interesting look at the long run stability of the market. Look at this graph of the Fama/French Total US Market Index.



It compares Total US Market returns annually to the 10 year rolling return dating back to 1927. This demonstrates the long term effect of market performance. There are 75 ten year periods. The total market has earned since 1927, 9.6%. Of the 75 decile groupings (these 10 year rolling periods), 70 were positive and only 5 were negative. This is an unmanaged market. Now compare this to the managed balanced portfolio graph on the next page.

Here, using the same raw data, the portfolios are restructured using the latest research and technology to optimize



the risk return relationship between the sub markets (markets within the broad general markets). Later in this book, I will discuss how these markets are identified and show you a concept called the "Efficient Frontier." Using the managed Balanced Markets approach, you can see the same 75 decile groupings (the red line) were ALL positive and the rate of return was 8.48%. Even though the return was not quite as high, the fact there was no 10 year periods when the investor experienced loss is important.

If we use a more aggressive portfolio and the investor is willing to accept some potential negative returns, in every decile grouping, the managed approach outper-



formed the market as a whole. Year by year, the rate of return was 10.63% compared to the 9.67%.

Let's look at one final graph. It is even more relevant. It shows how the popular S&P 500 (an index of the 500 largest companies based on capitalization) performed using the same measures.



The S&P 500 is arguably the most stable and reliable index investors can buy. Again, using our 75 decile modeling method, the results mirrored the total market return, as a whole. There were 4 negative deciles (instead of 5), with a total return of 9.75% (instead of 9.87%). But notice, the S&P 500 underperformed the managed markets approach consistently.

Why? This is the CORE reason the 4.6 Club exists. Our managed markets approach identifies and manages the FOUR critical economic factors, which left unmanaged, erodes investment performance. These 4 factors contribute directly to the 4.6% differential between the average investor portfolio results and the market as a whole.

What is the point? Simply, research and technology bring value to the equation. The thesis for this book is not only

to educate you on how important these four critical factors are, but to show you, documented, proven methods for managing these four factors successfully.

It is my hope you will not only enjoy the material we have compiled in this book, but you will gain confidence about investing in the market over the coming years. If either happens, the book will have been worth the effort.

The FOUR Critical factors that contribute to the difference between the market return and what investors are achieving are:

- 1. Market Volatility
- 2. Portfolio Construction
- 3. Expenses and Fees
- 4. Taxes

Each, in and of themselves is an incredibly important element in the risk return equation. But failing to manage all FOUR can be detrimental to your wealth, especially if you ignore them

Before we begin looking at the Four Critical Factors, I want to remind you of some key concerns and questions I am most frequently asked. Most often, the people we meet fall into one of four categories shown in the table at the top of the next page.

Each group has to deal with the realities of risk. But the risks are different and have varying impact for each universe of concerns. Rarely if ever, do any of these groups know the right questions to ask. Those questions relate to the Four Critical Factors, to their risk tolerance and to how their money is going to be invested. Most importantly, will it last?

Too much month at the end of their money	Some savings to supplement their Social Security
• They will be forced to work until they are unable to work any longer.	No long term care protectionNo inflation protection
 Significant savings Able to create a reasonable income for retirement with few concerns No Long Term Care Can withstand modest inflation 	 Independently wealthy Will not have to worry about their income during retirement Long Term Care is NOT an issue. They are inflation proof

We find virtually no one has taken the time to write down their investment parameters or boundaries.

This is done in an Investment Policy Statement.

How can their investment advisor possibly know how to invest their money, if there is no blueprint?

Here are some key questions:

- 1. How long will I live? Nobody knows the answer, but it is important to build a retirement portfolio that can approximate the probabilities. No one wants to outlive their money.
- 2. What impact will poor health have on my income? How will it impact my spouse? Most families have not contingency plan for strokes, dementia or any of the disabling illnesses that often drain their savings and retirement accounts.

3. What will happen to our (my) income if we have a sustained period of high inflation? There are two risks – loss of capital and loss of purchasing power. Which one is guaranteed to happen?

These are all very difficult and important questions that need to be addressed factually and quantitatively. If you have not thought through these issues properly, you would be wise to discuss them with your financial advisor and insure your portfolio and planning have adequately addressed these concerns.

Let's look now at the FOUR Critical Factors.

Understanding the Four Critical Factors

You may recall, the FOUR Critical Factors we have identified that either make or break the performance of your portfolio. All of the historical data and evidence point to this conclusion. If these factors are managed properly, the probability of attaining your expected outcome or return is much higher than if these factors are mismanaged or ignored.

Why would anyone willingly mismanage them or worse yet, ignore them? Certainly, professional advisors and brokers would not do this deliberately? I would readily agree Advisors would not deliberately attempt to hurt a client, unless there is fraud involved. But based on the evidence, it seems very likely many advisors are ignoring or ignorant of the real role these FOUR critical factors play. Worse still, they seemingly have no idea how to manage them properly. Asking about these four factors is an important exercise every investor should pursue. Being forewarned is forearmed. If you at least know the basic fundamentals of these factors, you can begin to ask the right questions and assess the relative impact each of these elements are having on your portfolio. In order to really appreciate the importance of the four factors, we need to define a few terms so you understand how they are used in this book.

Glossary of Terms

Securities - This would seem simple enough. Securities are also called equities or stocks. But the term actually refers to any investments such as stocks, bonds, mutual funds, ETFs, puts, calls and options. It also encompasses private placements and hedge funds. In essence, a security is any ownership interest you can buy in something of-

fered by a licensed (or unlicensed) broker, representative or financial advisor.

Expected Return - Initially, expected return could refer to the growth rate you are hoping to achieve, expressed as a percentage. For instance, if you need to double your portfolio over the next 10 years,

you would need to earn 7.2% compounded annually. You tell your broker this is what you need to earn and he then establishes a portfolio, based on historical data that is expected to yield this return for you. The expected return, in this instance, becomes your goal.

It may also be described another way. It could, instead, be defined as the historical return a portfolio of comparable equities has earned over a reasonable historical duration. For instance, Large Cap Growth stocks have earned 9.51% over the last 85 years. This would be the expected return for Large Cap Growth Stocks, as there is no reason to expect they would earn more or less in the next 85 years.

... many advisors are ignoring or ignorant of the real role these FOUR critical factors play. Asset Class - There are three primary *asset classes* -1) debt or bonds,2) equities or stock, and 3) cash. Classifying assets in this manner gives the advisor a way to analyze the historical performance of the assets in that class over extended periods of time. There are numerous ways to slice and dice these classes among the large variety of economic sectors and industries. In this book, we will concentrate on only these three *asset classes* and the submarkets we use to manage risk and expected returns.

Diversification - refers to how much of your portfolio is invested in the different *asset classes*. The more *asset classes* you own, the more diversification you have. However, it is possible to be widely diversified yet have a wide concentration in the same equities. For instance, you could own 5 different mutual funds, but they could all own Microsoft, Oracle and Intel. It is important to understand whether you have "efficient" or "inefficient" diversification.

Average Rate of Return - The average rate of return is calculated by adding up all of the returns for a given period and dividing this sum by the number of periods considered. I refer to this as a linear return. So if you earned 10% a year, every year for five years, the sum would be 50%. If you then divided by the number of years, 5, into 50%, you would get a 10% average rate of return. You could do the same thing with a group of returns that vary widely but still add to 50. You would still get 10% as the average return regardless, but the actual dollar value could be much different. This is the weakness with using the average as a measure of comparison.

Internal Rate of Return - Called the IRR, an internal rate of return, measures the actual return experienced over the

given period of time. This would be geometric, in that over time, the returns compound. It weights the return based on the actual increases and decreases in the investment instead of simply dividing the total sum of the returns by the number of events. If a portfolio goes up 50%

and then down 50%, the average is ZERO. [(+50%) + (-50%)=0)]. If you now divide by 2, the average is zero.



Assume instead, you had invested \$100,000 and

Are You Even?

it went up 50%. It would be worth \$150,000. If it then declined 50%, now the portfolio would be worth \$75,000. The IRR would be (-25%) over the same two years. One is linear (the average) and one is geometric (IRR). Big Difference!

The internal rate of return is based on the timing of the investment and the returns. Average returns are only based on the number of returns and their sum. IRR is a much more accurate metric for measuring performance, yet all mutual funds report the average which grossly exaggerates the actual investor returns.

Volatility or Risk - are synonymous and essentially describe the range of expected returns around the average. Both the highs and lows are measured using the average actual return for a specified asset class or portfolio. Greater volatility means there is a larger gap between the returns and the average return for the specified period.

Smaller volatility implies there is a higher confidence the expected returns will be closer to the average. The GREATER the gap between the IRR and the average, the more volatility there is in the portfolio. Therefore it is more desirable to have less volatility than more volatility in your portfolio. The mathematical measure of Volatility is called Standard Deviation.

Standard Deviation of Risk or σ – is the mathematical way to describe volatility. The returns within a period of time are compared to the average to determine the standard deviation σ . Two thirds of the returns will be within one σ of the average. Assume the σ is 10% and the average (mean) return is 12%, then 2/3rds of the time, the expected return will be +/- 10% from the average 12%. The average is 12%, (+10% is 22%) and (-10% is 22%). The range therefore of 2/3rds of all historic events would be between 20% and 2%. This is true 2/3rds of the time.

Efficient Frontier (EF) - describes the optimum expected return for a given level of risk for a defined portfolio based on historical performance. The EF is a range of returns for various portfolios based on the expected returns and amount of risk inherent in each one. It is typically presented as a chart showing the best average expected return at a given level of risk.

Proper diversification lowers risk if it is based on the internal relationship of asset classes within the sub groups.

Modern Portfolio Theory (MPT) - the nickname given to the theory promulgated by the Nobel Prize for Economics awarded in 1990 to three professors, Merton Miller, Harry Markowitz and William Sharpe. The primary theory (called the one factor model) was aimed at proving a collection of investment assets would have a lower risk than any single individual asset in the portfolio. Intuitively, different types of assets often change value in opposite ways. For example, the stock market moves differently from the bond market. A basket of both types of assets would, in theory, face lower overall risk than either would individually. Proper diversification lowers risk even more if it is based on the internal relationship of asset classes with the sub groups.

Sub markets - each *asset class*, stocks, bonds and cash can be considered markets. Sub markets are an additional subdivision within the market as a whole. Morningstar uses nine sub-classifications to define the domestic market.

Market Price is the price willing buyers are paying for a share of stock. Most investors who are picking stocks look at a company's market value in comparison to its book value and earnings. They determine whether or not the market value is adequate or if the stock is undervalued. *Market price* usually takes into account future growth potential.

Capitalization (also called market value) is the value of a particular stock determined by multiplying the number of outstanding shares by the current *market price*. This value will change daily because of *price* fluctuations.

Book Value - totals the Fair Market Value of all the assets owned by the corporation less any reserves set up for depreciation from the balance sheet of a corporation less any debt. This approximates the liquidation value of the company were it to be sold off one asset at a time - piece meal. It can be expressed as a value per share or an aggregate value.

Book to market ratio (btm) - a measure of the intrinsic worth of a stock determined by dividing the *Book Value* or liquidation value by the *Capitalization*. The resulting ratio, when compared with other stocks, determines its relative value of the stock compared to other companies upon liquidation. The higher the ratio, the closer the liquidation or book value is to its market value. Likewise, the lower the ratio, the less likely the shareholders could recover their investment in a liquidation.

Value Stocks – are stocks with a relatively high book to market ratio. The larger value companies typically pay dividends to shareholders.

Growth Stocks – are stocks with a relatively low book to market ratio. These companies usually do not pay dividends to the shareholders.

Expense Ratio - the cost fund managers charge the investors. It is used to cover the operating expenses of the fund.

These expenses can include the costs of management to make stock selections in the portfolio. It is expressed as a percentage applied to the total amount invested. It varies from fund to fund. Typically, the smaller the fund, the higher the expense ratio. The small stocks in the portfolio

These terms are important elements for understanding risk, return and expenses.

cause the fund to charge a higher expense ratio. International funds also typically have higher fund fees.

Bid /Ask Price - Every time a stock is sold, there is a buy price and a sell price. The Bid is what the buyer is willing

to pay you for your stock. The Ask is the price the seller is willing to sell you the stock. These prices move according the market and the amount of stock for sale at any point in time. There is always a spread between the price you pay to buy the stock and what you get for selling it.

Bid/Ask Spread - The spread is the differential between the Bid and the Ask Price. This is important because every time your money manager trades your stocks, the bid price will be lower than the ask price. Therefore, you are guaranteed you are going to lose money on every buy and sell.

Turnover - refers to the amount of trading a money manager does in your account or in the mutual fund. A high turnover means the portfolio will be selling most of the portfolio in any given period of time. Whereas, a low turnover means the manager retains most of the portfolio and does not sell it. Funds that sell most of the portfolio in a given year cause the investor to pay ordinary income tax on any gains. Low turnover funds, funds that hold the stock longer than one year, create long term capital gains tax treatment for the investor. Turnover also impacts trading costs and losses attributed to the bid/ask spread.

Qualified and Non Qualified Money - refers to how your money is taxed. Qualified money is not taxed during the accumulation period, only upon distribution from the account. Non Qualified money is taxed annually at either capital gains rates or ordinary income rates depending upon how long the security was held.

Proxies – In some cases, historic returns are not available for a particular stock or portfolio. In these cases, a portfolio with similar characteristics must be substituted in order to measure the probable performance of the asset class. These proxies are selected because they have the same attributes as the stock or mutual fund in the same asset class. As an example, the S&P 500 index can be a proxy for the 500 largest companies in the US. A stock in that category will likely perform over a long period of years in a similar manner to the Index.

These terms are important elements for understanding risk, return and expenses. They will be used throughout the remainder of the book.

How Do Markets Behave?

Now that we have defined most of the terms you will find in this book, let's look at how the various financial markets have behaved historically. Past is not necessarily prologue, but it is a good proxy for what is likely to happen. The four factors that define outcome are: Volatility, Portfolio Construction, Fees & Expenses, and Taxes. These four factors are integral to explaining performance. If you understand their importance and how to integrate them into your portfolio, you will have a strong understanding of how to succeed in the market over the long haul.

FACTOR ONE - Volatility. Markets go up and markets go down! This is immutable Law of Markets. Anyone who invests in securities has to accept and understand this reality. It will happen. An investor must be willing to endure the seesaw randomness of market movements and not bail out every time one comes along. In fact, most ALL the profit made in the market comes AFTER a significant down. The question is simply; will you be there to capture it? Every time the market goes down, there is an emotional fear or dread it will never recover. But that has, of course, never happened. And in fact, the opposite is true. The market uses the down to gather momentum and when the recovery occurs, the growth is generally more than the down, until the next down. This is the nature of markets,

but to participate effectively in the growth, you have to stay invested and take a long term approach. I call the up, *"The Bounce."* The Bounce is the amount of up that inevitably comes after the down.



Watching the market every day and worrying about whether it is up or down can cause most investors to go crazy. It is the direct antithesis to long term investing. You must be at peace in the power of the Bounce. But you have to build your portfolio correctly to do it. What conclusion can be drawn from this truth?

If you can minimize the down when it comes, then you will capture more of the up when it happens. It is that simple. Again, volatility is a fact of life. But here is the catch, NOT ALL VOLATILITY is equal. An uncontrolled drop will be much How do you control RISK?

NOT ALL VOLATILITY is equal

deeper than a controlled decline. The chapter on Volatility will discuss the importance of controlling the amount of volatility inherent in every portfolio. Once you understand the volatility principle, the next question is, "HOW DO YOU CONTROL IT?" Remember, volatility and risk are synonymous, but not in the way risk is typically defined. There is inherent risk in every investment you make. Whether it is cash in the bank

or a hot stock, risk refers to the probable decline in value. Two important questions are "*How much risk are you buying*?" and "Are you buying the right kind of risk?" As you learn more about volatility, you will be able to answer these two fundamental questions.

Diversification protects your portfolio from this rampant pace of change.

FACTOR TWO - Portfolio Construction. I just posed the question, "HOW DO YOU CONTROL RISK?" The answer is "*through proper portfolio construction*." There are two important aspects to portfolio construction which MUST be takeaways from this book. First, is the question, "Are there proven, consistent ways to build a portfolio that will deliver long term rates of return consistent with the risk I am willing to accept?" Since markets do fluctuate, what is the best way to build a portfolio that can endure the ups and downs?

The second important takeaway is more fundamental. "Which is better diversification? Owning 200-500 stocks or owing 15,000 stocks?" Diversification is the key to risk management. It is how you safeguard your portfolio against unforeseen economic events and benefit from technological advancements. You have probably heard this said about the railroads. If they had considered themselves to be in the transportation business, instead of just being a railroad, they would now control the airlines. Or, think about the phone company. Who would have ever thought land lines would become obsolete? With the *cloud*, does this mean hard disk drives are going to be obsolete as well? Look at what the internet did to VCRs and DVDs. Change is fast paced and in some cases unpredictable.

Diversification protects your portfolio from this rampant pace of change. The chapter on Portfolio Construction will show you how to properly diversify and why it is the way to higher returns when the market recovers from its

inevitable decline. I will also show you an underutilized asset class that has been a key engine driving portfolio performance. Most portfolios have less than 1% of the total dollars invested in this asset class.

There is a lot MORE to managing fees than one might first expect.

FACTOR THREE - Fees and

Expenses. A lot has been written about high fees and expenses. John Bogel, Chairman and Founder of Vanguard has been a thought leader on this subject. Let me ask you - what if you knew your fees were 300% higher than necessary to achieve the same or better return? Would that make you wonder if you are investing the right way? Would it cause you to rethink your investment strategy? Remember the 4.6% spread between the market and the average investor? If 3% or more of that spread is attributable to excess fees, it means only 1.6% was due to improper portfolio management. Fine tuning the expenses and aligning your portfolio can help overcome the disparity between low performance and market returns.

There is a lot MORE to managing fees than one might first expect. There are disclosed costs and undisclosed costs. The disclosed costs are well publicized. They are the fees charged by the money managers and the mutual funds for management, advertising and administration. But it is the undisclosed fees that can truly affect the bottom line.
These fees have to do with trading costs and the bid ask spread. They are related to turnover. While it is TRUE, investors cannot directly control these expenses, they can select a portfolio that does. These fees are indigenous to the type of investment vehicle you select to spread your risk. Choose wisely!

FACTOR FOUR - Taxation. The fourth element is the impact of taxation on the growth of your portfolio. Obviously, if your money is in a qualified plan, an IRA or 401k, then taxes on accumulation are not an issue. The government will get their pound of flesh when you start taking distributions. Taxes are postponed until the account is liquidated or distributions are being made. But these are limitations placed on how much an investor can allocate to a qualified plan. Many investors have other money to invest. This is often referred to as "non-qualified money" or money that is subject to taxation on the annual growth. This is where turnover becomes so important.

If turnover is high in a portfolio, the taxes and expenses associated with turnover will be high as well. This is discussed thoroughly in the chapter on Fees and Expenses, but it relates directly to taxes. The problem with taxes is not only the current tax cost, but also the compounding effect of the cost on your portfolio value. Assume you earn 10% for the year. If turnover is 100%, then 100% of any gain is recognized for tax purposes that year. The gains would be taxed at ordinary income tax rates because they did NOT qualify for long term capital gains rates. More than likely, the gains would be taxed at 40%. This means you only netted 60% -75% of the recognized growth that year. But the next year, if your net portfolio grows an additional 10%, what happens? You don't get 10% on the taxes you paid. They have been extracted from

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your portfolio. You only get the 10% on the remaining 60%. When this happens year after year, your portfolio is dramatically impacted by the tax effect.

This table shows the impact taxes can have on your returns. Consider how a portfolio where only a small frac-

			Tax Free	Value With	
Starting	Annual		Ending	40% Tax	Reduction
Value	Return	Years	Value	Impact	In Value
\$1	4%	40	\$4.80	\$2.58	-46%
\$1	8%	40	\$21.72	\$6.52	-70%
\$1	12%	40	\$93.05	\$16.14	-83%

tion of the gain is recognized would be impacted. If only 20% of the gain from the previous example is taxable, it means 92% of the gain would still be in the portfolio and would benefit from any additional growth the next year.

You might be scratching your head a bit and asking why one portfolio would be subject to taxes on 100% of the growth while another would only be subject to taxation on 20%. Remember, the answer is turnover. According to Morningstar, the average turnover rate for mutual funds exceeds 100%. That means 100% of any gains that year would be subject to an ordinary income tax rate. They do NOT qualify for the 25% long term capital gains tax rate. You have to hold the securities for one full year to obtain long term capital gains tax treatment. Taxes can be hazardous to your wealth.

The FOUR CRITICAL FACTORS

These four factors, (1) volatility, (2) proper portfolio construction, (3) fees and expenses coupled with turnover and (4) taxes can impact your portfolio by as much as 5%

annually. Here is why. If you earn 10% on your portfolio and 5% could be lost because these factors were improperly managed, it would take more than twice as long to accomplish the same

The Four Critical Factors:

- Volatility
- Portfolio construction
- Fees & expenses
- Taxes

ultimate result. That 50% reduction will have a dramatically negative impact on your portfolio.

Why?

So, why did I write this book? I have discovered, most everyone I talk to about money management is woefully under educated in these matters. I am sorry to say, many professionals in the field have missed the importance of combining these FOUR factors together into one thought process.

I wrote this book to give you access to the core elements of these factors, but more importantly, to help you learn HOW to manage them. Whether you do it yourself or you hire a qualified RIA to do it for you is not the issue. The important thing is you need to understand why your money is at risk. And, unless you take the necessary steps to manage these FOUR critical factors, you are subjecting your portfolio to risks that could have been avoided or at least more effectively controlled. An educated investor has more control over their portfolio than someone who is not aware of these factors. It is not bliss to be ignorant when it comes to protecting your hard earned cash.

The key to understanding the important role controlling volatility plays in the management of portfolio returns is

to fully grasp the mathematics of risk. Now, if you are like most people when you hear the word mathematics, your mind probably shuts down and you just want to stop thinking about it. But math is the language of logic. And without at least a conceptual understand-

Do you become a victim of volatility or do you learn the fundamentals needed to master it?

ing of the primary mathematical factors related to volatility, you are doomed to remain in the 4.6 Club forever.

So, you have a decision to make. Do you become a victim of volatility or do you learn the fundamentals needed to master it? Because, believe it or not, volatility is at the heart of how you profit in the market. You can only reach your investment objectives if you learn to use normal volatility to your benefit.

Notice I said "normal volatility." Is there such a thing?

Yes, normal volatility is predictable over long periods of time. Its predictability can give you confidence a portfolio can be constructed that will weather the downs and capitalize on the ups. In other words, you can turn volatility in your favor.

Why do I say volatility is the heart of profitable investing? Simply because it is true. Here is our AXIOM again. *Markets go up and markets go down*. Markets go up and markets go down. It is a fact. It is the LAW of Markets. I am sorry to be so redundant; but it is the key to investment success. The chart on the following page shows the history of the market from 1925 to 2010.

What is not intuitively obvious is that when markets do go down, you should become elated in anticipation. Why? Because the downward movement of the market is setting the table for you to profit from the next market move, the eventual recovery. This is when you make money on your portfolio. It is when markets go back up, almost all stocks rise and everyone benefits. The only question is, "by how much?" When markets decline, only the best constructed portfolios can weather the storm and be positioned to PROFIT from the next recovery.

It is like the tides in the ocean. Each high tide is followed by an ebbing tide. But not everyone is positioned to profit when the high tide returns.

Since 1925, the market has never, I repeat NEVER, gone down and then stayed down. Markets don't do that. They trend up but go down along the way. Think about this for a moment. If most all of your profit happens when the market recovers, shouldn't you be giddy with joy when it goes down? A decline is the forerunner of a new run-up.



It means there is coming a time when the market recovery will bring a new high and if your portfolio is positioned to benefit, you will participate in the recovery. There is ONE big caveat. This is only true IF your portfolio is constructed properly.

Here is an example. In 2009, the S&P 500 went down 43.32%. When it recovered, it went up 53.62%. Obviously, a huge swing. But did it make a profit? If you take the numbers at their face value, yes, 53.62% is obviously higher than 43.32%. It made 10.30% more than it lost. But that was not the question. Did your portfolio make a profit?

Suppose you had \$100,000 and let's use 40% as our rounded decline (instead of 43.32%). You would now have \$60,000 left, as a result of the market decline. If you recovered 50% (again rounding), you would earn \$30,000 (50% of \$60,000) and be at \$90,000, right? So you are still down \$10,000. The S&P 500 continued to recover and was up an additional 22.57% in 2010, the next year. So the \$90,000 grew an additional \$18,000 using 20% (our rounded growth rate). The S&P500 was now at a cumulative value of \$108,000 for the three years. So it took 2 years to recover and get back to virtually even. Not much to be giddy about here.

However, if you had a properly constructed portfolio, one that I will describe in detail in the next chapter, here are the comparable results. In 2009, a properly constructed, all equity portfolio declined 35.57% (compared to the 43.32%) and then the next year recovered by 54.15% (53.62% for the S&P500). In 2010, it was up an additional 21.41%. So let's round these off and apply them to our \$100,000. In 2009, the \$100,000 declined to \$65,000

and then rebounded to \$97,500. The next year's 20% return was nearly all profit and the portfolio ended up at \$117,000. An all equity portfolio, using proper construction metrics, would be worth \$117,000. It was up 17% above the \$100,000 start point and beat the S&P by 9%.

There are three lessons in this example that should be remembered.

Lesson One - what goes down never stays down. It always comes back up. Never forget, markets go up and down. Whatever it is today is not going to matter 30 years from now. Even the most ardent bear investor has to admit

the market will probably be higher in the future. Markets are like those ocean tides, predictable yet unpredictable, but not to the point of chaos. We know they will recover sometime. Ask yourself this question, do you believe the market will be lower, higher or the same, 10, 15 or 20 years from now? This is why you have to take a long term approach when you think about investing in the stock market.

	The
The	Required
Down	UP
5%	5.3%
10%	11.1%
20%	25.0%
30%	42.9%
40%	66.7%
50%	100.0%
60%	150.0%
70%	233.3%
75%	300.0%

Lesson Two - when the recovery comes (the BOUNCE), you will make most of your profit. It is important to be positioned to capture as much of the Bounce as possible and to be positioned for the next high tide. Here is the issue: *How much of the recovery will you catch?*

Look at the numbers in this chart. As you can see, for every down, you have to earn significantly more than you lost to get back to even. But the downs are linear;

the amount you need to recover and get back to even is geometric. The deeper the down the GREATER the up required to fully recover. If you are down 20%, you have to earn 25% to break even. But if you were down 40%, you have to earn 66.67% to break even. That is 2.67 times greater even though the down doubled. The more you are down, the more of the recovery you will have to forfeit to get back to where you started.

This illustration should make the point, it is a startling fact. If you can minimize the large downs, you will be positioned to capture more of the UP when the market recovers. It is really that simple. I know there are many different theories for how to invest in the market. But in every case, this principle applies. Minimize the down and maximize the up. The question is, how do you do it consistently?

Lesson Three - Higher expenses will exacerbate the declines. This lesson is not obvious from the example, but when comparable returns are analyzed with differing expense loads, the difference is obvious. The deeper your declines, the more up you need to grow in order to break even, so you can capture the rest of the bounce. Expenses will be discussed in detail in a later chapter, but suffice to say, it is extremely important for you to arrange your portfolio to have the lowest possible expenses. Most people don't think about the expenses that much and are passive about them. They assume, "they are what they are." In some ways, this is true, but as you will learn, you have a lot more say in the expenses than you may at first think. So be forearmed.

Understanding the Math of Internal Rate of Return (IRR)

I gave you a Bachelors degree in IRR in the previous chapter, but it is so important, let's go on and get a Masters. It will be worth the effort. All of the investment sales literature extols the average rate of return for various mutual funds. The reason is simple, there is no common standard established to calculate an internal rate of return.

To do so, certain assumptions have to be made about inflows and outflows of capital. Since this would be different for everyone, it is difficult to ascertain a standardized set of assumptions. Investment managers prefer the average rate of return method. What is the difference?

Portfolio A						
Year	Return					
1	10%					
2	10%					
3	10%					
4	10%					
5	10%					
Average ROI IRR	10.0% 10.0%					

Portfolio A shows a consistent

return of 10% every year for 5 years. To calculate an average, we would add up the returns (50%) and then divide by the number of years, which are 5. The average would then be 10%. The internal rate of return would also be

10% because there was NO variation in returns during the 5 years. Portfolio A earned the same return every year, so the inflows and outflows were not impacted by the variation in returns, since there was no difference.

Now look at Portfolio B. The returns in each year are different. One year it was up 20% and

Portfolio B							
Year	Return						
1	20%						
2	-5%						
3	-10%						
4	20%						
5	25%						
Average ROI	10.0%						

another year it was down -5%. But if you add up all the returns for the same 5 years, the sum would be 50. Divide 50 by the number of years (5) and the average is the same as Portfolio A, 10%.

However, if you do an internal rate of return calculation, the result is much different because the returns varied year to year. The fact that some returns are positive and some are negative contributes to the variability, but even if they were all positive, the variability would still produce an IRR different from the average.

Portfolio A Portfolio B Results Results Year Return Return 1 10% 20% \$110,000 \$120,000 2 10% -5% \$121,000 \$114,000 10% 3 -10% \$133,100 \$102,600 4 10% 20% \$123,120 \$146,410 5 10% 25% \$153,900 \$161,051

A side by comparison of Portfolio A and Portfolio B's actual results shows a stark difference. Earning 10%

every year, Portfolio A ends with \$161,051. The IRR and the average are exactly the same for Portfolio A. But for Portfolio B, the IRR is 9.01%. Even though the average is the same as Portfolio A, when we calculate the IRR, the result is much different. The \$100,000 grew to \$153,900. The Internal Rate of Return of 9.01% is based on the timing of the returns. The 10% average does not take this into consideration. It is simply an arithmetic average. The IRR, however, calculates the impact of the returns year to year. Notice too, assuming no additions or distributions, the IRR can never exceed the average. The average is the HIGHEST return that portfolio will ever get. **36** Here is the MOST important reason to understand the relationship between IRR and the Average (mean). The spread between the IRR in Portfolio A and Portfolio B is 0.99%. The less variability, the lower the spread; the more variability, the greater the spread. The SPREAD determines investment results. The greater the spread between the average and the IRR, the LOWER the performance will be of the portfolio. Or to restate it in the context of our previous discussion on the bounce, the more down the portfolio sustains, the more you have to earn in the recovery, just to break even.

It is ALL ABOUT volatility and controlling the amount of spread between the highs and the lows. So you might be asking yourself, how could anyone measure this spread in their portfolio? How would a lay person gain the expertise or develop the tools to measure this variability?

Measuring Risk

Fortunately, there is a way to measure risk. It is called Standard Deviation (σ). I like to refer to the Standard Deviation as the Risk Index (RI). The risk index measures the historic volatility of a portfolio. It measures how far the annual returns are from the average (or mean). For instance, look back at Portfolio A. There is no gap between the returns and the average. Both are 10%. In Portfolio B the gap is pronounced. In year one, the return was 20%, but the average was 10%. So the gap was 10% that year (20%- 10%=10%). in year 2, the return was -5%. So the gap was 15% (10%- (-5%) = 15%). The RI calculates the gap and assigns a factor to it.

The higher the Risk Index, the lower the return will be in a portfolio. The RI can be used to compare portfolios. We

know that if the RI is large, there is a lot of volatility in the portfolio. If the RI is relatively small, then we would expect much less volatility. The RI tells your investment advisor how much volatility to expect in a given array of investments and guides them in shaping the diversification appropriate for the amount of risk you are willing to accept.

Standard Deviation (the risk index) measures the gap between the average return and the actual returns over long periods of time. Let's now look at a picture of the daily returns of the stock market as a whole dating from 2009 back to 1926. Obviously, the market went up and down a lot of times during this period. The average daily return (not the IRR) was 0.4%.



Notice how the vast majority of the daily returns are in a very tight range around the mid-point. Notice too, there have been significant outliers over the years, but predominantly the daily returns have been centered around the mid-point. The dispersion factor has NOT been that great. **38**

Does this give you comfort? It does me. It tells me that over long periods of time the market delivers a consistent return. Sure there are times when the market has been chaotic, but for the most part, the returns are very consistent.

What is the relevance of the daily returns? Simply, it demonstrates the Law of Markets. Markets do go up and down. The fluctuations are part of the process, but over time, the market has consistently recovered from those downturns and forged to higher and higher gains. If as an investor, you allowed the market fluctuations to chase you out of the market. you lose the benefit of the Bounce. You can either ride through the downturns and profit on the upside, or hit escape and miss them altogether.

The chart on the next page shows these daily returns aggregated as annual returns and stacked in numeric order. It is essentially, the previous chart expressed in annual returns. Notice how the overlaying curve matches the pattern of the stacking. This curve graphically shows that returns follow a normal distribution. This fact allows us to use the science of statistics. It graphically shows the gap distribution around the average.

Each year is an event and the dispersion (in this case annual returns) is measured based on how far each of the 86 annual returns are from the average. Notice too, the bulk of the returns are near the height of the graph and as the graph narrows at each end, there are fewer and fewer events. This is called a Bell Shaped Curve and depicts the normal dispersion of random events.

It also corroborates what we already know. The number of negative returns and positive returns at the extremes were very few in number. But note too, there are many



more positive returns than negative returns. In fact, during this 86 year period, there are only 22 negative returns compared to 64 positive returns. Nearly 75% of the time, the market returned a profit. This is testimony to the consistency in the market over long time frames.

The 4.6 club missed the ups because they sold out of the market at the wrong time. The losses that caused them

to panic and fear further declines were inevitable. They fell victim to a common misperception held by most in this Club, there was a real probability the market would NEVER rebound. They believed the media hype that the sky was indeed falling and there was no hope in sight. Was it true the market would never recover from these economic problems? All of the historical data shows this is an irrational fear. But it does not matter. The fear is real and the 4.6 Club is the victim of the media hype.

There is another aspect to this to consider. If you count the number of years when the losses exceeded 20%, you will see there were only SIX years out of the last 86 years, when this happened. Remember our volatility chart on page 31? It takes a 25% rebound to recover from a 20% loss. These six years reached such a significant magnitude that the recovery required several years to get back to even. In some cases, it took two or three years to recover from these deep losses. But what does the history of market returns show? What actually happened?

Let's review again the 36.7% decline in 2008. This is the most significant drop in the last 40 years. In 2009, the market rebounded 28.8% and then in 2010, the market was up an additional 17.9%. So even though, 2008 was one of those 6 years where the market loss was greater than 20%, the next two years came very close to recovering all of the losses. The same was true for 2002. Here is another sub 20% year. The market declined 21.1%. But in 2003, the market bounced back 31.6% and then in 2004, it went up an additional 12.1%.

If you look back over the last 86 years to 1926, there have been three major periods when the investors have seen significant market turmoil – the Great Depression, 1974,

and now in the 2000s (specifically 2002 and 2008). In all cases, the market recovered. The rebound was enough to make up for the loss and eventually make a profit within a reasonably short period of time if you did NOT SELL.

This historical perspective is easy to forget when the media, the talking heads, the cable shows and websites are all focused on the end of the world as we know it, being at hand. But taking a step back, these are really opportunities to enhance wealth, IF and it is a big IF, the investor is willing to ride through the down market and NOT join the 4.6 Club. Only investors with a short time horizon should be concerned with significant market fluctuations. But if you have a long time horizon, then the market will recover and your portfolio will benefit from the recovery.

So here is the challenge. How do you build a portfolio that can withstand the downs and be positioned for the up? Are there ways to reduce the impact of the decline, so when the inevitable rebound occurs, your portfolio is able to benefit from more of the bounce? The answer is YES and we will see how in the next chapter. But first we must learn the strategy

How Much Risk Are You Buying?

The strategy lies in the answer to this question. If you know how to measure the risk, then you can successfully position yourself for the inevitable gain. How is this done?

Remember, risk is measured by Standard Deviation (σ). The Standard Deviation measures the gap. We know by definition 50% of the returns are above the mean and 50% are below the mean. But is there a way to define this more specifically?



There are lots of events on this returns curve. The most commonly used point is called the first Standard Deviation (1σ) . This is the place or point that defines the range around two thirds of all the events. In other words, two thirds of all returns are within this section of the graph. If there are 100 events, two thirds of all the events would equal 66 (rounded). Half of these events or 33 would be above 50 (50 +33 = 83) and 33 would be below 50 (50 – 33 = 17). The number of events between 83 and 17 would equal 66. The average would be at 50. You could say MOST of the events fell in this range.

The second Standard Deviation (2σ) adds an additional 13 events (13.6%) to the scale. This is where 96% of all the returns fall between the lines. But there is still more to it. When we determine the 1σ , we know the range of returns around the average for two thirds of all returns. So for instance, let's assume the average is 10% and the 1σ is 19%.

This means two thirds of all the returns will fall between (10%+19%) 29% and (10% -19%) -9%. So, essentially,

most of the returns (66%) will be between +29% and -9%. Look at the Annual Return Range chart on page 38 and you can see that is the case.

But there are still one third of the returns that have not been accounted for yet. One sixth of the returns are GREATER than 29% and one sixth of the returns are below -9%. Another way to state this is that five sixths (83%) of the returns are ABOVE -9%. If the market goes up and down as we have seen, then knowing that 83% of the time your lreturn would be greater than -9%. This is somewhat comforting.

The returns at the extremes are called BLACK SWAN events. The name was derived from observing swans. Predominately, they are white. But once in a rare while, a black swan will appear. It does not happen frequently, but it has happened. Losses greater than 20% are considered Black Swan events. The data shows there have been 6 in the last 85 years.

Importance of Proxies

Every portfolio can be analyzed using the actual returns of the underlying investments. The problem is, we may not have data over the period we want to examine. One way of extending the period we can analyze is by using proxy returns. A proxy has the same attributes as the portfolio in the same classification. For example, the S&P 500 can be a proxy for a portfolio made up of the the 500 largest companies in the US. A Fortune 500 stock will likely perform over a long period of years in a similar manner as the S&P 500 will.

Morningstar, a major rating service, defines the S&P 500

Morningstar Style Box								
	Growth Blend Value							
Large	Russell 1000 Growth	S&P 500	Russell 1000 Value					
Mid	Russell Midcap Growth	Russell Midcap	Russell Midcap Value					
Small	Russell 2000 Growth	Russell 2000	Russell 2000 Value					

as a Large Blend fund. The S&P 500 can act as a proxy for any mutual fund that would be classified in the same way. There are many other rating services such as Russell that develop indexes for the various sectors.

What good does this do? It allows the analyst to apply the performance attributes of the S&P 500 and its 85 years historical performance record to all other funds or stocks defined in the same category. As a result, the analyst has an historic record of the expected returns for a specific portfolio by applying these characteristics to the Large Blend category. If we can find an appropriate proxy for every category in the style box, both domestic and international, it is possible then to simulate the performance of the portfolio over long time frames, assuming the allocation between categories does not change. The time frame would be dependent upon how far back the data goes for each category. In the chapter on Portfolio Construction, we will look more specifically at the categories and how they are defined.

Expected Return

Using the actual historical returns (enhanced by the proxies), helps us to approximate the expected return for

a specific portfolio of stocks and bonds. This expected return is based on one assumption, that past performance is a precursor for future performance. Is there any reason to expect the S&P 500 will perform radically different in the future, than it has in the past? Not according to the 86 years of data.

Once we have developed the proxies, we can build portfolios based on the historic returns and associated standard deviation. This then allows us to measure the relative performance of a portfolio and answer the question of whether the risk is in alignment with the expected return. If it is, then the portfolio is aligned. If the risk is too high for the expected return, then, what needs to happen to bring the portfolio back into position?

Here is an example. Assume with me that portfolio A comprised of securities has an expected return of 9% based on an analysis of the historic proxy returns. We also know the standard deviation is 12%. (The range of returns could be between 21% and -3%, two thirds of the time). Compare this to the market as a whole. Going back 86 years, the market return has been 10.4% and the standard deviation has been 19.1%. How does this example portfolio compare?

Based on this data - portfolio A has a (1) lower return (9% compared to 10.4%) and a significantly lower risk factor (2) (12% compared to 19.1%). Would you be willing to accept



a 1.4% lower return (10.4% - 9%) for a 35% lower risk factor (12% instead of 19.1%)? That would seem like a reasonable trade-off for a conservative investor.

What if we take portfolio B with the same return, but a risk factor of 19.1%? Now the question would be different. The return was 1.4% less for the same risk. Would this be equally acceptable? Perhaps. But as an investor, you might



want to know why the expected return is 10% lower than the market. Are there any adjustments to the portfolio which could be done to either lower the risk or increase the expected return?

The benefit of being able to do this analysis is to allow an investor the ability to adjust holdings in their portfolio so they have the best opportunity to achieve the optimum return. If 9% is the optimum return, then what changes could or should be made by adjusting the risk? As an investor, we believe you are entitled to this information. This is the benefit of doing an Expected Return Analysis.

Sequence Risk

Before we leave the subject of volatility, we need to discuss sequence risk. We know the Law of Markets: markets go up and markets go down. But does the order of events matter? Sequence risk refers to the impact the order of events (returns) will have on a portfolio. When you invest

in the stock market, no one can tell you whether you are going in at the "right time" or the "wrong time." In fact, that very question is up for debate, simply because you have to answer the question whether there really is a right or wrong time.

Here are two portfolios. They are identical in every respect, except for the sequence.

Portfo	olio B	Portfolio C		
Year	Return	Year	Return	
1	20%	1	-10%	
2	-5%	2	-5%	
3	-10%	3	20%	
4	20%	4	25%	
5	25%	5	20%	
Average ROI IRR	10.0% 9.01%	Average ROI IRR	10.0% 9.01%	

You will note that one starts on a strong positive while the other one starts on a negative basis. So the question is, which one has the higher IRR? Look at them closely and think about the principles of risk we discussed previously. This question was posed to a group of financial advisors at a meeting I attended in Toronto a number of years ago. Virtually the entire audience missed the question, so if you are not sure, you are in good company.

Which Portfolio B or C got the higher IRR (better return)?

The answer is not obvious until you apply the principle of risk. You may remember, the IRR is dependent on the Risk Index (σ), the GAP between the average and the actual return. The greater the spread, the greater the differential.

So ask yourself what is the σ for the two portfolios? Are they the same or are they different?

The answer is they are the same. And that being the case, should there be any difference in the IRR? They are identical returns, just in a different order; therefore the Risk Index has to be the same. Why? Because the GAP (σ) is the same. The average would be the same for both portfolios since the returns are the same. But since the returns are identical, the order does not matter. Hence, the IRR would be the same.

	Port	tfolio B	Portfolio C		
Year	Return Results		Return	Results	
1	20%	\$120,000	-10%	\$90,000	
2	-5%	\$114,000	-5%	\$85,500	
3	-10%	\$102,600	20%	\$102,600	
4	20%	\$123,120	25%	\$128,250	
5	25%	\$153,900	20%	\$153,900	

You can see this with the following chart.

Where this is NOT true is when you are making contributions or taking distributions from a portfolio. Then sequence risk is an important consideration. It has to be factored into the risk equation for older investors who need to take income immediately.

Year	Beginning of Year Account Value	Income Withdrawn	Remaining Account Value	Market Return	Account Value End of Year
1	\$500,000	\$20,000	\$480,000	7%	\$513,600
2	\$513,600	\$20,000	\$493,600	7%	\$528,152
3	\$528,152	\$20,000	\$508,152	7%	\$543,723
4	\$543,723	\$20,000	\$523,723	20%	\$628,467
5	\$628,467	\$20,000	\$608,467	-15%	\$517,197

Assume you have \$500,000 in current value and you are planning to take a 4% distribution of \$20,000. Your portfolio returns over 5 years may be as shown in the

Year	Beginning of Year Account Value	Income Withdrawn	Remaining Account Value	Market Return	Account Value End of Year
1	\$500,000	\$20,000	\$480,000	-15%	\$408,000
2	\$408,000	\$20,000	\$388,000	20%	\$465,600
3	\$465,600	\$20,000	\$445,600	7%	\$476,792
4	\$476,792	\$20,000	\$456,792	7%	\$488,767
5	\$488,767	\$20,000	\$468,767	7%	\$501,581

following chart.

But it is equally likely with the same portfolio the returns would occur in the opposite order. If that happened your result would look like this chart.

If the market hits a down cycle, and loses 15% the first year, instead of \$513,600 you end up with only \$408,000. The next year you will feel a bit skittish about taking your \$20,000 withdrawal.

You go ahead and take another \$20,000 withdrawal. Fortunately, there was a healthy up the next year (20%) which you would hope would offset the 15% loss. But the net result is the portfolio is down \$62,552 from what you would have had with the original sequence of returns. In the next three years, the portfolio gains 7% each year. At the end of the 5th year, the portfolio is worth \$501,581.

In one case you end up with \$517,197, the other \$501,581. In both cases the returns were the same, just in a different sequence.

How do you protect yourself from this potential significant loss of capital?

Protecting Against the Double Loss

This is done by setting aside capital in a fixed interest investment to pay income for several years. By doing this, you can protect your portfolio from the double loss that occurs when income is taken from a portfolio at the same time the portfolio is in a down cycle.

Not only is the portfolio reduced by the amount of the withdrawal but it is also hit with the market loss. When the market ultimately bounces, it has to make up for the loss and the income distribution. This is a DOUBLE WHAMMY. The portfolio has been subjected to double jeopardy.

In the scenario described above, your portfolio has \$500,000 in current value and you are planning to take a 4% distribution of \$20,000. Assuming we can find a fixed interest earning investment of 3% for the 5 years of income we want to protect, we can, with some certainty, take a current withdrawal from our \$500,000 of \$94,342

	Beginning			Beginning	,	Remaining
	of Year		Account	of Year		Sinking Fund
	Account	Market	Value End	Sinking	Income	(Including
Year	Value	Return	of Year	Fund Value	Withdrawn	3% interest)
1	\$405,658	-15%	\$344,809	\$94,342	\$20,000	\$76,572
2	\$344,809	20%	\$413,771	\$76,572	\$20,000	\$58,269
3	\$413,771	7%	\$442,735	\$58,269	\$20,000	\$39,417
4	\$442,735	7%	\$473,727	\$39,417	\$20,000	\$20,000
5	\$473,727	7%	\$506,888	\$20,000	\$20,000	\$0

and invest this in a sinking fund earning 3%.

Your portfolio at risk would only be the net, \$405,658.

Now we don't need to worry about our income for 5 years. 51

Year	Beginning of Year Account Value	Market Return	Account Value End of Year	Beginning of Year Sinking Fund Value	Income Withdrawn	Remaining Sinking Fund (Including 3% interest)
1	\$405,658	7%	\$434,054	\$94,342	\$20,000	\$76,572
2	\$434,054	7%	\$464,438	\$76,572	\$20,000	\$58,269
3	\$464,438	7%	\$496,949	\$58,269	\$20,000	\$39,417
4	\$496,949	20%	\$596,338	\$39,417	\$20,000	\$20,000
5	\$596,338	-15%	\$506,888	\$20,000	\$20,000	\$0

But what will happen to our investments? In the case of the first sequence of returns shown above, this chart shows the result.

The income is taken care of for 5 years and the \$405,658 can tolerate the ups and downs of the market without having the added pressure of the withdrawals.

Obviously, the \$506,888 is a better result than the unprotected strategy result of \$501,581. What happens if your get the better sequence of returns assumed at the beginning?

The same result. Not as good as the \$517,197, but you have the certainty of the income without having to worry about the effect the withdrawal will have on your portfolio.

There are permutations to this methodology, which depends upon the income required and the actual earnings on the account.

There is another aspect to this methodology. Going back 85 years, if we look at rolling ten year periods, we can determine the level of risk we can afford to take. These 10 year periods are 1926-1935, 1927-1936 and so on. The data shows there has never been a period of time, where a managed market portfolio had an IRR of less than 7%. So depending upon the timing of the market fluctuations and **52**

the amount of the withdrawals, it is possible for a portfolio to withstand normal market fluctuations.

We must remember the Law of Markets. There will be market fluctuations. Warren Buffet, in his address to the Berkshire

Hathaway shareholders had this to say.

"The beauty of stocks is they sell at a variety of prices. That's how Charlie and I have gotten so rich. The market So the main question is and always will be, "How much risk are you buying?"

is like a psychotic drunk and sometimes Mr. Market does very strange things. It's built into the system that stocks do get mispriced. Don't behave like the psychotic drunk. The stock market is the most obliging, money-making place in the world."

Investment Policy Statement AND Expected Return Analysis

So the main question is and always will be, "How much risk are you buying?" The corollary question is "How much does the risk cost?"

There is ONLY one way to answer those two questions. That is to do an Expected Return Analysis (ERA) of your existing portfolio. An ERA breaks down your total portfolio by asset class. Using proxies, it determines the historic return your allocation has achieved over the measured period. It also calculates the standard deviation for your allocation. The risk/reward ratio needs to be in close alignment. If it isn't, then there is something wrong with your

portfolio and it needs to be adjusted.

You also need to match it up with your Investment Policy Statement (IPS). What's that? An Investment Policy Statement specifies the amount of risk you are willing to take and what type of investments you are willing to utilize to achieve your goals - commodities, hedge funds, large cap stocks, international stocks, etc. How is your investment advisor going to follow your wishes unless you have a written investment policy statement? Unfortunately, it has been our experience most investors do not have a written IPS. Most advisors are instead, making it up as they go along. They have a concept they like, but is it rooted in historical data and research? That is a good question to ask your advisor and then evaluate their answer by looking at the materials they use to prove their assertions. After all, it is your money.

How is an IPS developed? The first step is to take a risk tolerance assessment. These come in many shapes and sizes. There is not necessarily one right way to assess risk. But if you use any good risk assessment tool, you should end up with the same result as any other. The assessment alerts the investment advisor how much risk you are willing to accept and then guides the advisor in building your portfolio. Obviously the IPS for a very conservative investor would be significantly different than the IPS for an aggressive investor.

An Expected Returns Analysis (ERA) then matches up your portfolio with your risk assessment and it measures how much risk you are buying. If you are buying too much risk, your portfolio needs to dial down the amount of equity exposure you have or the type of exposure you may have in your domestic and international allocations. If your expected return is not commensurate with the risk you are taking, then you will need to have your portfolio retooled so the expected return and risk exposure are more compatible with your IPS risk tolerance. The point is, these factors can be measured and within reason your advisor can retool any portfolio to match the IPS risk tolerance.

I hear this lot.

"But Guy, I have an advisor who does all this for me."

I don't doubt you do. Most people we meet are not "doit-yourselfers." They don't have an e-trade account and they are not making these decisions using their own skills and analytical abilities. I do know people who like to manage their own investments, but it is their avocation. They love it and they want to have total control over their money and investment decisions. To each his own. I have said this many times. But for those who don't want to be preoccupied with managing their money, they usually turn to a broker from a wire house, a brokerage firm or a bank. In some cases they hire an independent CFP to do this for them. But beware; the aura of the organization may be much bigger than the reality of the deliverables.

"But Guy, I told you, I have an advisor."

"I heard you, but let me ask you a question, 'Do you <u>know</u> how much risk you are buying?""

The answer is almost unanimously "No, I don't. What does that mean?" By now, you have gotten the point, every portfolio has some risk. Risk is inherent in the investment world. The question is simply asking, "Is the risk you are taking, compatible (in alignment) with the

expected return your portfolio has historically earned?"

Most people do NOT know the answer to this question. And frankly, most people have never thought to ask about it.

"So, let me ask you another question, do you have a written Investment Policy Statement?"

Again, the answer is almost universally "no."

"Should I have one?"

Based on what you have read, do you think it would be wise to have your risk tolerance assessed and then have a written document outlining the acceptable investment strategy for your situation? It is the only way your advisor can possibly know if he/she is following your directives.

Let me ask you one final question. "Do you have enough confidence in your advisor to allow an independent look at your portfolio and measure the amount of risk you are buying and at the same time, assess how well your portfolio matches up with your risk tolerance?"

This is the big question. And the answer to this question may be the difference between whether your portfolio will last as long as you do.

If you are interested in an ERA (Expected Returns Analysis), why don't you contact us and let us do an assessment for you. Once this is done, you will have the knowledge you need to align your Expected Return to your Risk Tolerance.

Critical Factor #2 – Portfolio Construction

Most people ask me, once they understand the role of volatility, *"How do you build a portfolio to control it?"* What are the most reliable ways to build a portfolio so as

to gain maximum results but minimize volatility during the inevitable down cycles? More important, can it even be done, reliably?

How do you build a portfolio to control it?

In order to understand portfolio

construction, it is necessary to take a step back and look at the important elements that are inherent in any portfolio. To do this, a study done by Gary Brinson will shed some light on the subject.

Brinson founded Brinson Partners, a Chicago-based asset management firm acquired in 1994 by Swiss Bank Corporation, the predecessor of UBS. Prior to retiring in 2000, Brinson ran the asset management division of Swiss Bank Corporation, later called UBS Global Asset Management.

Critical Factor #2 – Portfolio Construction

He co-authored two books on global investing and authored numerous articles on an array of investment topics. Brinson has been called one of the investment field's "Living Legends" alongside investors such as George Russell, Jr., Warren Buffett, and Bill Gross.

In an important study done in 1986 by Brinson, L. Randolph Hood, and SEI's Gilbert L. Beebower (BHB) studied the asset allocation of the 91 largest pension funds from 1974 to 1983. In their analysis, they replaced the pension funds' stock, bond, and cash selections with corresponding market indices. The study determined indexed quarterly returns were higher than the pension plan's actual actively managed quarterly returns. A 1991 followup study by Brinson, Singer, and Beebower came to the same conclusions. They proved replacing active managers choices with simple asset classes worked just as well as, if not better, than paying professional pension managers large fees to find the best stocks.

In 2000, Roger Ibbotson and Paul Kaplan collaborated to write *Does Asset Allocation Policy Explain 40%, 90%, or 100% of Performance?*, (The Financial Analysts Journal, January/February 2000.) They used five asset classes in their study: large-cap US stock, small-cap US stock, non-US stock, US bonds, and cash. After examining the 10 year returns of 94 US balanced mutual funds and adjusting for the cost of management, the pension plan again failed to beat the indexed returns. There was a 90.2% linear correlation between the monthly index returns and the actual pension return. Ibbotson concluded asset allocation 1) explained 40% of the variation of returns across funds, and 2) explained virtually 100% of the fund returns. Gary Brinson expressed his general agreement with the Ibbotson-Kaplan conclusions. These studies were essentially restatements of the research and findings of Merton Miller, Harry Markowitz and William Sharpe, the three professors who shared the Nobel Prize in 1990 for their work which became known as *Modern Portfolio Theory*. This research studied the effects of asset risk, return, correlation and diversification on portfolio returns. MPT has become the building block for many professional managers. The question is, "Will it work?"

Will It work?

Of course, work is relative. So the real question is whether or not there is any evidence the BOUNCE can be maximized with appropriate suppressors in the portfolio to

minimize downside risk. Think of it this way, if you have 100% of your money in cash, what is your real downside market risk? Other than inflation and bankruptcy of

.The question is, "Will it work?"

the institution, your money is safe. As you move more and more of the money into securities, you accept more risk. So is there an optimum balance between safety and risk, such that you have the best chance of achieving your stated long term return objective?

Over the last 85 years, the US market as a whole has earned 9.31%. The risk index over that time has been 19.1%. So we could restate this as saying you have an 84% chance of having your return somewhere between -10% and +28%. So to say the expected return on this portfolio is 9.3% is not an exaggeration based on 85 years of data.

If you left 50% of your investible cash in low risk (low

Critical Factor #2 – Portfolio Construction

volatility) treasuries and put the balance in a market index fund, you would reasonable expect half of the portfolio would earn 2% (with little variance) and half would earn 9.3% (with more variance) for a blended rate of 5.65%. If you did a 75/25 split, the expected rate would be higher 7.5%. The point is, the more risk you are willing to take, the higher your expected return should be. The price is volatility.

Efficient Markets

Eugene Fama is most often thought of as the father of the efficient market hypothesis. He wrote his ground-breaking article in May, 1970. Entitled "*Efficient Capital Markets: A Review of Theory and Empirical Work*," Fama proposed two crucial concepts that have defined the conversation on efficient markets ever since. Efficiency simple refers to the flow of information and how fast it is reflected in market performance. Fama's conclusion is that markets readily adapt to information and price any new information almost instantly. Buffet said "It's built into the system that stocks get mispriced." And while Fama concedes there is some mispricing, he says it is unpredictable.

First, Fama proposed there exist three types of market efficiency: (i) strong; (ii) semi-strong and (iii) weak. In the weak form, the general information that drives markets and the subsequent investment decisions are only historical. These can be used to predict trends. But Fama goes on to say "it is impossible to profit from this data." The semi-strong form suggests all public information is reflected in prices instantaneously, through companies' announcements or annual earnings figures. This happens so fast, the average investor will miss any opportunity to
benefit from the information.

Finally, the strong-form of efficiency says all information, including private information, are incorporated in market price immediately. This form of efficiency concludes there are no monopolistic sources of information that can drive stock price. In other words, insider trading really cannot make a profit in the strong-form market efficiency world, because the information is already known.

Second, Fama demonstrated market efficiency is factored into price. He later emphasized, the hypothesis had to be tested in the context of expected returns. He concluded no one could ever be certain if the results we caused by an imperfection in the model or if the market was inefficient. Still later, Fama (in 1991) stressed market efficiency is not testable and can only be tested jointly with an asset-pricing model. All to say, his conclusions were quite simple, even though the research was very complex. Here are the summary thoughts about his research.

1. Markets are efficient and incorporate all (the strong form) information and expectations daily. There is no data the market has not already priced into the various component parts.

2. The price of every underlying stock in the market approximates its true intrinsic value. Hence, there are no pricing anomalies.

These two conclusions in combination have major implications for an investor. Professionally active management bases its value on the ability to identify and exploit price disparity and profit from the opportunity before others discover it. Fama says this is impossible. They try to do this by buying and selling frequently and rarely holding

one stock for very long. The evidence of this is readily apparent in the turnover statistics. The average turnover for mutual funds, according to Morningstar exceeds 90%.

I am reminded of a scene in the movie, *Other People's Money* with Danny Devito. He is sitting at the computer looking for mispricing. He is trying to find an opportunity to buy a company that others have overlooked. He finally sees one and jumps up and runs out the door to go make the transaction. According to Fama, while this opportunity exists, it cannot happen with any predictability. The daily price IS the value of the company. Some additional conclusions from Fama's research:

> 3. Abrupt, unanticipated changes in market price are due solely to unforeseen events, such as 9-11, tsunamis, earthquakes and the like.

4. And while mispricing can and does occur, it is not <u>predictable</u> and does not last long enough to matter or to allow any one manager to consistently outperform the markets as a whole.

In other words, while it is possible a professional manager could, for a short time, find mispricing opportunities and seize them for their clients, it is impossible to be able to do that consistently over long time frames.

CONCLUSION -

Hiring professional managers and paying them large fees is a waste of investment capital and will not consistently yield the best return on investment. Not to mention, consistent results are impossible to duplicate. You may remember the name, Peter Lynch. In 1977, Lynch was named head of the then obscure Fidelity Magellan Fund which had only \$18 million in assets. By the time Lynch resigned as a fund manager in 1990, the fund had grown in excess of \$14 billion in assets with more than 1,000 individual stock positions. From 1977 until 1990, the Magellan fund averaged a 29.2% return. When he retired, he was supposed to replace himself. He wrote this on page 60, of his book "Beating the Street"

> "All the time and effort people devote to picking the right fund, the hot hand, the great manager, have in most cases led to no advantage."

Lynch was speaking about some comparative analysis he had done with Michael Lipper, the number one author-

ity on market indexes. His conclusion was essentially the same as Fama. The markets are efficient and it is difficult to find mispriced stocks, even though he had done it for nearly 13 years.

Warren Buffett was named the top money manager of the Twentieth Century in a Most investors, both institutional and individual, will find that the best way to own common stocks is through an index fund that charges minimal fees.

survey by the Carson Group, ahead of Peter Lynch and John Templeton. In 2007, he was listed among Time's 100 Most Influential People in the world.He is widely regarded as one of the most successful investors in the world. Often introduced as "legendary investor, Warren Buffett", he is the primary shareholder, chairman and CEO of Berkshire Hathaway. He consistently ranks among the world's

wealthiest people. In 2008, he was the world's wealthiest person and is the third wealthiest person in the world as of 2012.

Buffett has been called the "Wizard of Omaha", "Oracle of Omaha", or the "Sage of Omaha" and is noted for his adherence to value investing as his philosophy and for his personal frugality despite his immense wealth. Here is what he said about market investing in his 1996 letter to the shareholders of Berkshire:

> "Let me add a few thoughts about your own investments. Most investors, both institutional and individual, will find that the best way to own common stocks is through an index fund that charges minimal fees. Those following this path are sure to beat the net results (after fees and expenses) delivered by the great majority of investment professionals."

It is clear from Buffet's comments that he views active management as an added expense that is unnecessary and imprudent. As we will see later, fees can be 300% or higher than a passive approach advocated by Buffet and Lynch.

Tatctical Management

Even in the face of all this evidence and market data, investors still believe there are investment gurus who will outperform the markets. One of the most significant beliefs centers on a concept referred to as tactical asset allocation. This is another name for market timing. Market timing is based on the belief the market movements are predictive of future events. That there are momentum indicators and if you can pick the right algorithms, you can improve performance and win. The following chart gives an interesting insight into the wisdom of tactical investing.



One dollar invested in the market from 1926 to 2011 was worth \$2,603. But if you missed the 34 BEST months out of the 1,032 months during that period of time, your \$1 would only be worth \$29. Compare this to having your money in treasuries over the same period with no risk. Your \$1 would be worth \$20. So you have to ask yourself this question, was it worth spending the time and fees to have such an incredibly poor outcome? The answer is selfevident. Market timing/tactical asset allocation, according to many knowledgeable investment gurus, does not work.

Asset Class Investing And The Three Factor Model

Eugene Fama and Ken French have added additional research to the Nobel Prize research. They have been credited with what is known as the Three Factor Model. This model, built upon the basic tenants of Modern Portfolio Theory (MPT), explains how to maximize a portfolio's expected return for a defined risk. Alternatively, the models shows how to minimize the risk for a given level of expected return. This is done, by selectively choosing the proportions of asset classes to be used in the portfolio. Obviously, this is subject to the unpredictable factors Fama identified. But over longer periods of time, these anomalies even out and are of no meaningful consequence.

What Is An Asset Class?

While there are many ways to slice and dice the market, we have identified FIVE primary asset classifications.

- 1) Cash
- 2) Debt or Bonds
- 3) Stocks
- 4) Real Estate
- 5) Commodities

Each of these have their own unique characteristics and risk measuring metrics. How much you invest in each class determines your expected return over the life of the portfolio.

Cash - has the lowest risk and lowest return. The primary risk is inflation or theft. Cash equivalents are treasuries, money market funds, certificates of

deposit, agency paper (government backed securities) and bank accounts. The range of returns is static and the standard deviation is very low.

- **Debt or Bonds** corporations have two ways to increase working capital. One is to sell stock and the other is to borrow money. They can borrow from banks or they can borrow money from the public. Corporations borrow from the public by issuing debentures, commonly referred to as bonds. Government agencies can also raise money by issuing bonds for specific projects. These bonds have a term of years (duration) and rate of interest (coupon rate). Credit agencies rate the bonds based on the financial security of the corporation.
- Stocks companies sell interests in their future by issuing stock. Stock appreciates or depreciates in value, based on the earnings of the company. The price/earnings ratio for the stock is often an indicator of stock value. Price refers to the value investors attribute to the stock in a bidding process on the open market. Earnings refers to the pretax earnings of the corporation after business expenses. Ultimately, investors determine the market value based on their perception of future growth in corporate earnings.
- **Real Estate -** can be purchased directly or indirectly through a real estate investment trust (REIT). REITs are usually a mutual fund of properties selected by the managers. In many cases, these properties are owned with no leverage. However, some funds do purchase properties using mortgages.

Commodities - such as gold, silver, uranium, copper, coffee, wheat, etc., can be considered separate asset classes. They will not be included in any discussions in this book.

Eugene Fama and Ken French are also known for their work on how best to combine these asset classes to achieve an optimized rate of return. These results are graphed on what is called the Efficient Frontier. Their research has been aimed at determining if there is an optimum combination of these asset classes which will deliver the highest return for the least amount of risk.

This Efficient Frontier graph is based on data for the 15 year period dating from 1997 to 2011. The goal of any investment advisor should be to place your portfolio on



the efficient frontier. This is the optimal position for each portfolio based on both risk and return.

The Efficient Frontier curve illustrates the optimum risk/ reward performance for six portfolios based on combining stock, bonds and cash. Fixed would by comprised of 100% bonds and cash. The All Equity model would have no bonds or cash. The intermediate portfolios then combine stock and bonds in different proportions in 20% increments. Conservative is 20% stock and 80% bonds. Notice where the S&P sits on the graph in relation to the efficient frontier curve for the selected asset classes.

What Are The Three Factors?

Building the optimum portfolio (the Efficient Frontier) is done through the application of Modern Portfolio Theory. MPT research has proven <u>markets provide consistent</u> <u>performance over long periods of time</u>. The three Nobel Prize professors proved market performance is more consistently predictable than trying to select specific stocks within the market and far less costly. MPT assumes a rational investor who is risk averse, given the choice of two portfolios, with the same expected return, will prefer the less risky one. An rational investor will only take on increased risk, if they are compensated by a higher expected return.

This trade-off will be the same for all investors, but investors will evaluate the trade-off, using different criteria based on their risk aversion. (This is why advisors assess risk using a Risk Tolerance Questionnaire.)

Fama and French added two additional factors causing the One Factor Model to be renamed the *Three Factor Model*. These additional factors were added to increase return while keeping risk the same. The first factor is the size premium. It is accessed by determining the capitalized value of each stock in the portfolio. The enterprise value is determined by multiplying the market price times the outstanding shares. The third factor is based the ratio of

assets (book value) to market value, called Book to Market ratio. It reflects the real value of the company (assets liabilities) compared to its intrinsic market value (investor perception of value through the capitalization ratio). This will be discussed later in more detail.

These three factors, when combined, provide a powerful technology for building a portfolio that can endure market chaos.

Market Performance

There is sufficient data to look at US market returns going back before the depression. Most analysts will tell you there should be at least 40 years of data to have confidence the historical performance is predictable and reliable. Looking back to 1927, the data provides sufficient data points to measure market performance. Let's look at what \$1 invested back then would have grown to over that period of years. As you can see from this chart, \$1 grew to \$2,603.



This data takes into consideration the 6 down periods mentioned earlier, when the market downturns were outside the first standard deviation. (Called Black Swan events) Even so, \$1 grew at a 9.29% compounded return over the 86 years. The standard deviation for that period was 18.8%. Advisors use these returns and risk as their benchmark for measuring performance. This then, becomes our benchmark as well, our baseline for measuring portfolio improvement.

In other words, if through our research, statistical analysis and asset class selection, there is a more reliable and efficient way to position assets, to improve performance; it would meet the criteria a rational investor would use to make a change. Why? The rational investor will always seek the portfolio with the lowest risk and highest expected return.

S&P 500 Performance

Within the US market, there are many sub markets and many ways to define them. These submarkets are component parts of the market as a whole. While there are many submarkets, the one which stands out and mentioned most frequently is the S&P 500. Most every investor is familiar with the S&P, comprised of the 500 largest companies in America as measured by capitalization. For example, Apple Computer has roughly 830 million shares outstanding and its market price at the time this book was written was \$550 a share. Using this data, the market capitalization for the company would be \$456 billion (830 million shares x \$550 price per share).

The S&P 500 index allows the investor to purchase fractional shares in each of these 500 companies. The value *Critical Factor #2 – Portfolio Construction* of the S&P 500 constantly changes based on the market movement of these 500 underlying stocks.

This next chart shows market capitalization of four different stocks compared to the total capitalization value of the S&P. For example, Exxon Mobil's market cap was \$357 billion when we did this chart. This compares to the S&P 500 total market cap of \$10.64 trillion.

Company	Market Capitalization	Market Weight	Effect of a 20% increase on the S&P 500
Apple Computers	\$456,000,000,000	4.29%	0.86%
Exxon Mobil	\$357,000,000,000	3.36%	0.67%
Bank of America	\$168,000,000,000	1.58%	0.32%
New York Times	\$4,000,000,000	0.04%	0.01%
S&P 500	\$10,640,000,000,000	100%	1.85%

At the time, Exxon's market weight would be roughly 3.36% (\$357 billion / \$10.64 trillion) of the total value. A larger market weighting would give rise to more market value being allocated to that particular company. For example, say Exxon were to increase in value 20% while all other companies remained unchanged, the S&P 500 would increase in value by 0.67% (3.45% x 20%). Similarly, if *The New York Times*, were to increase 20%, it would cause a much smaller gain, 0.01% to the index because of the company's smaller market weight.

Contrast this methodology to an equal weighting approach. This means a 1% rise in the cap rate of a stock

would have an equal effect across the board and would not be impacted by a disproportionate holding in larger stocks. When the fund is weighted based on the capitalized value, the investor really owns predominantly, the top 20 companies in America and a fractional interest in the bottom 480 instead of a pro rata interest in all 500 stocks. There is nothing wrong with either method; however, we think it distorts the real benefit of an index fund because value

is disproportionately allocated to the largest stocks in the fund and is not truly diversified among all the stocks.

If we compare the performance of the S&P 500 to the market as a whole, we see over the 85 years as measured by our fund data, \$1 invested in the S&P 500 Index would have grown to \$2,727. This is better than the general proper diversification into markets delivered a higher probability of acceptable returns than trying to chase yield through stock selection

market. The increase from \$2,603 to \$2,727 is a 4.7% increase. Again, this is based on 85 years of data. Will it be true next year or the year after? Who knows? But will it be true over the next twenty years? It is highly likely it would, based on the statistical evidence from the past.

Exploring The Three Factor Model

The Nobel Prize research (originally a One factor model) was enhanced in recent years to a Three factor model. This research, using the S&P 500 as their benchmark, showed there were important underlying factors in the market which could better explain performance than just asset allocation and expenses.

The One Factor Model supported the strategy of proper asset allocation and low expenses. Alternate research confirmed these conclusions, proving over extended periods, proper diversification into markets delivered a higher probability of acceptable returns than trying to chase yield through stock selection.

Fama and French refined the One Factor Model by expanding the research to include the impact of capitalization and high book to market weighting. The evidence they uncovered with their research is compelling, yet based on having looked at many investment portfolios from various sources, these results have been noticeably ignored by most advisors.

Without going into the academic factors which led to these conclusions, let's just look at the facts Fama and French have presented to validate their discovery.

Market Segmentation

There are about 15,000 public stocks traded in the US. About 1/3 are traded on exchanges, the remaining are traded in various over the counter markets. But if you cull out obvious stocks which for whatever reason, obsolescence, legal issues, poor credit, obvious factors that would eliminate them from being included in a prudent investment portfolio, the group narrows to approximately 6,700 bona fide companies in the US market.

I like to use the analogy of a supermarket. If you think of the stock market like you would a Costco or a major supermarket, there are different groupings (markets) within the supermarket. When you enter the market, you might find the meat counter and produce departments along the

walls, with the dairy and packaged meats in the center on the back wall. The canned goods and sundries are on shelves in the middle of the store. If you are going to have a balanced diet, you will probably select foods from all over the market for your shopping cart. This is called asset allocation.

In much the same way, the stock market can be divided into submarkets. There are many ways to do this, but for our purposes we are only going to look at the four domestic submarkets Fama and French identified in their research.

Capitalization

First, we are going to divide the entire universe of 6,700 U.S. stocks into two primary submarkets. This is done by using a quantitative measure which incorporates the current market value of each company (capitalization). Since the daily price varies day to day, the capitalization value of a company is NOT static.

If you then force rank the capitalization value for all 6,700 stocks, the result is a numeric list from the largest to the smallest. At any time, the order of the stocks can change, but relatively speaking, there is not a significant difference between the largest and the next largest stock. For example, here are 30 stocks that are a subset of the market from the top, middle and bottom of the list of stock capitalization values.

Again, stocks may change their position, but their relative position would remain fairly constant unless economic factors drove one stock down or up significantly.

Once we force rank all of the companies, we then find the

		Rank	Name	Capitalization
1		1	Apple, Inc.	\$456,000
		2	Exxon Mobil Corporation	\$357,000
		3	Microsoft Corporation	\$246,481
		4	International Business Machines Corp	\$224,387
	-	5	Wal-Mart Stores Inc	\$222,540
	d	6	General Electric Co	\$201,735
	$\tilde{\mathbf{O}}$	7	AT&T Inc	\$198,404
	U	8	Chevron Corp	\$192,592
	Ð	9	Google, Inc. Class A	\$191,778
	<u> </u>	10	Berkshire Hathaway Inc Class B	\$185,143
	a			
		3362	ACNB Corporation	\$86.27
		3363	HF Financial Corp.	\$86.20
		3364	Santa Fe Gold Corporation	\$86.11
		3365	Alaska Communications Systems Group, Inc.	\$85.97
		3366	USD Energy Corp	\$85.91
1				
		3367	Auburn National Bancorporation, Inc.	\$85.50
		3368	ValueVision Media, Inc. Class A	\$85.41
		3369	Union Bankshares, Inc.	\$85.25
		3370	Gas Natural, Inc.	\$85.07
	0	3371	PMC Commercial Trust	\$84.89
	a			
	Ü	6723	Integrated Freight Corp	\$0.1077
	_	6724	Pollex, Inc.	\$0.1076
	a	6725	Exercise For Life Systems, Inc.	\$0.1071
	Ĕ	6726	Convenience TV, Inc.	\$0.1056
	ζ,	6727	Enherent Corporation	\$0.1048
	•	6728	Globotek Holdings, Inc.	\$0.1040
		6729	NXT Nutritionals Holdings, Inc.	\$0.1035
		6730	Artfest International, Inc.	\$0.1024
		6731	Canadian Tactical Training Academy, Inc.	\$0.1012
		6732	AcuNetx, Inc.	\$0.1005

median by dividing the list in half. The upper half is called Large Cap stocks and the lower half is referred to as Small Cap stocks. This division is second factor in the Three Factor Model.

Book To Market (BtM)

The Third Factor is determined by using the capitalization ranking and then converting this value for each company into a book to market ratio. Every publically traded company is required to provide audited financials annually. These audit reports disclose the general accounting financial condition of the company using exactly the same accounting principles (called GAAP). The standards are applied to each company in order to provide comparative measures of performance. The audit and reporting standards result in a homogeneous methodology for determining important financial ratios used to measure the company's performance. Some of these include, but are not limited to sales, expenses, assets, liabilities and book value.

To calculate the book to market ratio, we need to know the book value (BV) which is the total tangible assets less the liabilities and intangible assets. This is a reasonable estimate of the company's liquidation value. Book value does NOT consider depreciation, goodwill or the intangible value of intellectual property. As a result, the book value maybe be far less than the fair market value using the current capitalization value. In some cases, an investor's perception of the intrinsic value of the company could be far greater than the liquidation value.

This spread between the market value and the book value provides a unique opportunity to find value in the stock market over the long run. There are those companies where the liquidation value and market value are closely aligned. But there are also companies where there is wide disparity between them. A high tech company, for instance, with virtually no physical infrastructure (hard

assets or inventory except for their popular software products or hardware) could be worth billions. Or consider a social media company that is dependent upon advertisers and subscribers. These companies have virtually no book value but do have a large market value (a high stock price). In contrast, a company which has huge inventories, buildings and other assets, may have a relatively low market value in the eyes of investors because the earnings are too low or the industry is not glamorous. In this case, the book value would be fairly close to the fair market value.

Donkad

					Kanktu
		Rank	Name	Capitalization	by BtM
		1	Alaska Communications Systems Group, Inc.	\$85.97	7.3559
		2	HF Financial Corp.	\$86.20	3.0329
	Ð	3	ACNB Corporation	\$86.27	2.4438
	Σ	4	General Electric Co	\$201,735	2.3394
	al	5	AT&T Inc	\$198,404	1.3389
ap	>	6	Berkshire Hathaway Inc Class B	\$185,143	1.3340
Ü	-	7	Wal-Mart Stores Inc	\$222,540	1.2106
Ð		8	Apple, Inc.	\$456,000	1.1250
Ing		9	Santa Fe Gold Corporation	\$86.11	1.1086
- a	2	10	Exxon Mobil Corporation	\$357,000	1.1012
	ž	11	International Business Machines Corp	\$224,387	1.0879
	2	12	USD Energy Corp	\$85.91	1.0056
	2	13	Chevron Corp	\$192,592	0.9455
	G	14	Microsoft Corporation	\$246,481	0.8069
		15	Google, Inc. Class A	\$191,778	0.7713
		1	Integrated Freight Corp	\$0.1077	143.4123
		2	NXT Nutritionals Holdings, Inc.	\$0.1035	98.2580
	Ð	3	Enherent Corporation	\$0.1048	31.7767
		4	Globotek Holdings, Inc.	\$0.1040	31.0567
	al	5	Artfest International, Inc.	\$0.1024	14.4766
ap	>	6	Pollex, Inc.	\$0.1076	12.1552
Ü		7	Exercise For Life Systems, Inc.	\$0.1071	10.4080
=		8	AcuNetx, Inc.	\$0.1005	4.5871
na		9	PMC Commercial Trust	\$84.89	2.0666
Г,	2	10	Canadian Tactical Training Academy, Inc.	\$0.1012	2.0069
0,	Ţ	11	Convenience TV, Inc.	\$0.1056	1.5786
	2	12	Auburn National Bancorporation, Inc.	\$85.50	1.5533
	Z	13	Gas Natural, Inc.	\$85.07	1.4837
	G	14	Union Bankshares, Inc.	\$85.25	1.3200
		15	ValueVision Media, Inc. Class A	\$85.41	0.9068

What is the best way to determine the relative value of the difference? We use the Book to Market ratio. This BtM is calculated by dividing the book value by the capitalization. It can be calculated for every company in the universe of stocks. Once calculated, we re-rank from the HIGHEST ratio to the LOWEST ratio within each set. This creates two more categories. Large Cap and Small Cap stocks with a HIGH BtM ratios and LOW BtM ratios. There Large Cap companies with a LOW BtM ratio are call GROWTH Companies, whereas the Large Cap HIGH BtM ratio companies are termed VALUE. The same is true for Small Cap.

Recalibration: By combining these four data sets, we now a quadrant matrix that can be measured using some interesting historical analysis. The implications for how to construct a portfolio are compelling. Think with me for a minute. You are a portfolio manager and you now have data for each of the four quadrants - Large Cap Growth, Large Cap Value, Small Cap Growth and Small Cap Value. How are you going to allocate your portfolio dollars into this matrix? What percentage of the portfolio

are you going to put in each quadrant?

In order to answer this question, what information would you need to know in order to make the best decision? How about evaluating



the historic rate of return for each quadrant going back at least 40 years? What is the relative standard deviation of risk for the same measured period? Is there any measurable correlation between the quadrants? Do they move in lock step or do they move counter cyclical to each other? Knowing the metrics for these four asset (sub markets) will give you direction on how to best allocate your portfolio. So let's look at some of the historic metrics and how they impact the performance of each of the four quadrants.

Asset Class Metrics

Large Growth

Data for each of these four submarkets is available going back to 1927. The following chart is a composite of all the data for the entire market. You can see the compounded IRR for the entire market is 9.69%.

Growth of \$1 from 1927 through 2011

Large Cap Growth	Large Cap Value
Result \$1,540	Result \$3,387
IRR 9.02%	IRR 10.03%
σ 21.68%	σ 26.94%
	Total Market
Re	esult \$2,603
IR	R 9.69%
σ	20.24%
Small Cap Growth	Small Cap Value
Result \$1,299	Result \$47,190
IRR 8.80%	IRR 13.50%
σ 33.70%	σ 34.86%

Contrast this with S&P 500 over the same period of time. The IRR for the S&P 500 was 9.75%. If a dollar was

invested in the total market and all of the growth reinvested during that 85 years period from 1927 to 2011, it would be worth \$2,603. If we invested that same dollar in the S&P500, it would be worth \$2,727.

These become the benchmark for comparison against the submarkets set by capitalization and book to market ratios.

Let's look at just the Large Cap Growth quadrant. Since 1927, the IRR has been 9.02%. This is 67bp (0.67%) less than the market as a whole. Our hypothetical \$1 would only be worth \$1,540 at the end of this 85 year period. You might ask, why would anyone invest in this asset class if it underperforms the market as a whole?

The research show that a portfolio benefits from having a wide distribution of risk in all of the asset classes. We will see this more clearly when we discuss diversification. The long term consistency of market performance, despite the economic chaos, external events and government regulation is legend. The capital markets over the last 85 years have weathered the storms very well even though there have been sharp downturns. And again, in the last 85 years, there have only be 6 years where the market has dropped more than 20%. This consistency is reassuring if you are investing for the long run.

Small Cap Growth

Small Cap Growth has not done nearly as well as Large Cap Growth. Although the IRR is nearly the same, the net results of \$1 invested in 1927 through 2011 is only \$1,299. The small cap growth market is an amalgamation of stocks with a low BtM ratio. There have been periods of time when Small Cap Growth has outperformed the market. It provides an opportunity to protect the portfolio

from stocks which have historically underperformed the market as a whole.

Reducing exposure by excluding certain stocks from eligibility such as recent IPOs and REITs improves performance in this sector. There is also an advantage to capitalizing on price momentum. This is done by delaying trades where momentum could have an adverse impact by increasing the bid/ask spread. Research has identified this subset of US small cap stocks does not consistently capture the small cap premium and has consistently underperformed the small cap universe as a whole.

Not properly positioning the asset class with a balanced portfolio can be detrimental to long-term performance and risk management. Research has shown that even with the underperformance of these stocks, across several time periods, including them can benefit a portfolio by moderating risk. Any attempt to simply exclude all small cap growth stocks, as defined by a single broad measure, could diminish the potential for diversification in the small cap universe. Instead, this asset class is useful for developing a refined definition focused on the extreme small cap growth stocks that fall into both the lowest 25% by BtM ratio and the lowest 25% category defined by either Earning/Per share or Cash Flow/Price ratios. A small cap strategy that excluded these stocks would have earned a measurable improvement in long-term performance.

This set of stocks can be identified by measuring certain valuation ratios, such as book price-to-market price, earnings-to-market price (E/P), or cash flow-to-market price (CF/P). Holding these stocks in a diversified strategy is beneficial to your wealth.

Metrics Of Large And Small Cap Value 82

Having looked now at the Large Cap and Small Cap Growth sectors, it should be apparent both have underperformed the market as whole over the 85 years period measured from 1927 to 2011. The market as a whole did 9.69% with a \$1 growing to \$2,603. But the Large Cap Growth (\$1,540) and Small Cap Growth (\$1,299) did not fare as well. The obvious conclusion is that Value must have made up the difference. How did that happen?

Large Cap Value stocks grew \$1 up to \$3,387 over the same period. Remember, Large Cap Value is comprised of the HIGHEST BtM ratios among all companies as measured by capitalization and then re-sorted, based on their book to market ratio. Large Cap Value companies represent approximately 25% of all publically traded companies.

Large Cap Value

Value companies are riskier and financially less-healthy because they have a higher cost of capital. When these companies borrow from a bank, a value company will pay higher interest rates. When they reissue stock, they will receive lower prices. A value company's cost of capital is often the investor's expected return. A Small Cap Value company, on the other hand, will pay even higher interest rates and therefore have an even higher expected return. The conclusion and evidence are the same - a higher expected return can only be achieved by accepting greater small cap or value risk.

The Three Factor Model defines risk in a way that has become a modern research standard. The three factors, size, price and broad stock market exposure are the primary elements to explain equity returns. Remember, it is the efficiency of the market that drives these conclusions.

If the markets were NOT efficient, then the brightest and hardest working fund managers would find "deals" and consistently beat a simple buy and hold market strategy. But academic research has shown traditional active money managers are unable to outperform the market consistently over long time frames. They may have one or two good years in a 10 year period. But is it the result of skill or chance? Can an investor rely upon these results over long investment periods? If not, then the question is, why pay a higher management fee if the market consistently outperforms them?

As a side note, the first truly academic study, showing the difficulty active managers face, was conducted by Michael Jensen. It was reported in the May 1968 issue of Journal of Finance in his article, "*The Performance of Mutual Funds in the Period 1945-1964*." His conclusion was that fund managers are unable to outperform the market in a statistically meaningful way. This should not come as a surprise. For active managers to succeed, the markets must fail. When the fees for active management are factored into the analysis, the difference becomes very demonstrable.

Small Cap Value

Small Cap Value stocks have performed at an eye-popping 13.5% IRR since 1927. One dollar invested in this market would be worth over \$47,190 at the end of 2011. But it has been stealth and very few investment advisors have figured out how powerful this market has been throughout the decades.

The emphasis on value and size makes a telling difference in the performance of a portfolio. No longer can the investor sit back and expect their broker or registered

representative to direct them into manufactured products or packaged investment programs. The new model for investing takes a much more holistic approach which includes the latest research and academic determinations.

So, remember the question? How would you invest your client's money if you had access to all of the academic research and historic data? If you did have the latest and greatest investment research, would you allocate more to the High BtM classes? Wouldn't you utilize the information backing up the Three Factor Model and emphasize the relative importance of size, value and market exposure?

In a time of great turmoil, it is even more important to cling to the best minds in the business. Certainly, the conclusions gleaned from the Nobel Prize research and then updated in recent studies should be a source of comfort and assurance when placing your assets at risk.

Power Of Diversification

Here is a picture diversification. It is the tallest building in the world located in Dubai. The top of the building is 110 floors from the bottom. If you were going to ride an elevator up the full 110 stories, which elevator would make you feel safer? One with one cable or one with fifteen?

Obviously, the more cables, the less likelihood all the cables will snap at the same time causing the elevator to fall down the elevator shaft to the bottom of the building. But if your



elevator only has one cable, it had better be really strong. There is more risk in having only ONE cable.

Likewise, there is no greater protection for an investment portfolio than proper diversification of holdings. It might be interesting to note that we think in the coming years, the trend will be away from holding a small number of stocks and instead, expanding to a large universe of stocks owned.

Based on our analysis, the average mutual fund owns fewer than 500 stocks. Many own less than 200 stocks.

Diversification of your portfolio is a lot like those elevator cables. Why have only 500 stocks or less when you can own 15,000? A MPT portfolio that follows the Three Factor Model has nearly 15,000 securities sorted by asset classifications, both international and domestic.

Style Drift And Overlap

There are two other important factors which must be considered when you think about diversification. They are style drift and overlap. How many unique holdings are there in your portfolio? Do you know? We have seen portfolios with 150-300 stocks but 25 or more were the same ones, only they were held in different funds. The overlap of the holdings is an important aspect of diversification and needs to be investigated.

So is style drift. Every portfolio has to have a defined investment objective. This is the role of the Investment Policy Statement. The objective is to find funds to follow the stated objective of the IPS. This is critical to the performance and risk management of the portfolio. Any variance from the stated objective of a fund is considered **86** style drift. The reason an investor selected certain funds was due to it historic performance and risk factors. But if the manager decides to chase a concept or an idea that is NOT consistent with the original stated objectives, or historic performance, the fund's returns could veer from the benchmarks used to measure performance.

Years ago, it was reported, Fidelity's Magellan Fund lost nearly 30% of its value because the manager changed strategies and bet big on rising interest rates. He bet wrong, interest rates declined and the fund value plummeted. We need to note that interest arbitrage was not a stated investment objective of the fun.

Two Kinds Of Diversification

In addition to style drift and overlap, diversification matters. There are two kinds of diversification - efficient and inefficient diversification.

Efficient diversification utilizes discrete funds to map a specified allocation strategy. Each fund's unique characteristics are matched to the other funds to build a portfolio that will perform according to the benchmarks for the IPS. An inefficient portfolio may have wide diversification, but a careful analysis shows because of the overlap in holdings and styles, the diversification was not really effective. So what appears to be risk diversification is really risk consolidation.

A final point on diversification. It is impossible to know which sector in the domestic and international markets will excel in any given time frame. It is only over long time periods where there can be any expectation the markets will approach their historic averages.

The chart on the next page shows the unique patch work of performance over an extended period of time of various asset classes. The time period shown is really too short to draw any real conclusions since it is only covers 15 years. As this chart demonstrates, the returns varied for each of the twelve categories year by year and so did their relative performance positions. But what is interesting, is overall, the IRR for this period was nearly 10%, despite all of the movement of the relative sectors.

A well constructed portfolio with balanced diversification and proper weighting to take advantage of size and value bias is the most academically sound way to invest.

So Exactly How Much Risk Are You Buying?

This is the key question that must be answered in every portfolio to determine whether or not it is efficiently constructed. Only by knowing the historical performance of various asset classes, the risk index for each category and the relative movement over time (called correlation coefficient) can an efficient and stable portfolio be created.

Most investors know there is risk inherent in their portfolio. What they don't know is how much risk is associated with their portfolio. Remember, the market standard deviation is 19.1% over 85 years. This is the benchmark for market risk. If a portfolio can deliver an expected return equal to or greater than the market return for less risk, our rational investor will change so they can achieve this potential result.

As we analyze more and more portfolios, I am struck by the amount of risk inherent in the portfolios we see. Risk the investor did not know they were taking. But also risk

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	37.05	36.94	28.58	66.41	31.04	40.59	7.62	74.48		34.54		39.78		79.02	34.59
	22.96	33.75	23.11	33.01	8.96	18.04	5.11	69.18		24.13	32.99			70.19	29.53
	22.36	33.36	11.95		8.28						32.59		4.75	51.48	28.07
	19.97	25.79		28.41	7.33			60.25	30.58	15.10	27.54	6.35	-37.00		20.79
	17.43			21.51	4.01	7.28	3.39	57.81	27.33		26.32	6.31	-38.64	47.02	20.17
	10.23		8.41	21.04		6.44		56.28	25.95	9.70	21.87		-39.20	44.83	19.30
				6:99	-3.08	-2.37	-6.00	36.43	19.15	5.61	21.70	5.95		37.51	19.20
		5.93	5.91	4.37	-6.40	-2.71	-11.72		17.74	4.91	17.08	5.49	-44.49	28.46	15.06
	5.49	0.39	-2.33	4.04	-9.10	-6.48	-13.84	28.69	10.88	4.45	15.80	-2.61	-45.12	26.46	13.32
		-11.59	-10.04	3.55	-12.26	-11.89	-19.87				4.32	-12.24		2.29	3.73
		-14.55		1.90	-12.26	-15.41	-22.10	1.95	1.35	2.36	4.09		-53.14	0.80	1.99
			-25.34		-30.61		-30.28	1.47	0.83		3.75	-18.38	-53.18	0.19	0.83
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
US Large Cap	22.96	33.36	28.58	21.04	-9.10	-11.89	-22.10	28.69	10.88	4.91	15.80	5.49	-37.00	26.46	15.06
US Large Cap Value	19.97	33.75	11.95	6:9	-6.40	-2.71	-30.28	36.43	17.74	9.70	21.87	-12.24	-53.14	37.51	20.17
US Small Cap	17.43	25.79	-2.33	28.41	-12.26	18.04	-19.87	57.81	19.15	5.61	17.08	-2.61	-38.64	47.02	29.53
US Small Cap Value	22.36	36.94	-10.04	4.37	-3.08	40.59	-11.72	74.48	27.33	4.45	21.70	-18.38	-44.49	70.19	34.59
US Real Estate	37.05	19.66	-17.01	-2.58	31.04	12.35	3.58	36.18	33.16	13.82	35.97	-17.55	-39.20	28.46	28.07
International Large Cap Value	10.23	0.39	23.11	33.01	4.01	-15.41	-13.84	69.18	30.58	15.10	32.99	6.35	-45.12	51.48	13.32
International Small Cap	2.80	-14.55	10.24	30.16	-12.26	-16.75	-2.85	60.25	32.11	22.63	26.32	8.04	-47.11	44.83	20.79
International Small Cap Value	3.49	-15.12	9.69	21.51	-2.01	-6.48	3.82	66.79	35.14	24.13	27.54	6.24	-42.54	47.81	19.30
Emerging Markets	6.03	-11.59	-25.34	66.41	-30.61	-2.37	-6.00	56.28	25.95	34.54	32.59	39.78	-53.18	79.02	19.20
One-Year US Fixed	5.49	5.93	5.91	4.04	7.33	7.28	3.39	1.47	0.83	2.36	4.32	5.95	4.75	0.80	0.83
Five-Year US Government Fixed	4.54	7.12	7.75	1.90	8.96	8.44	7.62	2.04	1.35	1.34	3.75	8.16	8.83	0.19	3.73
Five-Year Global Fixed	7.67	7.27	8.41	3.55	8.28	6.44	5.11	1.95	2.65	3.08	4.09	6.31	6.60	2.29	1.99

Asset Class Diversification

that is significantly HIGHER than the expected return for the asset class diversification in the portfolio.

There is correlation between risk and allocation. In almost every instance, when the investor purchases more risk than their portfolio needs to deliver the expected return, the IRR underperforms the benchmark

Here is the Efficient Frontier chart we looked at earlier in the chapter. Notice that as the amount of equity in a portfolio increases, the amount risk increases as well. This is understandable and expected. A conservative portfolio (20% equity and 80% fixed) has a standard deviation of 5%. But if the equity mix increases to Balanced (60%



equity and 40% fixed), the standard deviation increases to 12%. This is still an acceptable trade off for the rational investor. But notice too, the performance of the balanced portfolio compared to the all equity or the S&P 500 will have lower risk and lower returns.

What is the lesson here? There are many factors to consider when constructing a portfolio. Doesn't it make sense for every investor to know how to match risk and expected return? How much risk the rational investor buys is critical to the analysis. We feel this is the best way to compare portfolios.

Here are the steps.

- 1. determine the asset allocation of the current portfolio.
- 2. do an historical analysis of return and risk for that portfolio.
- 3. compare the risk and returns to the benchmarks.
- 4. recalibrate if necessary.

This analysis needs to assess whether the current portfolio is properly diversified. Is the size and BtM premium being adequately employed to compensate the rational investor for the risk they are taking?

These simple steps can give every investor a better understanding of whether their portfolio is efficiently invested and if the risk is commensurate with the expected return. If it isn't, then what steps should be taken to correct the inadequacies? Your Registered Investement Advisor (RIA) should be able to tell you.

Critical Factor #3 – Erosion Fees and Expenses

When you evaluate the wealth erosion that is occurring in most investment portfolios, there is NO greater cause than fees and expenses.

What if you discovered your current portfolio was cost-

ing you 300% to 400% more than a comparable portfolio with a financial professional who managed costs? What if you knew there was an alternative strategy *based on research and historical data available that had 40% to 50% less inherent risk*?

Would you consider using a different approach than you are using now?

A quick review of the lessons learned from Critical Factors #1 and #2 are pretty stark. Think back on what we have already learned through our studies. Here is a quick summary:

1. Volatility is actually your friend. Markets go up and markets go down. But investors will always make their biggest gains coming out of a down market as it recovers its losses and moves to a new high. This is the nature of markets.

- 2. You make most of your returns coming out of a down cycle. How do you make money coming out of a down cycle? Your portfolio has to be constructed to suppress the amount of decline you experience as much as possible, so when the up cycle comes, you are able to capture as much of it as possible.
- **3. Portfolio Construction manages Volatility.** We saw portfolio construction is not only critical to controlling volatility, but it is essential to achieving meaningful returns consistently. You need a widely diversified portfolio of asset classes with a bias towards value and small cap, the asset classes which have performed the best over long periods of time.
- **4. Risk Is INHERENT in every portfolio.** We saw every portfolio has some measure of risk attributed to it. The question is, "Do you know how much risk you are buying?" Most investors don't think about the fact they are buying risk. They have no idea whether the risk they have bought is commensurate to the return they are expecting. More important, they do not KNOW how much the risk is costing them.

These FOUR key points are extremely important for every investor to understand and engrain in their thinking. To be successful, investors must learn to manage risk. But remember, the average investor, according to Dalbar, has only earned 3.49% over the last 20 years. While these four factors explain some very important reasons investment portfolios lag market returns, they are not the WHOLE story. The next part of the story lies in understanding the economics of fees and expenses attributed to mispriced portfolios, especially actively managed ones. To understand how Wall Street is converting your capital to their income, it is important to study the facts and separate them from the myths.

MYTH: Active Managers Grow Assets Better Than Passive Managers.

You may recall the term "active management" from our discussion in Critical Factors #1 and #2. The term describes the process of hiring professional managers to identify and buy stocks with the highest probability of growing in the near term. Investors pay significant fees to their advisors for the opportunity to gain access to these top money managers. These managers, in turn, are paid significant salaries to deliver on the promise. You will need to decide whether this promise is real and whether these advisors can fulfill the expectations.

What exactly is this promise? Active managers promise to identify and buy securities that will yield significant returns to your portfolio. After all, with this alluring expectation, who would not want to tap into their brainpower and success? Who would not be willing to invest in proven, qualified, creditable money managers with long track records of success in picking winners and avoiding losers? This promise is a very compelling story and one told repeatedly to investors, by some of the largest and most publicized brands in the investment world. Brands that cost millions upon millions to promote and advertise. There is only one problem! It is NOT true. One name brand group is no better than another. All the money in the world cannot change the facts. Active management historically has not beaten passive management. History has shown most money managers cannot consistently match the returns of the S&P 500 Index let alone beat it.

Proof Active Management Fails

The inability of the actively managed markets to beat their benchmarks has been known for years. The chart on the next page is based on the 5 year period of 2006-2011. It shows for all asset categories, active managers failed to beat their benchmarks. Studies of longer periods have shown the same results. Longer time frames are even more conclusive than this chart. There may be a place for active management. But from my experience, only the very sophisticated and wealthy investors will benefit from the higher fees. Why? Because they can afford the riskier investments that hedge funds and other high priced managers offer.

This chart shows the Standard & Poor's Indices Versus Active Funds Scorecard, for year-ending 2011.



Active Funds That Failed to Outperform Benchmark
A careful review shows the passive managers beat the active manager in all asset classes but small international stocks. In some cases, only 20% of the active managers exceeded the passive benchmarks. The problem is that those managers in the top 20% move in and out with no predictable consistency.

Is it worth the fee multiple, to bet on a money manager who is more likely to underperform the benchmark? That is the question every investor should ask and answer.

Erosion of Wealth: The Great Ripoff

Using the term "great ripoff" is provocative. Unfortunately, I could not think of a better way to phrase it. What do you call it when someone loses a lot of money they should never have lost? Where is the common investor being RIPPED OFF? It occurs as the big money managers manipulate portfolios, trying to get returns. I am not suggesting this is done purposefully. But it is being done none the less.

We have just seen evidence active management fails. There is a lot more evidence than I could ever include in this book. But here is good evidence of what I am trying to communicate. Warren Buffett says active management fails. Even Peter Lynch says it fails. Lynch said trying to find a manager who can best the market is a futile proposition. So why do investors continue to pay significant fees trying to accomplish the seemingly impossible? In many respects, it is like buying a MEGA lottery ticket every day.

To further prove my point, look at what MutualFundWire. com said in an article about the breakup of Hartford Life. It said, *"Hartford maybe splitting up, but it's hanging*

Critical Factor #3 – Erosion Fees and Expenses

onto its mutual fund business." The article continued to say, "Mutual Funds are a high return business and we are enthusiastic about our strategy to accelerate sales growth with the expanded relationship." The quote was attributed to the Presi-

"After costs, the return on the average actively managed dollar will be less than the return on the average passively managed dollar for any time period."

—William F. Sharpe, 1990 Nobel Laureate

dent and Chairman/CEO of the company. High Return Business = large profits. No wonder they want to keep it.

Why Are Mutual Funds Or Money Management Fees So Profitable?

There are three basic expenses every investor must bear to be in the mutual funds:

- 1. Asset management fees, (disclosed)
- 2. Trading Fees, (undisclosed)
- 3. Bid/Ask Spread (undisclosed)

The answer is revealed in the prospectus. Legally, the mutual fund prospectus must disclose fees inherent in EVERY stock portfolio. The disclosed fees are easy to identify because they are highlighted in the prospectus by law. If you actually took the time to read the prospectus, you will find the fees for asset management charged by the fund managers are fully detailed. Enumerated are the administration fees and in some cases there are 12b-1 marketing fees.

¹ The Arithetic of Active Manageent," Financial Analysts Journal 47, no. 1 (January/February 1991): 7-9.

These charts show the difference in fees between actively managed funds and passively managed funds for both Domestic and International Mutual Funds. Within each asset class, the chart shows the average fund fees for all mutual funds in that asset classification.



The other value is based on the weighted average by capitalization. This distinction illustrates how much difference there is between large fund fees and small fund fees. The larger the fund, the less they charge.



Critical Factor #3 – Erosion Fees and Expenses

Notice the differential between active and passive. There is nearly a *five* times multiple between domestic weighted fees. The large passive funds charge 18bps. Whereas, the large actively managed funds are charging 95bps. There is a similar difference for the international class. The difference is about a three times multiple.

Some funds charge an access fee to investors. This is a fee based on how you place money into the fund. There are up front loads (costs when you invest in the fund) and back end loads (costs when you exit the fund). You can also choose a "no load" arrangement to get into the fund, but for these types of funds, you will likely pay a higher asset management fee every year. You need to do the analysis. The costs are about the same regardless of which route you select. They range, according to Morningstar, between 0.75% to over 2.00%. The average for ALL domestic stock funds is 1.46%. It is higher for international funds, averaging 1.64%. So for every \$100,000 you invest, you pay the international active managers \$1,640 annually

Undisclosed Expenses

The undisclosed costs are harder to define and quantify. These expenses are barely mentioned in the prospectus because they cannot be accurately measured or predicted. They are variable and depend on things like market conditions and the amount of trades done. However, they are very real and have a significant impact on your portfolio return. What are these expenses?

These costs fall into two categories. Both are related and expensive. First there are *trading costs* and the second is the *bid/ask spread*. To understand these costs and the important role they play in the overall performance of your **100**

portfolio, you must FIRST understand what role turnover plays in your performance.

Turnover

Turnover refers to the buying and selling of stocks in the underlying portfolio. Morningstar not only ranks all of the funds according to a wide range of performance factors, but it also ranks funds based on fees and turnover. According to Morningstar, the average turnover for all funds in their universe of data is more than 87%. This includes all index funds. So if those were removed from the universe of funds, the average would be much closer to 100%. This means 100% of what you started with at the beginning of the year, is not what you will end up with at the end. That's certainly understandable and fair. There are going to be some corrections along the way. But what this really means is, the active asset manager you hired to find you the best stocks was wrong at the beginning of the year and virtually changed his mind about most all of the portfolio by the end of the year. You bought into his fund based on past performance. You now must pay him to reassess his original recommendations and pay for the myriad of adjustments and fine tunings. You are now paying him to change those recommendations to what he thinks will work going forward. So how's that working for you?

Every time a stock is bought and sold, there is a trading fee. A round trip "buy/sell/buy" cycle costs approximately 0.78% of the stock value. So if your portfolio is \$500,000 and it experiences 100% turnover, you will likely pay \$3,900 in trading fees. But there is more to this than the cost of trading. There is an additional cost of buying and selling that is hidden in the process.

Bid/Ask Spread

If you have ever looked closely at the stock quotes in your local newspaper, there are always two prices. One is the sell price for the stock and the other is the buy price. The price you pay to purchase the stock. They are not the same price. There is a negotiated differential between them. The ASK price is always higher than the BID price. This difference is called the SPREAD. The price you buy for is the OFFER Price or often called the Ask Price. The BID price is the price you sell it for. It is always lower. This spread has been measured by some analysts¹ to be 1.44% of the value. It can be higher or lower depending on the liquidity in the market. So again, using \$500,000 as our mythical portfolio, the spread would cost \$7,200 of additional expense on a round trip, if the turnover is 100%.

Market price is determined by the number of willing buyers and sellers. So if the security is thinly traded (meaning there are very few shares available) the spread will be greater. As the demand for those shares increases, the Asking Price would be impacted. A sudden interest or strong demand to buy a certain stock increases the spread between the offering price and the buying price. But if you are selling into a thin market and there are no buyers, the price could drop steeply as the buyers are looking for a deal.

There is no way to accurately anticipate a cost for this process. It is market driven and unpredictable. But it is a REAL COST to your capital.

¹ Edelen, Roger M., Evans, Richard B. and Kadlec, Gregory B., Scale Effects in Mutual Fund Performance: The Role of Trading Costs (March 17, 2007). Available at SSRN: http://ssrn.com/abstract=951367 or http://dx.doi.org/10.2139/ssrn.951367

Combining The Costs

So if you look at the trading costs and the bid/ask spread in combination, the total impact could be close to 3.5%. The real cost is influenced by the turnover. If turnover is 100%. The portfolio would feel the full impact of the 3.5%. If turnover is only 10%, then the hit to your portfolio would be a lot less. It would only be 0.35%.

Please understand, there will always be trading costs and a bid/ask spread. There is always going to be turnover in a portfolio. That is not the point. Even the S&P 500 Index has turnover. The list of 500 top stocks is not static. The holdings in the fund change as the market moves. So even a set index fund will have some turnover, hence some expense for trading the stocks. However, this cost is de minimus compared to active management fees.

An actively managed portfolio is expensive to own and does NOT necessarily deliver additional value for the additional expense.

Here is an example. Suppose we look at a diversified,

· · · · · · · · · · · · · · · · · · ·	
	Cost Based on Assets
Fee or Expense	Under Management
Advisor Fee	1.00%
Asset Management Fees:	
Active	1.25%
Passive	0.85%
Trading Costs	0.78%
Bid Ask Spread Expense	1.44%
Active Management Total	4.47%
Passive Management Total	4.07%

Assumptions:

\$2,140,90,	۵UC, 108, 1¢	۵۱,۱۵,949	ا oc,401,40 ا	212,176¢		
¢ 2 4 0 00		1 223 0 41 733 0 40	#4 004 EC4	C 1 1 1 0 1		
	are	Fees Over 25 Yes	Total			
<mark>\$4,513,31</mark>	\$5,199,335	\$5,984,862	\$7,615,684	\$8,279,516	25	
\$3,338,84	\$3,739,024	\$4,184,498	\$5,074,195	\$5,425,053	20	
\$2,470,00	\$2,688,863	\$2,925,718	\$3,380,846	\$3,554,700	15	
\$1,827,25	\$1,933,656	\$2,045,604	\$2,252,597	\$2,329,174	10	
\$1,351,75	\$1,390,559	\$1,430,246	\$1,500,866	\$1,526,163	С	Years
	Fee:1.25%		35%	Fee:0.8	1	
+	ve Managemen	Acti	nagement	Passive Mar		
100%	75%	50%	25%	10%	Irnover	Ľ

Impact of Fees Alone On Your Account Balance

Critical Factor #3 – Erosion Fees and Expenses

Active:1.25%: Passive:0.85%, Annual Investment Return: 10.0%, Taxes not considered

\$1,000,000 portfolio managed by a well know wire house or registered representative. If it is entirely invested in mutual funds, here is a breakdown of reasonable fees and expenses based on the Morningstar turnover statistics

If we assume the historic market return of 10% over a twenty five year period, the impact of these fees can be substantial. Look at the chart on page 104.

What is the effect on the account balance when there is only 10% turnover? Compare this to what happens if turnover is 100%. A passively managed fund portfolio This is a LOSS you can NEVER regain. Unlike the Law of Markets and the BOUNCE, these fees are not recoverable.

using our balanced market methodology suggested earlier in the book has minimal turnover. The difference is remarkable. Is it any wonder Wall Street wants to manage your money? There is a 10% to 30% loss of portfolio value directly attributed to trading the account. All of this is based on the bid/ask spread cost, commissions and the trading costs. Add in the higher asset management fees for an actively managed portfolio and the loss could be substantial. This is a LOSS you can NEVER regain. Unlike the Law of Markets and the BOUNCE, these fees are not recoverable.

Make no mistake; there is a cost to investing in the market. But that is not the point. The issue is, HOW MUCH GREATER will the cost be to using active management? And what do you get if you pay that additional cost?

Based on all of the analysis we have seen, active management provides no measurable advantage in improved

Critical Factor #3 – Erosion Fees and Expenses

return for to using that methodology. Instead, there are significant costs to selecting active managers that can be avoided.

Critical Factor #4 – Erosion From Taxes

When you think about taxing investment returns, this should really cause you pause. You have worked hard to accumulate capital by earning it and then paying taxes

on those earnings. Now you have a nest egg to invest but you are likely going to pay taxes on the gains as it grows. The only questions are, When? and at what Rate?_

There are two investment tax rates you need to consider. They are based on how long you actually hold your asset. If you hold an asset less than one year, any gains recognized upon the sale of the asset will ... you are likely going to pay taxes on the gains in your Nest Egg as it grows. The only questions are, When? and at what Rate?

be taxed as ordinary income. These are called Short Term Capital Gains. So if your Adjusted Gross Income (AGI) is \$100,000 and you have \$25,000 of taxable gains, your AGI will increase by \$25,000. In other words, you will pay the same tax rate on your investment gains as you do on your earned income.

Critical Factor #4 – Erosion From Taxes

If on the other hand, you hold the asset LONGER than one year, the tax rate is lower. It is called Long Term Capital Gains. This rate is usually significantly lower than the rate on ordinary income, thus the tax system rewards your efforts to keep investments longer than one year. How long you hold an asset is referred to in the IRS code as the Holding Period.

The holding period begins the day after you buy your investment and ends on the date you sell it. In Publication 550, the IRS states, "To determine how long you held the investment property, begin counting on the date after the day you acquired the property. The day you dispose of the property ends your holding period."

Why is this important?

Remember the discussion on turnover in the previous chapter? Turnover describes the frequency your money manager buys and sells stocks in your portfolio during a calendar year. Both active managers and passive managers have turnover in their portfolios. The difference is in how much turnover they have. As a reminder, according to Morningstar, the average mutual fund turnover for active managers is 100%. For passive managers the turnover is closer to 10%.

As we saw in Critical Factor #3, turnover increases expenses and fees. The active management fee for mutual fund often exceeds 1.00%. Turnover magnifies the cost for an actively managed portfolio, because the number of "buys and sells" increases the trading costs and causes further erosion due to the bid /ask spread.

Now For The Real Problem - Taxes

With the average turnover for actively managed accounts at 100%, there can be virtually no deferred capital gains built up in the portfolio. All of the gains will be taxed at short term capital gains rates instead of the lower long term rate. It means all of the gains during the year become ordinary income and are taxed at the highest rate possible. You get no benefit from the legitimate break in the IRS Code for having your money at risk. In my opinion this is truly a Rip Off of gigantic proportions. All active investors with high turnover are subject to this problem with no measurable compensating gain.

As you might suspect, passive portfolios have a much different tax outcome. Since the average turnover is much lower, around 10%, this means 90% of the gain is deferred longer than one year. This qualifies the gains for the lower tax rate when the gains are recognized. Even though the 10% may shift from stock to stock over long periods of time, the impact of the tax is de minimus compared to the tax paid on short term capital gains treatment where the ordinary tax rates are applicable. Having no deferral of gains not only means all of the appreciation in the portfolio is subject to a higher tax, but, more importantly, it means the investor loses the compounding on the deferral, as well.

To study the effect of taxes on our sample portfolio from the last chapter, lets recall the effect fees and expenses have at various levels of turnover.

Critical Factor #4 – Erosion From Taxes

Impact of Fees Alone On Your Account Balance									
Turney 40% 05% 50% 75% 40%									
Turnover		10%	25%		50%	75%	100%		
		Passive Mar	nagement		Acti	ve Managemen	t		
		Fee:0.8	35%			Fee:1.25%			
Years	5	\$1,526,163	\$1,500,866		\$1,430,246	\$1,390,559	\$1,351,759		
	10	\$2,329,174	\$2,252,597		\$2,045,604	\$1,933,656	\$1,827,251		
	15	\$3,554,700	\$3,380,846		\$2,925,718	\$2,688,863	\$2,470,002		
	20	\$5,425,053	\$5,074,195		\$4,184,498	\$3,739,024	\$3,338,846		
	25	\$8,279,516	\$7,615,684		\$5,984,862	\$5,199,335	\$4,513,314		
		Total Fees Over 25 Years							
	-	\$971,213	\$1,204,561		\$1,733,949	\$1,961,305	\$2,140,987		
Assumptions: Initial Capital: \$1,000,000,Trading Costs: 0.78%, Bid Ask Spread Expense: 1.44%, Asset Management Fe									

If we were to remove the effects of all fees and expenses, and just consider taxes, the effect is enormous

The calculation is the same as the above chart from the previous chapter, but in this case removes all fees, but only includes the effect of taxes due to turnover.

		· ·						
Tur	nover	0%	10%	50%	75%	100%		
		Passive Mar	nagement	Acti	ve Managemen	t		
		Fee:0.0	0%		Fee:0.00%			
Years	5	\$1,610,510	\$1,581,440	\$1,469,328	\$1,402,552	\$1,338,226		
	10	\$2,593,742	\$2,500,953	\$2,158,925	\$1,967,151	\$1,790,848		
	15	\$4,177,248	\$3,955,108	\$3,172,169	\$2,759,032	\$2,396,558		
	20	\$6,727,500	\$6,254,766	\$4,660,957	\$3,869,684	\$3,207,135		
	25	\$10,834,706	\$9,891,539	\$6,848,475	\$5,427,433	\$4,291,871		
		Total Fees Over 25 Years						
		\$0	\$0	\$0	\$0	\$0		

Active:0.00%: Passive:0.00%, Annual Investment Return: 10.0%, Tax Bracket: 40%.

The column with 0% turnover shows what an account with no fees or expenses or (because of the 0% turnover) no taxes would grow to. The effect due to taxes as a result of portfolio turnover is shown in the balance of the columns. Perhaps, the problem will not be apparent at first. But once you get it, you will understand why turnover is such an insidious consequence of active management. If you invest \$1,000,000 at 10% for 5 years in a passively managed account, the value would be \$1,581,440. This assumes turnover is 10% and the tax rate on the turnover is 40%. For a 10 year period, the value increases to \$2,500,953. But what happens if turnover increases to 50%? Over 5 years, there is a 7.1% reduction in the account value to \$1,469,328. This 7.1% is solely due to taxes on turnover. Now look at what happens, if the turnover increases to 100%. There is a 15.4% reduction in account value.

The real impact is not readily seen in the account during this short 5 year time frame, although it is certainly there. If we look out at 25 years, the impact becomes very obvious. Just increasing the turnover from 10% to 50% reduces the return in the portfolio by 30%. This is significant, but manageable. However, if we look at the impact of 100% turnover during a 25 year period, the account will have been reduced by 56%. Think about what this means if your retirement account has to create consistent income. What about the impact of inflation?

If we now add back into the costs, trading fees and the bid/ask spread - you can see how damaging turnover can be to a portfolio.

Critical Factor #4 – Erosion From Taxes

Turnover	10%	25%							
		23/0		50%	75%	100%			
	Passive Management			Active Management					
	Fee:0.8	5%			Fee:1.25%				
Years 5	\$1,501,576	\$1,443,239		\$1,334,153	\$1,262,453	\$1,200,832			
10	\$2,254,731	\$2,082,939		\$1,779,965	\$1,593,788	\$1,441,999			
15	\$3,385,651	\$3,006,178		\$2,374,747	\$2,012,083	\$1,731,599			
20	\$5,083,814	\$4,338,633		\$3,168,276	\$2,540,161	\$2,079,360			
25	\$7,633,735	\$6,261,684		\$4,226,966	\$3,206,834	\$2,496,963			
	Total Fees Over 25 Years								
	\$921,932	\$1,064,477		\$1,403,097	\$1,472,436	\$1,520,397			

Now, instead of losing 56%, the combined effect (assuming 100% turnover and 25 years of growth is 65%. The fees added nearly 10% to the cost. Again, this LOSS is solely the result of turnover, chasing return.

To absorb this cost, you have to believe there is a significant advantage to hiring a money manager to trade your account and that the fees and taxes associated with this that strategy is worth the expense. ... as an investor, you can control turnover by what type of investment philosophy you elect to use ...

Let me be clear. Turnover will

always exist in any managed portfolio. The question you have to ask yourself is "what level of turnover is acceptable?"

It needs to be said again, as an investor, you can control turnover by what type of investment philosophy you elect to use - passive vs. active. It is your choice.

Summary of Critical Factors

Our study of the FOUR critical factors is complete. What have you learned? I hope you are now aware of these major points.

I would like to remind you WHY I wrote this book. In my years of working with clients, I have found most of them have no understanding of these basic investment principles. And if the truth be Do you become a victim of volatility or do you learn the fundamentals needed to master it?

known, neither did I until I attended 1992 seminar on Modern Portfolio Theory.

I am convinced if more people understood these basic principles and truths, they would not have lost 25%-35% of their investment portfolio during the first decade in the 21st Century.

Obviously, there are no guarantees. But if you know your portfolio is going to return whatever the market earns, then the only question you have to answer is "Am I willing to accept the risk associated with investing in the stock market?"

Summary of Critical Factors

If the answer is YES – then are you satisfied with a market return? If the answer is NO, then where would you invest? Every investment has risk. You just have to decide the type of risk you are willing to accept.

In the final analysis, long run performance is directly associated with asset allocation. The correct assessment of your risk tolerance and a disciplined approach to meeting your assessment objectives is the only way to achieve long run success.

Let's review the FOUR CRITICAL FACTORS.

Factor #1:Volatility Is Your Friend

Volatility is a function of market cycles. To suppress volatility requires you to use limiters in your portfolio. These limiters are some form of fixed assets – bonds, treasury bills, mortgages, real estate. Markets go up and markets go down. When the market recovers from a downward cycle, the BOUNCE recovers some or all of the loss. If it exceeds the downturn the BOUNCE will make a profit.

Because markets go up and down, there will always be some volatility. In 2008-9, the market dropped across the board. There was no safe haven. But return analysis shows the inclusion of fixed assets in a diversified portfolio

PRINCIPAL

The deeper the decline, the more BOUNCE will be required to recover the down.

reduced the amount of decline. When the BOUNCE came, these portfolios recovered quickly. Without the use of fixed assets, it took a longer time period for investors to

recover.

Using the right combination of asset class alchemy, you can prosper when the market inevitably rebounds and resumes its upward trend.

Why do markets have to increase in value? It is economically IMPOSSIBLE, in an inflationary economy, for the market to not increase in value. The market reflects two things - the economic growth inherent in the efforts of industry and people. But secondly, it reflects the increasing economic pressure on prices. So long as there is upward price movement, markets will grow in value. It is NOT a smooth growth, but it is an inevitable increase in value. Only Governnmental intervention and criminal activity on a large scale cn impede market growth.

The enemy of growth is deflation. Looking back on the history of the capital markets, there is no evidence deflation has ever been a lasting phenomenon.

Factor #2: Portfolio Construction Should Reflect Your Response To Volatility

Portfolio Construction is an analytical, method driven process. Each asset class has its own unique metrics and expected return. If you invest with a blind eye towards those differences, you will get random results. But if you fine tune the portfolio to reflect the actual performance characteristics of the various classes, you have a far better chance of capturing higher long term performance for a given level of risk, than you are comfortable accepting.

According to the data, an investor can achieve definite performance enhancement by concentrating a disproportionate amount of the portfolio in value and size asset

Summary of Critical Factors

classes. This process is the heart of the Efficient Frontier Curve. The EF is based on historical data. A properly designed portfolio will deliver MORE return with LESS risk than portfolios without any asset class management. According to the data, under-

PRINCIPAL

Build your portfolio with the right balance between International and Domestic stock, using value and size

standing the risk/reward relationship of the submarkets and then combining these classes in the correct proportion, has provided significant benefit to investors over the last 20 years.

Modern Portfolio Theory has it critics. But none of their arguments negate the fact passively managed markets have outperformed actively managed portfolios over long time periods.

Factor #3: Fees & Expenses Can ROB You Of Your Wealth

Fees and Expenses can take up to 25% of your expectedcapital growth over extended periods of time. If the markets go up, these costs reduce your return. But if the market goes down, it erodes your capital.

The KEY determinate is TURNOVER. (Turnover occurs when the investment manager trades stocks.) Turnover increases trading costs and causes the recognition of the spread between the buying and the selling price of each stock in your portfolio. This spread always causes a loss.

There is no analytical evidence we can find that shows high turnover provides any sustainable value for the investor. In fact, the opposite is true. All the evidence points to the fact active managers underperform markets. Add to this, the costs associated with trying to do the impossible (pick winners and losers) and you have a formula for underperformance and unmet expectations.

PRINCIPAL

Select a portfolio with minimum turnover and low asset management fees. These costs increase the loss in your portfolio in down markets.

Investors typically strive to at-

tain a specified objective based on their risk tolerance. The primary goal for most investors was to build a nest egg of capital to provide income in retirement. If you knew today, your investment income would be 25% lower, solely because of the higher fees associated with excessive turnover, what would you do?

Turnover, fees and expenses are controllable. But it requires you to take action and make decisions that may be counter intuitive to anything you have considered before.

Factor #4: Unmanaged Taxes Will Erode A Significant Portion Of Your Portfolio Growth

If you are investing outside of a qualified plan (IRA or 401k), your portfolio could be subject to significant taxes that could be easily avoided. Anyone who has received a 1099 for income on their portfolio which has lost money, knows what I mean.

Having the ability to compound growth, tax deferred in an IRA or 401k plan, is an incredible benefit. The taxes become payable as you take withdrawals from your

Summary of Critical Factors

account. Even so, most people benefit significantly from tax sheltered plans. The problem is the contributions are limited.

For excess dollars, managing the tax impact can enhance your overall portfolio value. Our studies show how detrimental turnover can be to your wealth

PRINCIPAL

When a fund is outside a qualified plan, Taxes are minimized when you build a portfolio that has the lowest turnover

that is NOT sheltered. According to Morningstar, the average turnover for mutual funds is 100% per year. This can reduce the overall value of a portfolio by 20-30%. This is in addition to the any reductions for trading costs and the bid/ask spread. This next chart tell the story.

Taxes are directly related to the holding period. If turnover is 100%, the holding period will almost certainly be less than one year. Turnover subjects all gains to ordinary income tax rates instead of capital gains rates. This difference alone can reduce your portfolio 20%.

In addition, if the turnover is 100%, all of the gains are subject to tax. Contrast this to a portfolio with only 10% turnover. In this case, only 10% of the gains would be subject to tax in any year. The difference would be deferred until recognized and then taxed at capital gains rates.

Summary

There was only one conclusion I could draw when I assembled all of this data. Markets are a far smarter way to invest than trying to identify individual stocks. And clearly, the fees, expenses and taxes associated with



Summary of Critical Factors

actively managed mutual fund portfolios made them far too expensive to consider as an alternative, even if they could deliver on their promises.

The real winner is the distribution system. The money people, the brokerage houses, the traders, the money managers are the real beneficiaries of the system. The

only way to circumvent them and participate in the historic growth of the market is to invest directly into the markets.

It is my hope this book has shown you why I choose to invest in markets, not stocks. Markets are a far smarter way to invest than trying to identify individual stocks

Appendix

Solving The Income Distribution Puzzle

Think of a shopping cart of goods and services. You are in the market and you buy milk, meat, vegetables and sundries. The cart is full and it costs you \$100 when you check out. A month later, you return with the same list and buy exactly the same things. When you check out, the checker tells you the cost is \$110. The SAME cart of goods now costs 10% more than just a month ago. This is inflation. It is an increase in the general price level of goods and services in the economy.

Before we go too far. Understand, inflation is not a bad thing, in and of itself. Without inflation, the economy would be stagnant and there would be minimal to no growth. Inflation is what increases prosperity and adds to the wealth of the nation. However, runaway inflation, hyperinflation is terrible and destroys retirement savings and economies.

Essentially inflation means the value of your money is

Solving The Income Distribution Puzzle

depreciating in relative value because it takes more money to buy things. Therefore a 4% inflation rate means that the price level for a given year has risen 4% from a certain measuring year (currently 1982 is used). The inflation rate is determined by finding the difference between price levels for the current year and previous given year. The answer is then divided by the given year and then multiplied by 100. To measure the price level, economists select an index such as the CPI (Consumer Price Index).

Causes of Inflation

What causes inflation? An economy can experience inflation for several different reasons. First is what is called *demand-pull inflation*. This type of inflation is related to minimum

What Causes Inflation?

- 1. Demand-pull
- 2. Government spending
- 3. Cost-push
- 4. Wage-price spiral
- 5. Monetary growth

supply compared to demand for the products and services. When shortages happen, merchants lose <u>business</u> and have to raise their prices to make up for the lost volume. The net result is the price level rises._

A second cause of inflation is *government spending*. Say the Federal Reserve System prints money and increases the money supply. This is done by the FED to keep the interest rates low. When the FED issues bonds to finance the increase in the money supply, the federal deficit increases. The interest on these bonds accounts for a larger percentage of the annual budget crowding out borrowers who are unable to borrow at the banks. This results in the federal deficit increasing unemployment (because businesses have no access to capital for expansion) and production/output declines, impacting supply which increases demand and prices.

A third cause is called *cost-push* inflation. This has to do with the impact higher wage demands have on business and pricing. It forces businesses (producers, manufacturers and suppliers) to raise prices to cover the increased salaries demanded by labor.

There is a fourth cause referred to as the *wage-price spiral*. Here, no single group is the sole contributing factor. Higher prices force workers to ask for higher wages. This causes producers to raise prices so they can cover the increased costs. Higher prices reduce supply and may result in higher demand. But it could also impede demand because the consumers won't pay the higher prices. The spiral leads to a round robin approach to prices rising, each feeding off of themselves.

A final reason is excessive *monetary growth*. Expansion of the money supply increases the spendable income of consumers. When this happens they compete for goods and services. If there is a shortfall in supply, the sellers will raise prices to compensate for the lost volume. This is similar to what happens if there is excess government spending. The net result is the same – higher prices. The money supply must grow faster than the real GDP to keep inflation from getting out of control.

Effects of Inflation

Inflation causes the purchasing power of the dollar to decline and for the value of the dollar to depreciate in value. This dramatically impacts retirees on fixed incomes. They have no way to increase their income to compensate for the higher prices. Those who are not on fixed incomes are able to combat higher prices by increasing their incomes

(a second job, spouse working, union contract renegotiation, raising prices)

A second destabilizing effect is inflation causes both consumers and investors to change their priorities and spending

Effects Of Inflation

- 1. Decreased Purchasing Power
- 2. Currency Speculation
- 3. Loan Value Depreciation

habits. When inflation occurs, people tend to spend less. Factories lay off workers due to falling orders. Both impact GDP and can send the economy into a recession.

Another destabilizing effect of inflation is caused by speculation. Some people choose to take advantage of the changes in the value of the currency and bet heavily on the possible coming higher price levels. Because some investors make high-risk investments, they divert money from the normal channels and cause some structural unemployment. This increase in the unemployment rate increases government spending and has a negative impact on the emotional confidence in the economy.

A final thought about inflation is the impact it has on the distribution of income. Lenders are generally hurt more than borrowers during long inflationary periods. This is because they made loans at low interest rates and are earning substantially less than what they could earn if they re-loaned it today. Also, the value of the dollar being repaid is worth much less than when they loaned it. This is also true of bondholders. They not only see their income purchasing power decline, but they also lose value because their bonds depreciate as interest rates rise.

Protecting Yourself from Inflation

When the price levels are stagnant, the economy does not grow. When prices increase, the economy will respond in a number ways. Investors will become optimistic their investments will increase in value. Consumers will see the prices rise, but will not be concerned if their incomes are increasing as well. Business will increase prices and try to pay the same or less for raw material and services. In general, if all these stay in some form of equilibrium, the economy will remain healthy and expand.

As an investor trying to protect your capital during retirement, these inflationary factors mean you have to take some element of risk. If all of your money is tied up in annuities, bonds and other fixed income assets, the overall impact will be a reduced standard of living. So you have to invest in assets that will grow.

Distribution Rates

One of the most talked about issues for retirees and planners alike is the percentage distribution one should take from their portfolio. The following table shows the probability of not running out of money at various distribution percentages.

The conclusion is pretty obvious. You need some equity in your portfolio, and if you take more than 4% from your account, it is highly likely your income won't last as long

Doutfolio Withdrowal Success Dates									
Portiolio Withdrawal Success Rates									
Percent of cases in which the portfolio was able to support all									
payouts and not run out of money prematurely									
	Annual	Withdraw	al Rate (Pe	ercent of b	eginning	bortfolio b	alance)		
	4%	5%	6%	7%	8%	9%	10%		
Years of									
Withdrawals	All Equity								
15	100	100	91	79	70	63	55		
20	100	88	75	63	53	43	33		
25	100	87	70	59	46	35	30		
30	95	85	68	59	41	34	34		
Years of									
Withdrawals	/ithdrawals 50% Equity / 50% Fixed								
15	100	100	93	79	64	50	32		
20	100	90	75	55	33	22	10		
25	100	80	57	37	20	7	0		
30	95	76	51	17	5	0	0		
Years of									
Withdrawals	All Fixed								
15	100	100	71	39	21	18	16		
20	90	47	20	14	12	10	2		
25	46	17	15	11	2	0	0		
30	20	17	12	0	0	0	0		

Notes: 1. Withdrawals after the first year are adjusted for inflation.

2. Source: "Retirement Savings: Choosing A Withdrawal Rate That Is Sustainable,"

by Phillip L. Cooley, Carl M. Hubbard, and Daniel T. Walz, AAII Journal, Feburary 1998.

as you do. With life expectancies increasing, there are only a couple of solutions.

First, take more risk. But this chart shows even taking more risk does not solve the problem. Second, you can

work longer and postpone taking income. Third, you can reduce your living expenses by various methods. But in all three cases, the critical assumption is the portfolio will continue to produce a positive return.

What is NOT often factored into this analysis is the impact of inflation. Add inflation to the amount of *real* income you need at retirement and you have an entirely different set of risks to evaluate.

This chart shows how common commodities have increased in cost over the years.



Solving The Income Distribution Puzzle

As a nation, the US has been most fortunate inflation has not been at the 20th century 4%+ rate. However, as a result, the economy has not expanded very much either.



What to do?

The solutions go beyond the scope of this book. However, it is important for every investor/retiree to understand the ravages of inflation and how to protect themselves from it. While we would never suggest we have the ONLY solution, we feel confident we have developed solutions to help manage the risks required to match the challenges of inflation.

