

Advanced Portfolio Management

Strategies for the Affluent

Stuart Chaussée

All rights reserved. No part of this publication may be reproduced, stored in a special system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior permission.

The publication contains the opinions of its author and is designed to provide useful advice in regard to the subject matter covered. However, this publication is offered with the understanding that neither the author nor the publisher is engaged in rendering legal, accounting, investment, tax, estate planning or other professional service. If legal, investment or other advice is required the services of a competent professional should be sought. The author and publisher specifically disclaim any responsibility for liability, loss or risk, personal or otherwise, that is incurred as a consequence, directly or indirectly, of the use and application of any of the contents of this book.

Notwithstanding anything to the contrary set forth herein, Palisade Press (or the author) its officers and employees, affiliates, successors and assigns shall not, directly or indirectly be liable, in any way, to the reader or any other person for any reliance upon the information contained herein, or inaccuracies or errors in or omissions from the book, including but not limited to financial or investment data.

Printed in the United States of America, 2002. Stuart Chaussée, Palisade Press, Inc. All rights reserved.

ISBN: 1-893958-72-8

For Linda,

R. Allison, Daisy and Henry

In loving memory of William B. Slottman

Professor of History

University of California at Berkeley

Table of Contents

Introduction	10
1. Determining your proper allocation - not for beginners only	12
2. 3 Keys to investment success	21
3. Equity investment management - your choices	30
4. Exchange-traded funds - ideal vehicles for structured indexing	45
5. Measuring risk	68
6. Measuring risk and return	82
7. Stock valuations and correlations	86
8. Large-cap structured indexing	99
9. Building your large-cap sector portfolio	126
10. Mid-cap structured indexing	133
11. Small-cap structured indexing	140
12. Sample equity portfolios	152
13. Bonds, unfortunately you've got to own some	163
14. Bond laddering - my preferred approach to owning bonds	174
15. Portfolio rebalancing to control risk	181
16. Tax planning	
17. Portfolio withdrawals - probabilities and survivability	212
18. Creating your income stream in retirement	223
19. Does buying and holding make sense for you?	233
20. Application of the Fed Model - a good alternative to a buy-and-hold strategy	239
21. Stock indexes	254
22. Value vs. growth - the ongoing debate	266
23. Sector investing - passive vs. active	274
24. Creating your own price-weighted sector indexes	280
25. Betting on tech stocks - not a good idea	288

26. Turbocharging your portfolio	294
27. Using correlation coefficients to diversify an existing portfolio	299
28. The low-basis stock dilemma	304
29. Optimizers, can they help you build the "optimal" portfolio?	309
30. The case <i>against</i> investing in foreign stocks, and one reason you may want to	315
31. Annuity blues	322
32. Real estate investment trusts	326
Epilogue	332
Appendix	335
Glossary	397
Bibliography and recommended reading	414
Favorite Web sites	417
About the Author	418

Introduction

We learn geology the morning after the earthquake.

—RALPH WALDO EMERSON, writer

IT'S BEEN ABOUT TWO YEARS since the Nasdaq crashed from its highest reading of 5,048 on March 10, 2000. The ensuing collapse, one of the worst in history for a major stock market index, brought the Nasdaq down 72%. It hit a low on September 21, 2001. During the same period, the broad stock market, as measured by the S&P 500, was off approximately 37% peak-to-valley. The meltdown during the last couple of years has reminded professional and private investors of the importance of diversification and risk control in a portfolio.

When stocks were recently punishing investors, Barclays Global Investors, the largest institutional asset manager in the world, along with several other financial institutions, rolled out in excess of 90 new exchange-traded funds (ETFs). These offerings have changed the way indexers invest forever. The new ETFs, which track indexes that cover various sectors of the market, and both style- (value and growth stocks) and size- (small-, mid-, and large-cap stocks) specific asset classes, arrived at an opportune time. Investors have taken advantage of these investments, which allow participants to control risk and diversification beyond what is available from traditional index funds. ETF assets now account for over \$80 billion. In short, with over a hundred ETFs available to investors, covering every asset class imaginable (real estate and foreign markets included), this is indeed the new age of indexing.

This book is much more than an updated version of my first book entitled *Portfolio Management for the Affluent: Guide to a tax-efficient, low-cost, growth-oriented portfolio* (Palisade Business Press, 2000). I have attempted to show investors (professional and individual) how to take advantage of the new ETF offerings to improve on traditional index-based portfolio management. My preferred approach to equity investing is called structured, index-based portfolio management. Structured indexing involves a more detailed, hands-on approach to indexing than traditional indexing. Rather than simply buying broad-based indexes, the structured approach allows you to define your own asset class and sector weightings, and control risk beyond what was possible with the “old” indexing approach.

This book is written and formatted in a way that allows you to easily skip around and read the chapters that interest you. Please do so.

The title of this book is not meant to intimidate. While I assume you have a certain knowledge of investing, my simple writing style—if I may be so bold as to call it a “style”—should make somewhat difficult topics less daunting for all investors. This book, is, however, geared towards the affluent investor. And, some of the strategies and topics discussed will be irrelevant for investors who are still in the “savings mode” rather than “retirement mode.” Nevertheless, most of the topics covered in this book should help all investors, regardless of your net worth or age. I hope this book will help you better control risk and improve your portfolio’s performance.

1

Determining your proper allocation— not for beginners only

The hallmark of the ‘right’ asset allocation is a portfolio structure that minimizes the likelihood that the client is going to abandon the strategy.

—ROGER GIBSON, writer, financial advisor

Over the past half-century a 60% stock and 40% bond mix (based on S&P 500 stocks and intermediate-term government bonds) returned an average of 10.2% per year, and rarely lost as much as 5% in any single year.

—STAN LUXENBERG, *MUTUAL FUNDS*

If you have money you will need in the next five years, it shouldn’t be in stocks.

—JONATHAN CLEMENTS, *THE WALL STREET JOURNAL*

I can’t find the ideal balance between equity and fixed income for clients, because I can never truly know when they’ll panic.

—ROGER GIBSON, writer, financial advisor

YOUR ANSWERS TO THREE KEY QUESTIONS in this chapter will help you determine which investments you should own (stocks, bonds or cash equivalents), and the percentage of your portfolio that you should allocate to each asset class. This is the first and most important step of your investment plan.

I have listed three questions in this chapter, in order of importance. First, you need to decide how much temporary loss you are willing to accept in order to decide how much money you will allocate in equities. If your answer to this question turns out to be inaccurate, then you can forget about the other two questions. If your overall portfolio declines by a certain percentage, and you weren't expecting it, or you decide, after the fact, that you really can't handle the loss, then you may decide to completely abandon your investment plan—probably at exactly the wrong time. Your investment time horizon (question 2) and your financial objectives (question 3) won't matter much if you abandon your investment plan because of temporary losses, or unexpected volatility in your portfolio. So, you need to know yourself as an investor (your risk profile), and answer these questions as accurately as possible. This section should not be overlooked, regardless of your level of investment experience.

*1) What is your tolerance for risk? How much
“temporary” loss can you handle?*

I use the word “temporary” because I believe stock market losses are temporary. The market has always come back from its losses in the past, so I assume it will do so in the future—it is simply a matter of time. Sure, temporary may mean a long time. There have been periods of ten years or more when stocks have declined or gone sideways. Extended bear markets of more than 3 years are rare, but they've happened before and they'll happen again—we may be in the middle of one right now.

Most investors are risk averse—the hurt they feel from losing money, even temporarily, is greater than the joy they experience from making money. Therefore, most of us should err on the conservative side when allocating our assets. If you cannot handle temporary losses in your overall portfolio of more than 20%, then you really shouldn't have more than 50% of your

Table 1-1

Maximum tolerable loss	Maximum equity exposure
5%	20%
10%	30%
15%	40%
20%	50%
25%	60%
30%	70%
35%	80%
40%	90%
50%	100%

money in equities, at any given time. This may seem too conservative, but in the somewhat recent past, the stock market lost about 45% of its value in two years (1973-1974). If we use this 45% decline as a guide, then given today's prevailing risk-free rate of return of 5% (10-year Treasury note), an investor with a \$2 million portfolio, and a 50-50, stock-bond mix, would have lost about 20% in the '73-74 decline. If the market dropped by the same 45%, this investor would lose \$450,000 on his or her \$1 million equity portfolio, and at the same time, earn approximately \$50,000 (5% on \$1 million annually) on the bond portion of the portfolio. The combined totals would indicate a loss of \$400,000 or 20%. Therefore, as shown in Table 1-1, if this ugly history repeats itself, and you can't withstand a loss of 20% or more in your portfolio, then you should invest *less* than 50% in equities.

2) *What is your investment time horizon?*

To determine your investment time horizon, first ask yourself "Who is this money for, and when will it be needed?" The

answers are not always obvious. For most of us, our money is for us. If you are a couple nearing retirement your primary need is probably to fund your own retirement. You have worked hard for your money, perhaps put your kids through college and graduate school, and now you plan to use your savings to provide you with financial security and income throughout your retirement. If, on the other hand, you are well into retirement, you are probably counting on your money to continue to provide you with a certain lifestyle for the rest of your life. You basically want to make sure you don't run out of money.

I have found that there are other, less-obvious circumstances when you may have quite different plans for your money. If you are wealthy enough to comfortably maintain your lifestyle throughout your lifetime, you may decide that some of your money really isn't for *you* after all. How so? Well, if you know you will never run out of money, you may decide to invest part, or most, of your portfolio, for someone else—perhaps your heirs. For example, if you are an elderly investor with a life expectancy of fifteen years, you may decide to keep enough money in cash equivalents and fixed-income investments (basically assuming no risk) to live comfortably for the rest of your life. And, you may then decide to invest the remainder of your portfolio according to your heirs' investment objectives. Assuming your heirs are a generation behind you in age, they obviously have a much longer time horizon than you. It would make sense, therefore, to consider allocating the investments earmarked for your much younger heirs, in equities. This example shows that although *you* may be ultraconservative, it may still make sense for you to own equities for the portion of your portfolio that you will not need during your lifetime.

Your investment time horizon is important because it will help you determine what types of investments you should own and ultimately what percentage of your assets you should invest in

Table 1-2

Investment time horizon	Maximum equity exposure
0-2 years	0%
3-4 years	25%
5-6 years	50%
7-9 years	75%
10 years +	100%

each of the three major asset classes (stocks, bonds and cash equivalents). As you know, the longer your time horizon, the higher the percentage of equities you should own. Why? Because over the long term, stocks have greatly outperformed bonds and cash equivalents. But, as you also know, in the short term (five years or less) stocks can be volatile and there is significant risk of loss. If your investment time horizon is less than five years (that's when you'll need this money) you'll want only a small percentage of your portfolio in equities, or none at all. You cannot take the chance that your money won't be in your portfolio when you will need it. So, the shorter your time horizon, the less you should invest in the stock market. If you have a longer time horizon, then investing a greater percentage in stocks will probably earn you a better return than bonds or cash. History tells us you will be rewarded for assuming more risk and for being patient. My guidelines for your maximum exposure to equities, given different time horizons, are listed in Table 1-2.

3) What is your financial goal?

The last question you should consider concerns your financial goal. I've placed it last because it belongs last. But, it's still important to understand and answer, and it may help you keep

Table 1-3

Financial goal	Equity allocation
5.0%	0%
6.0%	20%
8.0%	40%
9.0%	60%
11.0%	80%
12.0%	100%

your expectations in check.

I think an appropriate financial objective for most investors is to grow their assets, on average annually, enough to outpace inflation and taxes. This should allow most retirees, for example, to maintain their lifestyle and *not* outlive their portfolios—obviously you must also factor in portfolio withdrawals during retirement. We all know that on average, we are living longer than previous generations, and our assets must therefore last longer. As a result of our improved longevity, we need to factor inflation into our calculations when considering our financial objectives. It is not enough to simply say “I want 8% on my money.” What do you mean by 8%? 8% after taxes and inflation, or what? Many investors do not factor taxes and inflation into their financial objectives and may therefore have unrealistic expectations.

Anyway, if your financial goal is to grow your portfolio after inflation and taxes, you will need to have at least half of your portfolio invested in equities. The guidelines listed in Table 1-3 can give you an idea as to how much equity exposure you must have to obtain a certain rate of return. Obviously the 5% goal in Table 1-3 is based on current risk-free rates of return. You will

need to adjust this percentage to reflect prevailing rates. And remember, these percentages are based on more than 50 years of data, but future returns are obviously unpredictable. Nonetheless, I think these guidelines are appropriate for today's investor.

If you choose a specific average annual percentage return as your financial goal, you need to recognize that it may be unattainable based on your overall allocation. The percentages listed in Table 1-3 should help keep your expectations in check. For example, you may want a 10% average annual return before taxes and inflation, but if you only have 40% of your money in equities, you won't see this kind of return. You must have realistic expectations and you also need to understand that these are only average returns. As I mentioned earlier, equities can perform miserably for a number of years (so can bonds), so your performance will vary greatly from the percentages I've shown. Recognize that although you may have a certain allocation that has historically given investors a certain average annual return, this might not be the case going forward—we don't know what the future holds.

What to expect from your portfolio

In a recent survey from the Gallup Organization and *UBS PaineWebber*, investors offered a prediction of the market's return over the next 10 years. Approximately 40% of the respondents thought stocks would deliver 15% or more annually. Given the fact that during the past two decades stocks have performed incredibly well, this response is not unexpected (many investors don't remember the meager returns of the 1960s and 1970s). Going forward, what I do not expect is a repeat of the past two decades. Of course I have no idea what stocks will return in the future (I make my best guess in the epilogue), but I do think stocks will return *less* than their historical average annual return of approximately 12%. If you are expecting more, you may be sorely

Table 1-4 — **What to expect from your portfolio mix**

Returns of different mixes of stocks and bonds
between January 1945 and December 1997

Portfolio	Compound Return	Worst Return	No. of years with loss greater than...	5%	10%	15%	20%
100% stocks	12.9%	-26.5%	8	4	1	1	1
80% stocks/20% bonds	11.6%	-20.5%	8	2	1	1	1
60% stocks/40% bonds	10.3%	-14.3%	3	1	0	0	0
40% stocks/60% bonds	8.8%	-7.9%	1	0	0	0	0
20% stocks/80% bonds	7.3%	-3.9%	0	0	0	0	0
100% bonds	5.8%	-5.1%	0	0	0	0	0

Note: Stocks = Standard & Poor's 500 Index, Bonds = Ibbotson Intermediate Bond Index

Source: *Ibbotson Associates*

disappointed. If you believe in reversion-to-mean, which states that stock outperformance during the past two decades will probably revert to a mean, or average return, then you'd expect stocks to underperform for some time.

Summary

When reviewing your answers to the questions in this chapter, be sure to err on the conservative side to help determine your appropriate asset allocation. For example, you may consider yourself an aggressive investor, and you are willing to assume the possibility of a 30% loss or more in your portfolio, but if your time horizon is only two years, then you shouldn't own any stocks at all. As a rule of thumb, if your investment time horizon is less than three years, don't own stocks. And, if you can't tolerate any loss (no matter how temporary), then you shouldn't own stocks, period. For the ultraconservative investor, you should stick with short-term bonds and cash. This may seem like a poor investment plan, but if you have a low tolerance for risk and a short time horizon, then it is an appropriate plan for you.

2

3 keys to investment success

Assets with low correlation to each other tend to have contrasting performance from year to year. Analogously, the pistons of an engine do not all move in the same direction at the same time, which is highly beneficial to the motorist. Because the pistons fire in sequence, the engine produces continuous power rather than a series of violent surges and stalls—the automotive equivalent of high volatility. In like manner, the contrasting performance of different assets from year to year can be beneficial to a portfolio.

—CRAIG L. ISRAELSEN, *FINANCIAL PLANNING*

Lower risk and higher performance are reasons to rebalance an investment portfolio.

—*THE WALL STREET JOURNAL*

I BELIEVE THE KEYS TO SUCCESSFUL INVESTING can be identified by a few simple concepts. In short, investors should use proper diversification with uncorrelated investments and a structured, index-based approach to build an optimal portfolio. Then, use periodic rebalancing to control risk. I'll discuss each component in brief in this chapter, and I'll get into more details in later chapters.

Proper diversification with uncorrelated investments

Stock-market diversification gives you the best chance to get long-term decent returns from your overall portfolio. We've all heard the advice "Don't put all your eggs in the same basket," but it's relatively easy to ignore this advice if you don't have a very disciplined, unemotional investment plan in place. The market's recent past has hopefully taught many investors how much it can hurt if you own *only* "one basket of eggs." As technology, telecommunication services and Internet stocks got hammered in 2000 and 2001, many other investments performed well. Small- and mid-cap stocks have come back in favor. Value stocks have also performed incredibly well. Furthermore, bonds and cash have given investors a safety cushion to "soften the blow" during this bear market. This proves how important it is to maintain a diversified portfolio.

Diversification is the most important factor in controlling risk and ultimately ensures steady, decent long-run returns. The concept of diversification is not new. Harry Markowitz, a pioneer of Modern Portfolio Theory (MPT) and a Nobel laureate, took the concept of diversification and made it the focus of good investing. He recognized that if you could find different asset classes that moved in an uncorrelated fashion (one rises when the other falls), you could provide yourself with some protection in volatile markets, and therefore reduce risk. What Markowitz discovered was that you could structure a portfolio of stocks (or asset classes) in such a way that there would be less risk in the portfolio as a whole, than in any of the individual pieces.

Markowitz's analysis looked at correlation coefficients to show how asset classes relate to one another. Asset classes that move together had a larger positive covariance number, while those with dissimilar price movements had negative covariance. The analysis can be heavy, but the concept is simple. Burton G.

Malkiel, in his national bestseller entitled, *A Random Walk Down Wall Street*, provides a simple example of how important correlation coefficients are when investing, so that all investors can easily appreciate the concept. He gives us the example of an island economy with only two businesses. One business is a large resort with beaches, golf courses and sporting activities. The other business is a manufacturer of umbrellas. Obviously in Malkiel's island economy, weather is the critical factor—it will affect both businesses. When the sun shines the large resort business does very well. During the rainy season the large resort, with its beaches and golf courses performs poorly, while at the same time, the umbrella manufacturer thrives.

Consider that there is an equal amount of sunny and rainy days. If, as an investor, you bought stock in the umbrella manufacturer (according to Malkiel's example), you would find that half the time you earned a return of 50% on your money and half the time you lost 25%. However, your expected return was 12.5%, on average. Malkiel asks us to consider that the investment in the resort yields the same average returns as the umbrella manufacturing business. Now, as an investor, instead of buying stock in only one of the island's businesses, you buy equal amounts of each. What happens? During the sunny season your investment in the resort produces a 50% return, but you lose 25% in the umbrella business. However, because you were diversified, you still earned a 12.5% return. During the rainy season the same thing happens. The umbrella manufacturing business returns 50% but you lose 25% on the resort. Still, your diversified portfolio helped smooth out your returns and, in this example, still provided a positive return.

The key to successful investing in Malkiel's example was not only diversification, but *proper* diversification, with uncorrelated investments. This example shows how uncorrelated investments lessen risk and reduce volatility. The two different island

economies had what is called negative covariance. In other words, their returns were varied. When one business made money, the other lost. Again, the beauty of owning uncorrelated investments is that it actually reduces risk. When one asset class performs well and another performs poorly (you own both), you eliminate much (not all) of the risk of investing.

Of course, Malkiel goes on to show us that it is not always so easy. As in the case of the island economy with two businesses—an umbrella manufacturing company and a resort—there are times when both businesses will lose money, regardless of whether the sun shines. If there is a recession and people are unemployed, as Malkiel points out, they may not take vacations and they may not buy umbrellas either. You cannot totally eliminate the risk of loss by owning uncorrelated investments.

I think it is important to look at the correlation coefficients of the different investments you are considering owning, to help determine the best way to structure your portfolio to reduce risk. In Table 2-1 you can see the correlation coefficients for various asset classes. A correlation coefficient of 1.0 indicates the asset classes are perfectly correlated—the returns are consistent with one another. A perfect negatively correlated asset class would have a correlation coefficient of -1.0. The returns would be uncorrelated. It is basically impossible to find two perfectly uncorrelated investments—even the negative correlation coefficients are pretty close to 0.

It obviously makes sense to mix bonds and stocks in a portfolio. Bonds are uncorrelated to most asset classes. Choosing stock asset classes that show a low correlation is trickier and requires more work, but not a lot. You can see in Table 2-1 the correlation coefficients for various asset classes. I will give you details on how to structure your portfolio using correlation coefficients in Chapter 27.

Table 2-1 — Asset class correlation coefficients (12/79-2/02)

Description	A	B	C	D	E	F	G	H	I	J	K
A) 90-Day Treasury Bills	-	-.09	.43	.30	.06	.08	.04	-.08	.09	-.02	.15
B) Capital Intl. EAFE	-.09	-	.16	.25	.47	.30	.53	.57	.15	.51	.36
C) Corp. Bonds High Quality	.30	.16	-	.44	.28	.41	.23	.43	.91	.24	.58
D) REITs/Equity	.06	.25	.44	-	.41	.87	.16	.64	.39	.44	.84
E) Russell 2000 Growth Index	.09	.47	.28	.41	-	.67	.77	.67	.20	.96	.62
F) Russell 2000 Value Index	.04	.30	.41	.87	.67	-	.35	.78	.38	.63	.92
G) S&P/Barra Growth Index	-.08	.53	.23	.16	.76	.35	-	.70	.20	.78	.39
H) S&P/Barra Value Index	-.07	.57	.43	.64	.67	.78	.70	-	.42	.67	.80
I) Salomon Treasury 10+ Yrs.	.09	.15	.91	.39	.20	.38	.20	.42	-	.20	.55
J) Wilshire Mid-Cap Growth	-.02	.51	.24	.44	.96	.63	.78	.67	.20	-	.61
K) Wilshire Mid-Cap Value	.15	.36	.58	.84	.62	.92	.39	.80	.55	.61	-

Structured, index-based portfolio management

The foundation of Modern Portfolio Theory states that markets are efficient. The Efficient Market Theory (EMT) says that current market prices for all securities fairly reflect all available information and knowledge. Believers in EMT think that since all available information in the marketplace is immediately priced into securities, it is therefore impossible for any one investment manager or investor to take advantage of any inconsistencies in pricing. In other words, active managers, those who try to search out and buy securities in an attempt to beat the market, actually can add little, or no value. If they happen to beat the market it is either done by luck or illegally (insider trading). Larry Swedroe, in his book entitled *What Wall Street Doesn't Want You To Know*, gave an excellent analogy about the efficiency of markets—

Imagine an art auction where you are the only expert among a group of amateurs. In that circumstance, it might be possible to find a bargain. On the other hand, if you are one of a group of mostly experts, it is far less likely that you will find bargain prices. The same is true of stocks. The competition among all the professional active managers insures that the market price is highly likely to be the correct price.

If you believe in efficient markets you are probably an indexer or passive manager. You believe that it makes more sense to simply buy asset classes and sector indexes rather than actively trade a portfolio of individual securities, in an attempt to beat the market. You prefer to accept the return of the asset class you own and you therefore eliminate the high probability of underperforming that asset class over the long run. I believe that most active managers will do worse than their benchmarks

(indexes) over the long run—especially after trading costs, management fees and taxes are factored into the equation.

Traditional indexers use broad-based indexes to construct a portfolio. The indexes are typically bought in whole pieces (e.g., S&P 500, Russell 2000, MSCI EAFE). While I believe this approach is more attractive than active management, I also believe there is a better alternative.

My preferred approach to investing, and one of the keys to building a successful portfolio, is called structured, index-based portfolio management. Structured and traditional indexers are similar in that they believe it is folly to choose individual securities in an attempt to outdo the market—they believe markets are efficient. But, this is where the similarities end. The structured approach involves understanding the risks inherent in the markets as a whole *and* in different asset classes and sectors. *This approach allows room for an active component.* In my practice, the active component involves sector and asset class valuations, and to some degree, forecasting. By combining an active component with an awareness of the various risks in equity investing (market, style and size), we can improve on “traditional” indexing. Structured indexing requires you to buy concentrated, index-based investments (value, growth and sector indexes) *separately* in your portfolio. In this way, you maintain better control of both size and style risks in your portfolio. Last, structured indexing also gives you much better control of taxes than traditional indexing. I’ll discuss the details of how to structure your index-based portfolio in Chapters 8-12.

Periodic Rebalancing

If proper diversification of uncorrelated investments within a structured index-based portfolio gives you the best chance for decent long-term returns, then periodic rebalancing is your best

bet for ongoing risk control. Rebalancing involves periodically restoring your portfolio to its original target allocations. It is usually performed on a quarterly or an annual basis. Or, if the markets are volatile, you may rebalance at any given time during the year, whenever it makes sense.

Risk control is the main reason to rebalance. Here's how it works. Rebalancing forces you to periodically take money from an asset class or sector that has performed well, and reallocate your money to your other investments that have performed poorly (or *less* well). By reducing your exposure to certain asset classes and sectors in your portfolio, you control risk. With rebalancing, you keep your portfolio's risks aligned with your own tolerance for risk. If you don't rebalance, and you let the markets determine your allocation for you, you basically lose control.

The other reason to rebalance is to hopefully improve your performance. Since rebalancing forces you to take money from your winners and invest more in your laggards, you're basically buying low and selling high. This type of rebalancing makes sense if you believe in reversion-to-mean. Again, reversion-to-mean states that markets (asset classes and sectors) return to some sort of mean return over time. Investments that have lagged recently will eventually revert to their mean and outperform your present winners. Likewise, investments that have outperformed will eventually revert too, and underperform, to get back to their mean.

Reversion-to-mean applies to stocks and bonds, value versus growth, large stocks versus small stocks, etc. This theory explains the potential performance advantage for investors who periodically rebalance. Reversion-to-mean proponents consider it intelligent to periodically take money from better performing investments, and dump the proceeds in the "temporary" losers. Your losers will eventually revert and perform better—after

you've bought more—while your winners will soon give back some of their strong gains, since they too, will revert to a mean return.

5/25 Rule

Rebalancing should be performed using the 5/25 Rule. The 5/25 Rule suggests rebalancing only when asset classes move substantially away from your target allocations—you don't want to reallocate too often since transaction fees and taxes may have to be paid. I believe it makes sense to rebalance when an asset class or sector is weighted greater than, or less than, its target allocation by an absolute 5% move from the original allocation. For example, if your initial target allocation for the consumer staples sector was 10% of your portfolio, you would rebalance if its weighting was an absolute 5% or more below, or above, your target (0% or 10% of your portfolio). By applying the 25% rule, you would also rebalance if the consumer staples sector, in this example, was 2.5% below, or above, your target (25% of your original target of 10%). For example, if this sector now represents 12.5% of your portfolio (or 7.5%, if its weighting declined) it would now be time to consider reallocating to bring the sector back to your original target allocation. You should rebalance if either the 5% or the 25% rule is triggered.

By periodically rebalancing your structured, index-based portfolio of uncorrelated investments, you will control risk and maintain proper diversification at all times.

3

Equity investment management—
your choices

*A mutual fund manager looks good by outperforming
his or her relevant ‘benchmark’—for instance, the S&P 500.*

*To compete, a contestant must run with the market
wherever it goes, even over a cliff.*

—JAMES GRANT, writer, editor

*You only need to make one big score in
finance to be a hero forever.*

—MERTON MILLER, Nobel laureate

*If the goal of indexing is to seek high returns with risks you
can manage in investments you understand, indexing works.*

—DAVID M. BLITZER, writer, chairman S&P 500 Index Committee

Once invincible S&P Funds sink to D rating.

—*Investor’s Business Daily* (AUGUST 6, 2001)

INVESTMENT MANAGERS GENERALLY FALL into two separate and distinct categories. These categories are usually referred to as active and passive (index-based). Managers typically have a strong preference, which usually comes from their beliefs about how capital markets behave. A third category

utilizes a structured, index-based approach to investing, which seeks to add value by combining the advantages of the two traditional management approaches. In the recent past, this new approach would have been considered unacceptable—you were either passive or active, not a combination of both. Now, professionals and private investors can utilize a combined approach that I believe is superior to both of the traditional management philosophies.

Active management

Active management is generally considered the most acceptable way to manage a portfolio. The portfolio manager seeks to identify individual securities that will hopefully produce extraordinary gains for investors and outperform the market. Again, active managers, *unlike* passive, index managers, believe that stock markets contain inefficiencies in pricing. They believe these inefficiencies can be exploited by pouring millions of dollars into research and forecasting to carefully seek and find companies that will produce exceptional rates of returns—hopefully justifying the millions they spend on research and forecasting. Unfortunately for investors, the efforts of active managers generally fall short. There are two main reasons for this. 1) The extra expenses these managers incur on research are usually passed on to shareholders in the form of management fees. These high management fees provide passive, index managers with an immediate advantage. The active manager knows that each year he or she will have to overcome these fees with superior performance to even match the indexer. 2) Active managers typically have high turnover in their portfolios (they change their minds a lot about which securities they like and dislike). This portfolio reshuffling leads to extra transaction costs and often to tax inefficiencies (excessive taxable capital gains distributions). The net effect of higher management fees, turnover, and transaction costs leads to inferior relative performance.

Passive management (indexing)

Index-based managers do not attempt to forecast the markets—they do not try to time the markets or predict the economy. They make no effort whatsoever to uncover hidden value in individual stocks in an attempt to beat the active managers. Instead, traditional passive managers create portfolios that track broad-based U.S. and international stock indexes. This broadly diversified, index-based approach to investing was, until recently, hard to fault—I will soon do my best to point out its shortcomings.

Indexing was first discussed in earnest in the mid-1970s when leading academicians like Nobel laureate Paul Samuelson began debating the advantages of passive management versus active management. Samuelson and others argued that after trading and management fees, actively managed funds and portfolios had very little chance of beating the market.

There has never been a study that has proven that active managers, as a whole, can add value to a portfolio over the long haul. On the other hand, there have been many studies that show that active managers do *not* add value. Their efforts to outdo efficient markets have failed, year after year. Of course there will always be a handful of investment managers who outperform the market in any given year (this is probably luck), but it is likely that their outperformance will be short-lived. This year's winners generally turn out to be next year's losers. But, the fact that the media continually tries to convince us that great managers are out there (we just have to look hard) makes it difficult for individual investors to give up on active managers.

I read an excellent interview with Merton Miller by author Peter Tanous in his book entitled *Investment Gurus*. Miller earned a Nobel Prize in 1990 for his work on the cost of capital in

economics. He was asked by Tanous how he accounts for the fact that some active managers can outperform the market for extended periods. Miller replied that until proven otherwise, he considers it luck, and “the burden of proof is on the active managers.” Miller tells the story of a famous bond trader at the Board of Trade who had made vast sums of money for years in the markets. This trader thought he had a “foolproof” trading system for making money and he wanted to see if he truly had a winning system, or if it was just dumb luck. He handpicked a group of students and decided to teach them his system. He felt that if he could teach his system to a third person, and could make money, then this would be the proof that his system worked and it wasn’t simply luck. He set up a school, taught his students and within a short period of managing money on their own, his former students were out of business. And, the teacher was out of business too. So, Miller asks—“Maybe Peter Lynch can do it, but can he teach it to another person? If he could, we’d have some evidence that it’s more than just luck.”

I would like to share another point from this interview with Merton Miller, about certain active managers who have outperformed the markets, but only for a short period of time. Miller says that we need a lot of data (many years) to know whether or not this is skill. He cited an example of a 15-handicap golfer who breaks par, which can happen, but we all know it’s luck. “To be considered a real champ, you have to break par in hundreds of matches.” Miller’s point is that you cannot tell luck from skill unless you have a lot of data points (“large samples”) and “we just don’t have them in stock picking.”

Mark Hebner of *Index Fund Advisors, Inc.* has developed a 12-step program entitled “Active Investors Anonymous” to help investors understand that they can earn better returns by indexing, not by hiring active managers. I think converting from active management to indexing (trusting the markets instead of a

portfolio manager) has got to be a lot easier than other 12-step programs (i.e., drug or alcohol abuse). The typical patient is not an addict or a dependent—the patient simply doesn’t know that a simple cure exists for his ailment (diagnosed as underperformance on a pretax and after-tax basis).

The investing public has entrusted more than 90% of its assets to active managers. On the other hand, about half of the institutional and pension fund money (“smart money”) out there is passively managed in index funds. Unfortunately, the public hasn’t yet caught on. The reason is obvious: education. No one has a vested interest in educating the public about the advantages of indexing (perhaps with the exception of the Vanguard Group). The big advertising dollars are in the hands of Merrill Lynch, Goldman Sachs et al., and they want you to actively manage your money in their funds or with their advisors—that way they make more money. The more you move your money around (actively) the more *they* make, not you. So, Wall Street and the media would probably be happy to keep indexing a secret. After all, who would watch CNBC if everyone indexed?

The investing public has only begun to dip its toes in index-based investments—6% to 8% of the public’s money is indexed. However, those who have made the move to indexing are getting the following advantages—

1) *Performance—the vast majority of active managers fail to beat the market.* This is not opinion; it is fact. Studies show that regardless of the asset class chosen or the direction of the stock market, the majority of active managers will fare worse than the market itself. The active managers like to argue that during difficult times they tend to outperform the markets—they can be nimble and buy or sell quickly and hold cash during market drawdowns. Well, it is a nice thought, but it isn’t true. To prove my point, I show in Table 3-1 how actively managed funds have

Table 3-1

Funds versus the market (Q1 2001)

Category	Index	Funds beating index
Growth	S&P 500	587 out of 1,670 funds (35.1%)
Growth & Income	S&P 500	528 out of 713 funds (74.0%)
Mid Cap	S&P 400	114 out of 351 funds (32.4%)
Small Cap	S&P 600	305 out of 777 funds (39.2%)
International	MSCI EAFE	471 out of 956 funds (49.2%)
Corp. Invest. Grade	Lehman Brothers	25 out of 90 funds (27.7%)

Funds versus the market (Q1 & Q2 2001)

Category	Index	Funds beating index
Growth	S&P 500	607 out of 1,742 funds (34.8%)
Growth & Income	S&P 500	488 out of 731 funds (66.7%)
Mid Cap	S&P 400	84 out of 367 funds (22.8%)
Small Cap	S&P 600	320 out of 789 funds (40.5%)
International	MSCI EAFE	563 out of 985 funds (57.1%)
Corp. Invest. Grade	Lehman Brothers	35 out of 87 funds (40.2%)

Source: Wiesenberger

performed versus their respective benchmarks, during the start of the present bear market.

What is most depressing lately for investors is that active management is supposed to be shining right now, but it's not. Active managers claim that during bull markets it is pretty simple to just buy and hold an index and beat the competition. But, during bear markets the active managers believe they can truly earn their keep. Unfortunately, they're wrong. The facts show that active managers rarely add value, regardless of the direction of the markets.

The longer term looks even worse for actively managed accounts. According to an article by Ken Garner, entitled *Science*

Table 3-2

Fund	Growth of \$10,000*	Assets \$ (bil.)
Inv. Co. America A	\$297,952	\$57.0
Vanguard 500 Index	\$248,243	\$90.6
Lord Abbett Affil. A	\$246,928	\$10.5
Fidelity Puritan	\$231,563	\$21.0
Vanguard Wellington	\$200,900	\$23.9
MFS Mass Invest. Trust A	\$194,057	\$6.9
T. Rowe Price Growth	\$177,506	\$5.5
AXP Stock Fund A	\$156,871	\$2.7
Alliance Fund A	\$150,459	\$0.8
Dreyfus Fund	\$143,209	\$2.1
AXP Mutual A	\$109,331	\$1.9

Source: *Vanguard Group*

*12/31/'76—6/30/'01

vs. *Art in the Investment Arena*, actively managed accounts have had a tough time beating index funds for many years. “During a recent 14-year period, the average equity individual investor earned a respectable 148% return, but two top-performing index funds earned more than four times that much. The Standard & Poor’s 500 Index earned 840% and the Dimensional Fund Advisors, Inc. Equity Balanced Portfolio, earned an incredible 924% over the same period.”

Vanguard’s S&P 500 fund, the largest of all index funds, celebrated its 25th anniversary in 2001, and *Barron’s* showed its performance versus the largest funds in existence from its founding (Table 3-2). Since Vanguard’s 500 Index Fund has been around for more than two decades, and has been through several bear and bull markets, it’s obvious its performance has been brilliant. Its performance aside, I do have some issues with investing in an S&P 500 fund and I’ll go into details later in this

chapter. Still, it has been hard to fault the long-term performance record of the S&P 500.

2) *Costs—the average equity fund charges approximately 1.45% annually to manage your money.* On top of that, transaction costs eat up about .5% annually. This nearly 2% handicap makes it very difficult for active managers to outperform over the long haul. They basically begin each year at -2% versus their benchmarks.

Indexing is inexpensive. There are now hundreds of index-based investments in the marketplace with annual fees ranging from about .09% to .60%. This represents a huge savings over a lifetime of investing. The cost advantage is clear—indexing is about the least expensive way to participate in the stock market, and lower fees help the bottom line.

3) *Tax efficiency.* Being a passive investor through index-based investments does not mean there is no trading and no movement within the portfolio. This is certainly not the case. But, by buying and holding index-based baskets of stocks, you are likely to have fewer realized capital gains distributions than actively managed funds. Active managers will typically turn over a portfolio to the tune of 80% each year. Imagine that, the average mutual fund manager trades 80% of his or her fund's securities each year. This hyperactive trading can lead to hefty distributions of capital gains—usually an unpleasant tax gift in December—since fund managers must pass on their realized gains to shareholders each year. If the manager is unable to offset his realized gains with losses, you will be hit, regardless of whether or not you actually sold shares during the year. With indexing these unfriendly distributions are typically not a problem. You simply buy and hold an asset class or sector and, unlike actively managed funds, the underlying companies are not traded. Sure, the companies that make up the indexes will change, and therefore

some of the underlying components of your index funds must also be added or deleted. But, in general, there is very little turnover within an index fund. The result is a very tax-efficient portfolio and better after-tax returns.

John Bogle, the chairman of the Vanguard Group, published a study that shows that the average equity mutual fund loses approximately 2.7% annually in performance, due to tax inefficiency. Over the long haul, that adds up to a lot of money. His study concluded that after tax inefficiencies *and* expenses, the average equity mutual fund, from 1983-1998, cost investors approximately 4.6% annually, in lost performance.

4) *No manager risk.* Manager risk refers to the risk that an active manager will make management mistakes (buy or sell at the wrong time) and cost you money. With active management you put your trust in a manager, not the market, since your manager may be out of the market at any given time. With passive investing or indexing, you put your faith in the stock market itself, not in a manager's abilities to pick stocks or time the market. With indexing you aren't really trusting an individual, since there is no manager (in the traditional sense of the word) for index-based investments. In essence, you are removing the human element from the equation and putting your trust in the market itself—you don't have to worry about someone messing up and mismanaging your portfolio.

I believe indexing is the preferred investment strategy for skeptics and risk-averse investors. When I use the term "skeptic," I am referring to someone who doubts the skills of a money manager or advisor. Can you really trust a money manager? Does a 5- or 10-year track record really mean anything, since past performance doesn't predict future performance? I don't like the added risk of having to trust someone who thinks he or she is brilliant and can outdo the market. I don't believe managers add

value over the long run, and I therefore prefer to trust the market itself. The risk-averse investor would also be well-advised to index and remove manager risk from the investment process. Trusting the market is one thing, trusting a money manager is quite another. If you can remove one of these risks—the manager, of course—you’re effectively reducing your overall risk. Again, for me it’s a lot easier to trust the market than a money manager. Eliminate manager risk.

Indexing, the “old” way, what went wrong?

Up until a few years ago, indexing was pretty darn simple; you simply bought the S&P 500, probably via Vanguard’s S&P 500 Index Fund. If you were really cutting-edge, you may have bought a mid- or small-cap index fund. Not too many people did though, since the S&P 500 was doing just fine. Why fix something that isn’t broken? Well, this simple approach to indexing showed some serious flaws beginning in early 2000.

In March of 2000 the technology sector accounted for approximately 35% of the S&P 500 index. Actually, if you included a few tech-related companies that were not considered part of the tech sector, and the telecommunication services sector, tech-related companies accounted for over 40% of the index. While there are 10 or 11 sectors in the S&P 500 (depending on which firm is classifying the sectors), you actually had huge exposure to *only* one of the sectors in 2000-2001. How did this happen? Well, I don’t need to remind you of the bubble, but I will. The investing public and institutional investors became enamored with technology-related stocks and pushed their valuations and capitalizations to extremes. As a result, the 94 or so technology companies in the sector went from a 16% weighting in the S&P in 1998, to over 35% in March 2000. What if you were uncomfortable with that weighting but you owned an S&P 500 Index Fund? What if it happens again?

Table 3-3

Technology sector weighting in the S&P 500
Still overweight?

Year	% weighting*
1968	7
1980	10
1986	9
1990	7
1993	10
1994	9
1995	8
1996	12
1997	12
1998	16
1999	24
2000	21
2001	19
2002	15

*Hit peak of 35% in March 2000.

A few years ago if you had asked me what I thought of the S&P 500 as an investment, I would have raved. I would have spoken about its great performance versus its competition (actively managed mutual funds) and I would have made a case that the S&P 500 was a great “no-brainer” investment. “Buy it and forget about it.” Well, in 2000-2001 I changed my mind. When a sector within a broad-market index comprises 35% or more of the entire index I become uncomfortable. I simply couldn’t believe that one sector could comprise such a large percentage of an index with so many sectors, and eventually lose half its value in one year. To me this was simply unacceptable and I began searching for a better way to index.

In 1998 the American Stock Exchange began trading Select Sector SPDR exchange-traded index funds that *separately* account

Table 3-4

S&P 500 sector weightings, now and then

S&P 500	% Weight in June 2002	% Weight in March 2000
Financials	19	13
Technology	15	33
Health Care	14	9
Consumer Cyclicals	13	8
Industrials	11	8
Consumer Staples	10	8
Energy	7	5
Communication Services	4	8
Utilities	3	2
Basic Materials	3	3
Transportation	1	1

Source: First Call

for every sector in the S&P 500 index. The Sector SPDRs were launched with little fanfare, but the market action of 2000-2001 led professionals, including me, to focus more attention on the individual components of this broad-based index. I will write about this at length in a moment, but my point is that for the first time, thanks to the new index-based sector ETFs, you were able to control risk and index large-cap stocks without having to own them in a broad-based investment like the S&P 500. By dividing up the index by sector and creating your own large-cap index, you no longer had to accept a weighting of 35% in the technology sector if you didn't want to. You could basically create your own index, based on your own risk profile and investment objectives. Obviously I no longer recommend owning the entire market in one investment, like an S&P 500 fund. Not being able to control the overweighting of technology stocks in the index taught me (and hopefully others) a lesson about traditional indexing. Without the

introduction of the Select Sector SPDRs, I'd still be searching for a better way to index. Now, I'm able to better control risk and diversification by owning the individual sectors separately.

I want to point out one other disturbing fact about the S&P 500, before introducing you more intimately to my preferred, structured approach to indexing. During the 1990s, large-cap pharmaceutical and technology stocks enjoyed a huge runup—especially technology stocks. Because of the way the S&P 500 is calculated (cap-weighted index) the better performing stocks in the index took on a heavier weighting within the index. So, as tech and drug stocks took off in the 1990s, their performance greatly influenced the returns of the S&P 500. As a result of the heavy weightings in technology and health care stocks, you can see in Table 3-5, the S&P 500 basically became a growth index, not a diversified, broad-based index. Table 3-5 shows how highly correlated the S&P 500 (and broad-based, small- and mid-cap indexes) became to growth stocks, as a whole. Look at the correlation coefficients of the major stock indexes with growth stocks over the past 3 years. It's frightening what happened. You owned the S&P 500, but you basically only had growth stocks in your portfolio. The same thing happened to broad-based small- and mid-cap indexes.

My point is clear, simply owning broad-based indexes gives you inadequate diversification and undue risk. It's a flawed approach.

Structured, index-based portfolio management

As I briefly mentioned in Chapter 2, structured index-based portfolio management is one of the keys to successful investing. It combines active components (forecasting, valuation measurements and rebalancing) to relatively passive investments, to give you better control of risk. The beauty of the structured approach is that

Table 3-5

Growth versus value—correlation to indexes

(Data as of November 30, 2000)

Index	Growth Correlation (3 years)	Value Correlation (3 years)
S&P 500 (large)	.91	.82
S&P 400 (mid)	.80	.72
Russell 2000 (small)	.96	.64
Wilshire 4500	.96	.55

Index	Growth Correlation (10 years)	Value Correlation (10 years)
S&P 500 (large)	.94	.86
S&P 400 (mid)	.85	.82
Russell 2000 (small)	.95	.76
Wilshire 4500	.96	.67

Source: *Financial Planning*

it allows each investor, individually, to create an index-based portfolio that conforms to his or her own tolerance for risk. Remember, with traditional indexing you simply buy broad-based indexes and accept whatever sector or style (value or growth) allocations are in the index. You have no control and no say in the matter. You are basically at the mercy of the investing public, the computer software programs or an index's committee, since it ultimately determines how the sectors are weighted within the indexes.

The structured approach allows *you* to weight your portfolio, not only toward sectors that fit your risk profile, but also toward a certain style of investing. As I will show later, value and growth investing both contain different risks and, with the structured

approach, you can choose to weight your portfolio according to your style preference. By buying index-based pieces of the market separately you can control your weightings not only in large-, mid- and small-cap stocks, but also in the growth and value components.

The structured approach does not seek to match the performance of any particular index (i.e., S&P 500, Russell 2000). It does not care if the technology sector accounts for 35% of the S&P 500. It does not care if most of the Russell 2000 comprises growth companies. These are not benchmarks for structured portfolios. By building your own index-based portfolio, you create your own benchmark, which factors in your personal preferences and risk tolerance. Most importantly, structured indexing lets you, the individual, decide how much risk *and* what type of risk you are willing to accept in your portfolio. If you're willing to do the work and assume a more active role, structured indexing will take you well beyond the limits of traditional indexing.

4

Exchange-traded funds — ideal vehicles for structured indexing

One change leaves the way open for the introduction of others.

—NICCOLO MACHIAVELLI, Italian statesman, writer

There's a much wider range of ETFs than there are open-end index funds. There are a lot more ways to slice up the market if you want to, (such as) industry or sector ETFs.

—SCOTT COOLEY, editor, *Morningstar*

EXCHANGE-TRADED FUNDS (ETFs) ARE very similar to traditional, passively managed index funds, which allow investors to buy or sell a portfolio of securities in a single transaction. And, like typical mutual funds, ETFs have clearly defined investment objectives such as owning mid-cap growth stocks, large-cap value stocks or certain sectors of the market. Since all ETFs are index-based, they allow you to directly add style-, and size-specific exposure to your portfolio. In other words, you can allocate your portfolio to an index of purely small-cap value stocks, large-cap growth stocks, certain sectors, or, even international markets.

There is no style or size drift, so you can be assured you're getting the appropriate allocation in the style or size (small-, mid- or large-cap stocks) category that you choose.

How ETFs work

Nathan Most, the principal developer of the original SPDR exchange-traded fund at the AMEX, came up with the idea of creating a warehouse receipt-based product to replicate a basket of stocks. Most's background is in commodities, and the warehouse-receipt concept essentially comes from the commodity markets. The idea was for institutional investors to deposit a basket of stocks, replicating an index, in trust—the investor would then receive a receipt for the deposit. This portfolio of stocks is then traded “in-kind” for an ETF that serves as a proxy for the portfolio of stocks. The ETF is locked away with the Depository Trust Clearing Corporation, which is regulated by the SEC. (Its job is to ensure efficient markets by clearing U.S. securities trades.) This exchange of a portfolio of stocks for the ETF, “in-kind,” allows ETFs to sidestep the expensive open-market costs of buying and selling stocks like typical mutual funds.

Once the ETF has been created it is freely traded on an exchange (e.g., American Stock Exchange), just like an individual stock. Any investor who wishes to buy or sell the ETF shares can do so, just as if they were individual stocks. There is a bid and ask price, 3-day settlement, etc. In addition, investors, if they wish, can use the same strategies with ETFs that are generally associated with individual stocks—limit orders, stop orders, margin buying, short selling, etc.

ETF and mutual fund redemption processes

Mutual fund process—

- 1) Investor transfers cash to a mutual fund.

- 2) The fund manager buys securities with the cash received.
- 3) The investor instructs the mutual fund company to redeem his or her shares.
- 4) The fund manager sells stocks to “cash out” the investor.

ETF process —

- 1) An institutional investor places an entire portfolio of stocks in trust.
- 2) An ETF share is created and exchanged for the portfolio of stocks through a custodian bank (bartered exchange). The portfolio of stocks is delivered to the custodian and the custodian then delivers the ETF shares to the institutional investor.
- 3) The ETF shares are sold on the open market and traded freely (typically on the AMEX).
- 4) Eventually the ETF is repurchased on the exchange and then redeemed for the underlying shares, by the institutional investor. This is a reversal of the creation process, whereby the ETF shares are delivered to the custodian (at the end of the trading day) and the underlying portfolio of stocks is then delivered to the institutional investor.

ETF shares are *not* purchased or redeemed through a fund company, like typical mutual funds. With ETFs, investors find their counterparties—other buyers and sellers—through the exchange itself. Again, institutional investors create and redeem ETFs, which requires depositing the underlying shares in trust, in exchange for a block of ETF shares. ETF shares can be redeemed for a portfolio of stocks that approximates the index itself. This type of redemption process is called an “in-kind” exchange. “In-kind” redemptions do not create a taxable event, unlike a cash sale in a typical mutual fund. This makes ETFs much more tax efficient than actively managed funds and traditional index funds.

Arbitrage opportunities

The share price of an ETF closely tracks the underlying basket of stocks. However, there may be times when demand for fund shares can exceed supply, causing a slight premium or discount in the price of the ETF versus its underlying shares. But, unlike closed-end funds, this premium or discount usually quickly disappears because of arbitrage opportunities. If an ETF trades above or below fair value, arbitrageurs will take advantage of the opportunity and buy or sell baskets of stocks that make up the index, against which the ETF shares are meant to track. They can therefore lock in quick profits from the price difference in the underlying shares and the ETF shares. This keeps the premiums and discounts close to the “true” value of the underlying stocks.

While ETF premiums and discounts are usually fairly insignificant, they can sometimes amount to 3% or so for ETFs that track illiquid stocks (typically in foreign markets). Right now, for example, www.etfconnect.com is indicating there was a discount at the close on February 13, 2002, on the iShares MSCI Spain Index. This means the ETF shares are trading slightly below the true value of the underlying securities. At the same time, as of the close on February 13, 2002, the iShares MSCI South Korea Index was trading at a premium of approximately 3% versus its underlying shares. Again, its premium or discount is usually accounted for and quickly arbitrated away. Nevertheless, in some of the less liquid foreign markets, ETF discounts and premiums can be seen. (Premiums and discounts can be found on the Web site www.etfconnect.com.)

ETF legal structures

ETFs come in three different legal structures.

- 1) *Exchange-traded open-end index mutual funds.* This

structure is by far the most popular structure for ETFs. It closely resembles the structure of typical mutual funds. ETFs with this structure are registered under the SEC Investment Company Act of 1940. Examples of ETFs under this structure are iShares and Select Sector SPDRs. These ETFs are managed by a fund manager and the fund manager has some leeway to determine how the ETF will track the index it is set up to mirror. For example, with an ETF that tracks an index of hundreds of small stocks, the fund manager may decide to buy a “representative sample” that approximates the index as closely as possible. Since buying each and every stock can be expensive, it may actually be to the advantage of the fund to *not* hold every single stock in the index. Anyway, with this structure, the fund manager has this choice. In addition to the flexibility awarded the fund manager, this structure also allows for the reinvestment of dividends, an advantage over other structures.

ETFs that are registered under the SEC Investment Company Act of 1940 may be forced to deviate somewhat from the exact holdings of the index they are meant to track. The reason is that there are diversification rules within the 1940 Act that state that no company within a fund’s holdings can make up more than 25% of the assets of the fund. In addition, the Act specifies, for diversification reasons, that companies that make up more than 5% of the total assets in the fund cannot comprise more than 50% of the fund. So, there may be times when the managers of ETFs regulated under the 1940 Act may have to weight their holdings slightly different from the indexes they are meant to track, in order to stay within the rules. One example of how an ETF fund manager is forced to work within the 1940 Act can be seen with a concentrated ETF like the Dow Jones Energy Sector Fund (IYE). Exxon Mobil makes up about 43% of this sector, but the ETF cannot hold more than 25% of one company. So, the fund managers (Barclays in this case) run what they call optimized portfolios to still track the return of the underlying index.

2) *Unit investment trusts (UITs)*. This structure is less flexible than the open-end mutual fund ETF structure. UITs also fall under the 1940 Act. The only ETFs with this structure are Diamonds (DIA), S&P 500 SPDR (SPY), Nasdaq-100 Trust (QQQ) and the Mid-Cap SPDR (MDY). There is little management of these UITs and the fees are typically a bit less than other ETFs. Furthermore, the indexes these ETFs track are followed very closely by the managers, and there is no room for creativity (no “representative samples” allowed). Dividends cannot be reinvested.

3) *Grantor Trusts*. Holding Company Depositary Receipts (HOLDRs) are formed as grantor trusts. These trusts allow investors to actually own the underlying shares within the baskets—you can redeem your basket and receive all the underlying shares of the individual companies, if you wish. Merrill Lynch launched many different HOLDRs under this structure. HOLDRs are *not* regulated under the 1940 Act, so there is no attempt to keep them diversified. As a result, you may own a HOLDR with very heavy weightings in only a few companies. Unlike the other two ETF structures, the components in these trusts are fixed, so your HOLDR that today seems like an attractive investment, may, years from now, contain many companies that are has-beens. Remember, the underlying components are static and will not change. Jim Wiandt and Will McClatchy, in their informative book on ETFs entitled *Exchange Traded Funds, An Insider's Guide To Buying The Market*, made a good crack about HOLDRs that illustrates the potential pitfalls of owning HOLDRs—“If an investor had bought a HOLDR at the turn of the nineteenth century (not possible, of course, as they were introduced in 1999) that represented the largest U.S. companies, he or she would have barely paid any capital gains taxes, but also would have enormous weightings in railroads, buggy whip manufacturers, and women’s corsets (or more accurately, the company that bought the remnants of the dated industries).”

HOLDRs do have a cost advantage over other ETF structures (\$2 annually per 100 shares)—there is virtually no management whatsoever of the baskets. But, other disadvantages far outweigh the cost advantage, so I would urge caution. (More on HOLDRs at the end of this chapter.)

Brief history of ETFs

The first institutional index fund that tracked the S&P 500 was launched in 1971 by Wells Fargo. Vanguard created its Vanguard Index 500 Fund and made it available to the public in 1976. But, it took another 17 years for ETFs to begin trading—the S&P 500 SPDR started trading in 1993. In May of 1995 the Mid-Cap SPDR began trading, and the following year WEBS (World Equity Benchmark Shares were later renamed iShares) began tracking the foreign markets.

ETFs were initially slow to gain acceptance by both institutional and private investors. However, thanks to a bull market, and favorable tax and trading advantages offered by ETFs over mutual funds, ETFs became widely utilized by professionals by the late 1990s. The launch of Diamonds (track the Dow Jones Industrial Average), HOLDRs, and Select Sector SPDRs in 1998, allowed investors to begin utilizing ETFs for broad diversification, as well as for concentrated sector investments. In 1999 the QQQ (Nasdaq-100) was launched and is now the most actively traded security on any exchange.

In 2000, approximately 90 new ETFs were launched (mostly by Barclays) that offered money managers and private investors an incredible range of investment alternatives. For the first time, it was possible to structure an index-based equity portfolio entirely with ETFs. And, it was now possible to structure a portfolio of ETFs based on size (small-, mid- or large-cap stocks) *and* style (growth or value). Beginning in 2000, proponents of indexing no

longer had any reason to purchase traditional index funds—ETFs pretty much covered everything.

The launch of the Select Sector SPDRs in 1998 and style- and size-specific ETFs in 2000, changed passive management forever. In my practice, for the first time, I was able to construct what I call structured index-based portfolios, entirely with ETFs. I can now offer clients tax and cost advantages that were previously unavailable. In addition, the new ETF offerings allowed me to invest based on a client's style and size preference. Being able to divide broad-based indexes into value and growth components for the three major stock asset classes (small, mid and large stocks) and break up the large-cap marketplace in sector ETFs, allows you to better control taxes and exposure in all areas of the market. These relatively recent additions to the ETF marketplace have made index-based investing more complicated, but better than ever.

ETF advantages, and a couple of disadvantages

Advantages

1) *Cost advantage.* Traditional index fund fees average between .20% and .80% annually. (Actively managed funds typically charge fees ranging from .60% to 2.5%, with the average about 1.4% annually.) ETFs carry fees ranging from .09% to .90%. Most ETF fees will charge under .30% annually.

2) *Flexibility.* ETFs offer investors the flexibility to trade throughout normal market hours. Traditional index funds and actively managed funds offer purchases and redemptions *only* once daily, after the close. This makes it tough for investors to know exactly how much money they will receive at the end of the day for their shares. Remember, they can only be sold at the end of the day, so you basically lose control for the entire day. However,

you can buy or sell ETFs just like stocks, so you pretty much know exactly what you will be paying or receiving for your shares.

In addition to having the ability to trade throughout normal exchange hours, ETF shareholders can enter protective limit and stop orders, just like with individual stocks. Being able to lock in or protect profits with limit and stop orders is a great advantage. And, being able to sell short or utilize margin with ETFs can create some excellent hedging opportunities for shareholders.

3) *Portfolio structuring.* ETFs offer a better way to structure index-based portfolios than traditional index funds and actively managed funds. There are now over a hundred ETFs that track almost every imaginable sector and asset class. This makes ETFs the perfect vehicle for index-based managers and investors wanting pure exposure to certain sectors and asset classes without style- or size-drift risk.

4) *Tax efficiency.* The ETF creation and redemption process allows them to be more tax efficient than traditional index funds and actively managed funds. This means better after-tax returns for shareholders.

ETF Tax Advantages

I would like to take a moment to highlight some ETF tax advantages. ETFs are even *more* tax efficient than traditional index funds (hard to do), and are obviously more tax efficient than actively managed funds. But, ask an investor why this is the case and you'll probably get no response. The ETF tax advantage can be found in the creation and redemption process. Earlier in this chapter I wrote about the creation process and how it differs from typical mutual funds. When an investor buys a mutual fund, he or she sends cash to the mutual fund company, and the fund

company purchases stocks on behalf of the investor. To redeem shares the investor instructs the fund company to sell. Assuming the fund manager had no cash on hand, he or she would have to sell stocks to meet the redemption request of the investor. The subsequent sale of stock, to meet the redemption, is a taxable event. If I assume this fund did not have much cash on hand—they usually stay close to fully invested—and they had to sell stocks to meet the redemption, the sale of stocks could adversely affect the remaining shareholders in the fund (even though they didn't sell). The capital gain for the fund—assuming there was a realized gain on the stock sale—is divided up among all the fund shareholders. Actively managed funds typically pay out their capital distributions at the end of the year. Anyway, it is the nature of the redemption process of mutual funds that makes many actively managed funds and some traditional index funds tax *inefficient*.

Unlike most mutual funds, ETF redemptions do not directly involve a fund company. Brad Zigler, former head of iShares marketing at Barclays Global Investor Services, compares this process to buying and selling an individual stock. “Just like buying shares of IBM, you buy ETF shares from another investor (or from the fund’s exchange specialist). Think about it: When you buy IBM shares, it’s not IBM that gets your money. No way. The stock seller is the one who gets your cash.” Zigler suggests you think of the sale of an ETF in the same fashion. You can trade ETFs back and forth on an exchange (like IBM stock) but the fund’s holdings are unaffected, therefore, the fund is insulated from trading costs and taxes. Again, the key point to recognize about an ETF transaction is that there is *no* redemption with a fund, so there is no fund that has to sell shares to pay you cash. Since there is no actual sale of underlying shares, there is no taxable event. I mentioned earlier that this type of transaction is called “in-kind”—like a barter. So, unlike the cash-based transactions of mutual funds, ETF redemptions are not considered

a taxable transaction to shareholders. Obviously, if you sell your shares, you pay tax on your own cost basis in the ETF, just like you would have with Zigler's IBM example.

ETFs are not, however, perfectly tax efficient. Like traditional index funds, ETFs may be forced to sell their underlying stocks when the indexes themselves are reconstituted and shuffled. This can and does happen, so ETF shareholders should be aware that they may receive taxable distributions.

Disadvantages

1) *Commissions.* When you buy ETFs you pay normal commission rates—just like buying individual stocks through a brokerage firm. While commission rates have come down substantially during the past 5 years, commissions can still add up to a lot of money—especially if you trade often. However, given the fact that ETFs have much lower ongoing management fees than actively managed funds, and to a lesser degree than index funds, I'm happy to pay the commissions if I can get lower ongoing management fees with ETFs.

2) *Premium and discount risk.* There is a possibility of paying a slight premium (or discount) for ETFs. Although, for domestic ETFs this premium is generally small and insignificant, it should still be considered a disadvantage. Investors should be particularly aware of premiums and discounts in ETFs that track foreign markets.

To summarize—I obviously feel ETF advantages far outweigh any disadvantages.

ETFs—your choices

Tables 4-1 through 4-8 show the various ETFs available in the marketplace. I've listed ETFs that cover basically every imaginable asset class and sector, including foreign markets and real estate. I've also shown the operating expense ratio (OE), annual turnover (T%), number of stocks held in each ETF, and the median market capitalization (MMC) for each ETF.

In the last part of this chapter I list the various HOLDRs, offered by Merrill Lynch, along with some comments on the advantages and disadvantages of buying these concentrated, static ETFs.

See the appendix for more detailed information on all ETF holdings.

Table 4-1 — **ETFs**

Description	Category	Symbol	OE%	# Stks	T%	MMC
Total Stock Market VIPERs	Lrg-Blend	VTI	.15	3444	7	33B
S&P 500 Index	Lrg-Blend	IVV	.09	500	5	60B
Diamonds	Lrg-Blend	DIA	.17	30	13	93B
S&P 100 Index	Lrg-Blend	OEF	.20	100	5	132B
Russell 1000 Index	Lrg-Blend	IWB	.15	981	9	46B
Dow Jones US Total Market	Lrg-Blend	IYY	.20	1707	5	42B
Fortune 500	Lrg-Blend	FFF	.21	420	6	65B
Russell 3000 Index	Lrg-Blend	IWV	.20	2954	3	39B
S&P 500 Index	Lrg-Blend	SPY	.11	500	5	58B
S&P 500 BARRA Growth	Lrg-Growth	IYW	.18	159	31	97B
Russell 1000 Growth	Lrg-Growth	IWF	.20	544	11	8B
Russell 3000 Growth	Lrg-Growth	IWZ	.25	1732	3	69B
streetTRACKS DJ US Lrg. Gr.	Lrg Growth	ELG	.22	53	16	168B
S&P 500 BARRA Value	Lrg-Value	IVE	.18	341	9	29B
Russell 1000 Value	Lrg-Value	IWD	.20	704	9	28B
Russell 3000 Value	Lrg-Value	IWW	.25	1900	4	24B
streetTRACKS DJ US Lrg. VI.	Lrg Value	ELV	.21	53	16	168B

Table 4-2—ETFs

Description	Category	Symbol	OE%	# Stks	T%	MMC
Russell MidCap	Mid-Blend	IWR	.20	793	0	5.6B
MidCap SPDRs	Mid-Blend	MDY	.25	400	0	2.7B
S&P MidCap 400	Mid-Blend	IJH	.25	400	32	2.7B
Extended Market VIPERs	Mid-Blend	VXF	.20	3062	20	2.0B
S&P MidCap 400 BARRA Gr.	Mid-Growth	IJK	.25	148	67	3.1B
Russell MidCap Growth	Mid-Growth	IWP	.25	420	0	4.3B
S&P MidCap 400 BARRA Val.	Mid-Value	IJJ	.25	252	17	1.9B
Russell MidCap Value	Mid-Value	IWS	.25	577	0	4.5B
S&P SmallCap 600	Sm-Blend	IJR	.20	600	28	.7B
Russell 2000	Sm-Blend	IWM	.20	1949	39	.7B
S&P SmallCap 600 BARRA Gr.	Sm-Growth	IJT	.25	220	77	.9B
Russell 2000 Growth	Sm-Growth	IWO	.25	1262	9	.7B
streetTRACKS DJ US Sm. Growth	Sm-Growth	DSG	.30	369	34	1.0B
S&P SmallCap 600 BARRA Value	Sm-Value	IJS	.25	380	17	.6B
Russell 2000 Value	Sm-Value	IWN	.25	1293	9	.7B
streetTRACKS DJ US Sm. Value	Sm-Value	DSV	.28	352	47	1.5B

Table 4-3—ETFs

Description	Category	Symbol	OE %	# Stks	T %	MMC
Dow Jones US Basic Materials	Sector	IYM	.60	64	16	16B
Dow Jones US Consumer Cycl.	Sector	IYC	.60	269	25	23B
Dow Jones US Industrial	Sector	IYJ	.60	238	23	26B
Dow Jones US Chemicals	Sector	IYD	.60	34	16	10B
Dow Jones US Cons Non-Cycl.	Sector	IYK	.60	100	38	51B
Dow Jones US Healthcare	Sector	IYH	.60	189	5	86B
Goldman Sachs Technology	Sector	IGM	.50	227	0	49B
Goldman Sachs Semiconductor	Sector	IGW	.50	53	0	18B
Goldman Sachs Networking	Sector	IGN	.50	34	0	19B
Dow Jones US Technology	Sector	IYW	.60	161	5	44B
Dow Jones US Energy	Sector	IYE	.60	57	20	16B
Dow Jones US Financial Sector	Sector	IYF	.60	289	11	37B
Dow Jones US Financial Services	Sector	IYG	.60	164	5	46B
Dow Jones US Internet	Sector	IYV	.60	40	74	5B
streetTRACKS M.S. Internet	Sector	MII	.53	26	76	6B
streetTRACKS High Tech	Sector	MTK	.51	35	26	22B
Fortune e-50 Index Tracking	Sector	FEF	.22	50	30	58B

Table 4-4—ETFs

Description	Category	Symbol	OE %	# Stks	T %	MMC
Nasdaq Biotechnology	Sector	IBB	.50	65	9	3.9B
Dow Jones US Financial Services	Sector	IYG	.60	161	5	44B
Goldman Sachs Software	Sector	IGV	.50	55	0	9B
Dow Jones US Telecom	Sector	IYZ	.60	36	43	62B
Dow Jones US Utilities	Sector	IDU	.60	82	11	8B
Goldman Sachs Natural Resources	Sector	IGE	.50	110	0	19B
Financials SPDR	Sector	XLFX	.28	71	9	46B
Utilities SPDR	Sector	XLU	.28	40	12	20B
Energy SPDR	Sector	XLE	.28	32	17	31B
Basic Materials SPDR	Sector	XLB	.28	41	6	13B
Consumer Services SPDR	Sector	XLV	.28	43	28	16B
Cyclical/Transports SPDR	Sector	XLY	.28	66	5	23B
Consumer Staples SPDR	Sector	XLP	.28	69	6	87B
Industrials SPDR	Sector	XLI	.28	44	6	21B
Technology SPDR	Sector	XLK	.28	97	11	72B
NASDAQ 100 Trust	Sector/Blend	QQQ	.18	100	23	15B
Dow Jones US Real Estate	Sector	IYR	.60	69	30	2.2B
Cohen & Steers Realty	Sector	ICF	.35	30	2	3.3B
streetTRACKS Wilshire REIT	Sector	RWR	.32	91	2	3B

Table 4-5 — ETFs

Description	Category	Symbol	OE %	# Stks	T %	MMC
streetTRACKS DJ Global Titans	Global-Lrg-Blend	DGT	.52	50	16	149B
MSCI EMU	Intl-Lrg-Blend	EZU	.84	262	0	38B
MSCI Pacific ex-Japan	Intl-Lrg-Blend	EPP	.50	130	0	10B
MSCI EAFE Index	Intl-Lrg-Blend	EFA	.35	782	0	26B
S&P TOPIX/150	Intl-Lrg-Blend	ITF	.50	150	0	12B
S&P/TSE 60 Index	Intl-Lrg-Blend	IKC	.50	60	50	11B
S&P Global 100 Index	Intl-Lrg-Blend	IOO	.40	98	5	129B
S&P Europe 350 Index	Intl-Lrg-Blend	IEV	.60	335	24	43B
MSCI Malaysia (Free)	Intl-Lrg-Blend	EWM	.84	66	18	2B
MSCI Singapore (Free)	Intl-Lrg-Blend	EWS	.84	35	52	8B
MSCI South Korea	Intl-Lrg-Blend	EWY	.99	79	0	12B
S&P Global Energy Sector	Global-Sector	IXC	.65	45	0	83B
S&P Global Financials	Global-Sector	IXG	.65	192	0	38B
S&P Global Healthcare	Global-Sector	IXJ	.65	63	0	87B
S&P Global Technology	Global-Sector	IXN	.65	123	0	69B
S&P Global Telecom	Global-Sector	IXP	.65	47	0	73B

Table 4-6—ETFs

Description	Category	Symbol	OE%	# Stks	T%	MMC
MSCI United Kingdom Index	Intl-Lrg-Blend	EWU	.84	130	33	51B
MSCI Switzerland Index	Intl-Lrg-Blend	EWL	.84	41	35	57B
MSCI Sweden Index	Intl-Lrg-Blend	EWD	.84	37	90	9B
MSCI Spain Index	Intl-Lrg-Blend	EWV	.84	35	39	27B
MSCI Netherlands Index	Intl-Lrg-Blend	EWN	.84	24	22	39B
MSCI Italy Index	Intl-Lrg-Blend	EWI	.84	40	40	22B
MSCI Germany Index	Intl-Lrg-Blend	EWG	.84	45	56	39B
MSCI France	Intl-Lrg-Blend	EWQ	.84	56	17	38B
MSCI Belgium	Intl-Lrg-Blend	EWK	.84	20	53	11B
MSCI Austria	Intl-Lrg-Blend	EWO	.84	16	34	2B
MSCI Australia	Intl-Lrg-Blend	EWA	.84	70	36	10B
MSCI Hong Kong	Intl-Lrg-Blend	EWH	.84	32	1	13B
MSCI Japan Index	Intl-Lrg-Blend	EWJ	.84	289	22	11B
MSCI Taiwan	Intl-Lrg-Blend	EWI	.99	96	30	7B
MSCI Mexico (Free)	Intl-Lrg-Blend	EWX	.84	28	34	12B
MSCI Canada Index	Intl-Lrg-Blend	EWY	.84	87	63	7B
MSCI Brazil (Free)	Intl-Lrg-Blend	EWZ	.99	19	43	4B
S&P Latin America 40	Intl-Lrg-Blend	ILF	.50	36	0	16B

HOLDRs

HOLDRs are basically fixed, concentrated baskets of stocks that trade like one stock. They are considered ETFs and trade on the American Stock Exchange, like most ETFs. Most HOLDRs allow investors to have immediate, somewhat diversified exposure to a particular sector, in a single investment. There are now 17 HOLDRs in existence, all created by Merrill Lynch. Like other ETFs, they have also caught on fast with the investing public. But, before venturing into these ETFs, please consider the advantages as well as the disadvantages of ownership.

Advantages

HOLDRs offer the following advantages—

1) *Diversification*—You get immediate diversification within a sector by buying a group of stocks, basically for the price of one. Since you purchase HOLDRs the same way you purchase stocks, you can buy a somewhat diversified basket of stocks, for the price of one.

2) *Control tax gains and losses*—HOLDRs have a unique advantage over other ETFs, in that you can actually unbundle the HOLDR and receive your underlying stocks—there are typically 20 stocks per HOLDR. Few investors actually do this, but it is a positive for investors wishing to control their tax losses and gains. For example, assume your HOLDR has 20 stocks in it, but only a few of the stocks show gains. You could “redeem” your HOLDR and receive all the underlying shares within the HOLDR, and then sell only your losers to “realize” the loss for tax purposes. You could hold your winners, if you wish. Merrill Lynch provides cost basis data (thank goodness) for each individual piece within the HOLDRs from the date of your purchase. Cost basis information is available on the Web site www.holdrs.com.

3) *Tax advantages*—HOLDERS do not distribute capital gains taxes like most mutual funds and some ETFs. Since there is no trading of securities within a HOLDER, they are perfectly tax efficient. This is an advantage over other ETFs, which offer tax efficiency, but not *perfect* tax efficiency. So, with HOLDERS you will only incur a realized gain or loss when *you* decide to sell (no distributions). And, as I stated earlier, you can take control of each stock within the HOLDER, if you wish.

4) *Liquidity*—Unlike typical mutual funds, HOLDERS offer investors the ability to buy and sell throughout the trading day (like other ETFs).

5) *Low costs*—HOLDERS are the cheapest ETFs in the marketplace. They are cheaper than traditional index mutual funds and index-based ETFs. Aside from the commissions you pay your brokerage firm, the only other cost is a \$2 per 100 share, quarterly custody charge. For example, your annual fees for purchasing the Pharmaceutical HOLDER on a \$50,000 investment equals \$40. This amounts to only .08% annually. This custodial fee will be taken against dividends and cash distributions, and will be waived if no dividends or cash distributions are paid by any of the underlying stocks in the HOLDER.

Disadvantages

1) *Lack of diversification*—In my opinion, the primary disadvantage of owning HOLDERS is their lack of diversification. Yes, I know I listed their diversification as an advantage too, but compared to other ETFs, HOLDERS are poorly diversified. For example, if you bought the iShares Healthcare ETF, you would basically own a piece of approximately 186 companies. With the Pharmaceutical HOLDER you own *only* 18 companies. So, I can argue that you don't have enough broad diversification or representation in the sector.

Table 4-8

HOLDRs

Description	Symbol	OE	# Stks
B2B Internet	BHH	\$2 per 100 sh.	15
Broadband	BDH	\$2 per 100 sh.	20
Biotech	BBH	\$2 per 100 sh.	20
Europe 2001	EKH	\$2 per 100 sh.	49
Internet Arch.	IAH	\$2 per 100 sh.	20
Internet	HHH	\$2 per 100 sh.	19
Internet Infra.	IIH	\$2 per 100 sh.	19
Market 2000	MKH	\$2 per 100 sh.	56
Oil Services	OIH	\$2 per 100 sh.	18
Pharmaceutical	PPH	\$2 per 100 sh.	18
Regional Bank	RKH	\$2 per 100 sh.	20
Retail	RTH	\$2 per 100 sh.	20
Semiconductor	SMH	\$2 per 100 sh.	20
Software	SWH	\$2 per 100 sh.	20
Utilities	UTH	\$2 per 100 sh.	20
Wireless	WMH	\$2 per 100 sh.	20
Telecom	TTH	\$2 per 100 sh.	20

2) *Fixed basket of stocks*—Unlike other ETFs, HOLDRs give you ownership of a fixed basket. The components, or underlying stocks, will not change (except due to a merger or acquisition). So, I can't recommend owning them for the long haul. Why? Because 5 or 10 years from now your HOLDR may not be representative of the industry or sector you initially purchased. You may own a lot of companies that are no longer leaders in their industry. Other ETFs (not fixed) will change their underlying companies on an ongoing basis in attempt to mirror changes in the economy or within an asset class or sector. I am therefore much more comfortable (for long-term investors) recommending ETFs that alter their underlying components to reflect economic changes. ETFs that monitor and change the underlying companies can be bought and held forever, if you wish—not so with HOLDRs.

3) *More risk*—Because HOLDRs are fixed baskets, once created, the underlying companies' performance will dictate their weighting within the HOLDR. This can lead not only to poor diversification, but a lot of risk. For example, when the Internet Architecture HOLDR (IAH) was initially created, it offered much better diversification than at present. Most of the companies in this HOLDR have performed poorly over the past couple of years, except for a few exceptions. The “exceptions” now have a huge weighting within this basket of 20 stocks. IBM now represents almost 40% of the entire basket. This is hardly representative of the entire sector. So, you may have initially bought a fairly broad-based portfolio of stocks with diversified weightings, but the market can change that pretty quickly.

4) *Round lots of 100 shares only*—HOLDRs are purchased and sold in round lots of 100 shares only. This is designed to allow the issuance and cancellation of HOLDRs, since odd-lots would not represent whole share amounts of the underlying companies. So, to invest in a HOLDR that is trading at \$100, you have to come up with \$10,000. This is a disadvantage for small investors.

5) *Lots of mail*—If you own a HOLDR, you basically have direct ownership of all the underlying companies. Therefore, you will receive annual reports and proxy material for approximately 20 companies per HOLDR. You may have to rent a P.O. box to handle all the mail. I've had complaints from several investors, but there isn't much you can do about it. However, the HOLDR Web site mentions that there is now an option to receive proxy material by e-mail rather than physical mail. Sounds better to me.

6) *Cost to receive underlying shares*—If you decide to unbundle your HOLDR, you will have to pay \$10 per 100 shares to do so. This is not a lot of money, but it is an additional fee that you normally wouldn't incur with other ETFs. And, if you then

decide to sell some of the individual pieces within your HOLDR (after unbundling it), you will probably have to pay commissions to your brokerage firm for liquidating each piece. The commissions could add up quickly if you sell a lot of stocks.

7) *Cost-basis headaches*—When HOLDRs were originally launched in 1998, some of these grantor trusts soon afterwards distributed shares from mergers and spin-offs *outside* of the HOLDRs. It was quite difficult to calculate the cost basis for the spun-off pieces outside the original HOLDR, *and* adjust the cost basis of the HOLDR itself. I was one of several advisors and investors who complained out loud about this. HOLDRs were eventually amended on November 22, 2000, to eliminate most of the distributions of the securities. So, this cost-basis headache is now resolved thanks to the amendment. Still, if you ultimately decide to unbundle your HOLDR, you'll have to know the cost basis for each company that you own in your HOLDR. Go to www.holdrs.com and see the cost-basis calculator for help.

To summarize—I like HOLDRs, but only in rare cases. Let me give you an example. A client of mine recently had an overweight position in Merck stock (this was the only individual stock remaining in a portfolio that I “inherited.” I wasn’t comfortable with this overweight position, and I suggested diversifying out of the stock to lower risk. The client, however, particularly liked the pharmaceutical sector and wanted representation within the sector. I recommended purchasing the Pharmaceutical HOLDR rather than the iShares Healthcare ETF, since this would give the investor more concentrated ownership of blue-chip pharmaceutical companies. So, the investor bought the HOLDR and got ownership in 18 stocks in the pharmaceutical sector and better diversification of risk.

HOLDRs are worth considering, but I usually favor other ETFs. Reread the disadvantages before taking the plunge.

5

Measuring risk

There are lots of risks in the marketplace, but if the market doesn't reward them, then investors will stay away.

—REX SINQUEFIELD, Dimensional Fund Advisors, Inc.

In 'Determinants of Portfolio Performance II: An Update,' Gary Brinson, Brian Singer and Gilbert Beebower have again demonstrated that approximately 93% to 95% of the performance and risk in any investment portfolio can be attributed to the asset classes chosen, and only around 5% to 7% can be attributed to market timing, the style of the manager, or the individual investments selected. For example, if my 12-year-old son were managing a real estate portfolio and a top professional equity manager was managing an equity portfolio in 1987, my son would have outperformed the experienced equity manager. Not because he knew more about real estate, but simply because he was in the right asset class at the time.

—www.advisoryworld.com

THERE ARE MANY FACTORS TO CONSIDER before buying stocks, regardless if you're purchasing an individual stock, fund or ETF. Before any purchase, your first step is to understand the risks you will assume by owning the investment. There are three types of risks inherent in owning stocks—market, style, and size

risk. We will look at each risk in detail in this chapter. In addition to risk factors, you need to understand how each investment is presently valued. Is it cheap or expensive right now? What are its prospects for growth? The valuation measurements I use are popular and widely acceptable. Price-to-earnings ratios (P/Es), price-to-earnings growth ratios (PEGs), and price-to-book ratios (P/Bs) are three valuation measurements that I will also review in this chapter. In addition, I look at a valuation measurement of the stock and bond markets as a whole, by using a simple tool—the so-called Fed Model. This model gives me a good indication as to how the overall stock market is valued relative to bonds. The last factor I consider before recommending a purchase is how an investment behaves in relation to other investments. This is learned by studying correlation coefficients, and it can help to assure *proper* diversification of investments within the total portfolio.

We'll cover risk measurements in this chapter and then look at valuations and correlations in Chapter 7.

Measurements of risk

Beta—an incomplete measurement of risk

In the mid-1960s, the Capital Asset Pricing Model (CAPM) was introduced to the investment world. William Sharpe later won a Nobel Prize for his work on CAPM during this period. I don't want to go into much detail about CAPM, but it is important to recognize that it was the beginning of a risk measurement tool called *beta*. Beta calculations compare the movements of the market as a whole (S&P 500) to other investments (e.g., stocks, asset classes, sectors). A beta of 1 is assigned to the broad market. Any reading under 1 means the investment is more stable than the market itself. For example, a reading of .50 would mean the investment has half the volatility of the market. If the market

Table 5-1

Beta (1/84-12/01)

Description	Beta
S&P Oil	0.24
S&P Chemicals	0.36
Small-Cap Value	0.43
S&P Utilities	0.49
Mid-Cap Value	0.52
S&P Retail	0.54
S&P Foods	0.60
Large-Cap Value	0.65
Financials	0.68
S&P Telephone	0.72
S&P Transportation (airlines)	0.93
S&P 500	1.00
Health Care (major pharmaceuticals)	1.00
S&P Industrials	1.05
Small-Cap Growth	1.09
Mid-Cap Growth	1.10
Large-Cap Growth	1.25
Technology	1.50

Note—the lower the beta, the less volatile the returns compared to the market (S&P 500).

is down 20%, this investment would be down 10% (same on the upside). Obviously the higher the beta, the more aggressive the investment. Sharpe's Capital Asset Pricing Model states that investment returns are related to this volatility measurement called beta. Sharpe's simple model did not hold up over time, but it did contribute to later findings that show us how other risks help determine stock market returns. Eugene Fama and Kenneth French expanded on Sharpe's work to explain other risks in their three-factor model. We'll discuss this in a moment.

Table 5-2

Standard Deviations of Asset Classes
(1926-1997)

Description	Standard Deviation %
Small-company stocks	33.9
Large-company stocks	20.3
Long-term corporate bonds	8.7
Long-term government bonds	9.2
Intermediate-term government bonds	5.7
U.S Treasury bills	3.2

Source: *Ibbotson Associates*

Standard Deviation—another incomplete measurement of risk

While beta measures the volatility of a portfolio or stock versus the market, the volatility of the investment itself is measured by standard deviation. Standard deviation measures the price variation of an investment's returns *against itself*. This calculation is thankfully provided by software programs. *The annual standard deviation number for an investment (or total portfolio) tells us what range of returns we can expect.* For example, the standard deviation of the technology sector from January 1984 through December 2001 was 29.09%. The average annual return of the technology sector, during the same period, was 15.47%. Using these percentages, one standard deviation tells us that 68% of the time (approximately two-thirds) the annual return of the technology sector will lie between one standard deviation above, and one standard deviation below, the mean (average) annual return. So, for the tech sector, two-thirds of the time, the annual mean return will be between -13.62% (15.47% - 29.09%) and 44.56% (15.47% + 29.09%).

Table 5-3

**Standard Deviations of
Equity Asset Classes and Sectors**
(1/84-12/01)

Description	Standard Deviation %
Large-Cap Value	10.98
S&P Chemicals	13.62
Utilities	13.98
Small-Cap Value	14.31
S&P Oil	14.47
Mid-Cap Value	14.64
S&P Industrials	14.86
S&P Telephone	15.00
Financials	16.52
Large-Cap Growth	18.30
S&P Retail Stores	18.39
S&P Foods	18.61
Small-Cap Growth	19.29
Mid-Cap Growth	20.43
Health Care (major pharmaceuticals)	22.25
S&P Transportation	22.65
Technology	29.09

One standard deviation encompasses about 68% of the annual return occurrences, and two standard deviations make up about 95% of the occurrences. So, using the technology sector example again, 95% of the time an investor's return will fall within two standard deviations of the mean return—or between -42.71% (15.47% - 58.18%—‘two standard deviations’) and 73.65% (15.47% + 58.18%).

I look at standard deviations of all asset classes, sectors and various portfolio mixes because it is important to recognize past volatility, even if it doesn't always predict future volatility. But, unlike some professionals, I believe this measurement does not

give a credible indication of expected returns—it's been proven. What standard deviation does tell us is what range of volatility to expect from an investment—and that's why it's important.

I've listed the standard deviations for various asset classes in Tables 5-2 and 5-3. Table 5-2 shows the standard deviations for major asset classes from 1926-1997. Table 5-3 shows standard deviations for equity asset classes and sectors only, from 1984 through 2001. Remember, the lower the standard deviation, the less volatile the investment.

If you were a conservative stock investor and you believed that standard deviation was the *only* acceptable measurement of risk, you would weight your portfolio in favor of investments with the lowest standard deviations that give the highest return (see Table 6-2 for Sharpe Ratio measurements). This would make structuring a portfolio relatively simple—optimizer programs can do this for you. Unfortunately it's not that simple.

Note—even if standard deviation doesn't accurately predict the expected returns for investments, it is still a very important risk measurement. Common sense and experience have taught me that if I own an investment with a high standard deviation, I had better be ready for the possibility of losing my shirt in certain periods (e.g., technology sector 2000-2001).

Three-factor model—risks you can count on

Sharpe's beta model and standard deviations do not factor in all sources of risk in stocks. The works of Eugene Fama of the University of Chicago, and Kenneth French of Yale University, identified two other risk factors (in addition to market risk, which was already widely accepted) that contribute to returns. Their findings completed the puzzle of how risk and return are related. Fama and French found that two additional risks—style risk, as

measured by book-to-market valuations, and size risk, as measured by the market capitalization of a company—contribute to returns. Fama and French tested many different variables to try to explain returns, but the two factors that showed the highest success in explaining expected returns were size- and style-specific risk. To summarize, Fama and French found that stocks of small *and* distressed companies (commonly mislabeled as “value” stocks) gave the highest returns. They concluded that these two factors, in addition to the market-risk factor, explain all the differences in portfolio returns.

The three-factor model proves that returns are related to various types of risk. And, the historical outperformance of small-cap and distressed stocks can be explained by the fact that they are indeed riskier than other stocks.

1) Equity market risk

Equity market risk refers to the extra risk (beyond risk-free rates of return) inherent in stocks that you are willing to assume, to hopefully get a higher return. Market risk is also known as systematic risk, which states that stock prices generally move together. There is no way to avoid this type of risk. If you own stocks, you have market risk, period. Historically, this added risk has rewarded stock owners with an average annual return of 6% to 7% more than the rate of inflation. Investors can choose to invest in a T-bill and get very little premium over inflation, or, if they are willing to accept market risk to hopefully get a higher return, they can own stocks. Market risk is considered the same for someone buying the S&P 500 or any other stock asset class or sector. Everyone can relate to market risk; if you own stocks you assume this risk.

Table 5-4

Research Results: 1964-1997

Asset Class	Standard Deviation %	Annualized Return %
Large-Cap Value	17.54	15.22
S&P 500	15.89	11.86
Large-Cap Growth	17.13	10.83
Small-Cap Value	23.96	18.24
DFA 6-10	25.10	13.76
Small-Cap Growth	27.08	12.43

Source: *Dimensional Fund Advisors, Inc.*

2) Style risk

How much money do you want exposed to distressed companies (value) and growth companies? Fama and French proved that companies with high book-to-market ratios (low price-to-book ratio) have shown superior returns because they are riskier than low book-to-market stocks (growth stocks). This isn't easy to accept. We've been led to believe that growth stocks are the riskiest stocks in the marketplace, and value stocks are a place where defensive, risk-averse investors should invest. We tend to think of growth stocks as technology and health care companies that certainly have a lot of risk, but over time they reward investors with higher returns. The facts, as presented by Fama and French in the three-factor model, tell a very different story. First, value stocks have outperformed growth stocks by a wide margin. The returns in Table 5-4 make it clear that investors who invested in either large-cap value or small-cap value earned far better average annual returns than growth investors. But, how can this outperformance be explained? Fama and French proved that the outperformance is accounted for by the fact that these asset classes

contain more risk.

I was baffled by the idea of value stocks being riskier than growth stocks until I stopped thinking of them as “value” stocks and instead thought of them as “distressed.” If you think of what we normally call a value stock, actually as a struggling company, it may make sense to you that it is indeed riskier to own a company that is doing poorly (bad earnings). The growth company is doing well and has good earnings and good future prospects. The market knows this. Everyone knows this. So, doesn’t it make sense that when you think of a value company, struggling to make money, that it has more risk than a growth company?

Another false public perception is that value stocks are actually selling at a discount (low P/E multiple, or low price-to-book ratio). Their stock prices have been punished and they are therefore, now, a bargain. While this may be true, the point that is missed is that companies that are selling at a so-called discount to the rest of the market are indeed *unattractive*, have poor earnings, and still carry a lot of risk. A struggling company can either continue struggling, improve, or die. Many of these distressed companies never revive, and it’s this risk that should be recognized by investors. Remember, they’re selling at low prices for the simple reason that they are crummy earners and there is still a great chance that the poor performance will continue.

The work by Merton Miller, for which he earned a Nobel Prize in 1990, also helped me understand why so-called value stocks are riskier than growth stocks. His work on the cost of capital shows why a value stock carries risk that is directly related to its level of distress. Again, a value stock is typically priced low for a reason—the company’s hurting. It’s having trouble with earnings and its price has dropped as a result. If this company goes to the marketplace to raise capital (equity or debt), its cost for doing so is

going to be higher than that of a healthy company. It makes sense that investors who are willing to lend this company money (buy its bonds), will demand a higher reward for assuming the risk that they might not get their principal back. They will demand a higher rate of return from the bonds (higher interest payments). Therefore, the cost of capital is higher to the struggling, distressed company (value) than it is to the healthy one (growth).

An excellent example of the cost of capital at work was given in a paper by Eugene Fama Jr. of Dimensional Fund Advisors, Inc., in *Senior Consults* magazine. Fama Jr. gave the example of Microsoft and Apple Computer going to a bank for a loan. He asks—“Which company will pay a higher interest rate for the loan?” The answer is Apple, since its future is more uncertain, and the bank will need to be paid extra for loaning it money. Fama Jr. goes on to explain that this similar risk to *owning* Apple Computer can also be seen in the stock market. If an investor buys Apple stock he is expecting a higher return. Microsoft is a safer bet, since it has better earnings. So, for an investor to buy Apple stock, he or she must believe there is potential for a higher return. Makes sense. Why would anyone buy Apple if it weren’t for the extra return? If the investor wasn’t looking for extra return, wouldn’t it make sense to just buy Microsoft, since it’s safer? The market has priced Apple’s stock at a discount (like a value stock) because there is more risk, and therefore, the expected return is higher. (This example can also be used to show that the cost of capital applies to the *size* of the company too—it’s going to be higher for a relatively small company (Apple Computer, in this example) with uncertain earnings versus a large-cap, proven earner (Microsoft).

Understanding the cost of capital shows why distressed companies should have a higher expected return—in the bond and stock markets. Again, no rational investor would take on the extra risk of lending a distressed company money (buying its bonds),

or buying its stock, if they didn't expect to get a higher return for assuming the added risk. If you look at value stocks versus growth stocks, from a cost-of-capital perspective, it is clear where there is more risk. This helps explain why the risktakers—investors who buy distressed companies—demand, and over time get, a higher return. Risk and return are related and the historical returns of riskier companies have shown that they reward shareholders with higher returns.

The data in Table 5-5 show clearly how companies that are struggling with earnings ultimately reward investors for assuming the higher risk of owning them. This is apparent when looking at value stocks versus growth stocks and also small stocks versus large stocks. The poor earners in the two different categories showed better annual rates of returns than the good earners. This supports the findings of Fama and French, that value stocks and small stocks carry additional risks, but if shareholders assume these risks, they will, if they wait long enough, be rewarded.

I would like to make a brief comment about what I believe is the public's misunderstanding of the risks in growth versus value stocks. As I mentioned earlier, I believe most investors think growth stocks are riskier than value stocks. Investors tend to associate growth stocks with tech stocks and we've all seen how tech stocks can get killed. Anyway, I agree with and understand the concepts outlined by Fama and French, which prove that distressed companies with poor earnings are riskier than growth companies with healthy earnings. But, I think some common sense is needed to determine which group carries the *most* risk at any given time. For example, in hindsight, technology stocks, which are growth stocks, were obviously overvalued and very risky in March 2000. Any rational investor, with the benefit of hindsight, could *not* have believed that technology stocks were not riskier, at that point, than value stocks. Value stocks had not appreciated like the rest of the market, and still had relatively

Table 5-5
Company earnings versus stock market returns

	Return on assets % per year 1964-1992	Rate of return % per year 1964-1992
Value stocks	6.65	15.76
Growth stocks	10.22	10.45
Small stocks	7.50	14.60
Large stocks	9.37	11.60

Source: *Dimensional Fund Advisors, Inc.*

attractive valuations, while growth stocks had sky-high valuations. So, although I agree with the risk concepts popularized in the three-factor model, there is no way you could convince me that growth stocks had less risk of loss than value at the height of the tech bubble. Yes, I know that the cost-of-capital argument would have still considered value stocks riskier, but, and my point is that, common sense tells me that there was more risk of immediate dollar loss in growth stocks in early 2000 than in value stocks. This is where, I believe, valuation ratios like P/Es and PEGs can help. (Valuations will be discussed in Chapter 7.)

3) *Size risk*

Size risk relates directly to the market capitalization of a company. The smaller the company the higher the risk. Like distressed companies, small-cap companies (also mid caps to a lesser degree) expose investors to a completely different type of risk. Small stocks are similar to distressed companies in that their earnings are questionable—therefore they are risky.

Small-cap companies are strange animals. It's incredibly difficult to predict when they will be in and out of favor. This is

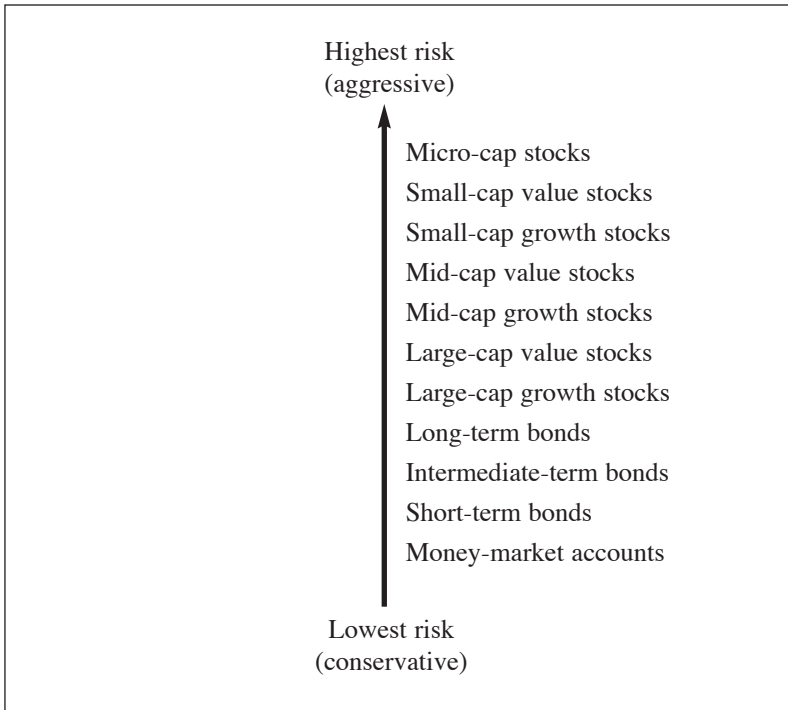
also what makes them riskier than large caps. Studies have shown that from 1936-1975, the average return of small-cap companies was substantially higher than the average return for large-cap companies. This nicely supported the three-factor model. Small-cap stocks returned about 1.5% more on average annually than large-cap stocks during this period. But then, just to show you how fickle they are, small-cap stocks' earnings did not recover as much as large caps' after the recession of 1980-1981. And, the *small-firm effect* disappeared between 1981-1991. S&P 500 stocks returned an average of 15.7% during that period, and small stocks returned an average of 13.3%. This example (decade of the 1980s) shows that small-cap stocks are certainly unpredictable (perhaps more so than large-cap stocks) and they do contain a different type of risk. Furthermore, it is known that small-cap stocks tend to move together as a group. And because they move together, they have a risk that cannot be diversified away. This adds another element of risk that investors will demand to be compensated for.

Table 5-5 appeared in *Investment Gurus*, an excellent book by Peter Tanous. His message in the margin of the table stated the following—"Small-cap stocks and value stocks have lower relative earnings than large-cap stocks and growth stocks. And, their lower earnings cause them to have higher costs of capital and, therefore, higher expected returns."

Summary

Because we know there are 3 different types of risks in owning stocks, you must decide how much of each type of risk you are willing to assume. Fama and French believe that by adding more of each type of risk, investors will eventually be rewarded. But, as small-cap investors learned in the 1980s, "eventually" may mean a very long time. Let me summarize again, how these risks work.

1) You decide to buy stocks rather than CDs, and you assume



market risk (all investors who own stocks have market risk).

2) Then, you decide to load up on small- and mid-cap stocks—a different type of risk. 3) Last, you decide to weight your portfolio towards distressed companies, thus adding another type of risk. History has shown us that you will ultimately be rewarded for assuming more risk, but you may be waiting a long time for your reward. And, you had better be ready to get clobbered from time to time, for assuming the additional risks of owning distressed *and* small stocks.

6

Measuring risk and return

If you want to define the ideal investment strategy, it is probably to achieve the highest return with the lowest risk. But that's like going to Heaven: it's something we all want to do, but we're not real sure how to get there. After all, if I were pretty sure that by taking more risk, I could make more money, then it would be an easy choice. On the other hand, if the risk wasn't real, it wouldn't be risk.

—PETER TANOUS, author of *Investment Gurus*

IN THE SECTION THAT COVERED BETA and standard deviation measurements, we learned about the importance of knowing how an investment moves in relation to the market (beta), and how an investment's returns vary in relation to itself (standard deviation). But, how do we know whether the risks we're taking (if you define risk as volatility) are rewarding us with higher returns? Two measurements, alpha and Sharpe ratios, can tell us if an investment has rewarded investors in the past, with better returns, after factoring in the risks we've assumed.

Alpha

Beta measures the volatility of a stock or portfolio versus the

Table 6-1
Alpha
 (1/84-12/01)

Asset Class/Sector	Alpha %
Financials	6.82
Mid-Cap Value	5.61
S&P Utilities	4.91
Health Care (major pharmaceuticals)	4.43
Large-Cap Value	4.29
S&P Foods	4.23
S&P Chemicals (diversified)	4.15
Small-Cap Value	3.97
S&P Retail (department stores)	0.13
S&P Telephone	-0.41
S&P Industrials	-1.24
S&P Oil	-1.95
Large-Cap Growth	-2.51
Mid-Cap Growth	-3.91
Technology	-5.67
S&P Transportation (airlines)	-7.37
Small-Cap Growth	-7.90

market as a whole. To analyze performance, the alpha is used. Alpha tells us how much of an investment's return was due to the market itself, and how much was due to the selected stocks within the investment (asset class or sector). Alpha basically tells us how much additional return—beyond the market itself—was given from an investment, in relation to the risk the portfolio has assumed. A simple way to understand alpha is it represents the added value of an asset class, sector (or money manager for that matter) beyond the market itself by factoring in risk. An alpha above 0 means there was added value, a reading below 0 means there was no added value. An investment with a positive alpha has outperformed the market, as opposed to a negative alpha, which means it has underperformed—relative to the risk taken. Asset classes and sectors with positive alphas are invested in

stocks that, as a whole, have outperformed the market. Asset classes and sectors with negative alphas hold groups of stocks that have underperformed the market.

Here's how alpha is calculated—

alpha = investment's return - (S&P return x investment's beta)

For example, the financial sector had a 12% average annual return and its beta was .70. The return for the S&P 500 for the same period was 10%. The calculation looks like this—

$$12\% - (10\% \times .70) = 5\%$$

Table 6-1 shows the alpha readings for various asset classes and sectors from the highest to lowest reading. The higher alpha readings tell us that the stocks in these sectors and asset classes outperformed the market on a risk-adjusted basis.

Sharpe Ratio

The Sharpe ratio tells you whether or not you're getting the "bang for the buck" from a particular investment. This risk-adjusted measurement is simple to calculate. Take an investment's excess return above the risk-free rate of 6-month T-bills (historical rate of 6.07% from 1984-2001) and divide the result by the asset's standard deviation. The Sharpe ratio shows you the most attractive investments, based on their risk-adjusted returns.

Table 6-2 shows the Sharpe ratios for various investments. It may be a bit surprising for you to see that some of the sectors and asset classes don't really give you much of a reward for the amount of risk taken. For example, the technology sector, while showing a very good average annual return from 1/84-12/01, is

Table 6-2
Sharpe Ratios
(1/84-12/01)

Asset Class/Sector	Sharpe Ratio
Large-Cap Value	.90
Financials	.77
Mid-Cap Value	.67
Health Care (major pharmaceuticals)	.63
Utilities	.62
Industrials	.59
Large-Cap Growth	.54
Small-Cap Value	.50
S&P Foods	.50
S&P Chemicals (diversified)	.48
S&P Telephone	.40
Mid-Cap Growth	.33
Technology	.32
S&P Retail (department stores)	.24
Small-Cap Growth	.14
S&P Transportation (airlines)	.06
S&P Oil	-.06

not very attractive from a risk-reward perspective. In other words, you didn't get enough return for the volatility your portfolio endured. Many sectors and asset classes like financials, health care, and mid-cap value, had significantly lower standard deviations and better average annual returns than technology stocks during this period. And, they had better Sharpe ratio readings too.

Obviously, alphas and Sharpe ratios show us that some investments do not always reward us for the risks we've taken. Granted, I only have data going back to 1984, but in the recent past we can see that risk and reward, as measured by alpha and Sharpe ratios, are not always proportional. Past performance and volatility measurements do not guarantee, whatsoever, how these asset classes and sectors will behave in the future.

7

Stock valuations and correlations

Don't forget that the norm for the U.S. stock market over the past 80 years is a price/earnings ratio of about 15.

The current reading is in the 40s.

—FELIX ZULAUF, investment manager

The 25-year average P/E for the S&P 500 is 17.05.

The 50-year average is 16.17. The 80-year average is approximately 15.

When the S&P's P/E has climbed above 20.2, the market has lost 2.5% in the subsequent three months, 7.3% over the six months and 1.4% over 12 months, according to Ned Davis Research. After two years stocks historically have eked out a return of just 0.8%. Conversely, when the market's P/E has fallen below 9.3, stocks have returned 5.8% after three months, 13.2% after one year and 27.5% after two years.

But, P/Es can stay high for years.

—TIM HAYES, global equity strategist

STOCK PRICES ARE GENERALLY DRIVEN by corporate earnings. Typically, as earnings improve, so do stock prices. Corporate earnings have averaged about 7% annual growth over the past 50 years or so. As an investor, you should focus on earnings to give you an idea as to what an investment is worth. Forward earnings are what matter, not past earnings, since we are

Table 7-1

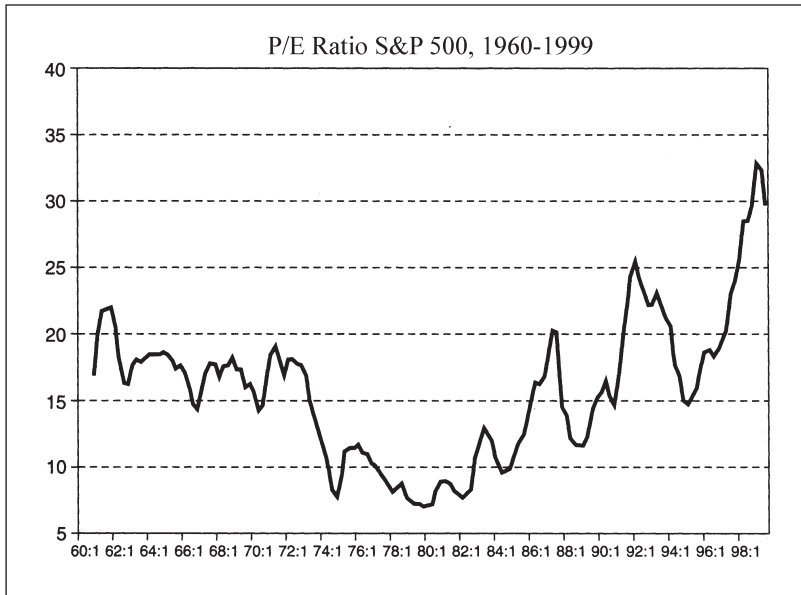
Forward P/E Ratios

Asset Class/Sector	2002 P/E
Health Care	24.8
Consumer Staples (Foods)	22.5
Basic Materials (Chemicals)	22.0
Telecommunication	21.9
Financials	14.5
Utilities	10.1
Technology	47.8
Capital Goods (Industrials)	20.7
Energy (S&P Oil)	16.9
Cyclicals (Retail Stores)	24.4
Large-Cap Value	19.4
Large-Cap Growth	30.3
Mid-Cap Value	14.8
Mid-Cap Growth	24.0
Small-Cap Value	14.8
Small-Cap Growth	21.7
S&P 500	23.0

concerned with how the investment will do in the future—that's what the stock price reflects. The best way to value an equity investment is by looking at its P/E ratio.

P/E Ratio

The forward-P/E ratio of a company, sector, or asset class tells you how much you are paying for future earnings. The stock price is divided by earnings to give you the ratio. Obviously the lower the number the better—more earnings for a lower price. Value-oriented investors typically seek out low-P/E stocks, while growth-oriented investors often buy companies trading at high multiples, but with good growth potential. The P/E ratio is a fairly reliable measurement tool that tells us how much we have to



pay for future, estimated earnings.

P/E ratios are always changing, but asset classes, sectors, and the market as a whole, have historically traded within a certain range. The S&P 500, for example, has generally traded at a P/E multiple between 12 and 26. During certain recessionary periods the P/E has dropped into single digits. The growth sectors of the market (health care and technology) have traditionally commanded higher P/E multiples than the market itself. Sectors that haven't offered much growth potential (i.e., utilities) generally trade at a low multiple. It's a good idea to look at historical P/E's and compare them to present valuations. This will give you some indication as to whether you're paying a premium or a discount.

In Table 7-1 I've listed major stock asset classes and sectors with their 12-month forward P/E ratios. Most of this data can be found at www.firstcall.com, www.thomsonfn.com, www.yahoo.com

and www.barra.com. As a rule of thumb it is preferable to purchase low-P/E asset classes and sectors, but you already know that. You can see in Table 7-1, that right now the market (S&P 500) is trading at a forward P/E multiple of 23, near the upper end of its historical range of 12 to 26.

PEG Ratio

When the stock market took off in the late 1990s, Wall Street bulls had to try to justify the lofty stock prices. Many decided that traditional valuation measurements, like P/Es, didn't tell the whole story. The optimists argued that the high P/Es were justified because they were based on great future earnings growth potential. The PEG ratio became popular—it factored in this future growth by dividing the P/E ratio by the 5-year average annual earnings growth estimates. The PEG ratio tells you if a company's P/E is in line with its growth rate.

The mathematical expression of the PEG ratio is given as a variation from 1.0. 1.0 is considered “fair” value. So, a reading over 1.0 is considered a premium, and a reading below 1.0 is considered a discount to fair value. Here's a simple example of a PEG calculation—a company trading at 20 times earnings (P/E of 20), with an estimated growth rate of 20% annually, would have a PEG ratio of 1.0 ($20/20=1$). If this same stock were trading at 40 times earnings, the PEG ratio would be 2.0 ($40/20=2$).

Table 7-2 shows us the stock market is not cheap, based on its historical PEG. The present PEG ratio for the market is 1.4, which is above its historical average of 1.2. And, as you can see, the PEG ratios for many sectors are trading at premiums. Technology stocks, even after their recent collapse, are still trading at more than twice their historical PEG ratio (2.5 to 1.0).

Table 7-2

PEG Ratios

Asset Class/Sector	PEG	Historical PEG
Health Care	1.1	1.3
Consumer Staples (Foods)	1.7	1.7
Basic Materials (Chemicals)	2.5	1.6
Telecommunication	1.8	1.6
Financials	1.1	0.9
Utilities	0.9	2.0
Technology	2.5	1.0
Capital Goods (Industrials)	1.3	1.2
Energy (S&P Oil)	1.7	1.8
Cyclicals (Retail Stores)	1.6	1.1
Large-Cap Value	2.5	NA
Large-Cap Growth	1.5	NA
Mid-Cap Value	1.4	NA
Mid-Cap Growth	2.0	NA
Small-Cap Value	1.5	NA
Small-Cap Growth	1.8	NA
S&P 500	1.4	1.2

Note, historical data are from 1984 to January 2002.

Price-to-Book Ratio

Book value is calculated by dividing a stock's shareholders' equity by all its common shares. Shareholders' equity is derived by subtracting liabilities from a company's total assets. We get the price-to-book ratio by dividing a company's stock price by its book value per share. This ratio typically determines whether a company or sector will be labeled "growth" or "value." Value investors generally prefer companies with low price-to-book ratios, while a high reading is more appropriate for growth-style investors. I pay attention to price-to-book ratios, since they are used by most of the index management companies to determine

Table 7-3

Price-to-Book Ratios, January 2002

Asset Class/Sector	Price/Book Ratio
Health Care Sector	9.8
Large-Cap Growth	8.6
Consumer Staples (excl. health care)	8.5
Technology Sector	6.4
Mid-Cap Growth	5.9
Cyclical/Transports Sector	5.1
Small-Cap Growth	4.7
Industrials Sector	3.7
Telecommunications Sector	3.1
Financial Sector	3.0
Basic Materials Sector	2.8
Large-Cap Value	2.6
Utility Sector	2.6
Energy Sector	2.4
Small-Cap Value	2.1
Mid-Cap Value	1.8

when an index or sector falls into the value or growth category.

An interesting point made by David Blitzer in his book entitled *Outpacing the Pros: Using Indexes To Beat Wall Street's Savviest Pros*, is that there is now a definitional problem with how book value is calculated. “How do you quantify the value of a company’s reputation with the public and customer relations?” Blitzer points out that book value used to be much more useful when the major companies on Wall Street were manufacturing companies with factories. Book value was easy to calculate for these companies—it was all tangible. But, factoring in *goodwill* (reputation and relations of a company) into book value has made the accounting tricky in today’s economy.

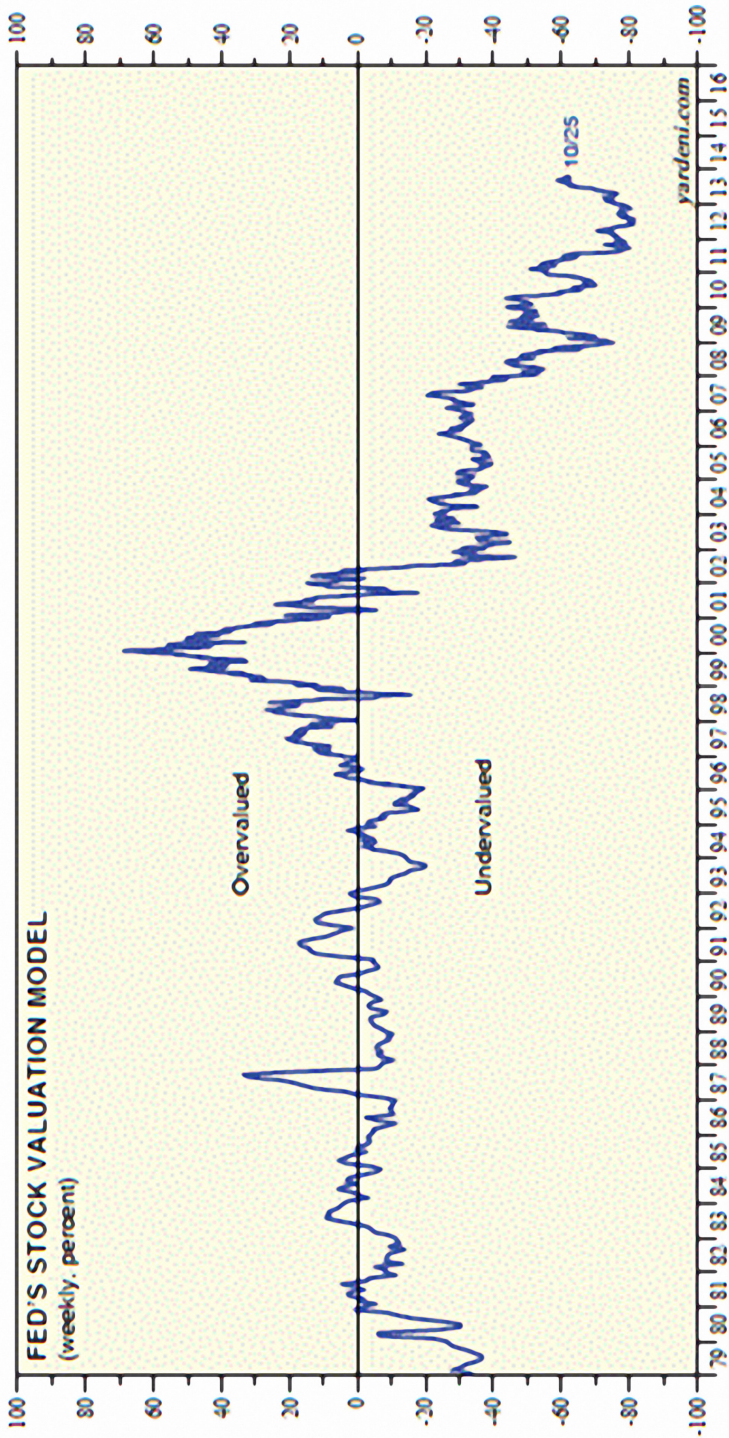
Fed Model

Another valuation measurement tool I look at is the so-called Fed Model. Federal Reserve Chairman Alan Greenspan supposedly commissioned his staff to come up with a stock valuation model, and this is it. I'm not going to go into a detailed description of the Fed Model here, because I devote an entire chapter to the subject later in this book. However, let me give you a brief description.

The Fed Model, which has also been referred to by *Barron's* as "Greenspan's Model," has been a fairly reliable tool for gauging the fair value of the stock market. The model gauges stock and bond valuations by comparing the yield on the 10-Year Treasury note to the earnings yield on the S&P 500 (earnings yield is the inverse of the P/E ratio of the S&P 500).

The Fed Model reading is calculated as follows—divide 1 by the present 10-Year Treasury note yield (1/.0495%) and multiply your answer by the 12-month forward, per share, earnings estimates for the S&P 500 (presently the consensus has this number at \$52). $20.2 \times 52 = 1,050.4$. Thus, 1,050.4 is fair value for the S&P 500. Right now, the S&P 500 is trading at 1,150, so the market is presently overvalued by about 9.5% ($1150 - 1050.4 = 99.6$ divided by 1050.4). The Fed Model tells us that bonds are a better value than stocks right now. The model basically asks, why would I buy stocks with an earnings yield of 4.34% (inverse of the forward P/E ratio) if I can get a risk-free Treasury note that is yielding almost 5.0%?

The Fed Model's reading will change based on 3 factors—stock prices, earnings estimates, and bond yields. Just because stock prices are falling doesn't mean the model will be moving toward an undervaluation reading or closer to fair value. Earnings and bond yields are just as important as stock prices, as far as the



• Ratio of S&P 500 Index to its fair value (51-week forward consensus expected S&P 500 operating earnings per share divided by the 10-year US Treasury bond yield). Monthly through April 1994, weekly thereafter.
Source: Standard & Poor's Corporation and Thomson Reuters I/B/E/S.

model is concerned.

I'll give you much more to chew on concerning the Fed Model in Chapter 20.

Uncorrelated investments

The last measurements I look at prior to making a purchase or sale are correlation coefficients. They tell me how investments behave relative to one another. Again, correlation refers to the way securities move in relation to one another. For example, two investments that typically rise and fall together (e.g., small-cap growth and mid-cap growth) have a high, or, positive correlation. A negative, or, low correlation indicates that two investments have varying returns and will therefore result in less volatility (one may rise while the other falls). Obviously, prudent investors do not want all the pieces of their portfolios rising and falling at the same time. Okay, I take that back. All investors (prudent or not) want every piece of their portfolios to rise, and no pieces to fall. Since this is an impossibility, it is wise to create a portfolio of uncorrelated investments to smooth out your overall returns without, hopefully, giving up much upside potential. If you focus on controlling risk you must own some uncorrelated investments.

A properly diversified, uncorrelated portfolio will comfort you regardless of what the economy is doing, and regardless of which part of the business cycle we are in. When the economy booms, typically your growth-oriented investments will perform well. And, when a recession hits, you'll be glad you own the consumer staples and utility sectors—and other value, or defensive sectors.

Many investors like to focus on the few pieces in their portfolios that show losses. For example, I may hear the following from an investor—"The market's been doing great lately, but why haven't I made money in utilities or consumer

staples?” My short answer is, “Because I’m doing my job correctly.” The extended version of the answer goes beyond that response, but there is much truth to my statement. Sure, it is easy to focus on investment losses, but over the short to intermediate term, there will always be pieces of your portfolio that are in and out of favor. This is the *beauty* of an uncorrelated portfolio. In general, if you remain invested through an entire business cycle, all the pieces of your equity portfolio should show some gains—assuming an index-based portfolio. The utility sector will ultimately show a positive return, and so will consumer staples, small-cap growth, etc. The key is to maintain proper diversification at all times.

Let me mention that I would never add an investment to a portfolio simply because it is uncorrelated. Correlation coefficients are important, but so are valuation measurements. So, if you’re going to add an investment to your portfolio, you should first believe it is fairly or undervalued. Then look at how it correlates to the rest of your portfolio.

Note, correlation coefficients are not static—they are constantly changing. Nevertheless, it is important to consider how investments have behaved in the past, even if it is far from a perfect indicator of future behavior. I list correlation coefficients for most asset classes and sectors in Table 27-1.

Summary

Let me sum up the process I use to determine the attractiveness of different equity index-based investments.

1) *First, I calculate the valuation reading of the entire stock market as indicated by the Fed Model.* This reading gives me an idea as to whether stocks represent a good value relative to bonds.

Table 7-4

Stock correlations ('relative' high and low)

S&P Industrials	Low correlation to:	S&P Oil, Sm-Cap VI., S&P Chem.
	High correlation to:	L-Cap Gr., L-Cap VI., Sm-Cap Gr.
S&P Chemicals	Low correlation to:	Tech, S&P Telephone, S&P Oil
	High correlation to:	Sm-Cap VI., M-Cap VI., S&P Foods
S&P Foods	Low correlation to:	Tech, Mid-Cap Gr., Sm-Cap Gr.
	High correlation to:	S&P R. St., S&P Health, S&P Chm.
S&P Oil	Low correlation to:	Tech, S&P Telephone, Lrg-Cap Gr.
	High correlation to:	S&P Transportation., Lrg-Cap VI.
S&P Retail Stores	Low correlation to:	Technology, M-Cap Gr., L-Cap Gr.
	High correlation to:	S&P Foods, Lrg-Cap VI., M-Cap VI.
S&P Telephone	Low correlation to:	S&P Oil, Sm-Cap VI., S&P Chem.
	High correlation to:	S&P Utilities, Sm-Cap Gr.
S&P Transports	Low correlation to:	Technology
	High correlation to:	Lrg-Cap VI., Mid-Cap VI., S&P Util.
Financials	Low correlation to:	S&P Oil, Technology
	High correlation to:	Small-, Mid- and Large-Cap Value
S&P Health Care	Low correlation to:	S&P Oil, Sm-Cap VI., Technology
	High correlation to:	S&P Foods, S&P Industrials
Technology	Low correlation to:	S&P Chem., S&P Foods, S&P R. St.
	High correlation to:	Small-, Mid-, and Large-Cap Gr.
S&P Utilities	Low correlation to:	S&P Oil, Technology
	High correlation to:	S&P Telephone, S&P Transportation
Large-Cap Growth	Low correlation to:	S&P Oil, S&P Chemicals, S-Cap VI.
	High correlation to:	S&P Industrials, Tech, Sm-Cap Gr.
Large-Cap Value	Low correlation to:	Technology
	High correlation to:	Mid-Cap VI., Financials, S&P Ind.
Mid-Cap Growth	Low correlation to:	S&P Oil, S&P Foods, S&P Ret. St.
	High correlation to:	Sm-Cap Gr., Tech, Lrg-Cap Gr.
Mid-Cap Value	Low correlation to:	S&P Oil, Tech, Lrg-Cap Gr.
	High correlation to:	Sm-Cap VI., Lrg-Cap VI., Financials
Small-Cap Growth	Low correlation to:	S&P Oil, S&P Health Care
	High correlation to:	Mid-Cap Gr., Tech, Lrg-Cap Gr..
Small-Cap Value	Low correlation to:	Tech, S&P Oil, S&P Health Care
	High correlation to:	M-Cap VI., Financials, Lrg-Cap VI.

2) *Next, I remind myself that some asset classes carry more risk than others.* Small- and mid-cap stocks carry more risk than large caps. And, distressed stocks (value) are riskier than growth stocks. Then, I look at the 12-month forward P/E ratios for all equity asset classes and sectors to help me determine how expensive or cheap they are, based on earnings expectations. I also check price-to-book ratios. However, I rely more heavily on forward-P/E ratios to help determine my purchases. I also make a mental note that growth asset classes have historically commanded a 58% premium P/E to value-oriented asset classes. This gives me some basis for determining whether or not growth is cheap or expensive relative to value. In addition, I note that small caps have typically traded at 82% (mid caps at 86%) of the large-cap P/E. The differences in large- and small-cap P/Es and value vs. growth should not be overlooked.

3) *After reviewing price-to-earnings and price-to-book ratios, I look at PEG ratios to see if present stock prices are justified by long-term earnings growth estimates.* I like to compare current PEGs with historical average PEGs. Right now most sectors and asset classes are trading at relatively high PEGs.

4) *After reviewing the valuation measurements for the market (Fed Model, P/Es and PEGs) I look at the standard deviations for each investment I'm considering.* Again, this measurement gives me an idea as to the volatility of returns. If you are very conservative and you have a weak stomach, you should probably avoid investments with high standard deviations. And, remember, higher volatility does not necessarily mean a higher return. I don't look at standard deviations to give me an idea as to what return I can expect from an investment; I look at them to determine how much volatility I should expect.

5) *Next, I review the risk and return measurements that show me if an asset class or sector has historically rewarded investors*

for taking on risk. Alpha measurements and Sharpe ratios can help determine whether or not it's worth owning an investment. Over the past couple of decades, both alpha and Sharpe ratio calculations show financials, mid-cap value, health care, utilities and large-cap value to have been the most attractive investments from a risk-adjusted return standpoint. But, we don't know if this will be repeated in the future. Nevertheless, these risk-adjusted measurements are important to consider.

6) *Last, I look at how various sectors and asset classes relate to one another by studying their correlation coefficients.* Ideally, your investments should be somewhat uncorrelated—the returns move in opposite directions, which lessens volatility. The key is to be careful not to have too many investments that are highly correlated. You don't want all your investments gaining or losing ground at the same time—it's too tough on the nerves. At a minimum, even if you discover that your investments are highly correlated, at least you'll be aware of this fact. And, if you wish, you can diversify this risk. Or, you may decide to keep your highly correlated investments, knowing you'll be in for a wild ride. (See Chapter 27 for much more on correlations.)

Note—while I believe all of the risk and valuation measurements I've summarized in this chapter are valuable, they are obviously not infallible. The Fed Model, for example, can stay under- or overvalued for long periods of time, while stocks continue to rise (or fall). Small-cap stocks can show awful returns for long periods of time, even though they're supposed to give better returns than the rest of the market. The same can be said of low price-to-book stocks, and low P/E stocks. And, as you know, correlation coefficients, standard deviations, betas, alphas and Sharpe ratios are dynamic. Their past behavioral patterns may not necessarily be an accurate predictor of the future. (Sounds like a disclaimer.) Nevertheless, I wouldn't ignore any of the measurements I've listed in this chapter.

8

Large-cap structured indexing

The structured approach takes insights about risk characteristics and designs investment products to isolate and capture them in a precise way. The resulting strategies may not necessarily match familiar equity or fixed income indexes, but often represent a more scientific approach to designing the asset class ‘building blocks’ used to develop a total portfolio.

—WESTON WELLINGTON, Dimensional Fund Advisors, Inc.

LARGE-CAP STOCK ASSET CLASSES HAVE a median market capitalization of approximately \$55 billion. Most large-cap companies have been around for years and have proven track records. Although in the late 1990s and early 2000-2001, Internet-related companies attracted billions of dollars in a ridiculously short time, it generally takes many years for a “normal” company to build a market cap in the billions. This is one of the reasons large caps are generally considered a less risky bet than small- and mid-cap stocks—they have a history of success.

Table 8-1

(IVE) iShares S&P 500/BARRA Value Index

Median Market Cap:	\$30.5 billion
Price/Book	2.60
P/E ratio (ex. negative P/Es)	19.4
Implied growth rate (5-year avg.)	7.72%
Average annual return (1/84-12/01)	15.96%
Standard deviation	0.98% (low volatility)
PEG ratio	2.5
Sharpe ratio	.90 (excellent rating)
Number of stocks	339
Yield	.52%

Holdings	%	Sector weightings	%
Exxon Mobil	5.1	Utilities	5.5
Citigroup	5.0	Energy	12.9
AIG	3.8	Financials	31.2
AOL Time Warner	2.7	Industrials	13.2
Verizon	2.6	Durables	2.9
SBC Comm.	2.5	Consumer Staples	1.4
Tyco	2.0	Consumer Services	8.4
Royal Dutch	2.0	Retail	3.3
Bank of America	1.9	Health Care	1.9
ChevronTexaco	1.8	Technology	9.4

Comments:

These distressed companies may be considered to be trading at attractive price-to-book ratios and low P/E ratios. However, they are typically companies in industries that are struggling and therefore carry more risk.

Sources: www.morningstar.com, www.ishares.com, www.amex.com, www.advisoryworld.com, www.spglobal.com, www.barra.com

There are two viable investment strategies for allocating in large caps. Your first option is a simple, but sound, approach. You divide the S&P 500 (it's almost all large caps) into two separate investments, growth and value. Then, you weight each piece according to your risk tolerance and objectives. The other strategy, and my preferred choice, is to break down the S&P 500 by sector, and then allocate your money to each sector individually. Before I get into the details of my preferred approach, let me outline how to proceed with the simpler version—owning both the value and growth components separately.

Large-cap structured indexing—simple approach

Exchange-traded funds are excellent investment vehicles for dividing the S&P 500 into growth and value. You can buy the iShares that track the Barra Value Index (IVE) and the Barra Growth Index (IVW)—the growth and value portions of the S&P 500).

Large-cap value

The value portion of the S&P 500 is made up of securities that are considered a better “value.” I already discussed at length my views on value stocks and the risks inherent in owning these companies. Again, I prefer that you think of these companies as distressed, rather than value plays. These distressed companies may be considered to be trading at attractive price-to-book ratios and low P/E ratios. However, they are typically companies in industries that are struggling and therefore carry significant risk. Large-cap value stocks have generally paid out some of their return in the form of dividends, rather than reinvesting all their money in research and development like many growth companies.

Table 8-2

(IVW) iShares S&P 500/BARRA Growth Index

Median Market Cap:	\$102.2 billion
Price/Book	8.6
P/E ratio (ex. negative P/Es)	30.38
Implied growth rate (5-year avg.)	19.51%
Average annual return (1/84-12/01)	15.88%
Standard deviation	18.3% (avg. volatility)
PEG ratio	1.55
Sharpe ratio	.54 (avg. rating)
Number of stocks	161
Yield	.77%

Holdings	%	Sector weightings	%
General Electric	7.5	Utilities	.1
Microsoft	7.1	Energy	0.0
Wal-Mart Stores	4.9	Financials	5.7
Pfizer	4.8	Industrials	9.5
Intel	4.6	Durables	.5
IBM	4.1	Consumer Staples	13.6
Johnson & Johnson	3.4	Consumer Services	3.5
Cisco Systems	2.9	Retail	11.7
Merck	2.5	Health Care	25.9
Home Depot	2.3	Technology	29.5

Comments:

Right now, growth companies do not look cheap, but they don't look ridiculously priced either. If you believe tech earnings will come back strong (not a given) and health care companies will continue to grow at a good pace, then you may want to overweight this asset class.

Sources: www.morningstar.com, www.ishares.com, www.amex.com, www.advisoryworld.com, www.spglobal.com, www.barra.com

Right now, the value portion of the S&P 500 is heavily weighted toward energy and financial stocks. If you are a relatively conservative investor who doesn't like a lot of volatility in your portfolio, you may want to weight this index more heavily than the growth portion of your large-cap holdings. But I should warn you that large-cap value has *only* been less volatile recently. If you look at the performance and standard deviations going back to 1964 (Table 5-4), both large value and growth had similar standard deviations. But, large value had a much better return. Again, this premium return is not a free lunch. There are characteristics inherent in these securities that make them riskier than growth stocks. Nevertheless, a conservative stock investor may be more comfortable owning this half of the S&P 500, since it doesn't have heavy weightings in volatile technology and health care companies. You may ultimately decide to allocate 60% to 70% of your large-cap assets to the value index (assuming it's fairly valued when you buy it).

What's interesting to note right now about large-cap value, is that it sports a very high PEG ratio. Again, this ratio gives you an idea as to whether or not the present P/E ratio for the asset class is justified by the potential earnings growth. So, while one may think a P/E of 19.4 is fairly reasonable, with average annual long-term growth forecasted at only 7.7%, you're paying a high price for slow growth. Therefore, for the time being anyway, large value appears to be expensive, and perhaps not such a "value" play after all.

Large-cap growth

The growth portion of the S&P 500 comprises, obviously, growth-oriented companies that typically reinvest their money in research and development, rather than pay out a dividend to shareholders. The technology and health care sectors make up most of the growth portion of the S&P 500. This index has

recently shown more volatility than the value component, and has offered better upside potential, but more downside risk too. If you look at the data going back to the 1960s, however, you'll see that large-growth has *not* been more volatile than large-value, and its returns have been about 4% less, averaged annually, than value.

The stock market in 2000-2001 proved that growth-oriented companies—technology in particular— shouldn't be bought at simply any price. Valuations *do* matter, as we've all been harshly reminded. Before choosing your large-cap growth percentage allocation, look at the valuations to see if you're getting these companies cheap or at fair value. Right now, growth companies do not look cheaply, but they don't look ridiculously priced either. If you believe tech earnings will come back strong (not a given) and health care companies will continue to grow at a good pace, then you may want to overweight this asset class.

An interesting note on the growth index is that given an implied 19.5%, long-term growth rate, the PEG ratio for large-cap growth stocks looks more attractive than large-cap value's PEG. Remember, the implied growth is based on earnings estimates, and we can't be certain they'll be accurate. Many analysts and advisors believe health care and technology companies are expensive, but if the earnings forecasts turn out to be correct, then we may look back a few years from now and think these companies were perhaps a pretty good value at today's prices. Nevertheless, before you buy the growth portion of the S&P 500 (or value for that matter), you should have a good idea as to what you are buying, why, and what the valuations look like.

Large-cap sector investing—my preferred approach to owning large caps

My preferred approach to owning large caps is to make separate allocations in each of the individual sectors that comprise

Table 8-3
Sector Groups by Industry

Basic Materials

Chemical (Basic)
Chemical (Diversified)
Chemical (Specialty)
Metal & Mining (Div.)
Paper & Forest Products
Precious Metals
Steel (General)
Steel (Integrated)

Financials

Bank
Bank (Canadian)
Financial Svcs (Div.)
Insurance (Life)
Insurance (Prop/Casualty)
Investment Co. (Foreign)
REITs
Securities Brokerage
Thrift

Technology

Computer & Peripherals
Computer Software & Sv.
E-commerce
Semiconductor
Internet

Telecommunications

Foreign Telecom
Telecom Equipment
Telecom Services
Wireless Networking

Health Care

Biotechnology
Drug
Health Info Serv.
Medical Services
Medical Supplies
Pharmacy Services

Source: *Value Line*

Consumer Cyclical

Advertising
Apparel
Auto Parts
Auto & Truck
Cable TV
Educational Services
Entertainment
Entertainment Technology
Foreign Electron/Entertn.
Furniture/Home Furnishings
Home Appliance
Homebuilding
Hotel/Gaming
Manuf Housing/Rec.Vh.
Newspaper
Publishing
Recreation
Restaurant
Retail Building Supply
Retail (Special Lines)
Retail Store
Shoe

Consumer Staples

Beverages
Semiconductor (Cap Eq.)
Beverage (Soft Drink)
Food Processing
Food Wholesalers
Grocery
Household Products
Tobacco
Toiletries/Cosmetics

Utilities

Elec. Util. (Centr.)
Elec. Util. (East)
Elec. Util. (West)
Nat.Gas (Distr.)
Water Utility

Energy

Canadian Energy
Coal
Natural Gas (Div.)
Oilfield Srv./Eq.
Petro (Integrated)
Petro (Producing)

Industrials

Aerospace/Defense
Air Transport
Building Materials
Cement & Aggrts.
Diversified Co.
Electrical Equip.
Electronics
Environmental
Human Resources
Industrial Services
Info. Services
Machinery
Maritime
Metal Fabricating
Office Eq.& Supplies
Packaging & Con.
Power
Precision Instr.
Railroad
Textile
Tire & Rubber
Trucking/Leasing

the S&P 500. I have previously explained why I prefer to slice up the large-cap asset class into value and growth—rather than owning the S&P 500 as one holding—but I prefer to divide it up even more, and own each sector individually. I’ve listed below, the advantages of breaking down the large-cap asset class into separate sector holdings.

Advantages

1) *Better risk control.* If you own broad-based indexes (i.e., S&P 500, large-cap growth) you cannot control the exposure you have to a given sector. Therefore, you cannot control risk. For example, if the investing public pushes up the prices of tech companies in the S&P 500 to obscene levels, like it did in 1999, you can’t do anything about it. Your opinion doesn’t matter and you have no control of the weightings in the index. But, if you purchase the sectors separately, you can control your *own* portfolio’s exposure to the sector. To a certain degree this allows you to control risk.

2) *Better control of an investment style.* Each sector can be considered representative of a certain style of investing—growth, value or blend (a combination of both). The style is determined by the companies within each sector and their profile as defined by different research companies. I’ve used *Morningstar’s* data to show the style of each sector. If you want to tilt your portfolio toward value stocks or growth stocks, but you own the S&P 500 in one basket, you cannot control the style weighting of your portfolio. If the index is more growth oriented, which it is, you have to accept that. Again, you have no choice. So, I prefer to allocate money in each sector individually, so I can tweak a portfolio toward one style of investing. For example, if I have a client who is risk-averse and wants little volatility in his or her equity portfolio, I can advise the client to only own the pieces of the S&P 500 (we’re only talking about large caps here) that are

the least volatile. The portfolio could be weighted toward utilities, financials and energy to hopefully have a lower standard deviation. These sectors make up most of the “value” portion of the index. Likewise, an investor may decide to own only the growth-oriented sectors of the market. This investor could load up on technology and health care stocks. This approach allows you to choose your preferred style of investing.

3) *Better control of taxes.* When you own broad-based ETFs or index funds, you don’t have much flexibility as far as tax planning is concerned. Sure, if the fund you own is showing a loss, you can realize the loss and swap into a similar, highly correlated investment without triggering a wash sale. But, if you allocate among all the different sectors of the market separately, you can be much more creative from a tax standpoint. If one of the sectors—you may own up to 10 sectors in total—is showing a loss, and you need to offset a realized gain in your portfolio, you can sell the sector ETF and harvest the loss. You are not obligated to sell the whole piece, as with a broad-based holding. You also have the possibility of swapping out of, for example, one technology-related basket and into another (iShares Technology basket ‘IYW’ into the Technology SPDR ‘XLK’). You harvest a loss, but at the same time, you maintain exposure in the sector by purchasing a different technology ETF. You can perform similar moves with other sectors of the market. Anyway, by dividing your large-cap holdings into separate sectors, you can be much more flexible and creative from a tax-planning perspective. (Much more on tax planning in Chapter 16.)

4) *Better risk control within an existing portfolio.* Often when working with new clients I find that I am forced to manage assets around “inherited” positions. For example, I have a client who has a substantial percentage of his net worth in technology stocks right now. His cost basis is incredibly low on some of the large-cap technology companies, making it especially painful to sell

Table 8-4
Sector performance—ranked by total return

Sector	85-87	88-90	91-93	94-96	97-99	00-01
Consumer Staples	1	2	8	6	6	6
Basic Materials	2	10	6	7	11	8
Health Care	3	1	10	2	4	4
Communication Services	4	3	7	8	2	10
Utilities	5	5	9	10	10	1
Consumer Cyclicals	6	8	2	11	3	9
Capital Goods	7	6	5	4	5	7
Energy	8	4	11	5	8	2
Financial Services	9	9	1	3	7	3
Technology	10	11	4	1	1	11
Transportation	11	7	3	9	9	5

Sources: *Morningstar Inc.*, *Vanguard Group*, *Wilshire Associates Inc.*

these holdings, since hefty capital gains taxes would be due. This is a situation where dividing up a broad-based index into separate sector ETFs makes a lot of sense. This investor can completely avoid adding more technology exposure (if he wishes), and only buy the non-tech sectors of the large-cap market. Furthermore, he can allocate money to sectors that are uncorrelated to his present holdings. In this way, he can smooth out his overall returns by owning sectors that have historically made money when technology shares are losing, and vice versa. For example, he could allocate money to consumer staples and energy. And, he could avoid the industrial sector, which is highly correlated to tech. It's obvious that when you are forced to work around an existing portfolio, owning individual sector ETFs has many advantages.

You may also find yourself in a similar situation if you have new money to invest and you hold stocks that have a very low basis in your present portfolio. You can use sector ETFs to control risk and avoid overlapping exposure to individual stocks.

Table 8-5

Basic Materials

Annual Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
-13.7	-39.7	17.4	49.3	37.1	-2.2	37.3	-6.9	10.3	11.0

Cumulative Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
97.5	96.9	130.7	86.1	102.2	89.0	66.9	37.2	29.1	8.9

Historical percentage weighting in the S&P 500

2002	1998	1994	1990	1986	1980	1968
3%	7%	7%	7%	7%	8%	15%

High correlation to—Small-Cap Val., Mid-Cap Val., S&P Foods

Low correlation to—Technology, S&P Telephone, S&P Oil

Price/Book	2.8
2002 P/E ratio	24.73
PEG ratio	2.5
Historical PEG ratio	1.6
Long-term growth rate:	9.9% annualized
Average annual return (1/84-12/01)	12.59% (S&P Diversified Chemicals)
Standard deviation	13.62% (low volatility)
Sharpe ratio	.48 (average rating)
Yield	2.5%
Number of companies in the sector:	40
Median company size (\$ billions):	3.25
Morningstar style box:	Large value

Key holdings—DuPont, Dow Chemical, Alcoa, International Paper, Weyerhaeuser, Alcan Aluminum, Air Products & Chemicals, Newmont Mining, Barrick Gold, Praxair

Sources: www.morningstar.com, www.ishares.com, www.amex.com, www.advisoryworld.com, www.spglobal.com, www.barra.com

Let's now look at each individual sector of the large-cap asset class, to help you decide where you want to put your money.

Basic Materials

Basic materials consists of companies manufacturing materials used to produce finished goods. These companies are typically in the chemical, plastics, paper, wood and metals industries. Most of the basic materials companies produce commodities whose sales prices are somewhat determined by inflation. In a low-inflation environment—like right now—these stocks tend to be unattractive. The basic materials sector has gone from a very dominant position in the S&P 500 in the late 1960s (15%), to a present weighting of only 3%. As the economy has changed, basic materials have become less important, and this once very important sector has fallen back to the second smallest sector weighting—only the transportation sector is smaller.

Cyclicals (consumer discretionary)

The cyclical sector consists of companies that tend to prosper or suffer along with the general economy. These companies' fortunes are determined by the financial health of the consumer. The companies that make up this sector are typically in the auto, retail (department stores), lodging, gaming and leisure industries. Like capital goods (industrials), cyclicals generally head south in anticipation of a recession or slowdown in economic activity. The stocks normally move up as the economy improves (or in anticipation of an improving economy). The cyclical sector has maintained a very steady representation in the S&P during the past 30 years (between 9% and 14%).

Table 8-6

Cyclicals (consumer discretionary)

Annual Performance									
2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
11.3	-21.1	20.9	34.5	34.6	13.9	21.2	-10.5	12.3	16.5

Cumulative Performance									
2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
210.4	179.0	253.7	192.4	117.4	61.6	41.8	17.0	30.8	16.5

Historical percentage weighting in the S&P 500						
2002	1998	1994	1990	1986	1980	1968
13%	9%	12%	11%	14%	10%	13%

High correlation to—S&P Foods, Large-Cap Val., Mid-Cap Val.

Low correlation to—Technology, Mid-Cap Gr., Large-Cap Gr.

Price/Book	5.1
2002 P/E ratio	24.41
PEG ratio	1.6
Historical PEG ratio	1.1
Long-term growth rate:	14.8% annualized
Average annual return (1/84-12/01)	10.57% (S&P Retail Stores 'Dept')
Standard deviation	18.39% (low volatility)
Sharpe ratio	.24 (average rating)
Yield	.62%
Number of companies in the sector:	88
Median company size (\$ billions):	5.95
Morningstar style box:	Large blend

Key holdings—Wal-Mart, AOL Time Warner, Home Depot,
Fedex, Best Buy, McDonald's, Kohls, Target, Costco,
Ford Motor, General Motors

Sources: www.morningstar.com, www.ishares.com, www.amex.com,
www.advisoryworld.com, www.spglobal.com, www.barra.com

Table 8-7

Energy

Annual Performance									
2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
-12.2	11.7	16.2	-2.1	22.0	21.6	25.8	-0.3	11.1	-2.5

Cumulative Performance									
2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
124.8	156.0	129.2	97.3	101.6	65.3	35.9	8.0	8.3	-2.5

Historical percentage weighting in the S&P 500

2002	1998	1994	1990	1986	1980	1968
6%	6%	10%	13%	12%	27%	14%

High correlation to—S&P Trans., Large-Cap Val., S&P Retail St.

Low correlation to—Technology, S&P Telephone, Large-Cap Gr.

Price/Book	2.4
2002 P/E ratio	16.87
PEG ratio	1.73
Historical PEG ratio	1.8
Long-term growth rate:	9.7% annualized
Average annual return (1/84-12/01)	5.16% (S&P Oil— Integrated Domestic)
Standard deviation	14.47% (low volatility)
Sharpe ratio	-.06 (poor rating)
Yield	1.68%
Number of companies in the sector:	24
Median company size (\$ billions):	8.17
Morningstar style box:	Large value
Key holdings—ChevronTexaco, Exxon Mobil, Royal Dutch Petroleum, Phillips Petroleum, Conoco, Anadarko Petroleum, Schlumberger, El Paso, Baker Hughes, Williams Co.	

Sources: www.morningstar.com, www.ishares.com, www.amex.com,
www.advisoryworld.com, www.spglobal.com, www.barra.com

Energy

The energy sector is composed of companies that produce energy-related products. This sector had dramatic changes during the past couple of decades. It went from being the present-day tech darling at approximately 30% of the S&P 500 in 1980, to a mere 6% today. Exxon (now Exxon Mobil) actually had the largest weighting in the S&P back in 1980. In 1979 the Iranian revolution caused great worry about a possible oil shortage and oil prices took off. The argument was that oil was a diminishing resource and that anyone who was in the oil business was going to be rich—sound familiar? Well, the oil bubble burst, and the sector underperformed the broad market for more than a decade afterwards—it has not returned to star status.

Utilities

The utility sector is made up of companies involved in the electric, gas and water utility businesses. The utility sector has never been a very important sector in the S&P, although it did catch investors' attention in the mid-1980s and early 1990s. It hit a peak of about 8% of the S&P 500 in 1986, but now comprises only 3% of the index. The sector has traditionally been considered fairly predictable, offering investors solid dividends and pretty good protection of principal. But investors who buy utility stocks for either of these reasons are making a grave mistake. The utility sector ride of the past couple of years has been a roller coaster. It soared 54% in 2000, as technology stocks got hammered (it *was* uncorrelated to tech), but in 2001 it lost 34% (through November). Utilities *and* technology were the two worst performing sectors for the year. It has become as unpredictable and undependable as other sectors in the S&P 500.

Table 8-8

Utilities

Annual Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
-32.5	54.3	-12.5	10.1	18.6	-1.9	34.9	-13.0	8.9	2.1

Cumulative Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
52.5	126.0	46.4	67.3	52.0	28.1	30.6	-3.2	11.2	2.1

Historical percentage weighting in the S&P 500

2002	1998	1994	1990	1986	1980	1968
3%	3%	5%	7%	8%	6%	6%

High correlation to—S&P Transportation, S&P Telephone

Low correlation to—S&P Oil, Technology

Price/Book	2.6
2002 P/E ratio	10.13
PEG ratio	.92
Historical PEG ratio	2.0
Long-term growth rate:	11.0% annualized
Average annual return (1/84-12/01)	14.86% (S&P Utilities Index)
Standard deviation	13.98% (low volatility)
Sharpe ratio	.62 (good rating)
Yield	3.21%
Number of companies in the sector:	38
Median company size (\$ billions):	7.14
Morningstar style box:	Large value
Key holdings—Duke Energy, Southern, Exelon, Dominion Resources, American Electric Power, TXU, FirstEnergy, Progress Energy, FPL Group, Entergy	

Sources: www.morningstar.com, www.ishares.com, www.amex.com, www.advisoryworld.com, www.spglobal.com, www.barra.com

Table 8-9

Communication Services**Annual Performance**

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
-13.7	-39.7	17.4	49.3	37.1	-2.2	37.3	-6.9	10.3	11.0

Cumulative Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
91.7	122.1	268.2	213.6	110.1	53.2	56.6	14.1	22.5	11.0

Historical percentage weighting in the S&P 500

2002	1998	1994	1990	1986	1980	1968
5%	8%	9%	9%	8%	6%	10%

High correlation to—S&P Utilities, Sm-Cap Growth

Low correlation to—S&P Oil, Sm-Cap VI., S&P Chemicals

Price/Book	3.1
2002 P/E ratio	21.9
PEG ratio	1.79
Historical PEG ratio	1.6
Long-term growth rate:	12.2% annualized
Average annual return (1/84-12/01)	12.08% (S&P Telephone)
Standard deviation	15.00% (low volatility)
Sharpe ratio	.40 (average rating)
Yield	0.77%
Number of companies in the sector:	13
Median company size (\$ billions):	24.06
Morningstar style box:	Large value
Key holdings—SBC Comm., Verizon, BellSouth, AT&T, AT&T Wireless, Century Tel., Citizens Comm., Alltel, Telephone & Data Systems, Broadwing	

Sources: www.morningstar.com, www.ishares.com, www.amex.com,
www.advisoryworld.com, www.spglobal.com, www.barra.com

Consumer Staples

The consumer staples sector is composed of manufacturers of consumer products that are purchased normally at the same level through all economic cycles. These are typically food, beverages, tobacco and cosmetics. I have separated the health care sector from the consumer staples sector, but it is often referred to as a consumer staple. This sector was the leader of the S&P 500 back in 1990, as it commanded 17% of the index. Now it represents only 8% of the capitalization of the index.

Telecommunication Services

The telecom sector is made up of wireless telecom providers, carriers and integrated telecommunication services companies. This sector is sometimes grouped within the technology sector. The telecommunication services sector has remained a consistent sector—as far as its weighting is concerned. It has fluctuated between 5% to 10% of the S&P 500 since 1968. In the past couple of years it has been highly correlated to the tech sector and has suffered. Its performance was abysmal in 2000 and again in 2001. Companies like AT&T, once considered solid blue chips, have seen their market caps cut in half. This sector is now considered as volatile and risky as the tech sector.

Financials

The financial sector includes banks, insurance brokers, life and health insurance companies and financial services firms. The banks and finance companies tend to do poorly heading into a recessionary period as bad loans increase and trading commissions and fees decrease. Over the past two decades, the financial sector has steadily gained importance in the S&P 500. It has gone from a 7% weighting in 1968, to a present weighting of 18%. It is considered by some to be the next great sector, as more

Table 8-10

Consumer Staples**Annual Performance**

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
-10.4	3.7	-7.5	20.3	31.9	17.7	44.7	-9.6	15.1	8.7

Cumulative Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
162.9	193.6	183.0	206.1	153.9	92.5	63.6	13.0	25.1	8.7

Historical percentage weighting in the S&P 500

2002	1998	1994	1990	1986	1980	1968
8%	15%	16%	17%	12%	8%	8%

High correlation to—S&P Retail St., S&P Health Care, S&P Chem.

Low correlation to—Technology, Mid-Cap Gr., Small-Cap Gr.

Price/Book	8.5
2002 P/E ratio	22.53
PEG ratio	1.71
Historical PEG ratio	1.7
Long-term growth rate:	13.1% annualized
Average annual return (1/84-12/01)	15.42% (S&P Foods)
Standard deviation	18.61% (average volatility)
Sharpe ratio	.50 (average rating)
Yield	1.44%
Number of companies in the sector:	34
Median company size (\$ billions):	12.78
Morningstar style box:	Large growth
Key holdings—Anheuser-Busch, Coca-Cola, PepsiCo, Safeway, Colgate-Palmolive, Gillette, Philip Morris, Procter & Gamble, Kimberly Clark, Sysco	

Sources: www.morningstar.com, www.ishares.com, www.amex.com,
www.advisoryworld.com, www.spglobal.com, www.barra.com

Table 8-11

Financials

Annual Performance									
2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
-10.5	23.8	2.2	9.6	45.4	31.9	49.6	-6.7	8.5	19.9

Cumulative Performance									
2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
332.2	383.0	290.1	281.7	248.4	139.6	81.7	21.4	30.1	19.9

Historical percentage weighting in the S&P 500						
2002	1998	1994	1990	1986	1980	1968
18%	14%	11%	8%	10%	6%	7%

High correlation to—Small-, Mid- and Large-Cap Value

Low correlation to—S&P Oil, Technology

Price/Book	3.0
2002 P/E ratio	14.54
PEG ratio	1.10
Historical PEG ratio	0.9
Long-term growth rate:	13.2% annualized
Average annual return (1/84-12/01)	15.42% (Spec. Fin. Serv.)
Standard deviation	16.52% (average volatility)
Sharpe ratio	.77 (excellent rating)
Yield	1.87%
Number of companies in the sector:	72
Median company size (\$ billions):	12.23
Morningstar style box:	Large value
Key holdings—AIG, Citigroup, JP Morgan, Wells Fargo, Fannie Mae, MSDW, Bank One, Bank of America, American Express, First Union	

Sources: www.morningstar.com, www.ishares.com, www.amex.com,
www.advisoryworld.com, www.spglobal.com, www.barra.com

and more baby boomers will flock to investment companies to help them with their finances. Asset managers and banks, they say, are poised to profit. We'll see. What is interesting to note is that while many analysts think the future for financials is so bright, its past hasn't been too shabby either. Since 1992, it has had the second-best cumulative performance of all sectors (after tech), posting a 323% gain. If you believe in reversion-to-mean, you may be somewhat skeptical that this outperformance will continue this decade.

Health Care

The health care sector consists of health care equipment manufacturers, health care suppliers and companies that run health care facilities and managed care operations. It is heavily weighted toward pharmaceutical companies. It also offers some limited exposure to biotechnology companies. The health care sector is another sector that will supposedly continue to prosper thanks to aging baby boomers. Health care companies, which once commanded only a 3% weighting in the S&P, now account for 14% of the index. The sector is often considered a consumer staple since you've got to buy your drugs and medication regardless of the economic cycle. But, the S&P committee separates health care from the consumer staples sector, and so have I. Health care and biotechnology companies had a huge run in the early 1990s and again in the late 1990s, as investors bought on the hope that aging baby boomers would eventually spend three times as much on medical care. The sector is still considered a great long-term play.

Capital Goods (Industrials)

The capital goods sector includes companies involved in aerospace, construction, engineering, and machinery. This sector tends to do well when the economy is expanding. It does poorly

at the start of a recession, or in anticipation of a slowdown in economic activity. Capital goods (industrials) have maintained a consistent presence in the S&P 500. In 1968 the sector represented 14% of the index and today it stands at 11%. While the sector, known for its “old economy” stocks, dropped to a weighting of 8% in 1998, as “new economy” stocks were pummeled during the past couple of years, the public has reconsidered the importance of this sector. It is now back to its historical average weighting in the index.

Transportation

The transportation sector is made up of air freight, airlines, road and rail, and transportation infrastructure companies. The transports make up the smallest portion of the S&P 500. *It is impossible to buy this sector separately (it's mixed in with the cyclicals)*. The sector has never had a high weighting in the S&P (recent history), but on a percentage scale, its drop from a 3% weighting in 1968 to a 2002 weighting of 1%, was very significant. Railways and airlines are no longer the growth stories they once were, and the market has reflected this fact for the past couple of decades.

Technology

The technology sector includes companies that are involved with software and services, in addition to technology hardware and equipment. Growth in this sector is somewhat dictated by the economy as a whole—similar to capital goods and cyclicals. The tech sector has shown more growth over the past three decades than any other sector. It went from 7% of the S&P 500 index to a high of 35% in March 2000. I could argue that the index was even more heavily weighted in technology companies if I include some other tech-related companies in the index. After the tech meltdown, the sector now makes up 19% of the index (not

Table 8-12

Capital Goods (Industrials)

Annual Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
-12.7	2.3	27.2	12.4	24.6	29.6	31.8	5.5	11.3	0.4

Cumulative Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
220.4	267.1	258.8	182.1	151.0	101.4	55.4	17.9	11.7	0.4

Historical percentage weighting in the S&P 500

2002	1998	1994	1990	1986	1980	1968
14%	11%	11%	10%	10%	8%	11%

High correlation to—Small-Cap Gr., Large-Cap VI., Large-Cap Gr.

Low correlation to—S&P Oil, Small-Cap Value, S&P Chemicals

Price/Book	3.7
2002 P/E ratio	20.72
PEG ratio	1.33
Historical PEG ratio	1.2
Long-term growth rate:	15.5% annualized
Average annual return (1/84-12/01)	14.89% (S&P Industrials)
Standard deviation	14.86% (low volatility)
Sharpe ratio	.59 (good rating)
Yield	1.29%
Number of companies in the sector:	68
Median company size (\$ billions):	6.74
Morningstar style box:	Large blend
Key holdings—General Electric, MMM, Honeywell, Tyco, Emerson Electric, Waste Management, Caterpillar, Boeing, Illinois Tool Works, United Technologies	

Sources: www.morningstar.com, www.ishares.com, www.amex.com, www.advisoryworld.com, www.spglobal.com, www.barra.com

including telecommunications). The technology sector's performance in the 1990s was extraordinary, showing a cumulative return of almost 1,000% from 1992-1999. You know what happened next. But, thanks to the mid-1990s, and a late rebound in 2001, tech still shows the best cumulative performance of any sector over the past ten years—about 400%. Analysts are now wondering whether technology will be a dead-in-the-water sector for many years, or if it's just "pausing to refresh." One thing is certain, given present valuations, technology is anything but cheap.

Table 8-13

Technology

Annual Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
-24.0	-40.0	74.8	72.4	25.6	41.1	42.8	15.2	21.2	1.6

Cumulative Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
392.8	548.6	980.8	518.5	258.8	185.7	102.5	41.8	23.1	1.6

Historical percentage weighting in the S&P 500

2002	1998	1994	1990	1986	1980	2002
19%	12%	9%	10%	7%	6%	3%

High correlation to—Small-, Mid-, and Large-Cap Growth

Low correlation to—S&P Chemicals, S&P Foods, S&P Retail Stores

Price/Book	6.4
2002 P/E ratio	47.84
PEG ratio	2.52
Historical PEG ratio	1.0
Long-term growth rate:	18.9% annualized
Average annual return (1/84-12/01)	15.47%
Standard deviation	29.09% (high volatility)
Sharpe ratio	.32 (fair rating)
Yield	0.0%
Number of companies in the sector:	78
Median company size (\$ billions):	7.68
Morningstar style box:	Large growth
Key holdings—Microsoft, IBM, Intel, Cisco Systems, AOL Time Warner, Dell Computer, Oracle, Texas Instruments, AT&T, Applied Materials	

Sources: www.morningstar.com, www.ishares.com, www.amex.com,
www.advisoryworld.com, www.spglobal.com, www.barra.com

Table 8-14

Health Care

Annual Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
-13.2	34.4	-9.3	42.6	41.6	18.5	54.5	9.6	-11.2	-18.2

Cumulative Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
211.5	258.9	166.9	194.2	106.2	45.6	22.9	-20.4	-27.4	-18.2

Historical percentage weighting in the S&P 500

2002	1998	1994	1990	1986	1980	1968
14%	12%	9%	10%	7%	6%	3%

High correlation to—S&P Foods, S&P Industrials

Low correlation to—S&P Oil, Technology, Small-Cap Value

Price/Book	9.8
2002 P/E ratio	24.82
PEG ratio	1.10
Historical PEG ratio	1.3
Long-term growth rate:	15.7% annualized
Average annual return (1/84-12/01)	19.98% (Pharmaceuticals)
Standard deviation	22.25% (high volatility)
Sharpe ratio	.63 (good rating)
Yield	0.42%
Number of companies in the sector:	45
Median company size (\$ billions):	10.7
Morningstar style box:	Large value
Key holdings—Pfizer, Merck, Ely Lilly, Bristol-Myers Squibb, Abbott Labs, Johnson & Johnson, Pharmacia, American Home Products, Amgen, Medtronic	

Sources: www.morningstar.com, www.ishares.com, www.amex.com,
www.advisoryworld.com, www.spglobal.com, www.barra.com

Table 8-15

Transportation

Annual Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
-1.6	16.9	-10.7	-3.0	27.8	12.6	36.8	-17.7	17.0	6.5

Cumulative Performance

2001	2000	1999	1998	1997	1996	1995	1994	1993	1992
101.1	104.3	74.8	95.7	101.8	57.9	40.3	2.5	24.6	6.5

Historical percentage weighting in the S&P 500

2002	1998	1994	1990	1986	1980	1968
1%	1%	1%	1%	2%	2%	3%

High correlation to—Large-Cap VI., Mid-Cap VI., S&P Utilities

Low correlation to—Technology

Price/Book	NA
2002 P/E ratio	30.44
PEG ratio	2.69
Historical PEG ratio	1.1
Long-term growth rate:	11.3% annualized
Average annual return (1/84-12/01)	7.42% (S&P Tran. Airlines)
Standard deviation	22.65% (high volatility)
Sharpe ratio	.06 (poor rating)
Yield	NA
Number of companies in the sector:	9
Median company size (\$ billions):	7.1
Morningstar style box:	NA
Key holdings:	NA

Sources: www.morningstar.com, www.ishares.com, www.amex.com,
www.advisoryworld.com, www.spglobal.com, www.barra.com

9

Building your large-cap sector portfolio

...it's possible for investors to use a wider range of strategies to gain greater expected returns—all within the bounds of indexing.

—EUGENE F. FAMA JR., Dimensional Fund Advisors, Inc.

THE FIRST STEP TO BUILDING YOUR large-cap sector portfolio is to determine what the present weightings are of the sectors that make up the S&P 500. S&P Global's Web site posts this information daily on www.spglobal.com. Once you've determined the weightings, you can decide whether or not you want to simply replicate the index itself, or tweak the index to reflect your own investment objectives and risk profile.

After reviewing the present weightings for each sector, I think it is helpful to look at valuations and forward earnings estimates (EPS 5-year growth). (Review the summary beginning on page 95 for details.)

As I wrote earlier, I think it's important to pay attention to the 12-month forward P/E ratios and the EPS 5-year growth estimates

Table 9-1
Recommended Sector Weightings, April 2002
Large-Cap Portfolio

Large-cap sector	% allocation
Health care	15
Consumer staples	18
Basic Materials	0
Telecom	0
Financials	22
Utilities	15
Technology	0
Capital goods (industrials)	15
Energy	15
Cyclicals (consumer discretionary)	0

for all sectors. This can give you an idea as to whether or not they're a good value.

Obviously a growth-oriented sector like health care or tech deserves a higher P/E ratio and a higher PEG ratio than a defensive, non-growth sector like utilities. (Historically growth stocks have commanded a 58% premium P/E multiple to value stocks.)

My present recommendation would be to avoid (or underweight) the sectors that have high P/E and PEG ratios. I would avoid technology—I cannot justify paying 48 times 2002 earnings. I would also avoid basic materials—it's trading at 2 times its historical PEG. I would underweight or avoid cyclicals and telecom for the same reason. Obviously if earnings come back strong in these sectors, the PEG ratios will come down, as will the P/E ratios. But, for now, I prefer to be cautious.

Table 9-2
Trailing P/E—S&P 500
 GICS Sectors

	Energy	Basic Mat.	Industr.	Cons. Discr.	Cons. Staples	Health Care	Finacsl.	Tech.	Telecom	Util.
1995	17.8	11.9	17.2	17.1	20.1	21.5	11.1	17.4	18.2	13.6
1996	17.0	19.3	18.9	17.7	22.6	23.2	14.1	24.1	16.2	13.2
1997	19.0	21.4	23.6	19.8	26.6	29.6	17.4	24.0	21.8	16.1
1998	33.5	22.4	22.1	26.8	28.4	36.3	18.2	43.3	35.7	16.7
1999	28.2	24.3	25.5	28.9	23.3	28.9	15.5	62.4	31.8	14.7
2000	15.7	16.6	24.6	24.5	24.8	35.1	18.0	35.4	19.4	18.8
S&P 500										
Trailing P/E		<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>			
		16.2	18.3	21.7	27.3	28.5	23.7			

Source: *Standard & Poor's Quantitative Services*

I would overweight the financial, energy, staples and utility sectors. And, I would maintain a market weighting in health care and industrials. Most sectors of the large-cap market do not strike me as particularly attractive and I have a defensive stance for large caps in general.

The recommendations I've made in Table 9-1 are meant to serve *only* as a guide. I do not apply any constraints whatsoever to the weightings—assuming you stay properly diversified. If you

Table 9-3
% Price Appreciation Return—S&P 500
 GICS Sectors

	Energy	Basic Mat.	Industr.	Cons. Discr.	Cons. Staples	Health Care	Finacsl.	Tech.	Telecom	Util.
1995	25.6	17.8	35.8	18.6	35.9	55.0	48.8	40.1	37.3	24.5
1996	21.7	13.4	22.7	10.5	23.2	18.8	31.9	43.3	-2.2	0.2
1997	22.0	6.3	25.0	32.3	30.5	41.7	45.4	28.1	37.1	18.4
1998	-2.0	-8.0	9.3	39.6	13.9	42.3	9.6	77.6	49.3	10.0
1999	16.0	23.0	19.9	24.1	-16.6	-11.6	2.3	78.4	17.4	-12.8
2000	13.2	-17.7	4.5	-20.7	14.5	35.5	23.4	-41.0	-39.7	51.7

Source: *Standard & Poor's Quantitative Services*

Table 9-4
Market Capitalization % Weight—S&P 500
 GICS Sectors

	Energy	Basic Mat.	Industr.	Cons. Discr.	Cons. Staples	Health Care	Finacls.	Tech.	Tele.	Util.
1995	9.1	6.1	12.6	13.0	12.8	10.8	13.1	9.4	8.5	4.5
1996	9.2	5.7	12.7	11.7	12.7	10.4	15.0	12.4	6.5	3.7
1997	8.4	4.5	11.7	12.1	12.3	11.3	17.2	12.3	6.9	3.3
1998	6.3	3.1	10.1	12.5	11.1	12.3	15.4	17.7	8.4	3.0
1999	5.6	3.0	9.9	12.7	7.2	9.3	13.0	29.2	7.9	2.2
2000	6.6	2.3	10.6	10.3	8.1	14.4	17.3	21.2	5.5	3.8

Source: *Standard & Poor's Quantitative Services*

want to avoid a sector completely because it is too expensive, or if want to overweight a sector, do so. After all, that's the point of structuring your own portfolio, to be able to weight your portfolio as you see fit.

Obviously, the risk of *not* having a market weight in any given sector is that you will underperform. But, your reasons for determining your own weightings are not purely performance related—you want to be able to control risk and volatility better than traditional indexing.

*How to buy your large-cap sector holdings:**

I've listed below the symbols for the index-based sector ETFs. I've also made a brief comparison between the iShares sector ETFs and Select Sector SPDRs, with my recommendation (in bold) as to which one you should purchase.

Health Care—**IYH** (iShares Health Care). This is the only sector ETF available in the health care sector.

Consumer Staples**—**IYK** (iShares Consumer, Non-Cyclical sector). This is the only consumer staples (excluding health care) sector ETF available.

Basic Materials—**XLB** (Basic Materials SPDR) or **IYM** (iShares Basic Materials). XLB has about 31% exposure to the mid-cap basic materials sector. The iShares equivalent (IYM) has about 27% mid-cap exposure and about 7% in small caps. This choice is a wash. But, I would probably recommend buying XLB, since its ongoing expense ratio is lower than the iShares equivalent.

Telecommunication Services—**IYZ** (iShares Telecommunication Services Sector)

Financials—**XLF** (Financial SPDR) or **IYF** (iShares Financial Sector). The Financial SPDR is more large-cap oriented than the iShares equivalent. XLF has 7% in mid caps and IYF has about 19%. I would recommend purchasing the Financial SPDR over the iShares Financial Sector holding since it is more representative of the large-cap financial sector—and the fees are lower too.

Utilities—**XLU** (Utility SPDR) or **IDU** (iShares Utility Sector). The Utility SPDR has 27% in mid-cap stocks, but the iShares equivalent is much more heavily invested in mid caps. The iShares Utility sector holding has 56% in mid caps and another 5% in small caps. Remember, we're after large-cap exposure here, not mid caps. We'll get our mid-cap allocations from other ETFs. However, XLU is too heavily weighted in a few companies. About 47% is in the top 5 holdings. IDU, on the other hand, is somewhat better diversified, with 27% in the top 5 holdings. I would recommend purchasing IDU since it's better diversified.

Technology—**XLK** (Technology SPDR) or **IYW** (iShares Technology Sector). The Technology SPDR is more of a pure

large-cap play with only 10% exposure in mid-cap tech stocks. The iShares technology ETF has 16% mid-cap and 4% small-cap tech exposure. So, for a more pure large-cap technology investment I would advise owning the Technology SPDR. And, its expense ratio is lower also. Note, as I will discuss in Chapter 23, I would also recommend the North Track PSE Technology 100 Index Fund (**PPTIX**) for your tech exposure to large caps. It is almost a pure tech investment, and it offers better diversification of your dollars than XLK and IYW. Check it out.

Capital Goods—**XLI** (Industrials SPDR) or IYJ (Industrials) (iShares Industrial Sector). The Industrials SPDR surprisingly has more mid-cap exposure than the iShares alternative (32% versus 23%). Either choice is fine, but I'd give the nod to XLI for the cost advantage.

Energy—**XLE** (Energy SPDR) or IYE (iShares Energy Sector). Both energy sector ETFs have about the same exposure to the mid-cap market, approx. 24%. So, buy XLE for the cost savings.

Cyclicals—**XLY** (Cyclical/Transports SPDR) or IYC (Consumer Discretionary). These two ETFs have roughly 25% each in mid caps. The iShares also have about 5% in small caps, while XLY has virtually no small-cap exposure. Either of these holdings is acceptable as a large-cap cyclical investment. XLY would still be my preference.

* Note, while these are my large-cap recommendations, some of these ETFs have exposure to mid- and small-cap stocks. Remember, the S&P 500 is *almost* all large caps, but not entirely. So, it is obvious that some of these ETFs will have some mid-cap exposure too.

** Note, you could also purchase the Consumer Staples SPDR (XLP), but this holding includes health care—in addition to food,

beverage and tobacco companies. So, if you decide to buy the consumer staples ETF (XLP), it's best *not* to overlap your holdings—don't buy the health care ETF (IYH) too.

Last note on the sector ETFs—the Select Sector SPDRs are based on sector indexes that are taken out of the S&P 500. However, they are not standard indexes. The stock allocations are done by the Merrill Lynch Research Department. I am confident that Merrill Lynch can do a good job representing the sector indexes of the S&P, but I should note that SPDRs are not exact replicates of the S&P sector indexes. The iShares, on the other hand, were created to track the Dow Jones sector indexes.

10

Mid-cap structured indexing

What are you long on? Companies with low equity valuations, strong balance sheets and a dividend yield.

One finds these among the mid-cap stocks.

—FELIX ZULAUF, president, Zulauf Asset Management AG
International Herald Tribune, March 2002

MID CAPS HAVE A MEDIAN MARKET capitalization of approximately \$2.5 billion. Investing in mid caps doesn't give us as much flexibility as with large caps, since sector ETFs do not exist for this asset class. So, we are limited to the growth and value portions of the market. Obviously, from a risk control and tax planning perspective, we can be less creative in mid caps. Nevertheless, we can still control risk fairly well, since we can alter the weightings between the value and growth portions of the mid-cap index.

Table 10-1

(IJJ) iShares S&P 400/BARRA Value Index

Median Market Cap:	\$2.2 billion
Price/Book	1.8
P/E ratio (ex. negative P/Es)	14.8
Implied growth rate (5-year avg.)	10.08%
Average annual return (1/84-12/01)	15.85%
Standard deviation	14.61% (avg.volatility)
PEG ratio	1.47
Sharpe ratio	.67 (good rating)
Number of stocks	254
Yield	1.30%

Holdings	%	Sector weightings	%
M&T Bank	1.7	Utilities	12.2
RJ Reynolds	1.5	Energy	10.7
Natl Commerce	1.2	Financials	26.6
Weatherford Intl.	1.2	Industrials	15.0
Tele & Data Sys.	1.2	Durables	3.2
Tyson Foods	1.0	Consumer Staples	5.0
Valero Energy	1.0	Consumer Services	11.8
Greenpoint Fin.	1.0	Retail	2.5
Radian Group	1.0	Health Care	2.9
American Water	1.0	Technology	10.0

Comments:

Mid-cap value stocks, as a group, have the most attractive PEG ratio (1.47) of any of the major stock asset classes. And, on a risk-adjusted basis (as defined by the Sharpe ratio), this asset class has been about the most attractive of any of the stock asset classes and/or sectors since 1981.

Sources: www.morningstar.com, www.ishares.com, www.amex.com, www.advisoryworld.com, www.spglobal.com, www.barra.com

Mid-cap value

The value portion of the S&P 400 comprises securities that are considered attractive from a valuation perspective. Like the large-cap value asset class, the companies in this index are considered relatively cheap based on their price-to-book ratios. And, the companies also tend to pay above-average dividends.

The value portion of the S&P 400 is heavily weighted toward financials and utilities. It's interesting to note that there is also about 14% exposure in technology-related companies. Defensive investors will probably want to weight their portfolios in favor of this portion of the index. Like the other value-oriented stock asset classes, it is somewhat less volatile than the growth component, but we obviously don't know if this will be the case in the future. Still, you may decide to weight this asset class more heavily than the growth portion.

Mid-cap value stocks, as a group, have the most attractive PEG ratio (1.47) of any of the major stock asset classes. And, on a risk-adjusted basis (as defined by the Sharpe ratio), this asset class has been about the most attractive of any of the stock asset classes and/or sectors since 1981. It has a relatively low standard deviation, but still shows excellent performance numbers. For example, the average annual return for mid-cap value (Wilshire Mid-Cap Value) is 15.85% since 1/84 versus 12.83% for mid-cap growth stocks (Wilshire Mid-Cap Growth). That's quite a difference. But, more importantly, the standard deviation of the value portion was 12.27% versus 20.43% for growth. So, at least with this asset class, investors received a high reward without too much volatility. These facts may convince you to overweight your portfolio in favor of mid-cap value. Sure, past performance and standard deviations do not give us any guarantee, but it's hard to ignore how well this asset class has done on a risk-adjusted basis. One word of caution, again, the work of Fama and French

taught us about the risks of loading up on value-oriented stocks. The smaller asset classes combined with a value tilt to investing carry additional risks—don't ignore this.

One last attractive point on mid-cap value. The index is very diversified, with no more than 1.6% of its assets in any given company. By contrast, in the large-cap value asset class, several companies make up more than 3% of the index. In the large-cap growth component, General Electric alone makes up more than 6% of the index. So, mid-cap value offers a lot of needed diversification, without any big bets on any one company.

Mid-cap growth

The growth portion of the S&P 400 comprises securities that generally have high price-to-earnings and price-to-book ratios. They typically pay paltry dividends, but have good earnings and good growth potential. The median market capitalization per company in the growth index is higher than the median for the value index—\$3.3 billion versus \$2.2 billion.

The mid-cap growth index is heavily weighted toward health care and technology companies. About half of your assets in this index will be allocated in these two sectors. So, if, for whatever reason, you are not optimistic about the prospects for the health care or technology industries, underweight this asset class.

Presently, mid-cap growth is trading at a very high PEG ratio (2.07), but if earnings come back, the PEG will drop substantially. Right now, however, this index is very expensive from a valuation standpoint.

Mid-cap growth stocks are obviously an important asset class, and they deserve some of your money. Keep in mind, however, that this is a fairly volatile asset class—about the same standard

Table 10-2

(IJK) iShares S&P 400/BARRA Growth Index

Median Market Cap:	\$3.3 billion
Price/Book	5.9
P/E ratio (ex. negative P/Es)	24.01
Implied growth rate (5-year avg.)	11.57%
Average annual return (1/84-12/01)	9.90% (Wilshire Mid-Cap Growth)
Standard deviation	21.92%(Wilshire Mid-Cap Growth) (high volatility)
PEG ratio	2.07
Sharpe ratio	.33 (fair rating)
Number of stocks	147
Yield	.11%

Holdings	%	Sector weightings	%
IDEC Pharm.	2.4	Utilities	.7
SunGard Data Sys.	2.1	Energy	2.2
Electronic Arts	1.8	Financials	10.6
Quest Diagnostics	1.7	Industrials	5.0
Gilead Sciences	1.7	Durables	4.4
Affiliated Comp.	1.5	Consumer Staples	5.8
North Fork Banc.	1.4	Consumer Services	19.7
Apollo Group	1.4	Retail	6.8
BJ Services	1.4	Health Care	21.0
Washington Post	1.3	Technology	24.0

Comments:

The mid-cap growth index is heavily weighted toward health care and technology companies. About half of your assets in this index will be allocated in these two sectors. So, if, for whatever reason, you are not optimistic on the prospects for the health care or technology industries, underweight this asset class.

Sources: www.morningstar.com, www.ishares.com, www.amex.com,
www.advisoryworld.com, www.spglobal.com, www.barra.com

deviation as small-cap growth. Its historical returns have been competitive with other major asset classes—a 12.83% average annual return from 1/84-11/01. And, like mid-cap value, the growth index offers broad diversification, with no more than 3% allocated to any one stock right now. However, the index has almost half as many companies as the mid-cap value index (147 versus 254), so it will probably bounce around more than the value portion. If you don't like too much volatility, keep your exposure to a minimum, but you should still consider owning it when it's more attractively priced.

Table 10-3
Trailing P/E—S&P 400
 GICS Sectors

	Energy	Basic Mat.	Industr.	Cons Discr	Cons. Staples	Health Care	Finacils.	Tech.	Telecom	Util.
1995	39.7	12.0	18.4	20.4	18.9	39.7	12.8	21.6	43.3	13.5
1996	26.4	16.0	18.9	21.0	24.6	34.1	14.6	30.3	51.9	13.1
1997	22.1	17.0	20.9	22.8	26.4	38.9	20.0	29.1	nm	17.6
1998	32.7	14.4	19.2	22.6	23.8	35.9	17.3	46.2	71.8	16.8
1999	40.7	15.0	17.5	18.3	13.6	29.7	13.6	62.6	112.0	15.4
2000	23.5	15.1	18.6	17.0	16.1	45.1	16.9	35.8	nm	17.5
S&P 400		<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>			
Trailing P/E		17.7	19.7	23.2	23.8	22.9	22.2			

Source: *Standard & Poor's Quantitative Services*

Table 10-4
% Returns—S&P 400
 GICS Sectors

	Energy	Basic Mat.	Industr.	Cons. Discr	Cons. Staples	Health Care	Finacis.	Tech.	Telecom	Util.
1995	30.5	14.1	21.3	12.8	26.6	34.1	49.2	47.2	22.0	24.0
1996	49.0	6.7	14.3	18.5	23.5	-7.6	36.6	33.2	4.2	3.6
1997	24.8	16.1	21.4	28.7	41.9	8.4	69.0	25.8	37.4	23.7
1998	-50.6	-12.2	5.6	16.8	2.3	28.9	11.8	88.5	58.9	3.3
1999	46.4	-10.5	.1	-1.0	-23.2	2.1	-14.1	98.5	85.4	-15.7
2000	61.9	.6	7.9	-4.8	19.3	53.1	18.6	-13.1	-24.0	49.9

Source: *Standard & Poor's Quantitative Services*

Table 10-5
Market Cap % Weighting—S&P 400
 GICS Sectors

	Energy	Basic Mat.	Industr.	Cons. Discr	Cons. Staples	Health Care	Finacis.	Tech.	Telecom	Util.
1995	4.2	7.8	14.6	13.2	5.0	9.9	14.6	13.3	4.1	13.2
1996	6.9	7.2	15.1	14.6	5.8	8.4	14.7	12.7	2.7	12.0
1997	6.3	7.4	13.8	14.9	5.4	7.5	18.7	12.0	2.7	11.3
1998	3.0	5.5	12.9	14.5	4.4	10.6	13.3	23.1	1.9	10.9
1999	4.7	4.6	12.9	15.2	3.8	11.0	10.9	26.4	1.8	8.7
2000	7.3	3.6	15.0	13.1	3.6	13.7	15.3	19.2	1.3	7.8

Source: *Standard & Poor's Quantitative Services*

11

Small-cap structured indexing

Because of their greater risk, smaller stocks typically trade at lower earnings multiples.

—JONATHAN CLEMENTS, *The Wall Street Journal*

The group usually goes through up cycles that tend to last about six years and strategists say right now, the market is about halfway through.

—KAREN TALLEY, *The Wall Street Journal*, April 2002

SMALL-CAP STOCKS HAVE A MEDIAN market capitalization of approximately \$800 million—same for the value and growth indexes. The companies that make up these indexes are relatively unknown and undiscovered. If you look at the top components of the indexes, I'd be surprised if you recognize many of the names. Although small-cap stocks, on the whole, make up a very tiny portion of all publicly traded stocks (only about 4%), many professionals recommended allocating a significant portion of your stock portfolio to this asset class. While I agree that they deserve a portion of your assets, I prefer mid caps and certainly large caps to small-cap stocks. The work of Fama and French

have proven that small caps are riskier than mid- or large-cap stocks. The size effect should result in better long-term returns, but understand that this asset class is a “strange animal” and behaves in a very unpredictable fashion. For example, small-cap growth has been particularly volatile over the past 20 years, but it has not rewarded shareholders with higher returns. If I’m going to own an asset class that makes my stomach turn I’d like to get a better reward. Perhaps this underperformance will change in the coming years and small-cap growth will start outperforming mid- and large-cap growth—it’s supposed to.

Small-cap value stocks look more interesting than small growth right now. While they are considered the riskiest of all stock asset classes—due to their high cost of capital and distress levels—small value companies have been somewhat uncorrelated to the rest of the market, and have shown pretty decent returns, with limited volatility. But, don’t let the fairly low standard deviation fool you. The higher returns from small-cap value stocks come at a price—they are very dangerous and you can get creamed at any given time. Don’t think this can’t happen. Nevertheless, for added diversification in the equity markets, I’d allocate a decent percentage of my portfolio to this asset class. And, for the time being, it’s pretty attractive relative to other stock asset classes.

When deciding how much of your money to allocate to value or growth, I would apply the same guidelines that I use for mid- and large-cap stocks. Look at the valuations (P/E and PEG ratios) and look at the exposure to the individual sectors. If you’re going to overweight either asset class make sure you’re doing so because the valuations warrant it.

Risk-averse investors may want to keep their small-cap exposure limited, since it is the riskiest of all stock asset classes. Having said that, I do like the fact that small-cap returns have

Table 11-1

(IWN) iShares Russell 2000 Value

Median Market Cap:	\$766 million
Price/Book	2.1
P/E ratio (ex. negative P/Es)	NA
Implied growth rate (5-year avg.)	NA
Average annual return (1/84-12/01)	13.27%
Standard deviation	14.31% (low volatility)
PEG ratio	NA
Sharpe ratio	.50 (average rating)
Number of stocks	1290
Yield	2.04%

Holdings	%	Sector weightings	%
Dean Foods	.7	Utilities	6.0
Ball	.6	Energy	.3
Owens-Illinois	.5	Financials	31.4
Furniture Brands	.5	Industrials	22.5
Arvinmeritor	.5	Durables	5.0
IKON Office Sol.	.5	Consumer Staples	4.7
KB Home	.4	Consumer Services	12.4
CBRL Group	.4	Retail	5.1
Colonial Bankgroup	.4	Health Care	3.3
Pier 1 Imports	.4	Technology	7.6

Comments:

The Russell 2000 Value Index is a very broad-based, small-cap index consisting of some 1,290 companies. It has fairly broad exposure to all sectors of the asset class, but with a substantial overweighting in industrials and financials. I like the value portion of this asset class—it is reasonably priced.

Sources: www.morningstar.com, www.ishares.com, www.amex.com, www.advisoryworld.com, www.spglobal.com, www.barra.com

moved somewhat counter to large caps in the past. So, while they are definitely riskier than large- and mid-cap stocks, if you balance out your portfolio with a little of each asset class, you are actually reducing risk. This is obviously the argument in favor of diversification of asset classes and uncorrelated investments.

In the small-cap universe of ETFs, you have four choices for your money. Barclays Global Investors offer two different small-cap indexes for both growth and value. I'll discuss them briefly, and make a recommendation as to which ones you should own.

iShares Russell 2000 Value

The Russell 2000 Value Index is a very broad-based, small-cap index consisting of approximately 1,290 companies. It has fairly broad exposure to all sectors of the asset class, but with a substantial overweighting in industrials and financials. I like the value portion of this asset class—it is reasonably priced. And, it has historically given investors a pretty good bang for the buck. Its somewhat recent standard deviation is 14.31% (1/84-12/01), but the standard deviation for small value stocks jumps to 23.96%, if you look at Fama and French data going back to 1964. Small-cap value investors have seen very good returns in the past 20 years—13.27% annualized. However, take note that this asset class is about 30% more volatile than large-cap value stocks, and slightly more volatile than mid-cap value (8%).

iShares S&P 600 Value

The iShares S&P 600 Value Index also gives you exposure to the small-cap value market, but with far fewer companies than the Russell 2000 Value Index (379 vs. 1,290). This index is also heavily weighted toward financials and industrials. The S&P 600 Value Index has about 50% more technology exposure than the Russell equivalent index. I do not have data to show the standard

Table 11-2

iShares S&P SmallCap 600/BARRA Value (IJS)

Median Market Cap:	\$718 million
Price/Book	1.8
P/E ratio (ex. negative P/Es)	23.3
Implied growth rate (5-year avg.)	NA
Average annual return (1/84-12/01)	NA
Standard deviation	NA
PEG ratio	NA
Sharpe ratio	NA
Number of stocks	379
Yield	.64%

Holdings	%	Sector weightings	%
Constellation Brands	1.2	Utilities	5.7
Cullen/Frost Bankers	0.9	Energy	7.3
Toll Brothers	0.9	Financials	14.9
La-Z-Boy	0.9	Industrials	26.2
Washington Federal	0.9	Durables	5.0
Newfield Exploration	0.8	Consumer Staples	4.2
Raymond James Finl.	0.8	Consumer Services	13.5
Zale	0.8	Retail	6.8
Coventry Health Care	0.8	Health Care	4.6
Pogo Producing	0.8	Technology	11.9

Comments:

The iShares S&P 600 Value Index also gives you exposure to the small-cap value market, but with far fewer companies than represented in the Russell 2000 Value Index (379 vs. 1,290). This value index is also heavily weighted toward financials and industrials. The S&P 600 Value Index has about 50% more technology exposure than the Russell equivalent index.

Sources: www.morningstar.com, www.ishares.com, www.amex.com, www.advisoryworld.com, www.spglobal.com, www.barra.com

deviation and long-term historical performance numbers for this index, but I would assume they are similar to the Wilshire Small Company Value Index and the Russell 2000 Value Index, which track the same asset class.

iShares Russell 2000 Growth

The Russell 2000 Growth Index is a very broad-based small-cap index consisting of 1,257 companies. Its assets are concentrated in health care and technology stocks. The historical standard deviation is very high at 19.29%, and its average annual return is 8.74% (1/84-12/01). The growth portion of the small-cap market is not that attractive, in my opinion, from a risk/reward standpoint. Sure, most advisors would probably recommend you allocate some of your stock money to this asset class, but for the time being I would avoid it until the valuation looks more attractive (the P/E is presently over 30).

iShares S&P 600 Growth

The S&P 600 Growth Index is the other small-cap growth ETF that offers exposure to this asset class. It is concentrated in far fewer stocks than the Russell 2000 Growth Index (221 stocks vs. 1,257 stocks). Does this make it riskier than the Russell 2000 Growth Index? I think so, especially since the weightings in the top 10 holdings are fairly high when compared to the Russell 2000 Growth Index (13% versus 4%). Note, this index has quite a bit less technology exposure than the Russell 2000 Growth Index, with about the same weighting in health care.

For small-cap ETFs, if you buy them, I would recommend the iShares Russell 2000 (value and growth) rather than the ETFs that track the S&P 600. The Russell indexes offer better diversification of your money, and in my opinion, less risk.

Table 11-3

iShares Russell 2000 Growth (IWO)

Median Market Cap:	\$794 million
Price/Book	4.7
P/E ratio (ex. negative P/Es)	NA
Implied growth rate (5-year avg.)	NA
Average annual return (1/84-12/01)	8.74%
Standard deviation	19.29% (high volatility)
PEG ratio	NA
Sharpe ratio	.63 (poor rating)
Number of stocks	1257
Yield	.25%

Holdings	%	Sector weightings	%
N.Y. Comm. Bancorp	.5	Utilities	.4
NVR	.5	Energy	4.4
Performance Food Group	.5	Financials	9.3
Lee Enterprises	.5	Industrials	11.5
Career Education	.4	Durables	1.7
Renal Care Group	.4	Consumer Staples	2.5
Brown & Brown	.4	Consumer Services	17.5
GTech Holdings	.4	Retail	6.3
Hudson United Bancorp	.4	Health Care	19.7
Affiliated Managers Group	.4	Technology	26.8

Comments:

The growth portion of the small-cap market is not that attractive, in my opinion, from a risk/reward standpoint. If, as an investor, you are going to assume a lot of volatility in an asset class, you want to be rewarded at some point. Unfortunately, small-cap growth hasn't rewarded investors as well as it should have.

Sources: www.morningstar.com, www.ishares.com, www.amex.com,
www.advisoryworld.com, www.spglobal.com, www.barra.com

Table 11-4

iShares S&P SmallCap 600/BARRA Growth (IJT)

Median Market Cap:	\$1.1 billion
Price/Book	5.0
P/E ratio (ex. negative P/Es)	31.2
Implied growth rate (5-year avg.)	NA
Average annual return (1/84-12/01)	NA
Standard deviation	NA
PEG ratio	NA
Sharpe ratio	NA
Number of stocks	221
Yield	.11%

Holdings	%	Sector weightings	%
Advance Paradigm	1.7	Utilities	1.3
Cephalon	1.7	Energy	2.1
Varian Med. Sys.	1.5	Financials	6.3
Whole Foods Market	1.4	Industrials	15.0
Cross Timbers Oil	1.3	Durables	4.8
Alliant Techsystems	1.3	Consumer Staples	2.9
NVR	1.2	Consumer Services	17.9
Michaels Stores	1.1	Retail	10.6
OM Group	1.0	Health Care	18.0
Pier 1 Imports	1.0	Technology	21.2

Comments:

Like the S&P 600 Value Index, it is concentrated in far fewer stocks than the Russell equivalent index (221 stocks vs. 1,257 stocks). Does this make it riskier than the Russell 2000 Growth Index? I think so, especially since the weightings in the top 10 holdings are fairly high when compared to the Russell 2000 Growth Index (13% versus 4%).

Sources: www.morningstar.com, www.ishares.com, www.amex.com, www.advisoryworld.com, www.spglobal.com, www.barra.com

One last note on small-cap stocks as a whole. When they outperform large-cap stocks, the outperformance generally lasts for periods of 3 to 9 years. In the recent past, the cycle has lasted about 3 years, but according to the work done by the Leuthold Group, going back to the 1930s, “small-cap cycles lasted anywhere from 3 to 9 ¹/₂ years, with the average about five years.” We just finished the second straight year of small-cap outperformance, so we may be in the early stages of a new long-term cycle of small-cap dominance.

Table 11-5

Large-cap versus small-cap cycles

1972-1973	Large caps outperform
1974-1983	Small caps outperform
1984-1991	Large caps outperform
1992-1994	Small caps outperform
1995-1999	Large caps outperform
2000-present	Small caps outperform

Source: Fama-French, CRSP 1-2 (large cap)
CRSP 6-8 (small cap), *Mutual Funds*

Microcaps

I want to briefly mention microcaps, which are the smallest of the small caps. The median market capitalization for microcaps is about \$75 million (the number will vary depending on who you ask). Microcaps carry the most risk of any stock asset class. These are tiny companies, often with unproven earnings. They are also relatively unknown and not widely followed by Wall Street analysts.

Table 11-6
Market Cap % Weighting—S&P 600
 GICS Sectors

	Energy	Basic Mat.	Industr.	Cons. Discr	Cons. Staples	Health Care	Finacsl.	Tech.	Telecom	Util.
1995	5.3	4.9	18.4	14.9	3.4	14.4	17.0	16.3	.6	4.8
1996	6.4	5.1	18.8	16.8	4.4	12.2	16.8	14.1	.3	5.1
1997	5.2	4.7	19.5	18.9	4.6	11.3	17.2	13.1	.9	4.7
1998	2.5	4.5	22.9	18.8	3.9	11.6	16.2	14.7	.3	4.7
1999	3.0	4.0	20.8	16.5	3.1	11.2	10.3	26.8	.7	3.7
2000	7.3	4.9	18.1	17.8	4.2	14.1	12.8	16.4	.3	4.4
S&P 600		<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>			
Trailing P/E		23.0	22.9	nm	24.5	25.6	21.6			

Source: *Standard & Poor's Quantitative Services*

Table 11-7
Trailing P/E—S&P 600
 GICS Sectors

	Energy	Basic Mat.	Industr.	Cons. Discr	Cons. Staples	Health Care	Finacsl.	Tech.	Telecom	Util.
1995	77.8	15.9	21.4	29.0	29.9	61.5	12.5	28.0	nm	14.5
1996	27.3	22.1	21.2	26.9	29.6	47.7	14.0	30.1	nm	14.6
1997	23.8	26.6	21.8	nm	35.2	44.9	18.7	26.1	nm	17.4
1998	nm	29.1	19.1	16	25.9	35.4	18.3	75.3	nm	18.5
1999	49.6	20.5	19.7	14.7	17.3	71.6	17.8	103.3	34.2	17.7
2000	19.8	18.5	17.5	14.9	17.0	49.8	21.7	34.2	nm	16.9

Source: *Standard & Poor's Quantitative Services*

Table 11-8
% Returns—S&P 600
 GICS Sectors

	Energy	Basic Mat.	Industr.	Cons. Discr	Cons. Staples	Health Care	Finacsl.	Tech.	Telecom	Util.
1995	42.9	10.0	27.6	.8	29.5	46.6	45.8	52.7	-5.3	22.5
1996	55.7	16.7	21.2	18.3	40.9	.7	30.0	5.3	0.2	9.0
1997	5.1	13.1	28.1	25.8	39.3	10.5	66.5	4.5	-15.7	29.8
1998	-44.2	-7.1	-1.0	-4.0	-.6	4.2	1.4	-2.2	-23.6	10.0
1999	14.1	1.0	1.5	-7.8	-21.5	9.5	-10.3	69.5	22.1	-2.8
2000	83.4	-3.3	1.7	-3.3	11.3	63.7	53.4	-32.9	-67.1	24.3

Source: *Standard & Poor's Quantitative Services*

Microcaps can be considered attractive for many of the same reasons as the small-cap asset class. In particular, they tend to move counter to large caps, which gives the large-cap investor some much needed diversification. This correlation benefit has been evident in the past couple of years, when large caps have been creamed and mid-, small- and micro-cap stocks have all done relatively well.

If you're interested in microcaps, you don't have much choice for your money. There are no ETFs that track this asset class, and there is only one index fund that tracks microcaps, the U.S. Micro Cap Portfolio (DFSCX) offered by Dimensional Fund Advisors. If you have access to Dimensional's funds through your advisor (they are an institutional-only fund family), you should consider this fund. If you don't have access to this fund, I would ignore microcaps entirely. I wouldn't want you to invest in microcaps with an active manager.

Table 11-6

DFA U.S. Micro Cap (DFSCX)
(index mutual fund)

Median Market Cap:	\$74 million
P/E ratio (ex. negative P/Es)	15.2
Implied growth rate (5-year avg.)	NA
Average annual return (1/84-12/01)	NA
Standard deviation	NA
PEG ratio	NA
Sharpe ratio	NA
Number of stocks	3,027
Yield	.65%
Expense ratio	.56%

Holdings	%	Sector weightings	%
Scios	.5	Utilities	1.3
Inverness Medical Tech.	.4	Energy	5.7
CIMA Labs	.4	Financials	14.0
Carreker	.4	Industrials	17.2
Impath	.3	Durables	5.2
Cryolife	.3	Consumer Staples	2.4
Ameripath	.3	Consumer Services	14.3
ArQule	.3	Retail	5.3
RehabCare Group	.3	Health Care	17.0
Boston Comm.	.3	Technology	17.7

Comments:

If you have access to Dimensional's funds through your advisor (they are an institutional-only fund family), you should consider this fund. If you don't have access to DFA funds, I would ignore microcaps entirely. I wouldn't want to invest in microcaps with an active manager.

Sources: www.morningstar.com, www.dfafunds.com

12

Sample equity portfolios

Based on present valuations I would recommend you tweak your portfolio in favor of value-oriented sectors and small- and mid-cap value stocks.

I WOULD LIKE TO WALK YOU THROUGH a simple exercise to help you structure your total stock portfolio (small, mid, and large caps). The first step is to decide what percentage of your portfolio you want to allocate to the three major stock asset classes. To help you decide, go to www.morningstar.com and enter the stock symbol “IYY” (iShares Dow Jones Total Market) and click on the “Top 25 Holdings” button. This ETF represents the entire stock market and you will see the weightings of the market broken down by capitalization. Here are the present weightings of the total stock market—

Total stock market weightings, as of February 2002:

Large-cap stocks	78%
Mid-cap stocks	18%
Small-cap stocks	4%

Table 12-1
2002 P/Es & PEGs

Asset Class	2002 P/E (ex. negatives)	PEG
S&P 500 (large-cap stocks)	24.37	1.72
S&P 400 (mid-cap stocks)	18.17	1.68
S&P 600 (small-cap stocks)	17.79	1.66

Asset Class	2002 P/E value vs. growth (ex. negatives)	PEG
S&P 500 (large-cap value)	19.40	2.50
S&P 500 (large-cap growth)	30.38	1.55
S&P 400 (mid-cap value)	14.79	1.47
S&P 400 (mid-cap growth)	24.01	2.07
S&P 600 (small-cap value)	14.86	1.56
S&P 600 (small-cap growth)	21.73	1.81

Source: www.barra.com

If you want to allocate your portfolio exactly like the market's weightings, you would simply purchase the iShares Dow Jones Total Market ETF and be done with it. But, as I mention throughout this book, there are many reasons to allocate your money differently. Assuming you agree with my reasoning, you will want to adopt a different allocation than the total market.

Now, at www.barra.com you can find data to help you determine how you will weight your stock portfolio, and how different you want it to look, compared to the total market weightings. Remember, right now we are deciding how to weight the three major stock asset classes. In a moment, you will decide how you will weight growth and value in the small- and mid-cap asset classes and the individual sectors in the large-cap arena.

When looking at the fundamentals of the major stock asset

classes Barra's data give us an indication as to how the asset classes are valued, based on forward earnings estimates.

Historically, the S&P 500 has traded at about a 1.2 PEG ratio, so it is obvious that right now the market is not cheap—all the PEG ratios are higher than this historical average. And, the P/E ratio of the S&P 500 has historically ranged between 12 and 26, so we are obviously near the upper limit. Nevertheless, let's assume you *must* allocate all your stock assets right now, so you've got to decide where to put your money.

Look at the top portion of Table 12-1. It is obvious that large-cap stocks are expensive versus small- and mid-cap stocks. Large-cap stocks are trading at a valuation premium of about 34% over mid-cap stocks and about 37% over small-cap companies. Note, historically, large-cap stocks have commanded a higher P/E than small- and mid-cap stocks. *Small-cap stocks generally trade at 82% of the P/E of large-cap stocks.* Using this number, to be trading at its historic average, small-cap stocks should have a P/E of 20. But, their P/E is presently 17.79. So, even after factoring in the typically discounted P/E of small-cap stocks, they are still on sale right now (about 11% below their average discount to large-cap stock P/Es). On the other hand, if you look at the present P/E for the large caps and compare it to their historical P/E, you can see they are priced at a premium. *Large-cap stocks have generally traded at about 15 times earnings, so they are presently trading at a 62% premium.* Small-cap stocks, by the way, typically trade for about 13 times earnings, so they are also expensive compared to their historical average.

Anyway, we've learned that large-cap stocks are trading at a premium compared to small caps—small caps are trading at a discounted P/E to large-cap stocks of about 30%. This is significantly higher than their average historical discounted P/E of 18%. Mid caps typically trade at a discounted P/E of about 14%

Table 12-2
Hypothetical Equity Portfolio 1

Large-cap stocks	67%
Mid-cap stocks	27%
Small-cap stocks	6%

Average annual return (1/84-12/01): 14.61%

Standard deviation: 13.11%

to large caps. Given these valuation numbers, and the P/E and PEG ratios, we could make a case that we should overweight small- and mid-cap stocks right now. If mid-cap stocks make up about 18% of the total market, and small-cap stocks comprise about 4% of the market (total market weightings), I could comfortably recommend you overweight each of these asset classes by 50%. If you took my advice, your total stock allocation would look like the allocation in Table 12-2.

Obviously, with these weightings, you would be making a bigger bet on small- and mid-cap stocks. But, you've already done your homework and determined that their valuations are more attractive than large-cap stocks. So, assuming you are comfortable with these valuations, you can justify your choices.

In Table 12-3 I've shown the same allocations as in Table 12-2, but with a heavier weighting in the value components of all three major asset classes. This is a very simple allocation with only six holdings.

Table 12-3
Hypothetical Equity Portfolio 2

Large-cap value stocks	47%
Large-cap growth stocks	20%
Mid-cap value stocks	19%
Mid-cap growth stocks	8%
Small-cap value stocks	4%
Small-cap growth stocks	2%

Average annual return (1/84-12/01): 15.42%

Standard deviation: 11.92%

The portfolio shown in Table 12-4 is more diversified among styles and asset classes than the total market. It has more money allocated to mid- and small-cap stocks and its overweight value. As a result, the standard deviation of the portfolio has been reduced—11.92% versus 13.84% (total market’s standard deviation). This more diversified portfolio is about 13% less volatile and its average annual return was actually *better* than the total market portfolio. My point is that the structured portfolio (even with a simple 6-ETF portfolio), shows how you can lessen volatility without giving up returns. By overweighting value and adding more small- and mid-cap exposure, you diversify your risks (size and style) better than the total market portfolio.

Let me take this a step further to make another point. If you are willing to go against conventional wisdom and have your portfolio’s returns and allocations look different from the large indexes, you can even further diversify your risk. The portfolio in Table 12-5 allocates *significantly* more money to mid- and small-cap stocks than the total market portfolio. And, it underweights

Table 12-4
Hypothetical Equity Portfolio 3

Large-cap value stocks	26%
Large-cap growth stocks	8%
Mid-cap value stocks	26%
Mid-cap growth stocks	7%
Small-cap value stocks	26%
Small-cap growth stocks	7%

Average annual return (1/84-12/01): 13.50%

Standard deviation: 12.34%

growth, in favor of value. The results are revealing. It shows a better annual return than the total market—about a 1% annual premium. And, it shows a lower standard deviation, 12.34% than the previous hypothetical portfolios. Once again, you could have lessened the volatility of your overall portfolio and improved your results if you had a more balanced allocation than the total market during the past two decades.

Let's look at a few other sample portfolios. In Table 12-5 I've divided large caps into separate sectors (my preferred approach). I've allocated the small- and mid-cap stocks to the value and growth pieces. This portfolio is weighted toward value, with the exception of a pretty significant weighting in health care—health care is considered a growth play. I've also allocated about 50% more to mid- and small-cap stocks than the present weightings in the total market (Wilshire 5000).

The results show that a very broadly diversified portfolio in large-cap sectors, and mid- and small-cap stocks, would have also been more attractive than the total market portfolio, during the

Table 12-5
Hypothetical Equity Portfolio 4

Health Care	12%
Consumer Staples	6%
Basic Materials	1%
Telecommunications	1%
Financials	14%
Utilities	5%
Technology	7%
Capital Goods (industrials)	8%
Energy	8%
Cyclicals	5%
Mid-Cap Value	19%
Mid-Cap Growth	8%
Small-Cap Value	4%
Small-Cap Growth	2%

Average annual return (1/84-12/01): 13.90%

Standard deviation: 12.09%

past couple of decades. We were also able to further reduce volatility, without giving up performance.

As I've mentioned previously, I have no idea how these sample portfolios will perform in the future versus the total market or the S&P 500. Allocating your index-based portfolio using the structured approach gives you control of your exposure to different parts of the market and I believe it also improves your diversification. Whether or not this results in better returns going forward is impossible to predict.

Table 12-6
Hypothetical Equity Portfolio 5
Low Volatility

S&P Chemicals	15%
Utilities	15%
Capital Goods (industrials)	10%
Energy	15%
Mid-Cap Value	25%
Small-Cap Value	20%

Average annual return (1/84-12/01): 10.74%

Standard deviation: 9.88%

The low-volatility portfolio shown in Table 12-6 comprises asset classes and sectors with PEG ratios and standard deviations that are relatively low versus the market and each investment's historical PEG. These asset classes and sectors have tended to be a bit less volatile than the growth sectors and asset classes. This portfolio should appeal to the risk-averse investor.

Compare the standard deviations of the low-volatility portfolio in Table 12-6 to the high-volatility portfolio in Table 12-7. The low-volatility portfolio is about 35% less volatile. And, you would not have been rewarded for assuming a higher variation of returns in the high-volatility portfolio. The average annual return was about the same for the two portfolios. *Obviously I would not recommend owning this high-volatility portfolio.*

Table 12-8 shows a hypothetical portfolio that would be considered very defensive and recession resistant. The asset classes and sectors I've chosen have typically done well during

recessionary periods, and they've also had decent returns during economic expansions. Like the low-volatility portfolio, this portfolio should also interest the risk-averse investor.

Table 12-7

Hypothetical Equity Portfolio 6
High Volatility

Health Care	20%
Technology	20%
S&P Foods	10%
Cyclicals	10%
Mid-Cap Growth	25%
Small-Cap Growth	15%

Average annual return (1/84-12/01): 13.21%

Standard deviation: 16.08%

Table 12-8

Hypothetical Equity Portfolio 7
Recession-Proof

Health Care	20%
Consumer Staples	20%
Utilities	15%
Energy	15%
Mid-Cap Value	15%
Small-Cap Value	15%

Average annual return (1/84-12/01): 13.15%

Standard deviation: 16.74%

Here's a final sample portfolio (Table 12-9) that shows how *not* to allocate your portfolio. I have chosen several asset classes and sectors that are highly correlated. Again, these investments tend to move up and down at the same time, making this portfolio undesirable and unacceptable—especially if you've got a weak stomach. Most importantly, the added volatility and high correlation did not increase the average annual returns versus properly diversified portfolios.

Table 12-9
Hypothetical Equity Portfolio 8
Highly Correlated Aggressive—not recommended

Technology	20%
Capital Goods (industrials)	20%
Large-Cap Growth	20%
Mid-Cap Growth	20%
Small-Cap Growth	20%

Average annual return (1/84-12/01): 12.56%

Standard deviation: 18.80%

The facts speak loudly in these hypothetical, sample portfolios. You should construct a properly diversified portfolio, with uncorrelated investments. Keep significant exposure in asset classes and sectors that are attractive from a valuation standpoint. And, by favoring investments that have lower volatility, you won't necessarily be giving up potential return.

Disclosure

The hypothetical portfolios in this chapter have been prepared using historical performance data. The data was obtained from outside sources and is believed to be reliable, but there can be no guarantees as to its accuracy or reliability. Estimates presented herein are based on historical performance data and there is no stated or implied guarantee that a rate of return will be realized or that the investments presented will perform as indicated in future years. The performance displayed herein is hypothetical and was compiled at the end of the time period 1984-2001. Such results do not represent actual trading.

The exact indexes and sectors in the sample portfolios in this chapter may not be available for investment and they are not indicative of any particular investment.

The time period used in these sample portfolios was limited, due to the unavailability of data prior to 1984. Since the period 1984-2001 represents one of the best performing stock market periods ever, the hypothetical sample portfolio returns will more than likely not be indicative of future performance.

13

Bonds, unfortunately you've got to own some

The 50-year after-tax, after-inflation average annual return for long-term Treasury bonds is 0.8%. For short-term Treasury bills the average annual return is an even more dismal 0.3%.

I DON'T CARE MUCH FOR BONDS, even though they look pretty darn attractive these days (when we're muddling through a bear market in stocks). But, bonds deserve a place in almost all portfolios. Let me first address why I don't like bonds. It's simple. After taxes and inflation you can't build wealth with bonds. The 50-year after-tax, after-inflation average annual return for long-term Treasury bonds is 0.8%. For short-term Treasury bills the average annual return is an even more dismal 0.3%. You cannot grow your assets with a portfolio of bonds, but there are times when you should own them, and there is a right way to own them.

When should you own bonds?

1) *Your investment time horizon is less than three years.* If you don't have at least 3 years until you need your money, bonds and cash-equivalent investments make sense. We've already discussed the volatility of the stock market and the reasons for not owning stocks if you have less than 3 years to invest. The main reason for not owning stocks with a short time horizon is that your money may not be in your account when you need it. The stock market is too risky with a short-term horizon, so it's better to park this money in short-term bonds and cash equivalents.

2) *You are not comfortable owning stocks.* Most investors are risk-averse. They don't like risk and they don't like losing money. I believe stock losses within an index-based stock portfolio are temporary—the stock market has always come back from its lows to go on to make new highs (it's just a matter of time). But, some investors don't care what the stock market has done historically and they don't care that over time you will more than likely do far better in stocks than you will in bonds or cash. They don't care, because owning stocks makes them uncomfortable. They may lose sleep thinking about how much their portfolio will drop tomorrow and they anguish at the sight of red arrows on CNBC. Owning stocks makes them nauseous. I understand this, and I would never recommend stocks to an investor who cannot “stomach” the ups and downs of the market. If you are an investor who cannot handle even the slightest loss in any given month on your brokerage statement, you shouldn't own stocks (or long-term bonds either). If the thought of losing money (even temporarily) depresses you and your mood is often determined by what the market is doing, please don't own stocks—it's not worth it.

Again, if you experience some of the symptoms I've mentioned above, don't own stocks. If you are retired and you

make the calculation, you may be surprised to learn that you have more than enough money to *not* outlive your portfolio—based on your life expectancy—if you simply invest in bonds. Even after factoring in taxes, you may be able to live the rest of your life comfortably without any stock ownership. Good for you. This means you have somehow accumulated enough wealth and you can now choose to live off the income and/or principal from your fixed-income investments. Would I recommend this strategy for most investors? Of course not. But, *you* have to invest in a way that makes you feel comfortable, and if owning only bonds accomplishes that—so be it.

3) *You are impatient.* If your investment time horizon is more than 3 years, I recommend owning stocks—with at least a small portion of your portfolio. But, even though your time horizon is long enough for you to own a volatile asset class, your investor personality may not indicate that you should. Impatient investors have a very difficult time owning stocks and staying invested during volatile or declining markets. A get-rich-quick mentality will more than likely break you. You need a lot of patience and discipline to own stocks and stick with them when they are beating you up, and you're losing money. If you're impatient and seek immediate results—forget about stocks. Short-term bonds make more sense for the impatient investor.

4) *To reduce volatility in your overall portfolio.* Bonds are great for reducing volatility in a total portfolio. Short-term bonds have a low correlation to stocks. As a result, when your stocks are losing money, your bonds are more than likely performing well. Thanks to the low correlation and the fact that a portfolio of short-term, high-quality bonds will rarely lose money, you will smooth out the overall volatility of your overall portfolio.

Investors who owned bonds in 2000-2001 probably saw their bonds far outperform stocks. Stocks got hammered in the last

couple of years while bonds did very well, as they appreciated thanks to lower interest rates. (Bond prices rise when interest rates decline and vice versa). In 2000 alone, yields on 20-year Treasuries fell from 6.82% to 5.58%, the second lowest year-end level since 1967. As interest rates plunged, long-term Treasury yields came down, and prices shot up. Intermediate-term government bond funds gained 12.5% in 2000 and long-term corporate bonds gained almost 13%. These were terrific returns for bonds, and they were delivered when stocks were dropping like a stone.

Owning bonds in the past couple of years (or during most down years in stocks) looked brilliant. But, those who owned them probably did so for safety and security, or because they needed their money in the near future—not because they somehow predicted a fall in interest rates. Regardless, if you combined some bonds with your stock investments in 2000-2001, it helped reduce the overall volatility of your portfolio. Again, thanks to the low correlation between stocks and bonds, they make a lot of sense for investors who wish to reduce volatility.

5) *You don't care about your heirs.* True, bonds won't create wealth over the long term. After-tax and after-inflation average annual returns for bonds are close to nil. But, if you don't care much for your heirs and your life expectancy is relatively short, or you have enough money to maintain your lifestyle for the rest of your life, you may wish to only own bonds. Of course, your heirs might not be happy with your choice, but maybe you don't care about your heirs, or you don't have any. Anyway, they don't need to know how you're invested—it's your money. So, if you don't care about creating more wealth and outpacing inflation for the next generation, don't bother with stocks.

6) *You want some "safe" money in a reserve fund.* Even if you believe stocks will outperform bonds over the long run, and

you want most of your money invested in equities, I would recommend you create a reserve fund of short-term, fixed-income investments and cash equivalents. Your reserve fund will consist of “safe” investments that pay interest and typically preserve capital, regardless of economic conditions. Your reserves should be funded with anywhere from 3 to 5 years of income needs. Very conservative investors may want up to 10 years of income needs in a reserve fund. For example, if you need \$100,000 in annual income to maintain your lifestyle, I would advise investing between \$300,000 and \$500,000 in short-term, fixed-income investments. By having 3 to 5 years of living expenses set aside, this should allow you to get through a pretty horrendous bear market (the average bear market lasts 3 years) without having to sell stocks to meet your income needs.

Setting up a reserve fund is a great way for conservative investors to cope with the ups and downs of the stock market, and still stay invested in stocks for the long haul. By having enough money set aside to cover several years or more of living expenses, these reserves can often keep jittery investors from panicking and selling stocks near the bottom of a bear market cycle. It also cushions the overall portfolio from more serious declines, when a bear market hits. I believe a reserve fund makes sense for almost all retirees and for younger investors who are not comfortable having all their money in stocks.

Please note that I did not include “for income” as one of the reasons you should own bonds. Many investors buy *only* bonds thinking they are being very prudent. They think they are going to live off the income and not touch their principal, forever. Well, they will be sorry for two main reasons: 1) After-tax bond returns barely keep pace with inflation. If we average 3% annual inflation, the purchasing power of the income you receive from your bonds is cut by 25% after 10 years, and 50% after approximately 23 years. So, if you spend all your income and

you're only left with your principal later in life, you will have lost a lot of purchasing power. The after-inflation, average annual returns for long-term bonds is about 2%. For stocks it's approximately 7%. 2) Bond income is taxable as ordinary income. If you own taxable bonds and you are in the highest tax bracket, this can hurt. You can lose nearly half of your measly yield to taxes. With long-term capital gains taxes now 20% at the federal level, and ordinary income tax rates at just under 40%, it makes more sense to sell some stocks, pay long-term capital gains taxes, and create income flow that way. At least by owning stocks you have a chance to outpace inflation and taxes—with bonds you give up all hope.

How to invest in bonds—two good choices

1) Index your bond portfolio

Active bond managers have a really tough time beating the indexes. The higher fees associated with actively managed bond funds make it very difficult for bond managers to outperform their benchmarks. Michael Santoli of *Barron's* brought the fee question into better perspective—

“...the average bond fund manager with any pride might be moved to insist that he and his firm are grossly overpaid. You see, if investors could be convinced that the manager's take is simply too generous, they might then believe that's the only reason that actively managed bond funds fare so poorly compared to bond index portfolios. Otherwise, the highly trained and well-paid fund captain would have to confess to simply not being bright enough to do better than the index trackers.”

It's unfortunate the investing public knows very little about the merits of indexing bond portfolios. Actively managed bond funds charge, on average, double what bond index funds charge (.96% annually versus .42%), and you can find bond index funds that charge as low as .20%.

My main argument for indexing a bond portfolio is lower fees. Lower fees account for much of the "extra" performance that Vanguard's bond index funds gave investors during recent years. Their fund expenses stand around .20% annually and the result is top-performing funds. Through June 30, 2001, the four bond index funds they offer—Vanguard Total Bond Market, Vanguard Short Bond Index, Vanguard Intermediate Bond Index and Vanguard Long Bond Index—were all in the top 7% of their respective categories over the past 5 years, according to *Barron's*. Low fees give bond indexers a great advantage.

If you choose to index your bond portfolio, consider funds from these companies—Charles Schwab & Co., Inc., The Vanguard Group and Dimensional Fund Advisors.

2) Ladder individual bonds

Some investors like having more control than a bond index mutual fund offers. They want to know exactly when their bonds are maturing and they want a predictable income stream—you can't do this with bond mutual funds. With high quality individual bonds, you can be fairly certain of receiving a given amount of interest income, and a return of your principal when the bonds mature. Bond funds have no effective maturity date and a somewhat unpredictable income stream. Much more on laddering in Chapter 14.

Ladder or index, which is better?

For investors who have in excess of \$100,000 to invest in individual bonds, laddering is the way to go. It requires more work, but it gives you more control of your portfolio, a predictable income stream and a return of principal schedule. Bond index funds are an excellent alternative for investors who don't have enough money, or who don't want to do the extra work required with the laddered approach. Bond index funds are pretty darn inexpensive, and, the work is done for you. You also get excellent diversification and professional management. Still, I think you should take the time to create your own laddered bond portfolio.

Which individual bonds should you own?

Treasury securities

Treasury securities—bills, notes and bonds are issued and backed by the U.S. government and are therefore extremely safe. Treasuries typically provide the lowest yields available, since they are backed by the “full faith and credit” of the U.S. government, and are deemed to have no credit risk. The primary advantage of Treasuries is their safety. Most investors buy them simply to preserve capital. But, they have other advantages. They are available with a wide range of maturity dates and they are noncallable. (The Treasury has not issued “callable” Treasuries since 1985.) Last, the interest earned on Treasuries is exempt from state and local income taxes (but not federal taxes). Investors in high-tax states should take note.

Corporate bonds

Corporate bonds are IOUs or debt obligations issued by corporations. Companies will use the money you lend them for

Table 13-1

Credit Ratings

Classification	S&P	Moody's
Prime, maximum safety	AAA	Aaa
High grade	Aa+	Aa1
High quality	AA	Aa2
	AA-	Aa3
Upper-medium grade	A+	A1
	A	A2
	A-	A3
Lower-medium grade	BBB+	Baa1
	BBB	Baa2
	BBB-	Baa3
Non-investment grade speculative	BB+	Ba1
	BB	Ba2
	BB-	Ba3
Highly speculative	B+	B1
	B	B2
	B-	B3
Substantial risk, poor standing	CCC+	Caa
	CCC	-
	CCC-	-
Extremely speculative	CC	Ca
May be in default	C	C

different needs (i.e., building facilities, equipment). The interest you receive from corporates is taxable. Corporates offer higher yields than Treasuries or CDs, since they carry more risk. However, high-grade corporates are pretty darn safe, and the extra yield they offer is a great advantage to investors. Last, corporate bonds offer investors the advantage of choosing from a variety of issues in different sectors of the market, with different maturities and yields. I recommend buying high-grade bonds of well-known corporations. In addition, I like to keep maturities typically to 7 years or less—this helps further lessen risk and volatility.

Municipal bonds

Municipals are tax-exempt bonds that are generally issued by state and local governments. Interest from munis is typically exempt from federal and state taxes. If you are in a high tax bracket munis may make more sense than owning Treasuries or corporate bonds. Munis come in two varieties—general obligation bonds, which are backed by the full faith and credit of the issuer, and revenue bonds, which are backed by the revenues from a specific project (e.g., toll bridge).

Should you own tax-free or taxable bonds?

Sure, I know you don't want to pay taxes, but often buying a taxable bond instead of a municipal bond will make sense. Here's how to determine whether or not you should buy taxables or tax-free bonds. Your first step is to determine your tax bracket. Then, perform the following calculation—

taxable equivalent yield = tax-free yield/(1-tax bracket)

$$.045/(1-.36) = 7.03\%$$

The above example assumes you are in the 36% tax bracket

Table 13-2
Tax-exempt and tax-equivalent yields

Tax Bracket	15%	28%	31%	36%	39.6%
Tax-exempt yield (%)	Taxable-equivalent yield (%)				
2.0	2.35	2.78	2.90	3.12	3.31
2.5	2.94	3.47	3.62	3.91	4.14
3.0	3.53	4.17	4.35	4.69	4.97
3.5	4.12	4.86	5.07	5.47	5.79
4.0	4.71	5.56	5.80	6.25	6.62
4.5	5.29	6.25	6.52	7.03	7.45
5.0	5.88	6.94	7.25	7.81	8.28
5.5	6.47	7.64	7.79	8.59	9.11
6.0	7.06	8.33	8.70	9.37	9.93
6.5	7.65	9.03	9.42	10.16	10.76
7.0	8.24	9.72	10.14	10.94	11.59

Source: www.investinginbonds.com

and you are considering purchasing a municipal bond with a 4.5% yield-to-maturity. Your taxable-equivalent yield works out to 7.03%. So, you'd have to get an equivalent taxable yield of 7.03% or better to match the muni.

How do you know if you're getting a good deal on a muni? Marilyn Cohen, president of Envision Capital, gave some insight on munis in an article she wrote for *Mutual Funds*. She has found that high-quality municipal bonds generally yield about 75% of Treasuries of the same maturity. When municipals yield more than 75% of the comparable Treasury, you should consider it a buying opportunity. "When the ratio hits 80% or 85%, the muni is a great buy. More than 90%? It's a steal."

Look to buy high-quality munis that are rated A or better by Moody's or Standard & Poor's. If you're ultraconservative, buy insured munis.

14

Bond laddering—my preferred approach to owning bonds

Laddering is an excellent way to limit your exposure to rising rates.

Historically the strategy of laddering bonds in the portfolio has resulted in less volatility over time when compared with individual securities of comparable maturity.

—GEORGE STRICKLAND

Thornburg Investment Management

IF YOU DECIDE TO BUY INDIVIDUAL bonds, I would recommend laddering your portfolio. Laddering involves building a portfolio with staggered maturities so that some of your bonds mature every year or two. For the ladder to work, you must buy equal amounts of individual bonds that mature over a defined period. When the shortest bond matures it is typically replaced by purchasing an equal amount of the longest maturity.

Here's how laddering works. First, you buy a series of Treasury notes, for example, with different maturities. You buy five Treasuries with maturities between 1 and 5 years, with a note

maturing each year. As each note matures, you reinvest the proceeds (or you may decide to spend the money) in another 5-year note to keep the ladder going. It's a very simple process.

Advantages of a laddered bond portfolio—

1) *Control.* By structuring your own bond ladder you can control your maturities and income stream. Again, a bond fund does not have an effective maturity, since you are basically buying a piece of many, many bonds (more diversification but less control and no fixed maturities). With individual bonds you know exactly what you are getting if you hold your bonds to maturity. You'll get your principal back at maturity—unless the issuer defaults—and you can decide at that time whether or not to reinvest the proceeds to extend your ladder.

2) *Lessen risk.* A short-maturity bond ladder will lessen risk. If bond yields are down, you'll be happy your outstanding bonds are locked in at higher rates. If yields are up, the proceeds from your maturing bonds can be reinvested at the higher yields. By diversifying a laddered portfolio of short-term bonds, you smooth out the overall volatility of your bond portfolio and therefore lessen risk.

3) *Reinvest proceeds at higher rates.* You can reinvest the principal from maturing short-term bonds (low-yields) with longer-term bonds (higher yields). In this way, you effectively get a better yield than by owning a portfolio of *only* very short-term bonds. By reinvesting your maturing bonds each year—depending on the type of ladder you have built—you can lock in higher yields each year on the longer maturities.

For any of the three different ladders shown in Tables 14-1 through 14-3, the strategy is the same. When you initially set up your bond ladder, you take the total dollar amount to be invested

Table 14-1
Example of a Treasury Note Ladder

Description	Rating	Par Value	Coupon Rate	YTM	Maturity
Treasury Note	Gov.	\$100,000	5.62%	2.20%	11/30/2002
Treasury Note	Gov.	\$100,000	4.25%	2.46%	11/15/2003
Treasury Note	Gov.	\$100,000	5.87%	3.19%	11/15/2004
Treasury Note	Gov.	\$100,000	5.87%	3.58%	11/15/2005
Treasury Note	Gov.	\$100,000	7.00%	3.82%	7/15/2006

Table 14-2
Example of a California Municipal Bond Ladder

Description	Rating	Par Value	Coupon	YTM	Maturity
California State	AA	\$100,000	5.00%	2.28%	12/1/2003
Alameda Cty.	AAA	\$100,000	5.00%	2.57%	12/1/2004
Sacramento CA	AAA	\$100,000	4.50%	2.75%	11/01/2005
Riverside Cty	AAA	\$100,000	3.50%	2.93%	9/2/2006
Northern CA	AAA	\$100,000	5.65%	2.72%	7/1/2007

Table 14-3
Example of a Corporate Bond Ladder

Description	Rating	Par Value	Coupon	YTM	Maturity
Procter & Gamb.	AA	\$100,000	5.25%	2.88%	9/15/2003
Wal-Mart	AA	\$100,000	6.55%	3.53%	8/10/2004
General Electric	AAA	\$100,000	6.80%	4.16%	11/01/2005
Bristol Myers	AAA	\$100,000	4.75%	4.31%	10/1/2006
Amoco	AA+	\$100,000	6.50%	4.58%	8/1/2007

in the ladder, and divide it by the number of years in the ladder, or some variation. The bonds shown in these examples have one bond maturing every year, but your portfolio could differ—one bond maturing every 6 months, two years or whatever income stream you need.

Once your bond ladder is in place, simply hold your bonds and collect your interest until your first bond matures. You can then either spend the money, extend your ladder out again, or invest the proceeds in the stock market—if your stock allocation is below your initial target.

For every \$100,000 you have to invest, I would recommend owning 4 to 6 different bonds. This will give you decent diversification. Investors with over \$1 million in bonds should own 30 to 40 bonds. The key is to stay as diversified as possible. And, diversify your bonds with different issuers and in different sectors of the market—don't have your entire bond portfolio in one sector (e.g., banks).

Other considerations

Interest rate risk

If you own a bond that is paying you \$500 annually (5%) and a similar bond is now being issued and paying \$300 annually (3%), *your* bond will be worth more to someone. Investors will be willing to pay you a premium for your higher yielding bond, since bonds at present rates are paying much less. This describes the inverse relationship between bond prices and interest rates. In this example, interest rates have declined and your bond price went up—someone will now pay you more for your higher yielding bond.

On the other hand, if you own the same bond (5%) and a

similar bond is now paying 8%, your bond will be less attractive to investors. The price of your bond will fall as interest rates rise. This is what is called interest rate risk. I try to keep interest rate risk to a minimum by buying bonds with short maturities since they are less volatile than longer-term maturities. Of course, if you simply hold your bonds to maturity, it doesn't matter how volatile they are—you'll eventually get your principal back (assuming no default). But, if you own bonds that have a long maturity date of perhaps more than 7 years, your bond prices will fluctuate with prevailing interest rates. And, if you may need some of that money before maturity—you are forced to sell your bonds—you may lose money, since investors won't be willing to pay you "full price" for your bonds. Keep your maturities short, especially if you may need to liquidate your bonds prior to maturity.

Yield-to-maturity

The best way to compare bonds with differing coupon rates and prices is by looking at yield-to-maturity. Yield-to-maturity gives you the total return you will receive by buying and holding a bond until it matures. Basically, the coupon rate that a bond is paying isn't important, because the price of the bond will adjust depending on the coupon and prevailing rates. The yield to maturity factors in the price you are paying and all interest payments until maturity.

Call provisions

Some bonds have redemption, or "call" provisions that allow or require the issuer to repay the investor's principal at a specified date before maturity. Bonds are usually "called" when present rates have dropped significantly since the bonds were issued. I prefer not to buy callable bonds, so I can be certain I will lock in a defined yield and maturity date. I don't want to sit around

wondering if my bonds will be called. Callability is basically a bad word. If rates fall and your bonds get “called away,” you’ll be stuck reinvesting at lower rates. And, if your bonds don’t get called away, well, then rates are probably better than what you’re getting. If you buy callable bonds, look at the yield-to-call maturity to determine what rate you’ll be getting if they’re called. At least you’ll know your worst-case-scenario yield. But, you still won’t know if your bonds are going to be called or not.

Short durations

As I’ve already mentioned, I think it is a good idea to own a laddered-bond portfolio with short durations (time to maturity). Shorter duration bonds carry less risk (volatility). When interest rates are volatile, bonds with 1- to 2-year maturities will barely budge. Longer-term bonds are really vulnerable to interest rate spikes. You may get a higher yield with long-term maturities, but you pay the price with the extra risk of loss—unless you hold them to maturity.

Ginnie Maes

Ginnie Maes (Government National Mortgage Association) are backed by pools of mortgages. Principal and interest are guaranteed by the federal government. There is not really any credit risk in owning Ginnie Maes, but there is interest rate risk and there is a lot of unpredictability. When interest rates drop, generally homeowners refinance their mortgages. As a result, investors in mortgage-backed securities may get a chunk of their principal back. They presumably have to reinvest this money at lower rates. This is why I typically do not recommend Ginnie Maes. With mortgage-backed securities you have both unpredictability of returns and you don’t know when you will get your principal back.

Out-of-state municipals

Many investors completely ignore municipals that are trading in a state other than their residency. But, you shouldn't ignore out-of-state bonds simply because you will be taxed in your state. If the extra yield is there for a similar quality bond with the same maturity, it can make sense.

Suppose, for example, a California resident wants to compare a Texas muni with an in-state muni. The in-state muni yields 6.2% (tax free), while the out-of-state muni yields 6.6%. Here's how to determine which bond is more attractive. Subtract the California state tax from 100% (assume 9% tax in California). Multiply the out-of-state yield by your answer. This is the amount you would receive, net of paying the California state tax.

$$100\% - 9\% = 91\% \quad 6.6\% \times .91 = 6.0\%$$

So, in this example, the net, after-tax yield for the Texas municipal bond is 6.0%. The California bond is more attractive, since it yields 6.2%.

Municipal bond insurance

Municipal bond insurance protects investors by insuring that they will get timely payment of their interest and principal by the insurer, if the issuer happens to default. Most insurance also includes such risks as earthquakes, floods and other natural disasters. Insured municipal bonds automatically receive the highest rating possible—based on the claims-paying ability of the insurer.

15

Portfolio rebalancing to control risk

*Rebalancing forces you to buy low and sell high—
it's the only form of market timing that works.*

—WILLIAM BERNSTEIN, author *The Intelligent Asset Allocator*

*By setting a pattern of rebalancing every year, clients
become accustomed to skimming profits off winners and
depositing them into laggards. From this perspective,
it's possible clients may look at poorly performing assets in
a more positive light—specifically as a buying opportunity.*

CRAIG L. ISRAELSEN, PH.D.—author, *The Thrifty Investor*

REBALANCING INVOLVES RESTORING A PORTFOLIO to its original target allocations. This is typically accomplished by taking money from the asset classes that have been performing the best and investing it in the underperformers. Essentially, any form of rebalancing is based on the belief that asset class performance reverts to a mean. Reversion-to-mean states that any asset class that has underperformed or lagged the other pieces of the portfolio, will eventually “regress to the mean” and perform better than the other asset classes.

I rebalance portfolios to help manage risk and volatility in a portfolio. You could argue that rebalancing also increases returns, but that is not my focus, since better performance is not a given. Rebalancing has, however, proven itself as a great strategy to reduce risk in a portfolio, and this is obviously very important, for all investors.

Here's how rebalancing works. First, you set a predetermined target allocation for each investment in your portfolio. For example, let's say you decide to invest 15% in the large-cap financial sector—this is your predetermined target allocation. Then, you monitor this position—along with the rest of your portfolio—to make sure you stay close to your target allocation. Again, the idea is to control risk and volatility, so if the financial sector becomes overweight in your portfolio, you are alerted and can bring its percentage weighting back to your original target. Again, with this process, money is typically taken from the better performing investments and reinvested in the laggards.

Applying the 5/25 Rule

I briefly mentioned the 5/25 Rule earlier in this book. This rebalancing rule is one of the cornerstones of successful investing. The rule basically states that as a sector or asset class moves beyond its target allocation by an *absolute* 5% amount, or 25% of the original target, rebalancing should be considered.

The absolute 5% rule works as follows—suppose you set a target of 15% for small-cap value. If your small-cap value holding dropped below 10% of your total portfolio, or increased to over 20% ($15 - 5$, or $15 + 5$), you would rebalance. This is an example of an absolute 5% move (5% on either side of your target allocation). The 25% rule, on the other hand, would be triggered, in this example, if small-cap value had risen or fallen by only 3.75% (25% of 15%). So, 25% of 15% on the upside would be

equal to a maximum target allocation of 18.75% ($15\% \times 1.25 = 18.75\%$) and 11.25% would be our minimum target allocation ($15\% \times .75$).

When you employ the 5/25 Rule, you should act if either rule is triggered. In the above example, the 25% rule would come into play first, since an absolute 5% move indicates you would only rebalance if small-cap value increased to 20%, or decreased to 10% of the portfolio. The 25% rule kicked in first, since it indicated that if small-cap value increased beyond 18.75%, or decreased below 11.25% of the portfolio, you should rebalance. Again, rebalance if either the 5%, or the 25% rule, is triggered.

An absolute 5% move is usually only seen in very broad asset classes, not individual sectors. For example, if your target for fixed income is 30% of your portfolio, then if your total fixed-income portfolio exceeds 35% ($30 + 5$) or falls below 25% ($30 - 5$) then you would rebalance. In this example, with the 25% rule, you should only rebalance if your fixed income assets move beyond 37.5% ($30\% \times 1.25$, a 25% move on the upside) or below 22.5% ($30\% \times .75$, a 25% move on the downside). So, in this case, the absolute 5% rule would be hit before the 25% rule.

Again, rebalancing should be performed periodically to lessen the overall volatility of your portfolio and to control risk. *I recommend reviewing your targets at least quarterly, but if the markets (stock or bond) have been particularly volatile, it makes sense to perform a checkup more often.* You don't want your portfolio to become too heavily weighted in any given asset class or sector. Rebalancing serves as a way to keep this in check. By setting target allocations you are forced to stay disciplined and unemotional about the process. And, it actually forces you to "buy low and sell high" since you take money from better performing asset classes and reinvest it in laggards.

Rebalancing is not an exact science. There is some “art” involved, and there is certainly room for creativity. Feel free to come up with your own version of the 5/25 Rule. Who’s to say the 4/24 Rule isn’t better? Employ whatever guidelines you feel make sense for you, and use some creativity when determining exactly how and when you are going to rebalance an asset class. Be sure to factor in all taxes and transaction costs before making any changes.

No-trade zones and flexibility

I implement “no-trade zones” that indicate the boundaries for acceptable movement of the asset class or sector. Often, if left alone, the investment will revert back to its original target allocation. This no-trade zone gives the investment some room to move. It can also save commissions, since you may have lower turnover in your portfolio.

Depending on your situation and preferences, you may want to apply some additional creativity when rebalancing. For example, instead of always rebalancing back to your original target, you may decide to *only* bring the investment allocation back, or up, to its maximum or minimum target. Here’s an example—let’s assume your original target allocation for small-cap value was 10% of your total portfolio. You set your original allocation at 10% and, using the 5/25 Rule, your minimum target was 7.5% and your maximum target was 12.5%. Let’s assume small-cap value moved beyond 12.5% of your portfolio, in a sudden surge. But, let’s also assume that based on valuation measurements you still thought small-cap value represented a good value. So, in this case, you may decide to simply rebalance back to your *maximum* target of 12.5%, not your original 10% target. Remember, this is not an exact science. No-trade zones are guides. Use some creativity in your planning.

Obviously you should not rebalance too often. Taxes and trading commissions need to be considered before making any changes. Apart from potential tax implications and transaction fees, if you rebalance too often you may be taking money from your winners too quickly. Typically, different asset classes are in and out of favor during different periods of the economic cycle. And, these periods, although somewhat unpredictable, usually run their course for several years or more. So, if you've rebalanced and put money into the underperforming asset classes—hoping for a reversion-to-mean scenario—give the asset class some time to start outperforming relative to the other asset classes that you just trimmed. And, when it starts to recover, allow it some time to appreciate. Again, there is not really a strict rule as to how often you should rebalance, but I would recommend at least annually—perhaps more often if the markets are particularly volatile. If you're rebalancing a taxable account, I would try to wait at least a year before you take profits—to drop into the lower long-term capital gains category. But, if the market has moved considerably beyond your target, I would probably suggest scaling back somewhat—even if it means getting hit with a short-term taxable gain. Much will depend on your personal tax and financial situation *and* your tolerance for risk.

Rebalancing taxable and tax-deferred accounts

If new money is not available to rebalance a taxable account, tax planning becomes critical. My portfolio management software allows me to track cost basis by tax lot (not averaged) for my clients. This allows me and the client to identify the shares to be rebalanced that give the best tax results in taxable accounts. If you have purchased an investment at different times over the years—probably the case if you have been rebalancing into an underperformer—you'll have a different cost basis for each purchase that you made. By tracking each purchase and cost basis separately, you can choose to sell the “lot” that shows a loss, or

the smallest gain. If you have no losses in the asset class you are selling, be sure to sell the piece that qualifies for a long-term gain. Furthermore, if you have no lots that show long-term gains, but you are close to the 12-month long-term holding period, you may wish to delay your sale until the lot qualifies as a long-term gain.

Obviously, rebalancing is best suited for assets in a tax-deferred plan like an IRA Rollover or 401(k) account. But, not all investors have assets in tax-deferred accounts, and even if they do, the core of their assets may be in taxable accounts. If you have enough money in a tax-deferred account—perhaps 30% to 40% of your total assets—you can conduct all your rebalancing in your tax deferred account. Your tax advisor will love you for allowing your unrealized gains to increase in your taxable account, and you'll still be controlling risk and volatility in your total portfolio by making most of your changes in your tax-deferred account.

Rebalancing at work

The portfolio management software I use allows me to track my portfolios and rebalancing schedules very easily. I have included several examples here for your review. As you can see in Tables 15-1 through 15-3, I have set a target percentage allocation for each asset class in the portfolio. I have also determined a maximum and minimum acceptable range for each investment—here I have employed the 5/25 Rule to determine the range. If one of the investments becomes under- or overweight due to market volatility, I am alerted by my software program—it highlights the asset class in bold. The program also tells me exactly what percentage I am under- or overweight in the holding, and the dollar amount to buy and sell. It even tells me the number of shares I should buy or sell to get the portfolio back “in balance.”

If you manage your own money, you should set up your own rebalancing schedule with a spreadsheet program, and track your portfolio on a regular basis. Your rebalancing schedule will hopefully keep you disciplined and unemotional about this process. Sure, you can apply some flexibility. But, don't allow your portfolio to stay out of balance for long, since you will be assuming more risk than you originally intended.

Hypothetical Portfolio 1

Hypothetical Portfolio 1 shows a total portfolio that was originally allocated at 20% fixed income and 80% in equities. When looking at this rebalancing schedule (Table 15-1), you can see that, at present, fixed income represents 18.48% of the total portfolio. While this is below our original target, it is still within the no-trade zone that we established. The software program does most of the work for us. And it gives us a lot of details. It tells us that on the fixed-income portfolio, if we wanted to bring our allocation back to our original target of 20%, we would have to purchase 4,781 additional shares of the long-term bond fund (share difference). It also tells us the dollar variance, which indicates we need to add \$49,241 to this piece.

On the equity portion of this portfolio, you can see that the cyclical/transport sector has increased from its original target of 8% of the portfolio to 9.33%. The schedule tells us that this percentage is still within an acceptable boundary, but if its weighting moves beyond 10% of the total portfolio, we should consider rebalancing. You can also see that the financial sector hasn't performed very well. Its present weighting of 6.91% is below the original target of 7.5%. Again, this is still acceptable, so given our no-trade-zone boundaries, we decide to do nothing with this portfolio.

Table 15-1 — Portfolio Rebalancing
Hypothetical Portfolio 1

Description	Symbol	Weight %	Target %	Variance %	Target Min. %	Target Max. %	Current Value	Target Value	Dollar Variance	Shares #	Share Diff.
Fixed Income											
Long-Term Bond Fund	NA	18.48	20	1.52	15	25	599,996	649,236	49,241	58,252	4,781
Equities											
Consumer Services	XLV	10.04	9.25	-0.79	6.94	11.56	325,928	300,272	-25,657	11,809	(930)
Consumer Staples	XLP	10.46	11.00	0.54	8.25	13.75	339,603	357,080	17,477	13,168	678
Cyclical/Transports	XLV	9.33	8.00	-1.33	6.00	10.00	303,021	259,694	-43,327	10,381	(1,484)
Energy	XLE	2.84	3.00	0.16	2.25	3.75	92,309	97,385	5,076	3,486	192
Financials	XLF	6.91	7.50	0.59	5.63	9.38	224,278	243,464	19,185	9,117	780
Industrials	XLI	6.30	6.25	-0.05	4.69	7.81	204,420	202,886	-1,534	7,911	(59)
Technology	XLK	8.38	8.50	0.12	6.38	10.63	272,179	275,925	3,746	13,316	183
Utilities	XLU	3.08	3.70	0.62	2.78	4.63	100,048	120,109	20,061	3,794	761
Mid-Cap 400 Growth	IJK	6.41	6.00	-0.41	4.50	7.50	208,054	194,771	-13,283	1,925	(123)
Mid-Cap 400 Value	IJJ	7.76	7.40	-0.36	5.55	9.25	252,021	240,217	-11,803	2,790	(131)
Russell 2000 Growth	IWO	4.95	4.70	-0.25	3.53	5.88	160,684	152,571	-8,113	3,102	(157)
Russell 2000 Value	IWN	5.04	4.70	-0.34	3.53	5.88	163,640	152,571	-11,069	1,261	(85)
		81.52	80.00				<u>2,646,185</u>	<u>2,596,945</u>			
		100	100				3,246,181	3,246,181			

Hypothetical Portfolio 2

Hypothetical Portfolio 2 shows the same portfolio in our first example, but the market has moved quite a bit. As you can see in the rebalancing schedule (Table 15-2), the portfolio management software has highlighted in bold, two pieces of this portfolio that are out of whack—they need attention. The technology sector and the Russell 2000 Growth piece have both suffered great losses. The technology sector now represents only 5.19% of the portfolio, and the Russell 2000 Growth asset class represents only 3.43% of the portfolio. To bring the portfolio back “in balance,” we need to add approximately \$101,887 to the technology sector, and \$39,225 to the Russell 2000 Growth index. How do we accomplish this? Well, if we assume we have no new cash available to contribute to the portfolio, then we should probably take some money from our winners and add to our losers. The cyclical/transport sector, while within our no-trade zone, has appreciated by approximately \$56,735. Likewise, mid-cap growth and value investments are higher by a combined \$47,545. We could use the proceeds from these trades to reallocate money to the technology sector. And, we could use some of the gains in the consumer services sector (\$41,160) to reallocate to the Russell 2000 Growth index. The only two pieces of this portfolio that need attention are the technology sector and Russell 2000 Growth index. But, we will need to sell some of our winners, since we do not have available cash elsewhere, to bring the portfolio back in balance.

Hypothetical Portfolio 3

In this last example, Hypothetical Portfolio 3 (Table 15-3) shows that bond prices have been hammered. Our fixed-income portion of the portfolio has been knocked down from its target allocation of 20% to 13.25%. This is below our minimum target of 15%. In addition, the cyclical/transport sector and the technology sector need tending to, but for different reasons.

Table 15-2—Portfolio Rebalancing
Hypothetical Portfolio 2

Description	Symbol	Weight %	Target %	Variance %	Target Min.%	Target Max.%	Current Value	Target Value	Dollar Variance	Shares #	Share Diff.
Fixed Income											
Long-Term Bond Fund	NA	19.49	20	0.51	15	25	599,996	615,716	15,720	58,252	1,526
Equities											
Consumer Services	XLV	10.59	9.25	-1.34	6.94	11.56	325,928	284,768	-41,160	11,809	(1,491)
Consumer Staples	XLP	11.03	11.00	-0.03	8.25	13.75	339,603	338,644	-959	13,168	(37)
Cyclical/Transports	XLY	9.84	8.00	-1.84	6.00	10.00	303,021	246,286	-56,735	10,381	(1,994)
Energy	XLE	3.00	3.00	-0.00	2.25	3.75	92,309	92,357	48	3,486	2
Financials	XLF	7.29	7.50	0.21	5.63	9.38	224,278	230,893	6,615	9,117	269
Industrials	XLI	6.64	6.25	-0.39	4.69	7.81	204,420	192,411	-12,009	7,911	(465)
Technology	XLK	5.19	8.50	3.31	6.38	10.63	159,792	261,679	101,887	13,316	8,491
Utilities	XLU	3.25	3.70	0.45	2.78	4.63	100,048	113,907	13,860	3,794	526
Mid-Cap 400 Growth	IJK	6.76	6.00	-0.76	4.50	7.50	208,054	184,715	-23,339	1,925	(216)
Mid-Cap 400 Value	IJJ	8.19	7.40	-0.79	5.55	9.25	252,021	227,815	-24,206	2,790	(268)
Russell 2000 Growth	IWO	3.43	4.70	1.27	3.53	5.88	105,468	144,693	39,225	3,102	1,154
Russell 2000 Value	IWN	5.32	4.70	-0.62	3.53	5.88	163,640	144,693	-18,947	1,261	(146)
		80.51	80.00				<u>2,478,583</u>	<u>2,462,863</u>			
		100	100				3,078,578	3,078,578			

Table 15-3—Portfolio Rebalancing Hypothetical Portfolio 3											
Description	Symbol	Weight %	Target %	Variance %	Target Min. %	Target Max. %	Current Value	Target Value	Dollar Variance	Shares #	Share Diff.
Fixed Income											
Long-Term Bond Fund	NA	13.25	20	6.75	15	25	378,638	571,444	192,806	58,252	29,662
Equities											
Consumer Services	XLV	11.41	9.25	-2.16	6.94	11.56	325,928	264,293	-61,635	11,809	(2,233)
Consumer Staples	XLP	11.89	11.00	-0.89	8.25	13.75	339,603	314,294	-25,308	13,168	(981)
Cyclical/Transports	XLX	10.61	8.00	-2.61	6.00	10.00	303,021	228,578	-74,444	10,381	(2,550)
Energy	XLE	3.23	3.00	-0.23	2.25	3.75	92,309	85,717	-6,593	3,486	(249)
Financials	XLFI	7.85	7.50	-0.35	5.63	9.38	224,278	214,292	-9,987	9,117	(406)
Industrials	XLI	7.15	6.25	-0.90	4.69	7.81	204,420	178,576	-25,844	7,911	(1,000)
Technology	XLK	5.59	8.50	2.91	6.38	10.63	159,792	242,864	83,072	13,316	6,923
Utilities	XLU	3.50	3.70	0.20	2.78	4.63	100,048	105,717	5,669	3,794	215
Mid-Cap 400 Growth	IJK	7.28	6.00	-1.28	4.50	7.50	208,054	171,433	-36,621	1,925	(339)
Mid-Cap 400 Value	IJJ	8.82	7.40	-1.42	5.55	9.25	252,021	211,434	-40,586	2,790	(449)
Russell 2000 Growth	IWO	3.69	4.70	1.01	3.53	5.88	105,468	134,289	28,821	3,102	848
Russell 2000 Value	IWN	5.73	4.70	-1.03	3.53	5.88	163,640	134,289	-29,351	1,261	(226)
		86.75	80.00				<u>2,478,583</u>	<u>2,285,777</u>			
		100	100				2,857,221	2,857,221			

Cyclical/transport is now slightly overweight and the technology sector is underweight by almost 3%. So, we know that three pieces of this portfolio need adjustments. We can be flexible in determining how to reallocate money. It would seem intelligent to reduce our allocation in cyclical/transport. This would free up almost \$75,000. In addition, we could reduce our exposure to the consumer services sector to liquidate an additional \$61,635. We also have the option of reducing exposure in the mid-cap asset classes and the small-cap, Russell 2000 Value index.

Remember, we are not required to rebalance back to our original target. In this example, depending on what we think interest rates will do, and whether or not we think stocks are more attractive than bonds, we may decide to reallocate *only* \$100,000 to the fixed-income fund. This would at least bring this piece within its no-trade-zone boundaries. It would then approximate 16.7% of the portfolio, assuming we sold an equity investment to fund the purchase.

I would suggest that you create an investment policy statement that outlines how and when you will rebalance. While your policy statement only serves as a guide, it will help keep you disciplined when the markets are acting up. There will be times when you will not want to rebalance a particular asset class that has appreciated substantially—a good example is the tech sector in the late 1990s, when investors simply thought it would go straight up forever. By having a written investment policy statement, I believe you are more likely to adhere to your rules when the market and your neighbors are telling you to ignore them. Refer back to your policy statement and your own guidelines for rebalancing. You should also set guidelines as to how often you will review and rebalance your portfolio. Furthermore, you must specify the target minimum and maximum allocations you will employ (e.g., 5/25 Rule). Whatever you decide, it makes sense to put it in writing—refer to it when in doubt.

I would like to cite a study that showed how rebalancing can control risk *and* lessen volatility. It appeared in *Financial Planning* in June of 2001. Craig L. Israelsen, Ph.D., compared the performance and volatility of three separate asset classes with a mixed, annually rebalanced portfolio (all three combined at 33/33/34) to see if rebalancing would help performance and reduce risk. The study used returns and standard deviations from 1970-2000. Large-cap stocks (S&P 500) produced an average annual return of 12.9%, small-cap U.S. stocks (Ibbotson Index) returned 13.5% and non-U.S. stocks (EAFE Index) yielded an average annual return of 12.2%. The mixed portfolio, rebalanced annually, produced an average annual return of 13.4%, which represents a return enhancement over large-cap U.S. stocks and non-U.S. stocks.

The real beauty shown in this example (Tables 15-4 and 15-5), is the reduction of risk, not the enhancement of returns. In the three different time periods studied (31-year, 10-year and 5-year), a meaningful reduction in risk was found by rebalancing. During the 31-year period (1970-2000) the volatility of returns dropped by 18.5%. For the 10-year period 1991-2000 volatility decreased by 23.5% and for the 5-year period (1996-2000), volatility was reduced by 17.7%. As you can see in Table 15-5, in the shorter periods, it is obvious that if you happened to have picked the single best asset class and put all your money in it, you would have fared better than an annually rebalanced and diversified portfolio. But, that's next to impossible to predict. The main point I'm trying to make (and this study proves), is that over long periods, by rebalancing, you can significantly reduce volatility—probably without giving up performance.

Table 15-4
Investment Synergy
The Benefits of Rebalancing

	Large-cap (S&P500)	Small-cap (Ibbotson)	International (EAFE)	Portfolio (33/33/34)
1970	4.0	-17.4	-10.5	-8.0
1971	14.3	16.5	31.2	20.8
1972	19.0	4.4	37.6	20.5
1973	-14.7	-30.9	-14.2	-19.9
1974	-26.5	-20.0	-22.2	-22.9
1975	37.2	52.8	37.1	42.3
1976	23.8	57.4	3.7	28.1
1977	-7.2	25.4	19.4	12.6
1978	6.6	23.5	34.3	21.6
1979	18.4	43.5	6.2	22.5
1980	32.4	39.9	24.4	32.2
1981	-4.9	13.9	-1.0	2.6
1982	21.4	28.0	-0.9	16.0
1983	22.5	39.7	24.6	28.9
1984	6.3	-6.7	7.9	2.5
1985	32.2	24.7	56.7	38.0
1986	18.5	6.9	69.9	32.2
1987	5.2	-9.3	24.9	7.1
1988	16.8	22.9	28.6	22.8
1989	31.5	10.2	10.8	17.4
1990	-3.2	-21.6	-23.2	-16.1
1991	30.5	44.6	12.5	29.0
1992	7.7	23.4	-11.9	6.2
1993	10.0	21.0	32.9	21.4
1994	1.3	3.1	8.1	4.2
1995	37.4	34.5	11.6	27.7
1996	23.1	17.6	6.1	15.5
1997	33.4	22.8	1.8	19.1
1998	28.6	-7.3	20.0	13.8
1999	21.0	29.0	27.0	25.9
2000	-9.1	-3.6	-14.2	-9.0

Source: Craig L. Israelsen, Ph.D., *Financial Planning*

Table 15-5
Investment Synergy
The Benefits of Rebalancing

	Large-cap (S&P500)	Small-cap (Ibbotson)	Interntl. (EAFE)	Portfolio (33/33/34)
Between 1970 and 2000				
\$1,000 grew into...	\$43,046	\$50,803	\$35,058	\$49,496
31-year avg. ann. ret.	12.90%	13.50%	12.20%	13.40%
31-year standard dev.	16.00%	22.30%	21.50%	16.30%
Between 1991 and 2000				
\$1,000 grew into...	\$4,997	\$5,015	\$2,244	\$3,974
10-year avg. ann. ret.	17.50%	17.50%	8.40%	14.80%
10-year standard dev.	14.50%	15.80%	14.40%	11.40%
Between 1996 and 2000				
\$1,000 grew into...	\$2,321	\$1,675	\$1,412	\$1,795
5-year avg. ann. ret.	18.30%	10.90%	7.10%	12.40%
5-year standard dev.	15.20%	15.90%	13.20%	12.10%

Source: Craig L. Israelsen, Ph.D., *Financial Planning*

16

Tax Planning

*Harvest losses whenever you can—not just in
November and December.*

*I can emulate the 500 fund by buying the ETFs with industry
and sector weightings equal to the S&P 500. So, I buy these
positions, and at the end of the year I look at this whole
portfolio of, let's say, 20 ETFs, and I find that they have
exactly the same return as the Vanguard Index 500, but five
of the industries have losses. So I can sell those ETF positions,
harvest the losses, and put money in my client's pocket.*

—JAMES BUDROS, investment advisor

*Tax-loss selling can make sense even for the many investors
who have unrealized, or 'paper' losses that are far in excess
of the amount they could use to offset realized gains and \$3,000
of other income on 2001 tax returns. Once realized, those losses
can be carried forward and used in future years.*

—KAREN DAMATO, *The Wall Street Journal*

NOT ENOUGH IS WRITTEN ABOUT the importance of tax-efficient investing. Most investors focus on performance. Then, they may give some thought to tax efficiency and costs, if the performance doesn't speak loudly enough. This is a mistake. Investors should always focus on tax-efficiency, as well as

performance and costs—you shouldn't ignore any of these considerations. After all, your *net* returns, after taxes and fees, are key—gross returns mean nothing. In this chapter we'll examine a few different tax-planning strategies, and some “no-brainers” that will hopefully improve your net returns.

Where to hold 'em, in your taxable or tax-deferred account?

The first step to having a tax-efficient portfolio is to hold your investments in the proper account. To some this may seem like common sense, but I have come across many intelligent types who were unaware of some of the pitfalls of owning an investment in the wrong account. Anyway, conventional wisdom has always said that you should keep your bonds in your tax-deferred accounts. The argument was that bonds are not at all tax efficient—I'm not talking about municipals of course—since most of your return from bonds comes in the form of an interest payment that is taxable at ordinary income tax rates (up to 39.6% versus the preferable capital gains rate of 20% paid on long-term stock gains). And, since your tax-deferred account is generally used to fund, or help fund your retirement, then that is also a good reason to invest conservatively in bonds. Furthermore, conventional wisdom says that since stocks are more likely to appreciate than bonds, they should be held in a taxable account rather than a tax-deferred account. In a taxable account the stock gains will be taxed at the 20% rate, rather than the higher, ordinary income tax rate, when withdrawn from the tax-deferred account. And, if held until death, equities held in a taxable account will get a step up in cost basis and avoid capital gains taxes entirely. The conventional-wisdom approach will probably make sense for most of you, but not all.

T. Rowe Price conducted a study that can help us decide where it makes the most sense to hold our various investments. They

compared the returns and tax efficiency of holding stock and bond funds in tax-deferred and taxable accounts. They factored in taxes paid on capital gains distributions and interest and dividends paid at ordinary income tax rates. The study found, that over 10-, 15- and 20-year periods, the investor did better holding the stock funds in the tax-deferred account, rather than the conventional approach of holding bonds in that account. The study found that the disadvantage of having the stock fund's earnings taxed at ordinary income tax rates (upon withdrawal from the tax-deferred account) was more than offset by the compounding of a higher growth investment.

The T. Rowe Price study advises investors to take into account their time horizon for investing, as well as their tax bracket, to determine the appropriate strategy. *In general, the shorter your time horizon (10 years or less) and the higher your tax bracket, the more sense it makes to hold your stock investments in your taxable account, and your bonds in your tax-deferred account.*

Incidentally, T. Rowe Price's study found that if you index your stock investments, then you should probably go ahead and use the conventional approach.

Considerations to help determine whether to use the conventional or unconventional approach

1) *Do you have enough cash available in your taxable account to meet your income needs for 5 years or more?* If not, then you probably wouldn't want to hold all your stock investments in your taxable account, since your time horizon is insufficient. In other words, if your stock investments go nowhere for 5 years (or you lose money), and you need this money to maintain your lifestyle, I would rather you keep this money accessible in cash and short-term bonds—not in stocks. If you're low on cash, you don't want to have to sell your stocks at a loss to

meet your income needs. The basic idea is to be certain you have enough money to cover your income needs for 5 years or longer in your taxable account. If you are already taking mandatory distributions from your IRA, then this is not as important, since this money can be used to meet your income needs. However, if you need to supplement your IRA distributions with money from your taxable account, keep enough cash-equivalent investments available.

2) *What kind of stock investments do you own?* If you own actively managed stock funds and they have historically displayed poor tax efficiency (high taxable distributions), it may make sense to hold them in your tax-deferred account. In this way, you won't have to worry about the capital gains distributions each year eating away at your total return. Many actively managed funds are incredibly tax *inefficient*—one of the many reasons I avoid

Table 16-1
After-tax Returns
Three-year return, annualized*

Fund Name	Pretax return	After-tax return	Difference
Schroder Ultra	102.8%	72.6%	30.2%
SSgA Agr. Eqty.	20.0%	2.4%	17.6%
CMC Small Cap	11.9%	1.8%	10.1%
First Amer. Micro Cap	36.8%	27.2%	9.6%
Pimco RCM Mid-Cap	4.4%	-5.0%	9.4%

*As of January 31, 2002. Source: *Morningstar*

them. They might look good on a pretax basis, but you could give up most of your gain if the fund makes hefty capital gains distributions each year. Table 16-1 appeared in the *The Wall Street Journal*. It shows a few after-tax fund returns that support my point of view. Incidentally, the SEC is now demanding that mutual funds calculate their after-tax returns for us and they must

also include this information in their prospectuses and advertisements—thank you very much.

One other note while on the topic of actively managed funds and tax inefficiency. You probably know that you should be very careful about buying an actively managed fund near the end of the year, since it may be ready to make a taxable distribution. Check with the fund company before making a purchase. Another tip is to look up the fund on www.morningstar.com or www.yahoo.com to see if it has built-in unrealized gains that could indicate future taxable distributions. This number gives you the tax exposure that the fund would face if it had to sell all of its holdings. Last tip on this dreary topic—avoid investing in funds that are facing lots of withdrawals. The fund manager probably has to do a lot of selling and this could also lead to capital distributions. This can be misleading however, since most investors leave a fund because it is performing poorly. If this is the case, there may not be much capital gains exposure.

3) *Are you actively trading or rebalancing your stock investments?* If you're an active trader, you're not going to want to worry about paying capital gains taxes with every move. So, obviously you will hold most of your stock positions in your tax-deferred account. Or, is it so obvious? What if you don't trade too frequently, but you do enough trading to be concerned? Well, you may want to hold your core stock investments in your taxable account (major asset-class holdings) since it is unlikely you will be trading these pieces as much. You can hold your sector investments—they're typically more volatile than the major stock asset classes—in your tax-deferred account, since it's more likely you will rebalance these investments more frequently.

For most investors I've found that deciding which investments to hold in a taxable and tax-deferred account is relatively easy. In order for you to have a balanced portfolio you may simply need to

Table 16-2

Where to hold 'em

Tax-deferred account	Taxable account
Reserve fund of 3 to 5 years of income needs (short-term bonds and cash) if over age 59 1/2*	Reserve fund of 3 to 5 years of income needs (short-term bonds and cash) if younger than 59 1/2
Corporate Bonds, Treasuries, CDs	Municipal Bonds
In general, any actively managed investments	In general, any passively managed investments (ETFs)
Value-oriented investments (pay relatively high dividends)—small-, mid- and large-cap value funds	Growth-oriented stock investments (pay low dividends)—small-, mid- and large-cap growth funds
High-yielding sector investments—e.g., utilities, consumer staples	Low-yielding sector investments—e.g., technology, health care
Real Estate Investment Trusts	
Leveraged index funds (ProFunds, Rydex)	
Technology sector index fund, North Track PSE 100 Index (see details in Chapter 23)	
Some index funds—usually very tax efficient, however you can get an ugly surprise (taxable distribution), from a value or growth fund that frequently changes its components.	* Note—if you are older than 59 1/2 you are able to make withdrawals from your tax-deferred accounts without suffering a 10% penalty. So, if you're younger than 59 1/2, make sure you have your income needs covered in your taxable account, since it's best to <i>not</i> tap your tax-deferred accounts until the IRS makes you (beginning at age 70 1/2).

own stocks *and* bonds in both accounts. This also gives you the added flexibility of having some stock positions in a tax-deferred account so that if you need to rebalance or reduce your equity exposure, you always have the option of doing so in a tax-deferred account, without having to consider taxes.

Asset Location Study

A new study by three finance professors, Robert Dammon and Chester S. Spatt of Carnegie Mellon University, and Harold H. Zhang of the University of North Carolina, has revisited the topic of asset location and found that most investors are not properly allocating their assets in their taxable and tax-deferred accounts. The professors provide substantial evidence that indicates that investors should place equities in taxable accounts and fixed-income investments in tax-deferred accounts, to the greatest extent possible.

Professors Dammon, Spatt and Zhang argue that equities belong in a taxable account for several reasons—the lower effective tax rate (versus bond income), the possibility of realizing losses, and, because capital gains can be deferred and even “stepped up” at the time of death.

What is most striking about the study, entitled “Optimal Asset Location and Allocation with Taxable and Tax-Deferred Investing,” is that depending on where an investor’s wealth is situated (taxable or tax-deferred account) this can help determine what the overall asset allocation should be. In other words, if you have most of your wealth in a tax-deferred account, the authors argue that you should own mostly bonds. Likewise, if most of your wealth is in taxable accounts, the professors learned that you are better off holding equities.

The study basically recommends that most investors would be

wise to invest high yielding investments in tax-deferred accounts, and equities (growth investments with low dividends) in taxable accounts. This is sound advice. What I don't think you can ignore, however, is an investor's tolerance for risk. Professors Dammon, Spatt and Zhang argue that to some extent the location of your assets should determine your asset allocation strategy, but this is only one consideration. If you have most of your assets in a taxable account, but have a low tolerance for risk, I obviously wouldn't advise loading up on equities (even though the study found this to be the optimal strategy). And, investors who only have tax-deferred wealth shouldn't completely avoid equities either.

My recommendation is to first determine your appropriate asset allocation (Chapter 1). *Then, as a rule of thumb, locate your high yielding investments in your tax-deferred account and your equities in your taxable account, to the greatest extent possible.*

Tax Swaps

One practice I advise considering is the use of tax swaps with ETFs or other broad-based index funds and sector index funds. The term "tax swap" refers to selling one investment and buying a similar, but different investment, at the same time. You create a loss for yourself—to use this year or in future years to offset gains—and you reinvest the proceeds of the sale into a similar investment that will hopefully appreciate as well as the one you sold, when the market eventually recovers. In this way, you maintain exposure to the sector or asset class without having to sit on the sidelines waiting 31 days to avoid a wash sale.

The key to effectively swapping investments is to steer clear of wash-sales. The wash-sale rule prohibits investors from deducting losses from the sale of an investment, if the same investment is repurchased within 30 days of the sale. Although the IRS has not

yet stated an opinion on the subject, many advisors and Wall Street firms are recommending their clients perform tax swaps with ETFs or other index funds. Although I caution my clients and readers that I am not a tax advisor (check with your own tax specialist), it is the opinion of the professionals and tax experts I have talked to, that by swapping, for example, one technology ETF for another similar technology ETF, an investor will not run afoul of the wash-sale rule.

A report by Morgan Stanley recently stated that “exchange-traded funds are usually not subject to wash-sale rules, offer diversified equity exposure, offer low expense ratios and trade throughout the day on major exchanges.” Furthermore, H. James Blakeslee, senior vice president and chief tax strategist at Boston’s Liberty Funds, quoted in *Investment News*, stated that a tax swap from the Nasdaq-100 Trust (QQQ) into an ETF that is pure technology is “not an identical match.” “It’s significantly similar, but it would probably work.” Mr. Blakeslee however, would not encourage investors to swap two funds or ETFs that are designed to track the same index. I would agree.

The Select Sector SPDR Web site recommends investors perform similar tax swaps to maintain exposure to a sector. “Example—you are currently long Nasdaq-100 (QQQ) trading below your original purchase price. You can sell your loss position, realize the loss and buy the Technology Sector SPDR (XLK) to maintain similar exposure.” The site also recommends taking losses on individual stocks within a sector and buying an ETF that tracks the sector, to maintain exposure. “Example—you are currently long Cisco, Microsoft and Intel, all trading below your original purchase prices. You can sell your loss positions, realize the losses and buy the Technology Sector SPDR (XLK) to maintain exposure to these stocks and others in the technology sector.”

Again, the beauty of tax swapping with ETFs is that it allows you to harvest a tax loss, but keep exposure in the market. For example, if you have a loss in the Nasdaq-100 basket (QQQ comprises mostly tech stocks) you could swap it for either the XLK (Technology Sector SPDR) or IYW (iShares Technology). The key, says Paul Mazzilli, Dean Witter's director of exchange-traded fund research, is that the funds "are not going to have the same stocks in the same weighting." Mr. Mazzilli cited the example of swapping one energy fund for another, but the idea applies to all swaps. What Mr. Mazzilli did recommend against was swapping out of one S&P 500 fund for another. I would agree, since all S&P 500 funds are created to track the same index. Mr. Mazzilli did recommend swapping out of a S&P 500 fund for a Russell 1000 fund—"a very high correlation, but at least has some different stocks."

A Merrill Lynch report issued in 2000, and written up on www.indexfunds.com, also advised swapping ETF baskets to harvest tax losses. "As long as the fee structure and management companies are different, the wash-sale rule should not apply." If this is the case, then an investor could swap from iShares to SPDRs and back again constantly—they're different fund companies with different fee structures. Again, common sense tells me that ETF or index fund swaps with investments that are similar, but not identical—if they have different fee structures and management companies—should be okay. But, I would not risk swapping one investment for another that tracks the same index.

In June 2001 *Money* magazine advised fund investors to consider taking losses on their losers and replacing them with similar investments. They noted that investors could swap two index funds, say "Vanguard Total Stock Market Index for Fidelity Spartan Total Stock Market Index." While they've recommended this, I think this move could be challenged. Brad Zigler states the following—"Investors claiming loss deductions *always* risk

challenge from the IRS. Investors should seek competent counsel to review the tax consequences of their transactions.”

One last example of tax-loss harvesting of ETFs was suggested in the September 2001 issue of *Bloomberg Wealth Manager*. In the article, Benjamin Tobias, president of Tobias Financial Advisors, discussed the advantages of intraclass tax-loss harvesting by using ETFs. For example, he will sometimes sell the iShares S&P 500 at a loss and “park half the proceeds in the BARRA Growth iShares and half in BARRA Value iShares. This is a nifty way to retain similar exposure to the market while creating a tax loss.” He goes on to say that if, for example, “the BARRA growth loses some value, I can exchange it for the Russell 1000 Growth iShares, which is very highly correlated with it.” Again, as Tobias believes, ETFs are a great investment tool that you can use for creative and smart tax planning.

Tax-loss harvesting

Efficient tax management of a portfolio is an ongoing process. Many investors focus on harvesting losses only at the end of the year. This isn’t wise. You should harvest losses whenever possible. Obviously you should also consider any transaction fees before harvesting the loss. It’s smart to create tax carryforwards for yourself for later years. If you wait until the end of the year, (December) like most investors, you may not have any losses left to harvest. Again, bank the losses whenever possible and create a carryforward that you can use indefinitely to offset future gains in your portfolio and/or to use up to \$3,000 annually to offset ordinary income. If the market is under pressure right now, but it recovers before the end of the year, you will have also participated in the growth—since you swapped for a similar investment—and you harvested a loss that you can use this year or in later years to offset any gains. Pretty smart tax planning.

Tax swapping fixed-income investments

When you swap a bond or bond fund you basically trade one for another. This is performed the same way as a stock swap or ETF swap. Realized losses can be used (like stock losses) to offset gains anywhere in your taxable portfolio. Investors are more likely to buy and hold fixed-income investments and trade or perform swaps with equities. But, you should perform similar smart tax moves with your fixed-income portfolio. And, do so year-round. If interest rates are extremely volatile and the price of your bonds or bond funds falls, you have an opportunity to harvest a loss and swap into another similar investment. Of course (as with equity swaps), transaction fees should be taken into consideration before effecting a swap. And, you've got to look at what alternative bonds are paying if you decide to sell yours to harvest a loss. But, in general, you'll find that harvesting fixed-income losses makes a lot of sense and it's easy to do. If we are now entering a period of rising interest rates, this environment would bode well for swapping bonds and banking losses. As interest rates rise, the prices of your bonds and bond funds will decline. So, pay attention to your bond prices in the coming years, because there may be many opportunities to perform swaps and realize losses.

Don't let the IRS define your gain

When you decide to sell a fund, stock or bond, you have various choices as to how to realize the loss or gain. The choice you make can either save you or cost you a lot of money. Let's review your choices—

FIFO (first-in, first-out)

If you do not make an adequate identification, the IRS will assume you sold the first shares you bought. Those shares are likely to be among your cheapest, so you'll end up paying more taxes. This method is generally the least attractive alternative.

Average-Cost Method

This method is generally more profitable and almost as easy as FIFO. You probably have records from your mutual fund company or advisor on the average cost of your purchases over the years. The disadvantage of using this method, like FIFO, is that you don't have much control, and once you've chosen the average-cost method, you cannot change to another method. Note, for individual stocks you cannot use the average-cost method—it's only allowed for mutual fund shares.

Specific Identification

It's great, basic, absolutely solid, plain-vanilla type of advice.

—ROY WEITZ, a Los Angeles CPA
quoted in the *The Wall Street Journal*

Specific identification of shares requires exact recordkeeping, but it is worth the effort. This method allows you to identify whichever shares you want, and to sell them. This means you can choose to sell a certain “lot” that is presently showing a loss,

whereas using average-cost or FIFO, may mean realizing a taxable gain. Again, this technique involves identifying exactly which shares are to be sold. The process to identify the shares you want sold requires some work, and obviously good recordkeeping. For mutual funds held with a mutual fund company, you need to give instructions to the fund company, advising them as to which shares purchased on a certain date are the ones you're selling. From what I've read, you don't need to worry about which shares they actually sell—what's important for you is to have written confirmation from the fund company that they sold the shares according to your instructions. The IRS states that you need to have confirmation of this sale of “specified shares” within a reasonable time. What's considered a reasonable time? I don't know, but you obviously should have some record from your broker or fund company as to which shares you sold on which date.

For earmarking stock sales you can also control the gains and losses of each lot. The identification process is similar to selling mutual funds, and if you don't identify the shares the IRS will assume that you sold using FIFO. There is no averaging of cost for individual securities. If your shares are held with a broker, the IRS considers adequate identification as the following—“if you receive written confirmation of your instructions from the broker or transfer agent within a reasonable time.” A mere intention to sell a particular share without informing the broker is without significance.

Again, I am not a tax advisor, but I'd advise you to have a tax reporting statement each year that clearly shows which lots you have sold. Consult your own tax advisor about your situation.

One improvement I've noticed recently—on the topic of specific identification of trades—is that one of the custodians I use for clients now allows you to specify the sale of a “specific

lot” when trading online. This is very convenient and avoids record-keeping hassles. It will also make the broker’s statement of your realized gains and losses match up with your own reporting, automatically. I hope this online trading, “specific-lot-identification feature” will soon be available through all major custodians.

Use losses to diversify a concentrated portfolio

Another tax strategy I recommend allows you to diversify your portfolio *and* offset taxes at the same time. Many investors have concentrated portfolios in relatively few stocks. You may hold a position in IBM or Merck, for example, that has greatly appreciated since your initial purchase price. This position may now represent 10% or more of your total portfolio. So, you may have inadequate diversification, with a few positions making up a heavy weighting in your overall portfolio. This unfortunate, fortunate situation can be solved with proper tax planning. If you have losses in other areas of your portfolio, I would advise using those losses—or losses you’ve carried forward from previous years—to diversify *out* of your overweight individual stock positions. Although I generally discourage owning individual stocks—I prefer structured indexing—if you do have individual stocks in your portfolio, I would be concerned if any one position makes up more than 4% of your total equity portfolio. If this is the case, and you have losses elsewhere that you can “realize”—do so. Again, this allows you to reduce your exposure to the individual stocks and offset a gain at the same time. In this case, selling some of your individual stocks with heavy weightings, and diversifying into index-based investments, would be a smart tax move and you’d also reduce risk.

Use deductible investment expenses to your advantage

Many investors are unaware of some of the fees that are generally tax deductible. If you qualify for “miscellaneous” itemized deductions these expenses will be deductible to the extent that they *exceed* 2% of your adjusted gross income—

- Accounting fees for keeping records of investment income.
- Fees to set up and administer an IRA if billed and paid separately from the regular IRA contribution.
- Investment management or investment planner’s fees. Note, fees allocated to advice dealing with tax-exempt obligations are not deductible.
- Safe-deposit box rental fee used to hold your securities.
- Salary of a secretary, bookkeeper or other employee hired to keep track of your investment income.
- Subscriptions to investment services.

17

Portfolio withdrawals—
probabilities and survivability

*Some 40% of Americans admit they live beyond their means.
BusinessWeek*

A STUDY PUBLISHED IN A RECENT ISSUE of *BusinessWeek* showed that 32% of Americans age 65 and over admit to spending more than they are making. If this is the case, then many Americans will not leave much of a legacy to the next generation. More importantly, many elderly investors risk outliving their money. This chapter will give you some guidelines as to how much money you can withdraw from your portfolio during different stages of retirement, and *not* outlive your money. In addition, I will show you data that support the argument for keeping the core of your portfolio invested in equities during retirement.

How to determine your appropriate withdrawal rate

Managing a portfolio during retirement can be a difficult task. To begin with, many of us want to retire at an early age, but we're living longer than past generations. So, our money obviously has to last longer. Inflation will always be a factor, so we can't simply buy bonds and live off the income—unless we don't care about creating more wealth. So, in general, we are forced to determine an appropriate portfolio mix that will hopefully allow our portfolios to outpace inflation and taxes, while also providing us with the income we need—not an easy task.

Determining your proper portfolio mix is not an exact science. It involves probabilities and certain assumptions about the returns of the asset classes you've chosen. Some of the percentages and dollar amounts I recommend you withdraw during retirement may shock you. *You may be surprised at how little you can withdraw from your portfolio each year, during a 20- or 30-year retirement, and still be confident that you will not outlive your money.* While the numbers may not be pretty, you must adhere to a prudent withdrawal plan during retirement or suffer the consequences.

Table 17-1	
Rate of Return Assumptions	
Asset Classes	Assumed Rates of Return
Stocks	
Large-cap stocks	9.0%
Small-cap stocks	10.0%
International stocks	10.0%
Fixed Income	
Investment-grade	6.0%
High Yield	7.5%
International	6.0%
Short-term fixed	4.0%

To determine your portfolio mix you have to initially make assumptions about the returns of your asset classes. The assumed returns I've listed in Table 17-1 come from T. Rowe Price. I will also use their number-crunching Retirement Income Calculator to give you different scenarios for portfolio withdrawals for a young, middle-aged and older retiree.

Table 17-2
Case 1—The Young Retiree
55 years old

Summary:	
Start age:	55 years
Years of retirement:	35 years
Retirement assets:	\$3 million
Monthly income goal:	\$12,000
Portfolio mix:	Various
Simulation rate:	90%

Case 1—The Young Retiree, 55 years old

If you are 55 years old and retired, you are definitely considered a young retiree. Since your life expectancy is a few decades, you have to come up with a withdrawal plan and asset allocation that will allow your money to last for 30 years, or more. To give you an idea as to how much you can comfortably withdraw, on an annual basis, during this lengthy retirement, I input some data into T. Rowe Price's Retirement Calculator—see Table 17-2.

I chose a monthly income goal of \$12,000 as a starting point. This would indicate an annual withdrawal rate of 4.8%. The calculator, regardless as to how aggressive I made the portfolio mix, wasn't comfortable with 4.8%.

Table 17-3
Monthly income goal of \$12,000
for various portfolio mixes

Portfolio mix*	Recommended monthly \$ withdrawal	Annual withdrawal %
5/25/70	7,500	3.00
15/35/50	8,100	3.24
40/40/20	8,700	3.48
60/30/10	8,700	3.48
80/20/0	8,700	3.48
100/0/0	8,400	3.36

*The portfolio mix is in this order—stocks/bonds/short-term bonds.

The calculator advises this investor to assume a withdrawal rate between 3.0% and 3.5% annually, depending on the portfolio mix. In general, at age 55, with many years of retirement ahead, the calculator prefers that an investor keep most of his or her assets in stocks, and so do I. I would generally recommend a

Table 17-4
Case 2—The Middle-Aged Retiree
65 years old

Summary:	
Start age:	65 years
Years of retirement:	25 years
Retirement assets:	\$3 million
Monthly income goal:	\$12,000
Portfolio mix:	Various
Simulation rate:	90%

young retiree to withdraw no more than 4% annually. T. Rowe Price's recommendation is slightly more conservative.

Case 2—The Middle-Aged Retiree, 65 years old

Adding 10 years to your age—same as having a shorter life expectancy—doesn't allow you to withdraw that much more than a younger retiree. The reason is you still have probably 25 years of retirement, so you cannot exaggerate your withdrawals. A prudent withdrawal rate for a middle-aged retiree falls around 4.5% annually, regardless of your chosen portfolio mix. Obviously if you own no equities whatsoever you should withdraw less. But, adding equities to the mix doesn't allow you to comfortably withdraw much more. You simply have to keep your withdrawals reasonable with such a long life expectancy.

Table 17-5
Monthly income goal of \$12,000
for various portfolio mixes

Portfolio mix*	Recommended monthly \$ withdrawal	Annual withdrawal %
5/25/70	10,200	4.08
15/35/50	10,800	4.32
40/40/20	11,100	4.44
60/30/10	11,100	4.44
80/20/0	11,100	4.44
100/0/0	10,500	4.20

*The portfolio mix is in this order—stocks/bonds/short-term bonds.

Table 17-6
Case 3—The Older Retiree
 75 years old

Summary:	
Start age:	75 years
Years of retirement:	15 years
Retirement assets:	\$3 million
Monthly income goal:	\$12,000
Portfolio mix:	Various
Simulation rate:	90%

Table 17-7
Monthly income goal of \$12,000
 for various portfolio mixes

Portfolio mix*	Recommended monthly \$ withdrawal	Annual withdrawal %
5/25/70	16,800	6.72
15/35/50	17,100	6.84
40/40/20	17,400	6.96
60/30/10	17,100	6.84
80/20/0	16,500	6.60
100/0/0	15,900	6.36

*The portfolio mix is in this order—stocks/bonds/short-term bonds.

Once you've reached age 75, the retirement calculator is more generous. The calculator indicates that a withdrawal rate of almost 7% is prudent for most portfolio mixes. Perhaps a 7% withdrawal rate is more money than you need to maintain your lifestyle. Great. This withdrawal rate would allow you, if you wish, to enjoy an extra vacation trip or so each year. Or, you may

want to help fund a grandchild's college education—whatever. Finally at age 75, you're allowed to live a little—thanks a lot.

Note, for the three different retiree-scenarios I've shown, the retirement calculator allows you to withdraw *less* money with an all-stock portfolio than with a mix of stocks *and* bonds. Therefore, I would advise all retirees to have some portion of their portfolios in cash or bonds at all times.

Notes about the T. Rowe Price Retirement Income Calculator

1) The annual management fees indicated below used for the various asset classes and have been factored into these assumptions by T. Rowe Price. Your total fees on your portfolio may vary.

Asset Classes	Fees
Large-cap stocks	1.09%
Small-cap stocks	1.17%
International stocks	1.21%
Investment-grade	0.72%
High Yield	0.82%
International fixed	0.96%
Short-term fixed	0.61%

2) No tax considerations have been used by the calculator. No income taxes have been deducted, so, all withdrawals and projections are pretax. In other words, you'll have to pay any taxes out of your withdrawals.

3) The investment portfolios were constructed using the principals of Modern Portfolio Theory. Here are the asset classes that were used for each portfolio mix —

Portfolio A

5% stocks (5% large-cap stocks)

25% bonds (18% investment-grade bonds, 4% high-yield bonds, 3% international bonds)

70% short-term securities (70% short-term bonds)

Portfolio B

15% stocks (5% large-cap stocks, 3% small-cap stocks, 2% international stocks)

35% bonds (25% investment-grade bonds, 6% high-yield bonds, 4% international bonds)

50% short-term securities (50% short-term bonds)

Portfolio C

40% stocks (25% large-cap stocks, 8% small-cap stocks, 7% international stocks)
40% bonds (28% investment-grade bonds, 7% high-yield bonds, 5% international bonds)
20% short-term securities (20% short-term bonds)

Portfolio D

60% stocks (38% large-cap stocks, 12% small-cap stocks, 10% international stocks)
30% bonds (20% investment-grade bonds, 6% high-yield bonds, 4% international bonds)
10% short-term securities (10% short-term bonds)

Portfolio E

80% stocks (50% large-cap stocks, 16% small-cap stocks, 14% international stocks)
20% bonds (13% investment-grade bonds, 4% high-yield bonds, 3% international bonds)
0% short-term securities (0% short-term bonds)

Portfolio F

100% stocks (62% large-cap stocks, 20% small-cap stocks, 18% international stocks)
0% bonds (0% investment-grade bonds, 0% high-yield bonds, 0% international bonds)
0% short-term securities (50% short-term bonds)

Simulation success for the withdrawal rate calculations is done by analyzing 500 possible outcomes. T. Rowe Price has tested many combinations of return, volatility and covariance, “to define the range of possible returns for each hypothetical portfolio with greater confidence.” Obviously, T. Rowe Price would not claim to know what future returns will look like. Nevertheless, simulation studies like this one can be helpful to retirees concerned with making their assets last.

Will your portfolio die before you do?

We've looked at various scenarios for appropriate withdrawal rates, factoring in age, estimated years in retirement, and various portfolio mixes. Now, let's look at a separate study that calculates various probabilities. Using Ibbotson data from 1926 to 1995, professors Phillip Cooley, Carl Hubbard and Daniel Walz of Trinity University prepared the following probabilistic study of portfolio survivability (summarized in Table 17-8).

The following average annual returns were used for this study:

S&P 500	11.0%
Long-term corporate bonds	5.7%
Long-term government bonds	5.3%
30-day Treasury bills	3.8%
Inflation	3.1%

Here's how to read Table 17-8—if you look at the success rates for a portfolio mix of 75% stocks and 25% bonds, you can see that a retiree with a projected 20-year payout period and a 6% withdrawal rate has a 96% probability of succeeding (*not* outliving his or her money). Obviously a lower withdrawal rate and shorter payout period will give you a higher probability of success. (Success = not outliving your portfolio.)

In this study, you can see that an 8% withdrawal rate is very aggressive, with survivability rates being the worst for the portfolios with high bond exposure. *The ideal allocation appears to be a 75% stock/25% bond portfolio, which had the highest survivability rate over various drawdown rates and time frames.*

Summary—in general I am comfortable recommending a withdrawal rate of 4% to 5% for younger retirees who need their assets to last over 20 years. Once you've reached age 70

Table 17-8 — Portfolio Success Rates (Ibbotson data 1926-1995)
(Percentage of all past payout periods supported by the portfolio)

Withdrawal Rate as a % of Initial Portfolio Value:

Payout Period	100% Stocks										11%	12%
	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%		
15 years	100	100	98	98	93	91	88	77	63	55		
20 years	100	98	96	94	92	84	73	61	47	43		
25 years	100	98	96	91	87	78	70	50	43	35		
30 years	100	98	95	90	85	78	68	54	49	34		
75% Stocks/25% Bonds												
15 years	100	100	100	100	96	95	91	79	63	46		
20 years	100	100	100	96	94	88	71	51	41	33		
25 years	100	100	98	96	91	78	57	46	33	26		
30 years	100	100	98	95	88	73	54	46	37	24		
50% Stocks/50% Bonds												
15 years	100	100	100	100	100	98	91	71	50	36		
20 years	100	100	100	100	96	88	61	41	25	10		
25 years	100	100	100	98	96	70	43	22	7	0		
30 years	100	100	100	98	90	51	37	15	0	0		
25% Stocks/75% Bonds												
15 years	100	100	100	100	100	100	91	50	21	14		
20 years	100	100	100	100	100	71	24	12	4	2		
25 years	100	100	100	100	78	22	9	0	0	0		
30 years	100	100	100	100	32	5	0	0	0	0		
100% Bonds												
15 years	100	100	100	100	100	79	43	38	14	7		
20 years	100	100	100	96	47	35	16	6	0	0		
25 years	100	100	98	52	26	7	2	0	0	0		
30 years	100	100	51	27	0	0	0	0	0	0		

(assuming a payout period and life expectancy of 20 years) I am more comfortable with slightly higher withdrawals, 6% or 7%.

Stay flexible, if you can, with your withdrawal rates. If the stock market is performing poorly and you are able to withdraw slightly less from your portfolio, this may give you fewer sleepless nights. When your stock portfolio recovers, you can continue with your higher withdrawal rates.

18

Creating your income stream in retirement

*Funding your retirement is serious stuff.
If you mess up you may never have a chance
to make up for your mistakes.*

ONCE YOU'VE DETERMINED YOUR APPROPRIATE asset mix and annual percentage withdrawal rate for your retirement, you now need to decide how to create the income you'll need to maintain your lifestyle. Depending on your expenses, and what your fixed-income investments are yielding, you may have enough income to live off your bond interest—your pension and social security may also help give you this luxury. But, maybe you don't have this option, and you need to supplement your income with additional withdrawals from your portfolio each year. I'll discuss some withdrawal strategies in this chapter that will hopefully make the withdrawal process easier for you.

The Bucket Approach

Funding your retirement is serious stuff. If you mess up you may never have a chance to make up for your mistakes. That's why I strongly believe in having a systematic, disciplined approach to allocating your portfolio to create your income stream with your retirement assets. My preferred strategy, referred to as the Bucket Approach, allows you to create an income stream and at the same time, avoid having to sell stocks in the middle of a depressed stock market.

To create your “portfolio of buckets” you divide your investable assets into four different buckets, each assuming a different level of risk, and each with a different purpose. At one extreme you have your stock bucket (the riskiest), and at the other end you have a bucket full of cash equivalents. In between are two buckets that contain bonds with different maturities and risks—this can be accomplished nicely with a bond ladder. I recommend that Bucket 2—assuming Bucket 1 holds your cash/money-market assets—holds very short-term bonds with maturities of 2 to 3 years. Bucket 3 will hold bonds with slightly longer maturities, perhaps 4 to 7 years. Again, I typically don't like to invest in bonds with maturities greater than 7 years because of the added volatility due to interest rate risk. Buckets 2 and 3 should help you earn a better return than if you kept all your money in a money market account (or CDs).

Assuming Bucket 1 contains enough money to get you through one full year of income needs, I would recommend that Bucket 2 contain an additional 2 years of equivalent income needs and Bucket 3 does the same. So, your total “safe” assets will allow you to live at least 5 years without having to sell any stocks for your income needs.

If you are a more conservative investor, you can hold more

than 5 years of income needs in Buckets 1, 2 and 3. But, I wouldn't recommend having more than 10 years of income needs in these buckets. Bucket 4—full of index-based stock investments—should perform much better than your other buckets, so I would recommend keeping the core of your portfolio in Bucket 4. (Refer back to Chapter 1 to decide what percentage of your portfolio should be invested in stocks.)

As the bonds in Bucket 2 and 3 mature, use the proceeds to replenish Bucket 1. For example, I recommend you keep one year of living expenses in Bucket 1. Once the first year is up, and the money in Bucket 1 is gone, you can replenish this bucket with one of the bonds that matured in short-term bond Bucket 2. The principal from these bonds will allow you to live another year. If you don't need to replenish Bucket 1 with additional cash, use the proceeds from the maturing bonds in Bucket 2 and buy slightly longer term bonds that will go into Bucket 3. Basically you are extending your ladder, or replenishing your buckets. Depending on your overall allocation, you may also decide to add to your stock holdings.

When choosing your bonds I would recommend either Treasuries, CDs, high-grade corporate bonds or municipals. Or, you could buy a short-term bond index fund for Bucket 2 and an intermediate-term bond index fund for Bucket 3. I prefer individual bonds for the Bucket Approach, since you can better control the flow of funds from one bucket to the next, with the maturing bonds.

The Bucket Approach at work

Buckets 1 through 3 contain approximately 5 years of income needs. Bucket 4 contains your long-term stock investments for growth. Hopefully, over time, Bucket 4 will provide enough growth in your portfolio to make up for all your withdrawals. As

your bonds mature and/or stocks are sold to rebalance your portfolio, you continually replenish Bucket 1. You always live off the cash equivalents in Bucket 1—the only thing that may change is the way you create your income flow.

Simple example of the Bucket Approach—\$2 million portfolio with income needs at \$100,000 annually. Overall allocation is 75% stocks and 25% bonds and cash equivalents.

Table 18-1	
Sample Bucket Portfolio	
Bucket 1:	Money-market, assets of \$100,000
Bucket 2:	2- to 3-year bonds, assets of \$200,000
Bucket 3:	4- to 7-year bonds, assets of \$200,000
Bucket 4:	Stocks investments totalling \$1.5 million

Note, interest from your bonds in Buckets 2 and 3 will be added to Bucket 1, in addition to any dividend income you earn from your stocks in Bucket 4. Bucket 1 acts as a sweep account for all interest, dividends and maturing bonds.

If you are nearing retirement, I would recommend getting started early by funding your buckets now. Don't wait until you're retired to start planning. If you retire, and immediately a bear market hits—and you had too much money in stocks—you may find you are scrambling to figure out how to meet your income needs over the coming years. Save yourself some potential grief and start funding your bond and cash-equivalent buckets several years in advance of your retirement.

Working within your Bucket Approach, you will have many alternatives as to how to create income. Let's look at some of the strategies.

Use distributions from your IRA for your income needs

Most advisors suggest withdrawing as little as possible from tax-deferred accounts so that you can keep the tax deferral going for as long as possible, with more money in the tax-deferral pot. I agree with this reasoning, however, if you have a large percentage of your total portfolio in your tax-deferred account, you shouldn't hesitate to use some of it for income needs. Remember, taxes will be due some day on these assets. So, after your demise, your estate will pay the tax obligation, and, it will be at ordinary income tax rates. The tax deferral option is great for most investors, but at some point, the growth of your IRA assets may push you into a higher tax bracket. And, when this growth is eventually withdrawn, it is heavily taxed.

Because of high ordinary income taxes, I will sometimes advise withdrawing assets for income needs from an IRA prior to age 70 ¹/₂. (After 59 ¹/₂, you are no longer penalized for making so-called early withdrawals.) So, by taking withdrawals between age 59 ¹/₂ and 70 ¹/₂, you may keep your tax-deferred accounts at a level where you won't be pushed into a higher tax bracket with large withdrawals later on. And, by chipping away at your IRA assets, you can allow your taxable investments to continue growing. Your taxable assets may be subject to estate tax upon your death (after a step up in basis), but your IRA assets, if large enough, will be subject to both ordinary income tax *and* estate tax.

Making withdrawals between age 59 ¹/₂ and 70 ¹/₂ can also make sense if you are in a very low tax bracket. For example, if you are in the 15% tax bracket, you could take out enough money from your tax-deferred account, as long as you stay in the same tax bracket. In other words, use up the total bracket, but don't bump yourself into the higher tax bracket. Again, by taking withdrawals from your IRA before age 70 ¹/₂, the assets you withdraw now may be taxed at a lower rate than when you begin

your mandatory withdrawals. Your account may be larger in a few years and your mandatory distributions may push you into the 28% tax bracket. So, by taking some money out earlier, your withdrawals are actually taxed at a lower rate.

Use current income

Current income is the simplest way to create an income stream. Regardless of how low short-term interest rates are, it is likely you will always have some income from your money-market and short-term bonds. Perhaps this income will allow you to fund a substantial portion of your income needs. And, rather than reinvest bond interest or stock dividends, you may simply decide to use this money to help cover your living expenses. This allows you to keep your principal intact and remain invested.

Live off your reserves

If your stock dividends and bond interest are insufficient, you may need to sell some of your stocks or bonds to supplement your income. If you have set up a reserve fund of short-term bonds and cash equivalents—enough to cover at least 3 years of income needs—you have greatly improved your situation. (Your reserve fund is essentially part of the Bucket Approach.) One of the great advantages is that this allows you to be very creative and flexible with your withdrawals. If the stock market is in decline, or in a prolonged bear market, you may not wish to sell any of your stocks for income needs, until the market recovers. After withdrawing assets from your reserve fund for a couple of years, the stock market will probably have at least partially recovered, and at that time you can sell some stocks to replenish your reserve fund.

Sell winners

One of your goals when managing your portfolio is to maintain your target asset allocation throughout retirement. If some of your holdings have grown to the point where they are now overweight, it may be a good idea to sell some of them to bring your portfolio back to its original mix. I covered this in the chapter on rebalancing.

When deciding what to sell (stocks or bonds), I typically recommend selling the best recent performers in the portfolio. If you don't need all the proceeds for your income needs, I'd recommend investing some of the proceeds in your laggards. For example, if small-cap value stocks have performed very well, and your equity exposure has moved beyond your comfort-zone, you could take some of your profits and reinvest the proceeds in your stock asset classes and sector investments that have done poorly. If small-cap value stocks have been in favor, there is a good chance that large-cap growth or another uncorrelated asset class hasn't done well—invest the proceeds in the underperformer. Obviously you wouldn't like this approach if you think large-cap growth stocks will never come back. But they will, just like small caps and mid caps have in recent years, after underperforming for quite a stretch. Many investors had written off small- and mid-cap stocks in recent years and loaded up on large-cap growth stocks. Well, large-cap growth has tanked and small- and mid-cap stocks (value in particular) have done great. Anyway, if you have the courage to invest some of your proceeds—whatever you don't need for your income needs—in the laggards, my guess is you will be rewarded in later years.

Selling your winners and using the proceeds for income may mean you have to pay taxes. Often, however, it can be a good move. Be sure to consider the tax consequences of reducing your exposure to your winning positions, then make your decision.

Sell losers

If your winners are all in a taxable account, you may prefer to sell some of your losers for your income needs. With this strategy you can tax-loss harvest. Or, you can use the loss to offset a gain, if necessary.

My problem with this strategy is that if you sell your losers, you are taking money from an asset class that has been performing poorly. If you sell some of it, you will further reduce your exposure (it's already reduced because of the poor performance) so your portfolio may become too concentrated in your winners. This defeats the purpose of diversification. And, since stock-style trends can often last several years, if you are selling a certain style for several years—since it is a laggard—your portfolio may become loaded up with one particular style (growth or value). By the time the out-of-favor style makes a comeback, you may not own any, and your performance may suffer. Furthermore, your heavily weighted, one-style portfolio of stocks will make your portfolio more volatile—not exactly what you want during retirement.

Bottom line, taxes are a huge consideration, but don't favor selling your losers to avoid paying taxes. If you do, you may end up with a highly concentrated portfolio in one asset class and one style of investing (i.e., large-cap growth stocks). This may hurt your future performance, and it will certainly make your portfolio riskier.

Using growth-oriented stock investments for income

An article that recently appeared in *Investor's Business Daily* is worth reviewing here. The article, written by Nancy Gondo, argued that having an all-stock, growth-oriented portfolio can make sense—even if you are living off your portfolio in

retirement. She argues that you have a much better chance of outpacing inflation with an all growth-oriented portfolio *and* you can also create your own income stream by periodically selling your growth-oriented stock investments.

In her article, entitled *Growth Funds Can Meet Your Income Needs*, Nancy Gondo showed how an investment in American Century's Growth Fund would have fared during a brutal bear market (1973-1974) and beyond, with a starting withdrawal rate of 6% annually (\$500 monthly) from the fund. Beginning in 1972, an investor who put \$100,000 in American Century's Growth Fund and began withdrawing \$500 on a monthly basis, would have seen his portfolio drop to \$65,130 during the 1973-1974 bear market. But, Ms. Gondo argues, "if you were patient and let it ride" your portfolio was worth \$141,869 in 1976. (And, you still withdrew your annual \$6,000.) By the end of 2000, almost 30 years after your starting date, your account balance would have been \$7.3 million.

I cannot imagine recommending a 100% stock allocation to a retiree, and I don't think Ms. Gondo was suggesting you have an all-stock portfolio. However, the study showed that even for a very aggressive investor with a fairly high withdrawal rate, you still have a chance to make your assets last throughout your lifetime—if you are patient and if history repeats itself. Two big "ifs."

Withdrawals during a bear market

Right now we're in the middle of the most gruesome bear market since 1973-1974. Retirees who loaded up on growth stocks in the late 1990s, could have losses of 30% or more. If they're also taking distributions from their portfolios annually, they may be down 40% or more in 2000-2001. And, the pain may not be over yet. It may be many years before these investors

recoup their losses. If you are in this situation, but you've created a reserve fund of 3 to 5 years of income needs, you've given your stock portfolio some time to recover. If you have 3 to 5 years of income needs set aside, it makes it easier to be patient and wait until your stock portfolio recovers before you sell stocks for income.

If you have set up a reserve fund and you plan to live off that income during a bear market, you may still get nervous if the bear visits for more than a couple years. What else can you do? If you have been withdrawing 5% from your portfolio annually during retirement, you may want to see if you can trim your spending until the market recovers. Can you live off 4% or less? Any amount of reduced withdrawals will extend the life of your portfolio.

19

Does buying and holding
make sense for you?

*What is important for the investor is that the winning formula
of buying and holding is not working any more.*

In fact, it is working against him.

—FELIX ZULAUF, president, Zulauf Asset Management, March 2002)

*And what of Wall Street strategists? None saw the end of the bull
market, yet we are to believe them when they all now see the end of
the bear market? None saw the recession coming, yet we are to
believe them when they all now see a boom ahead?*

—ALAN M. NEWMAN, HD Brous & Company

*It's when the music stops and the glasses are suddenly empty, when
the party's over, in other words, in the cold, unforgiving light of day,
that the reckoning takes place.*

—ALAN ABELSON, *Barron's*

I SURE WOULD LIKE TO BELIEVE IN buy-and-hold investing. I used to. I don't now. The market action during the past few years has changed my mind. Beyond the ridiculous valuations seen in the past few years, the Fed Model—written up in *Barron's* and detailed by economist and market strategist, Dr. Ed Yardeni, on www.yardeni.com—has finally given me a credible alternative

to a buy-and-hold strategy.

But, buy and hold may not be dead. It could still work. Let me outline when I think a buy-and-hold approach works, and when it doesn't. Then, you can decide what's best for you.

When a buy-and-hold strategy works

1) *When you periodically rebalance a diversified index-based portfolio.* If you own a properly diversified index-based portfolio, you could argue that a buy-and-hold strategy works. Or, let me rephrase that—if you own a properly diversified portfolio among different styles and stock asset classes, you could argue that you can always stay fully invested, as long as you periodically rebalance to control risk. As I've mentioned numerous times in this book, rebalancing makes you take money from better performing investments and reinvest your proceeds in your laggards. If you believe in reversion-to-mean, your underperformers will eventually shine and outperform your recent stars. This concept isn't new, and it is a very effective way to control risk.

When the stock market crashed beginning in March 2000, most of the damage was done to large-cap growth stocks. Investors who had periodically rebalanced *out of* growth during the 1990s, and into underperforming investments—small- and mid-cap value stocks—held up very well. I ran numbers on hypothetical portfolios that had equal amounts in growth and value stocks in all 3 major asset classes, and the damage was minimal. Small- and mid-cap value stocks have actually made a lot of money for investors while the rest of the market has tanked. My point is that if you maintain a very balanced portfolio in 6 different stock asset classes (large-, mid- and small-cap value and growth stocks), while periodically rebalancing, buying and holding may still work just fine.

2) *When you have 10 years or more before you'll need this money.* Older investors, especially those who are no longer working, have the most to lose when a bear market hits and they have a lot of stock exposure. They gripe that they only have so many years to make back the money they've lost. They're right to gripe. There have been times in the past when stocks have traded within a certain range for 10 to 15 years, making it very difficult to make money as a buy-and-hold investor. If you're retired and you will need your money that is presently invested in stocks, before 10 years, I'd make the case that a buy-and-hold strategy isn't for you. But, if you want to buy and hold—as long as you are diversified in all the major asset classes—for 10 years or more, there is a pretty darn good chance you'll do well. Obviously, if the market is trading at extreme valuations, you're better off having a lot longer time horizon than 5 years, since it may take that long for you to get your money back—if the market crashes soon after you invest. Nevertheless, if you have at least a 10-year time horizon for your stock money, buying and holding will probably work well for you.

3) *When you've got an incredibly strong stomach and nerves of steel.* Most investors are risk-averse—much more so than they realize. In the beginning of this book I outlined some guidelines for your appropriate stock allocation percentage, depending on how much “temporary” loss you can handle. I suggested that you should be prepared to lose 50% of your money that is invested in stocks, at any given time. This may seem exaggerated, since in most of our lifetimes we haven't seen stocks drop this much. But, in 1973-1974, stocks dropped about 43% and they tumbled almost 40%—from peak-to-valley—in the recent period ending September 2001. Nevertheless, if you have a strong stomach and you are emotionally and financially prepared to weather a similar percentage loss, you could still consider a buy-and-hold approach.

When a buy-and-hold strategy doesn't work

1) *When you heavily overweight a sector or asset class.* If you loaded up on tech stocks in 1999 and 2000 it will now seem obvious why you can't buy and hold a sector or asset class that is so volatile. Tech stocks were up over 50% in 1999, but lost about 40% in 2000 and another 20% or so in 2001. And, they're down again in Q1 2002. This is when a buy-and-hold strategy is obviously flawed—if you substantially overweight your portfolio in an asset class or sector. Sure, technology stocks may ultimately outperform the broader market over the next decade or two, but let's admit it, you're making a bet. Whether you are heavily weighted in one sector in a separate sector ETF (or a broad-market index fund for that matter), you're assuming a lot of risk. And, since your portfolio is heavily weighted to one asset class or sector, at some point you'll want to reduce your overweighting to reduce risk. When you choose to sell will be determined by why you overweighted it in the first place.

Anyway, if your portfolio is heavily invested in one part of the market, you can't simply buy and hold forever. You must, at least, set target allocations and periodically rebalance. This means you'll be buying and selling occasionally—not buying and holding.

2) *When you own individual stocks.* Owning a portfolio of individual stocks is active management—even if you don't move your money around. If heavily overweighting an asset class or sector is some form of gambling, owning individual stocks is infinitely more frightening and speculative. Most investors really have no clue what will become of their individual stocks. Companies go bankrupt or out of favor for many reasons. Regardless of your diversification—most active fund managers recommend owning at least 60 companies for diversification—you must acknowledge you're making a huge bet by owning a

portfolio of individual stocks. If this is your chosen method of investing, you obviously cannot buy and hold. An earlier mention in this book is also appropriate here—if you were a buy-and-hold investor of individual stocks at the turn of the century, you’d now have a portfolio with enormous weightings in railroads, buggy whip manufacturers, and women’s corsets.

So, if you own a portfolio of individual stocks, not only is this unintelligent, but it makes a long-term, buy-and-hold strategy an impossibility.

3) *When you own actively managed mutual funds.* I have advised against buying and holding a portfolio of your own individual stocks. I would also advise you against buying and holding an actively managed mutual fund. Most active managers are not buy-and-hold investors. So, when you own the Janus Twenty fund, or Fidelity Magellan, you aren’t really buying and holding stocks anyway. The average turnover for an equity mutual fund is 80% annually, so there isn’t much buying and holding going on these days by the professionals. My point is, if you own actively managed funds you cannot buy and hold, since your fund may underperform—just like your individual stocks—for ages. They say you’ve got to keep an eye on your mutual fund manager, which to me simply means you’re going to have to fire him at some point, since his performance will inevitably be worse than the market at some stretch. So, buying and holding an actively managed mutual fund makes about as much sense as buying and holding individual stocks. Don’t do it.

4) *If you believe there are times when stocks trade at extreme overvaluations.* I now firmly believe—having lived through the market crashes of 1987 and 2000-2001—that investors are irrational and will continue to be. Their behavior will push stocks to extreme under- and overvaluations again and again. If you believe this, you shouldn’t be a buy-and-hold investor. The

difficulty is in picking an exit and eventually an entry point. But, if certain sectors or asset classes are so obviously overvalued (hindsight helps) then only the irrational investor would buy and hold. At some point it has to be common sense, but I don't know what that point is. My point is that when the market, or parts of it, trades at extreme overvaluations, you've got to make an exit, at least with some of your money. Therefore, if you believe that markets can trade at extreme overvaluations, you can't believe in buying and holding forever.

20

Application of the Fed Model—
a good alternative
to a buy-and-hold strategy

The logic behind the indicator holds that investors are unlikely to bid stocks much higher if they are returning less in terms of earnings than the government is paying on risk-free bonds.

—MICHAEL SANTOLI, *Barron's*

Simple or not, it matters because it's presumably what Greenspan looks at when he's calculating how stock market performance should be figured into his calculus of monetary adjustments.

Institutional Investor

Over the past 18 years, the Fed's Model has done a pretty good job of indicating the fair value of the S&P 500.

—ANDREW BARRY, *Barron's Online*

THE SO-CALLED FED MODEL offers investors a credible alternative to a buy-and-hold strategy. The model, which I briefly discussed in Chapter 7, is one of many tools I use to help determine the appropriate stock allocation for my clients. And, it is the *only* model I use for market-timing purposes.

Based on excerpts from the July 1997 Federal Reserve Monetary Policy Report, it is obvious the Federal Reserve Board

regards the Fed Model as a pretty good indicator of whether stocks are under- or overvalued. Dr. Ed Yardeni, formerly of Deutsche Banc AB, discovered the following write-up, buried in a Fed Monetary Report. He later popularized the Fed Model on his Web site www.yardeni.com.

Excerpt from Fed's July 1997 Monetary Report:

The run-up in stock prices in the spring was bolstered by unexpectedly strong corporate profits for the first quarter. Still, the ratio of prices in the S&P 500 to consensus estimates of earnings over the coming 12 months has risen further from levels that were already unusually high. Changes in this ratio have often been inversely related to changes in long-term Treasury yields, but this year's stock price gains were not matched by a significant net decline in interest rates. As a result, the yield on 10-year Treasury notes now exceeds the ratio of 12-month-ahead earnings to prices by the largest amount since 1991, when earnings were depressed by the economic slowdown. One important factor behind the increase in stock prices this year appears to be a further rise in analysts' reported expectations of earnings growth over the next 3 to 5 years. The average of these expectations has risen fairly steadily since early 1995 and currently stands at a level not seen since the steep recession of the early 1980s, when earnings were expected to bounce back from levels that were quite low.

Source: Dr. Ed Yardeni (www.yardeni.com)

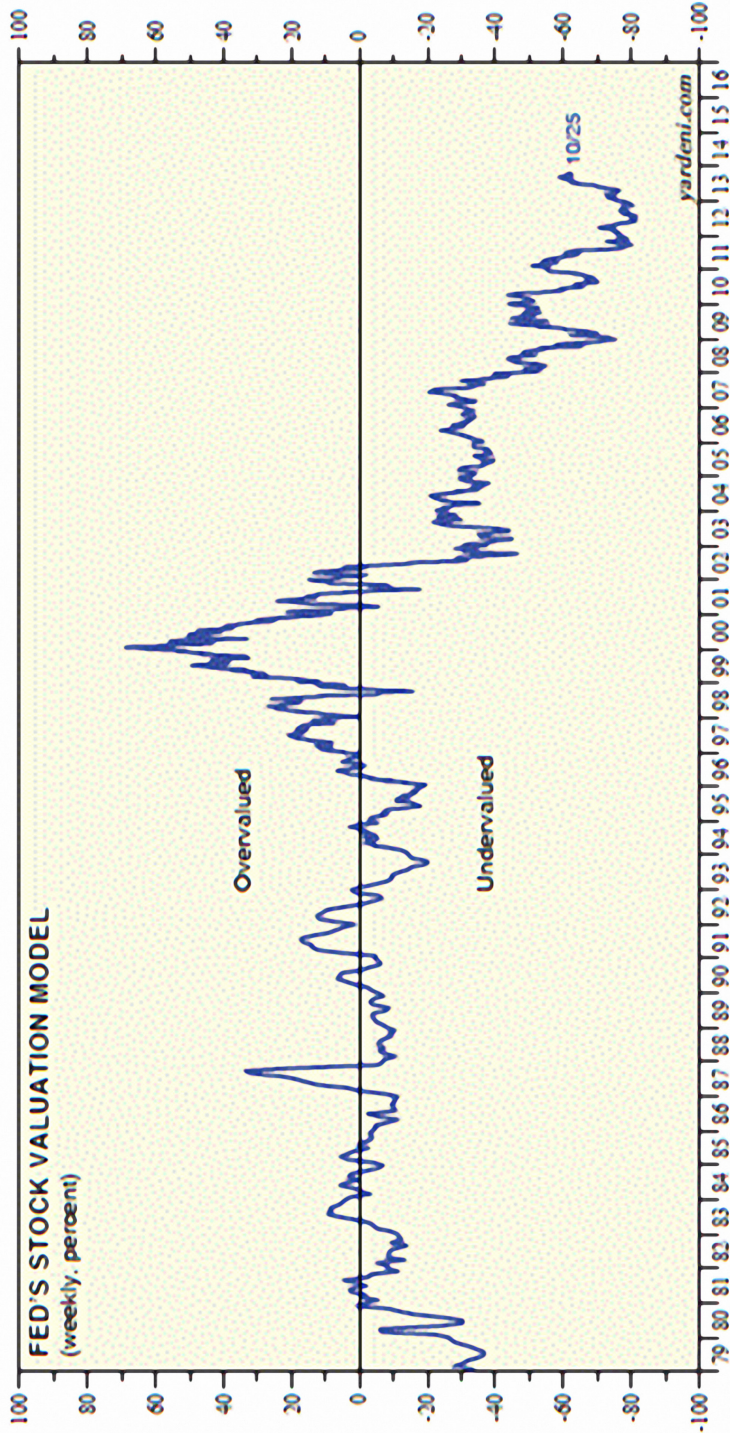
The Fed Model is simple. It looks at current stock prices, earnings estimates and bond yields to identify whether stocks are cheap or expensive, relative to bonds. The model is not a short-term, market-timing tool, but it has been an excellent indicator of whether investors are likely to earn below- or above-average returns in stocks over the next 12 to 24 months. The model compares the present interest rate paid on 10-year Treasury notes to the “earnings yield” of the S&P 500. If the S&P’s earnings yield (the inverse of the index’s price-earnings multiple) is higher than the Treasury yield, the stock market is believed to be undervalued. If it is lower, it is overvalued.

A simple calculation can show you the Fed Model’s reading at any given time. All you need to know is the present yield on the 10-year Treasury note, the 12-month forward, consensus earnings estimate for the S&P 500, and the present value of the S&P 500. Let’s look at the calculation as of this writing. The 10-year Treasury note right now is yielding 5.334% and the S&P 500 is trading at 1,138. The 12-month forward consensus earnings estimate for the S&P 500 (from *First Call*) is \$52.72. Here’s the calculation —

$$1/.05334 = 18.75 \text{ (forward fair value P/E)} \times \$52.72 = 988$$

988 is the Fed Model’s fair value reading right now for the S&P 500. Since the S&P 500 is trading at 1,138 (today’s close), the market is overvalued by 15.1%. This overvaluation reading is found by finishing the calculation —

$$1,138 - 988 = 150. \quad 150/988 = 15.1\% \text{ overvalued}$$



- Ratio of S&P 500 index to its fair value (52-week forward consensus expected S&P 500 operating earnings per share divided by the 10-year US Treasury bond yield). Monthly through April 1994, weekly thereafter.
Source: Standard & Poor's Corporation and Thomson Reuters I/B/E/S.

Table 20-1
Yardeni's Asset Allocation Model

Market	Stocks	Bonds
More than 20% overvalued	60%	40%
10% to 20% overvalued	70%	30%
Less than 10% over- or undervalued	80%	20%
10% to 20% undervalued	85%	15%
More than 20% undervalued	90%	10%

Yardeni's Asset Allocation Model

As I mentioned earlier, Dr. Ed Yardeni “discovered” the Fed Model and converted his findings to a simple asset allocation model to help institutional investors. In Table 20-1 you can see his asset allocation recommendations for a large institutional equity portfolio. For example, if stocks are 10% to 20% overvalued, Dr. Yardeni would recommend a mix of 70% stocks and 30% in bonds. His asset allocation model is pretty aggressive. My version, which offers the individual investor a more conservative approach, is shown in Table 20-2.

Chaussée's Application of the Fed Model

If you decide to use the Fed Model to help you determine what percentage of your assets should be in stocks or bonds at any given time, I'd recommend a more conservative approach than Dr. Yardeni's application of the Fed Model. For example, Dr. Yardeni's model indicates that you should *still* keep 60% invested in stocks, even if the model shows that they are more than 20% overvalued. Since overvaluation is eventually corrected—typically by stock prices falling after huge run-ups—I'd suggest you invest much *less* in stocks as they become overvalued.

Table 20-2
Chaussée's Application of the Fed Model

Market valuation	Stocks*
More than 30% overvalued	0%
21%-30% overvalued	10%
11%-20% overvalued	25%
0%-10% overvalued	50%
0%-10% undervalued	75%
More than 10% undervalued	100%

* % of your maximum target allocation in stocks.

Your first step to effectively use my application of the Fed Model is to determine the maximum percentage of your portfolio you would have in stocks at any given time. Let's assume you've decided that the maximum stock exposure you can tolerate is 70%—in the best of times. By looking at Table 20-2, you can see that my recommendation would be to have your maximum exposure in stocks when the market is 10% or more undervalued. If the market stays undervalued by this amount or more, simply maintain your allocation. As the market becomes more fairly valued, you will reduce your equity exposure. For example, if the Fed Model gives an overvaluation reading of 15%, I would recommend reducing your exposure in stocks to 25% of your maximum. If your chosen maximum stock exposure is 70%, then invest 25% of your maximum right now. $70\% \times 25\%$ equals your appropriate allocation—17.5% in stocks.

Here's another example of how to use this table. If your maximum tolerable exposure to stocks is 60%, and the Fed Model indicator shows stocks to be 9% overvalued, then you would want approximately 30% of your portfolio in stocks.

Table 20-3
Chaussée's Application of the Fed Model
 (based on your maximum target stock allocation)

Your max. % allocation—	40%	50%	60%	65%	70%	80%	100%
Fed Model Indicator	Equity % to invest						
More than 30% overvalued	0	0	0	0	0	0	0
21%-30% overvalued	4	5	6	7	7	8	10
11%-20% overvalued	10	13	13	16	18	20	25
0%-10% overvalued	20	25	30	33	35	40	50
0%-10% undervalued	30	38	45	49	53	60	75
More than 10% undervalued	40	50	60	65	70	80	100

One more example—if your maximum tolerable exposure to stocks is 40%, and the Fed Model indicator shows stocks to be 5% undervalued, then you would want 30% in stocks. This is pretty straightforward. Of course, you can adopt the percentages to fit your own risk/reward profile. My application of the Fed Model is meant *only* as a guide. Choose whatever application is appropriate for you.

Obviously, as the market becomes more undervalued, you will be closer and closer to your maximum exposure to stocks. If the model indicates stocks are 10% or more undervalued, my advice is to invest the maximum amount that you can tolerate in stocks. This may be 100% for very aggressive investors, or it may be 40% for more conservative investors. I obviously become more comfortable (as does Dr. Yardeni) owning stocks as they become more fairly valued or undervalued. I am less comfortable owning stocks as they become overvalued.

Your risk profile can help determine your application of the Fed Model

Because no stock valuation model is infallible, I would suggest you choose one of several approaches to using the Fed Model. I will label them according to your risk profile.

Aggressive investor

You are a growth-oriented investor who is not concerned with portfolio volatility. You seek maximum returns in the stock market by maintaining a high stock allocation at all times. You typically have 80% to 100% of your investable assets in stocks, regardless of valuations. Obviously your investment time horizon is long. My advice for the aggressive investor is to basically ignore the Fed Model. Having said that, I would certainly advise even the most aggressive investors to exit stocks if they are overvalued by 30% or more. At a minimum you should rebalance into stock asset classes that are “relatively” undervalued at the time.

Moderately-aggressive investor

Like the aggressive investor, you are also growth-oriented. But, you recognize that you are not comfortable having all of your money invested in stocks, all the time. Your maximum stock allocation is somewhere between 70% and 80%. Your time horizon is many years—10 years or more—and you have a fairly high tolerance for risk. My advice for the moderately-aggressive investor is to follow the Fed Model and reallocate according to my recommendations in Table 20-2. You may wish to adopt your own percentages, using the table as a guide. At a minimum, I would act—decrease or increase your stock exposure—at extreme valuations. Historically, an overvaluation of more than 20% was extreme, and an undervaluation of more than 10% was also

extreme. During these “extreme” periods, I would recommend adjusting your allocation. Own your highest percentage of stocks when the Fed Model reads that stocks are fairly valued or undervalued. As stocks become overvalued, reduce your exposure.

Moderate-risk investor

You are somewhat growth-oriented, but you are also very concerned with protecting principal and controlling risk in your portfolio. This profile probably fits most retirees. Your maximum stock allocation would probably be about 70%, but you generally keep between 55% and 65% in stock investments. My advice for the moderate-risk investor is to follow the Fed Model and reallocate according to my recommendations. Again, own your highest percentage of stocks when the Fed Model reads that stocks are fairly valued or undervalued. As stocks become overvalued, reduce your exposure per my recommendations. Also, use periodic rebalancing to control risk.

Conservative investor

Your primary investment objective is to protect principal. You are very conservative by nature and your maximum stock allocation is probably somewhere between 40% and 55%. While your time horizon may be more than 10 years, you cannot handle the volatility of the stock market, and you prefer to maintain a high percentage of your portfolio in safe investments—short-term bonds and cash equivalents. You are aware that owning bonds will not allow you to create wealth—after taxes and inflation. But, your conservative allocation allows you to sleep well, even when stocks are getting hammered. My advice to the conservative investor is to follow the Fed Model and reallocate according to my recommendations. Like most investors, you should own your highest percentage of stocks when stocks are

fairly valued or undervalued. As stocks become overvalued, decrease your exposure to reduce risk. If stocks become significantly overvalued (20% or more), be certain to substantially reduce your equity holdings while continuing to periodically rebalance your portfolio.

Skeptical investor—Approach A

Some investors may not want to try to time the market. They don't want to bother with it, don't believe in it—whatever. If this fits your profile you may *still* want to pay attention to the Fed Model and act during extreme valuation periods. For example, in 1979-1980, the Fed Model indicated that stocks were extremely undervalued (-30% to -35%). Even the skeptic may have stepped up at this point and allocated more money to stocks. There have been four extreme undervalued markets, according to the model, since 1979. At some point in 1979, 1980, 1993 and 1996 stocks were undervalued by 20% or more. I think these extremes warrant some sort of action, from even the most passive investors. I would choose the 20% target percentage as a pretty good point for extremes, on either side of the fair value indicator in the model. If stocks are 20% or more under- or overvalued, I would suggest adjusting your asset allocation. Perhaps you may only reduce or increase your exposure to stocks by a nominal amount (5% to 10%). Still, the fact that you did something may make you feel better—if the model turns out to be right.

Skeptical investor—Approach B

Since timing the stock market is notoriously difficult, the skeptical investor may be wary of exiting the market simply because the Fed Model says its overvalued. I totally understand this. So, the skeptic may want to keep a maximum stock allocation at all times—like the aggressive investor. But the skeptic could alter his stock allocation by reallocating money into

defensive stocks, when the Fed Model indicates an extreme overvaluation. In this way, he will probably lose *less* than if he had stayed with aggressive growth investments. The beauty of this approach is that you'll probably make money if the Fed Model is "wrong" for an extended period like in 1999-2000—your defensive stocks will more than likely do better than cash or bonds. So, the skeptic may want to stay in stocks, up to his or her maximum percentage allocation, but rebalance into defensive issues (health care, utilities, consumer staples, small- and mid-cap value), if the market is significantly overvalued.

Fed Model—only as good as the earnings estimates

Dr. Yardeni stresses that the Fed Model is only as good as the earnings estimates that are applied to the calculation. And, earnings estimates can vary widely. There is obviously a huge discrepancy in the anticipated earnings per share for the S&P 500. Look at Table 20-4. Depending on whether you apply the low-end estimate of \$36 per share from J.P. Morgan, or the high-end number of \$61 per share from CIBC World Markets, the Fed Model's reading will change dramatically. For example, as of this writing, the S&P 500 is trading at about 1,138. The 10-Year Treasury note is yielding 5.334%. If I use the low-end number of \$36 per share, fair value for the S&P 500 is 675. Or, in other words, the market is presently overvalued by 68%. If I use the high-end number of \$61 per share, the market is *undervalued* by a little less than 1%. Huge difference.

I'd advise using the consensus earnings estimates compiled by Thomson Financial/First Call. This weeds out the extreme estimates and forms a consensus number, that, when applied to the Fed Model, has been pretty accurate. First Call also places its own forward earnings estimates (Q4'02) on the S&P 500. Right now, according to First Call's Web site, it has estimated earnings to be \$48 per share versus the consensus of about \$52 per share.

Its estimate says the market's about 26% overvalued versus an overvaluation reading of 15% based on the consensus. My point is, depending on whose number you use, the valuation reading will be quite different.

Table 20-4
S&P 500 Operating Earnings:
Top-Down Forecasts

Broker	2002
CIBC World Markets	\$61
Advest	\$59
Deutsche Banc Alex. Brown	\$57
Credit Suisse First Boston	\$55
Prudential Securities	\$54
Goldman Sachs	\$47
PNC Advisors	\$51
Lehman Brothers	\$51
Sanford C. Bernstein	\$51
Morgan Stanley Dean Witter	\$50
BMO Nesbitt Burns	\$51
RBC Dominion Securities	\$50
Raymond James	\$50
Banc of America Securities	\$49
UBS Warburg	\$48
Salomon Smith Barney	\$46
Merrill Lynch	\$43
JP Morgan	\$36

Source: *Thomson Financial*

Brief history of the accuracy of the Fed Model

I thought it might be helpful to show a brief history of accuracy of the Fed Model. I've highlighted the extreme under- and overvaluations as indicated by the model.

- 1) The market was extremely undervalued from 1979 through 1982.
- 2) After a big runup in stock prices in the early 1980s, prices crashed in October 1987. Prior to the crash, the model had stocks overvalued by more than 30%.
- 3) After the 1987 crash, stocks stayed undervalued for several years until the early 1990s, when they showed modest overvaluations until 1994.
- 4) The next bull market took stocks from undervalued territory in 1994 (approximately -20%) to extreme overvaluations.
- 5) The summer of 1997 and 1998 offered investors a small window of opportunity to buy stocks at undervalued prices. Otherwise the model continued to show stocks in overvalued territory.
- 6) Stock valuations took off beginning in 1999 and didn't look back until after the crash in tech stocks began in March 2000. The Fed Model indicated stocks were overvalued at the peak by about 70%.
- 7) Since the market began tumbling in March 2000, we've had a couple of opportunities to buy stocks in undervalued territory—most notably, when the reading was -17% on September 21, 2001.

Summary

Many professionals have challenged the accuracy of the overly simplistic Fed Model. In his informative book entitled *Outpacing the Pros; Using Indexes to beat Wall Street's Savviest Money Mangers*, author David Blitzer (chairman of Standard & Poor's Index Committee), suggested the Fed Model had worked well "until recently." "Recently" meant until 2000. Well, if his book had been published a year later, he would have revised his statement—the Fed Model ended up working perfectly. Stock prices reverted from a very overvalued level to undervalued by about 17% in September 2001. Anyway, Blitzer commented in his book that the Fed Model had previously worked well, but it had recently "fallen short of real values." In May of 2000, the Fed Model gave the S&P 500 a fair valuation at 1,000, but it was trading at 1,400. Blitzer attributed this 40% overvaluation "error" to market psychology—which can push stocks to extreme over- or undervaluations. Although it appeared the Fed Model had failed to account for "psychological factors" and was therefore grossly inaccurate, with a little patience, the model showed that its reading—as outrageous as it seemed at the time—was right on target.

Final note on the Fed Model—

First Call's "Market Valuation Commentary" on its Web site (www.firstcall.com) makes an important point about the Fed Model that I would like to call to your attention. As interest rates drop to unusually low levels, the validity of the Fed Model comes into question. First Call states that "the relationship of the reciprocal of the interest yield to the P/E ratio is not a linear one." This relationship, as shown in the historical accuracy of the Fed Model, is close to linear "where interest rates normally fall." But, it is obvious that as interest rates drop to unusually low levels, the formula doesn't hold up. First Call uses the example of Japan

and the 10-year note yield at 1%. This would imply a fair market P/E for the Japanese stock market of 100 times earnings. For your interest, right now the Fed Model, when applied to the Japanese stock market, does shows an undervaluation reading of about 50%. This proves First Call's point. "The conclusion should be that, because of the non-linear relationship, the implied linear relationship of the formula overstates the fair value P/E at low interest rates." If our domestic interest rates drop to ridiculously low levels, like in Japan, the accuracy of this model will be questioned.

One more note on the Fed Model—

Just before this book went to press, Dr. Ed Yardeni's Web site (www.yardeni.com), which showed the Fed Model changes daily and historical data for the model, went "off the air." Dr. Yardeni has recently accepted a position at Prudential Securities, Inc. (he was formerly with Deutsche Banc Alex Brown), and I have no idea whether or not his Web site will reappear in the future. I now calculate the Fed Model's reading on my own (Yardeni's site previously did the work for me). Here's where to find the data to make your own calculation —

- 1) Check the consensus earnings estimates for the S&P 500 on www.firstcall.com "market commentary."
- 2) Find the 10-Year Treasury note's yield on www.yahoo.com 'finance' or www.bloomberg.com.
- 3) Find the present value of the S&P 500 (available on the same Web sites listed above).
- 4) Calculate fair value for the market using the formula on page 241.

21

Stock indexes

Russell relies not just on a stock's historical price-to-book ratio, but also its forward-looking ratio based on analysts' five-year growth estimate.

—KEN HOOVER, *Investor's Business Daily*

AN EASY WAY TO DEFINE AN INDEX is that it is a model or target portfolio of securities. It could be an index of bonds, stocks, real estate—whatever. The major indexes are compiled, managed and published by various financial organizations. The most well-known stock indexes are the Dow Jones Industrials and the S&P 500. The Dow is published by Dow Jones & Co. and the S&P 500 is published by Standard & Poor's, a division of McGraw Hill Companies. In addition, a number of exchanges also publish indexes based on the stocks that trade on an exchange—Nasdaq Composite and NYSE Composite are two examples. There are also indexes that are published by financial advisory companies like the Wilshire 5000, published by Wilshire Associates, and the Russell 2000, published by Frank Russell & Company.

Standard & Poor's

Standard & Poor's is the leader in the securities industry, based on dollars managed against its indexes (roughly \$1 trillion). Its most widely followed index is the S&P 500. This is *the* benchmark for performance comparison purposes for most professional money managers and mutual fund managers. The S&P 500 consists of 500 companies in the U.S. market. The index seeks to represent the economy as a whole (all sectors of the economy are represented in the index).

The S&P 500 is managed by a committee of 9 people. They are all employees of Standard & Poor's. These employees determine which stocks will be added or deleted from the index each year. The stocks represented in the index are therefore determined by a committee, which is different from other indexes whose underlying components are chosen strictly on market capitalization or some computer model.

The S&P committee meets monthly to review corporate actions, mergers, acquisitions and reorganizations involving companies in the index. In addition, they will review candidates for the index. The index is rebalanced on an ongoing basis throughout the year—unlike some indexes that are rebalanced on one given day each year. Standard & Poor's indexes are market-cap weighted. This means the greater the capitalization of the company in an index, the more important its returns. In early 2000, the largest 35 companies in the S&P 500 index (remember, there are 500 companies), for example, made up about 50% of the capitalization of the whole index. So, their stock prices greatly impacted the returns of the index itself. There are approximately 30 to 50 companies removed and added to this index each year. (See Table 21-6 for turnover stats of the major S&P indexes.)

Standard & Poor's has also created other well-known indexes.

The S&P 400 is a widely followed index of 400 mid-cap companies. Like the S&P 500, it is also market-cap weighted. In addition to the mid-cap index, Standard & Poor's publishes a small-cap index, the S&P 600. This is not as widely followed as the Russell 2000 (the widely-accepted benchmark for small-cap stocks).

S&P/Barra Indexes

In 1992, Standard & Poor's and Barra began a collaboration to produce the value and growth subsets of the S&P indexes. The value and growth indexes are constructed by dividing stocks in the index by one attribute—price-to-book ratio. This divides the broad-based indexes into two components—growth and value. The growth portion of the indexes contains stocks with higher price-to-book ratios, while the value portion contains stocks with low price-to-book ratios. Each company is assigned to either growth or value, and there is no overlap.

The value and growth portions of the large, broad-based indexes can be bought through ETFs for the S&P 400, 500 and 600—they cover mid-, large-, and small-cap stocks, respectively.

Dow Jones & Company

Dow Jones is the publisher of the most widely followed index in the world—the Dow Jones Industrial Average. This index is a simple, price-weighted index of 30 leading companies chosen by a committee of editors from the *The Wall Street Journal* (published by Dow Jones & Company). The Dow has been around since the late 1800s. The Dow Jones comprises only 30 companies, but it offers good representation of the entire U.S. economy and market—it's highly correlated to the S&P 500.

One unique aspect about the calculation of the Dow Jones

Industrial Average is that it is price weighted. The prices of the components in the average are added up and divided by a certain divisor. The price-weighted index has the drawback of not basing its gain or loss for any given day on percentages—they are based on changes in price. Therefore, a \$100 stock that moves \$2 will have a much greater impact on the average than another component whose stock is trading at \$20 and it moves \$2. The \$2 movement in the \$20 stock is a much greater percentage move, but because of the way the Dow is calculated, the \$2 move in the higher priced stock will have a greater impact on the average.

Other indexes compiled by Dow Jones & Company that may be familiar to you are the Dow Transports and Utilities. These are also price-weighted indexes whose components are chosen by committee.

Frank Russell Company

The Frank Russell Company is responsible for the Russell 2000 index, the widely followed benchmark for small-cap stocks. In addition to the Russell 2000, Russell has a number of other indexes that are used as benchmarks for professional money managers. In total, there are approximately \$175 billion benchmarked to Russell indexes.

The Russell indexes are reconstituted annually based on formulas that are computer generated. Unlike the Dow Jones and S&P indexes, Russell rebalances its 21 different stock indexes on only one day of the year—May 31. The indexes register these changes on July 1, and the changes remain in place until the next year.

The larger Russell indexes, which are a blend of growth and value stocks, are cap-weighted. The growth and value indexes are divided by price-to-book ratios and forecasts of earnings growth

per share. The methodology for reconstitution of these indexes is proprietary. What is interesting to note is that, unlike the S&P value and growth indexes, the Russell value and growth indexes may actually contain some of the same stocks. Under Russell's proprietary methodology, roughly 70% of the Russell 3000, 2000 and 1000 indexes are classified as either growth *or* value stocks. But, the remaining stocks are assigned both a value *and* a growth percentage, based on the degree to which they lean toward growth or value. For example, a company that is given a 70% growth weighting will have a 30% value weighting in the other index.

The Russell 3000 contains the 3,000 largest stocks in the U.S. The Russell 1000 is made up of the 1,000 largest stocks of the Russell 3000. The Russell 2000 contains the remaining 2,000 stocks from the Russell 3000. Obviously, the Russell 3000 is a total market index, while the Russell 1000 is mostly large-cap and mid-cap stocks. The Russell 2000 is basically a small-cap index. Since these indexes are cap-weighted, the Russell 3000 and the Russell 1000 are very highly correlated—the large companies dominate both of these indexes. I ran a chart on www.bigcharts.com to compare the performance of the S&P 500 with the Russell 3000 and 1000 indexes, and the returns were basically identical. Again, the reason for this is that these indexes are all cap-weighted, and the largest companies in each index are all the same.

Wilshire Associates

Wilshire Associates, like the Frank Russell Company, is another index provider. Wilshire Associates is particularly well known for its Wilshire 5000 index. The Wilshire 5000 is generally referred to as the total market index. It represents the entire U.S. stock market, but since it is also cap-weighted, its returns are heavily weighted in the largest companies in the index. So, its returns are highly correlate to the Dow Jones Industrial

Average, S&P 500, Russell 3000 and Russell 1000.

Wilshire Associates has other indexes that are mostly followed by professionals. Most notably, the Wilshire 4500 is an index that excludes the top 500 companies of the Wilshire 5000. It tracks the mid- and small-cap asset classes.

Nasdaq Composite

The Nasdaq Composite tracks companies that trade on the Nasdaq Exchange. There are over 8,000 companies represented in this composite. Like all the other major indexes—excluding the Dow Jones Industrial Average—the Nasdaq Composite is a cap-weighted index. Therefore, the large technology companies that trade on the Nasdaq greatly determine the performance of this index.

Table 21-1
Broad Market Index Comparison

Index	Wilshire 5000	Wilshire 4500	Dow Jones	S&P 500	Nasdaq Comp.
Measurement objective	Broad market	Extended mkt.	Broad	Broad	Nasdaq Exchange
Number of stocks	6,300+	5,800+	30	500	8,000+
Market Cap*	\$13.2 trillion	\$2.3 trillion	\$3.6 trillion	\$10.9 trillion	\$2.0 trillion **
Percent of total market	100%	23%	18%	77%	24%
Distribution by Market Cap					
NYSE	77.2%	52.7%	93.5%	84.3%	10.8%
AMEX	0.6%	2.3%	6.5%	0.1%	0.2%
Nasdaq	22.2%	45.0%	0.0%	5.6%	89.0%
Weighting	Market cap	Market cap	Price	Market cap	Market cap
Established	1970	1983	1896	1928	1971
Style indexes	Yes	No	No	Yes	No

*As of March, 2001

**Nasdaq-100 (top 100 non-financial stocks in the Nasdaq Composite)

Source: Wilshire Associates

Table 21-2
Standard & Poor's Index Data

Standard & Poor's	# stocks	Management method	Criteria
S&P 500	500	Committee, cap-weighted	U.S. companies
S&P 100	100	Committee, cap-weighted	Taken from S&P 500
S&P 400	400	Committee, cap-weighted	Mid-cap index-mostly caps of \$1-\$4bil.
S&P 600	600	Committee, cap-weighted	Small-caps less than \$1 billion
S&P 1500	1500	Committee, cap-weighted	Combines S&P 500, 400 and 600
S&P 500/Barra Growth and Value	500 (varies)	Split of 500 by price-to-book Stocks placed in either growth or value	S&P 500 stocks only
S&P 400/Barra Growth and Value	400 (varies)	Split of 400 by price-to-book Stocks placed in either growth or value	S&P 400 stocks only
S&P 600/Barra Growth and Value	600 (varies)	Split of 600 by price-to-book Stocks placed in either growth or value	S&P 600 stocks only

Source: www.spglobal.com

Table 21-3
Dow Jones & Company Index Data

Index	# of stocks	Management method	Criteria
Industrials	30	Committee, price-weighted	30 leading U.S. companies
Transports	15	Committee, price-weighted	
Utilities	20	Committee, price-weighted	
Composite	65	Committee, price-weighted	Combo of previous 3 indexes

Source: www.dowjones.com

Table 21-4
Frank Russell Company Index Data

Indexes	# of stocks	Management method	Criteria
Russell 3000	3000	Annual reconstitution as of 5/31 Cap-weighted, 3000 largest Computer generated	3000 largest from NYSE, Nasdaq, and Amex
Russell 1000	1000	Top 1000 of Russell 3000	Most well-known small-cap index
Russell 2000	2000	Bottom 2000 of Russell 3000	
Growth and Value Indexes	Varies	Split based on price-to-book ratios and earnings forecasts proprietary methodology	Computer generated
Russell Top 200	200	200 largest companies in Russell 1000	
Russell Mid-cap	800	800 smallest companies in Russell 1000	
Russell 2500	2500	2500 smallest companies in Russell 3000	

Source: www.russell.com

Table 21-5
Wilshire Associates Index Data

Indexes	# of stocks	Management method	Criteria
Wilshire 5000	7000+	Cap-weighted	Total market index of all companies headquartered in the U.S.
Wilshire 4500	6500	Wilshire 5000 ex. S&P 500	
Wilshire 750	750	750 largest companies in Wilshire 5000, annual reconstitution as of June 30	
Wilshire Mid-Cap 500	500	Stocks 501-1000 in Wilshire 5000, by market cap annual reconstitution as of June 30	
Wilshire Small-Cap 1750	1750	Stocks 751 to 2500 of the Wilshire 5000, by market cap annual reconstitution as of June 30	
Wilshire Microcap	ca. 3000	All stocks from 2501 to end of Wilshire 5000 annual reconstitution as of June 30	
Growth and Value Indexes	varies	Growth and value split of Wilshire Indexes annual reconstitution as of June 30	

Source: www.wilshire.com

Table 21-6
Index Turnover Statistics
 Standard & Poor's

	Changes	Percentage Turnover (annualized)	Cap-Weighted Turnover (annualized)
S&P 500			
2001 (Q1)	7	5.60	7.64
2000	58	11.60	8.91
1999	42	8.40	6.16
1998	48	9.60	9.46
1997	31	6.20	4.93
1996	24	4.80	4.58
S&P MidCap 400			
2001 (Q1)	10	10.00	17.32
2000	90	22.50	37.41
1999	70	17.50	28.87
1998	65	16.25	31.38
1997	54	13.50	17.91
1996	37	9.25	14.36
S&P SmallCap 600			
2001 (Q1)	20	13.33	14.48
2000	143	23.83	36.41
1999	102	17.00	24.39
1998	90	15.00	24.38
1997	86	14.33	21.84
1996	61	10.17	16.37

Source: *Standard & Poor's Quantitative Services*

22

Value vs. growth— the ongoing debate

Historically stocks with below-average price/earnings ratios (a common definition of value) have outperformed other stocks by four percentage points per year.

—STAN LUXENBERG, *Mutual Funds*

The ratio of growth-to-value P/Es is close to its historical average of 1.58, meaning growth-stock P/Es are usually 58% higher.

—JIM WEISS, *State Street Research (April 2002)*

FOR YEARS THERE HAS BEEN AN ONGOING debate about two different styles of investing—value and growth. To refresh your memory, value investors typically invest in turnaround stories and other depressed stocks that tend to plod along unremarkably for years until, hopefully, their true “value” is discovered by other investors. Value investors prefer companies with low price-to-book ratios and low price-to-earnings ratios, that are hopefully only “temporarily” out of favor.

Growth stocks are typically much more exciting, high-profile companies that have a great “growth” story behind them. They often sport high price-to-earnings ratios and high price-to-book ratios. Not coincidentally, growth stocks tend to be technology

and pharmaceutical companies that pour most of their earnings into research and development (not dividends, like many value-oriented stocks). These companies are often “shooting the lights out” on their earnings and investors anticipate they will continue to do so.

You could certainly argue that these two styles of investing are misnamed. After all, who wants to buy a stock that has no value, and why would anyone want to buy a stock that has no growth potential? Investors who buy growth stocks do so with the hope that their earnings will grow rapidly to justify a high P/E ratio and a high stock price. Investors who prefer value stocks, which are really “distressed” stocks with poor earnings, look for bargains in the marketplace. They believe some stocks that get depressed by news, or earnings disappointments, will ultimately rebound. They scoop up shares at depressed levels and hope that their patience will be rewarded when the hidden value (earnings turnaround) is recognized by other investors. But, *both* growth and value investors will tell you that they are investing in stocks with growth potential at reasonable prices.

Performance

Money flows into value and growth stocks at different times. They are somewhat uncorrelated in that one style usually does well while the other does poorly. The cycles may last several years or longer. Typically when the economy is good, growth stocks tend to outperform value stocks. For example, from Q3 1994 to the end of Q1 2000, growth stocks walloped value by almost a 2 to 1 margin, returning 29.5% on average annually. In 2000, when Internet, tech and telecom stocks blew up, and it became evident the economy was slowing, investors started buying value stocks again. Money flowed into more defensive plays like energy, consumer staples and small- and mid-cap value stocks.

Every study I have read shows value outperforming growth over the long term. Let me give you the highlights of some of these studies:

1) Fama and French concluded that going back to the start of 1928, one dollar invested in growth stocks would have grown to \$923.13 by the end of 2000. One dollar invested in value stocks would have grown to \$7,755.39. They also concluded that small-cap value did the best, growing to \$16,027.07.

The data in Table 22-1 show both large-cap value and small-cap value stocks beating the returns of the broad indexes (S&P 500 and DFA's small-cap, 6-10 index) and growth indexes (1964-1997). And, they managed to do so with about the same amount of volatility of returns. The standard deviations show that small-cap value stocks were actually much *less* volatile than small-cap growth, while producing a much higher average annual return.

Table 22-1
Research Results: 1964-1997

Asset Class	Standard Deviation %	Annualized Return %
Large-Cap Value	17.54	15.22
S&P 500	15.89	11.86
Large-Cap Growth	17.13	10.83
Small-Cap Value	23.96	18.24
DFA 6-10	25.10	13.76
Small-Cap Growth	27.08	12.43

Source: Dimensional Fund Advisors, Inc.

3) Tim Loughran, a finance professor at the University of Notre Dame, studied large-cap growth and value by looking at the returns of the S&P 500 beginning in 1975. The S&P 500 was divided into two components, growth and value, by looking at price-to-book ratios. Those companies with high ratios were considered growth stocks. Those with low ratios were considered value stocks. Loughran concluded that growth yielded an average monthly return of 1.29% while value returned 1.39%—an amount he deemed insignificant. Nevertheless, the nod still went to value during this period.

4) Another study entitled *Contrarian Investment, Extrapolation and Risk*, and written up in Larry Swedroe's book entitled *What Wall Street Doesn't Want You To Know*, concluded that, overall, the value strategy appears to do somewhat better than the glamour strategy. The study found that during the period 1968-1990, value stocks outperformed growth stocks over every 5-year period. Value also outperformed growth in 90% of the 3-year periods. And, during the market's worst 25 months, value fell about 10% versus 11% for growth. During the market's best 25 months, the study concluded that value stocks outperformed growth by 14% to about 11%.

5) An additional study, noted in Swedroe's book, showed that for the period 1964-1999, value prevailed for both large- and small-cap stocks. Small value stocks outperformed small growth stocks by 17.6% to 12.9%. And, during the same period, large value stocks outperformed large growth stocks by 14.8% to 11.9% per annum.

Performance during market declines

In addition to outperforming during the good years, value stocks typically hold up better during market declines. In a study that covered all bear markets during the period 1978-1997, value

held up better than growth—

Small-cap value stocks fell an average of 4.8%.

Large-cap value stocks fell an average of 11.8%

Large-cap growth stocks fell an average of 21.2%

Small-cap growth stocks fell an average of 23.9%.

The S&P 500 fell an average of 18.1%.

While the data showing value holding up better than growth during market declines shouldn't surprise you, the fact that value outperformed growth in rising markets should come as a shock to most investors.

The Growth-Value Performance Seesaw

Again, growth *or* value will typically outperform for cycles lasting several months to many years. Looking at the returns in Table 22-2, you can clearly see the ebb and flow of growth and value leadership.

Table 22-2
Growth vs. Value

Cycle	Value	Growth
Q1 1975 to Q3 1979	20.9%	10.5%
Q4 1979 to Q4 1980	16.9	32.2
Q1 1981 to Q3 1985	15.2	8.1
Q4 1985 to Q1 1987	39.3	43.0
Q2 1987 to Q1 1989	7.1	1.2
Q2 1989 to Q4 1991	11.1	23.2
Q1 1992 to Q2 1994	10.4	0.8
Q3 1994 to Q2 2000	18.3	29.5
Q3 2000 to Q1 2001	3.4	-37.3

Source: *Schwab Center for Investment Research*
(Returns for S&P 500 Barra Growth and Value from 1975-Q1 2001)

The difficulty is in predicting when each style will be in or out of favor, and for how long. *The fact that the trend is so difficult to predict makes a strong case for owing both styles most of the time.*

Which style is riskier, value or growth?

If the evidence shows that value has outperformed growth over long periods of time, is value therefore riskier? If you assume that in order to earn greater returns, you must take on added risk, then you would obviously assume that value is indeed riskier.

Earlier in this book I wrote (and I will repeat myself here, because it is worth repeating) about the works of Merton Miller, for which he earned a Nobel Prize. His work on the cost of capital shows clearly why a value stock carries risk that is directly related to its level of distress. A value stock is typically priced low for a reason—the company’s hurting. It’s having trouble with earnings and its price has dropped as a result. If this company goes to the marketplace to raise capital (through equity or debt), its cost for doing so is going to be higher than that of a healthy company. It makes sense that investors who are willing to lend this company money (buy its bonds), will demand a higher reward for assuming the risk that they might not get their principal back. They will demand a higher rate of return from the bonds (higher interest payment). Therefore, the cost of capital is higher to the struggling, distressed company than it is to one that’s not struggling.

Understanding the cost of capital explanation shows why so-called value stocks (distressed) have a higher expected return (in the bond and stock markets). Again, no rational investor would take on the extra risk of lending a distressed company money, or buying its stock, if he didn’t expect to get a higher return for assuming the added risk. If you look at value versus growth

stocks from a cost-of-capital perspective, it is clear where there is more risk. This helps explain why the risktakers—investors who buy distressed companies—demand, and over time get, a higher return. Risk and return are related, and the historical outperformance of value stocks proves this point. If this weren't the case, no one would ever buy distressed companies, or lend them money.

As I mentioned in an earlier chapter (again, it's worth repeating here), while I believe the evidence speaks loudly, I'd encourage you to use some common sense when considering which style of investing is riskier at any given time. In early 2000, when growth stocks were trading at astronomical P/E- and price-to-book ratios, the argument that they were riskier than value stocks at that point would have been valid. Yes, the work of Fama and French still applied, but isn't there a point where a growth stock is priced so ridiculously high that you can say it is actually riskier than a value stock? I would think so, if you define risk as "potentially losing money." So, a common-sense approach combined with traditional valuation measurements should help you determine whether growth or value stocks carry more risk of loss at any given time.

Should you play favorites?

I know some investment professionals who overweight value stocks for clients who are risk-averse, and they overweight growth stocks for aggressive clients. This is a flawed strategy and I wouldn't recommend it. After studying the data, I now find it hard to advise ever overweighting growth. Of course, if growth stocks come down to ridiculously low P/E and PEG ratios, I'll reconsider. But, although the work of Fama and French shows us that growth stocks carry less risk, we also know we are rewarded *less* for owning them. And, it appears from the standard deviation data, that they bounce all over the place—perhaps not too

comforting to many risk-averse retirees. While value stocks seem to warrant an overweighting—since they have provided higher returns with generally less volatility—I would urge caution. We have no idea what future returns for value stocks will look like. Will value continue to outperform? Will value continue to be less volatile? And, don't forget, if you load up on value stocks (in particular, small-value stocks), be prepared to get clobbered from time to time. This hasn't happened in recent history, but if you believe that both size and style are additional risks, there will be a time when value stocks crush investors—just as growth stocks did in 2000-2001.

One thing seems clear—you should probably always own some value and growth components. Okay, maybe not always, but *almost* always. The studies I've looked at about correlation coefficients show that growth and value often move counter to one another—value will zig, while growth zags. So, by owning both, you may not necessarily get a better return, but over an extended period of time, you will certainly lower the overall volatility of your portfolio. If you decide to overweight one style of investing, I would review the chapter on rebalancing, and pay attention to recent performance statistics. If you believe in reversion-to-mean, and you want to control volatility in your portfolio, a strong case can be made for overweighting whichever style has recently been *out* of favor. Having said that, I would definitely look at the valuations of each style first, then set your target allocations, and periodically rebalance to control risk.

23

Sector investing — passive vs. active

Who would have thought?

The best technology fund is an index fund,

North Track PSE Technology 100.

—STAN LUXENBERG, *Bloomberg Wealth Manager*

I'M OBVIOUSLY A PROPONENT of index-based investing. I prefer a structured index-management approach to traditional indexing. And, I'd rather index sectors via Select Sector SPDRs and iShares ETFs than own actively managed sector funds. But, is my preference backed by better performance?

A recent article in *Mutual Funds* magazine compared active managers of sector funds to their benchmark sectors to see who fared better. The results were not surprising to me. In five of the seven sectors, the actively managed sector funds trailed the S&P 500 sector indexes over a recent 5-year period. In the two cases where the actively managed funds won, utilities and communications, the data showed that “43% and 35% of fund assets, respectively, were not in the sectors—not an apples-to-apples comparison.”

I decided to run some numbers on my own to compare the recent performance of sector index funds (ETFs and one traditional sector index fund) to actively managed sector mutual funds. Unfortunately I had very little data to work with, since both actively managed sector funds and sector index funds are relatively new, with short track records. Nevertheless, I want to share what I learned by comparing actively managed financial and technology sector mutual funds with their index-based competition.

I chose data from Morningstar, of the largest actively managed sector funds available, with at least a 3-year track record, in both the financial and technology sectors. I compared their after-tax returns to their benchmarks. A summary of the results for both studies is shown in Tables 23-1 and 23-2.

Table 23-1

**Actively managed financial sector funds vs.
Select Sector Financial ETF (XLF)**

- 1) 25 of the largest actively managed financial sector funds were compared to XLF.
- 2) The average expense ratio of the actively managed funds was 1.52% versus 0.28% for XLF.
- 3) The average annual turnover of the actively managed financial sector funds was 73%.
- 4) The average annual, 3-year, tax-adjusted return was 4.85% for the actively managed funds.
- 5) The average annual, 3-year, tax-adjusted return for XLF was 7.0%.
- 6) XLF outperformed approximately 80% of the actively managed financial sector funds.

While I only had a small sample to choose from, and a short time period, it is interesting to note how well the Select Sector Financial SPDR did during the past 3 years versus its actively managed competition. The lower annual fee charged by XLF helped its performance, as well as its tax efficiency. Obviously I'd recommend owning XLF over any of its active competitors.

Table 23-2

Active tech sector funds vs. XLK and PPTIX

- 1) 25 of the largest actively managed technology sector funds were compared to XLK and PPTIX.
- 2) The average expense ratio of the actively managed funds was 1.52% versus 0.28% for XLK and 0.70% for PPTIX.
- 3) The average annual turnover of the actively managed technology sector funds was 109%.
- 4) The average annual, 3-year, tax-adjusted return was -6.17% for the actively managed funds.
- 5) The average annual, 3-year, tax-adjusted return for PPTIX was 6.26%.
- 6) The average annual, 3-year, tax-adjusted return for XLK was -14.35%.
- 7) PPTIX outperformed all but one fund, or, 96% of the actively managed technology sector funds.
- 8) XLK *underperformed* 88% of the actively managed technology sector funds.

On the other hand, in the technology sector it's interesting and somewhat discouraging to see how poorly the Select Sector Technology SPDR did versus its actively managed competition over the past few years. At the same time, it's amazing to see that

Table 23-3
Who comes out ahead, active or passive tech funds?

Pretax Returns	1999	2000	2001
Technology Sector SPDR (XLK)	66.0%	-42.2%	-23.0%
PSE North Track Tech 100 Index (PPTIX)	114.6%	-17.2%	-15.3%
Actively managed technology funds	118.6%	-29.5%	-24.3%

another sector index fund was able to beat almost all the active competitors (Table 23-3). How did this happen? Here's how. The North Track PSE Technology 100 Index Fund (PPTIX) is a unique type of index fund. Unlike almost all other index funds, this North Track fund is actually a price-weighted index (like the Dow Jones Industrials). Again, in a price-weighting system, a \$100 stock carries twice as much clout as a \$50 stock. The index holds the same number of shares for each of the 100 stocks in the index, so obviously the higher priced stocks can greatly influence performance. What is interesting to note about this approach is that it allows PPTIX to stay much better diversified than typical market-cap weighted index funds and ETFs, like XLK. A market-cap index must have a greater percentage of its assets in the largest companies in the index. This was the case for XLK, which had huge positions in the largest technology stocks in the S&P 500, as the runup in the sector in the late 1990s poured more and more money into stocks like Microsoft and Cisco Systems. Since these companies made up a big percentage of the S&P 500, XLK had to have a big percentage of them too—that's the way a cap-weighted index works. The cap-weighted system worked great during the bull market of the late 1990s as investors kept dumping new money into the same big tech names. By the end of 1999 a handful of large technology companies dominated the technology portion of the S&P 500. This came back to haunt XLK and most actively managed tech sector funds too.

Unlike XLK, and most actively managed tech sector funds, PPTIX was actually reducing its exposure to heavily-capitalized technology companies during the runup. How so? Well, since PPTIX has to hold an equal amount of shares for all 100 stocks it owns, when a company would split its shares—usually the result of appreciation in the price of the stock—PPTIX was forced to sell half its shares and reallocate the proceeds evenly among all the stocks in the index. It was basically reducing its winners and diversifying the proceeds during the great bull market in technology stocks, and the result was that this index fund ended up having a relatively small percentage of its money concentrated in the largest tech companies. (At present, the heaviest weighting in PPTIX is 4% in IBM versus 15% in Microsoft in XLK.) The result of better diversification of dollars was that PPTIX never became top-heavy in only a handful of companies—this greatly limited the downside risk. It lost significantly *less* than other technology funds (including XLK) in 2000-2001.

I should note that in addition to the advantages of using a price-weighted system to track the Pacific Stock Exchange technology index, PPTIX had the advantage of having about 17% of its money in health care and biotechnology stocks. This added obvious diversification benefits, but it also makes this fund *not* a pure tech play. You could argue that this is an advantage, not a disadvantage, in this very volatile sector. Last, the Pacific Stock Exchange Technology Index (PPTIX tracks this index) comprises companies that have at least a two-year operating history. This allowed the fund to avoid having to buy some of the young Internet stocks that were owned by other actively managed tech funds—PPTIX never owned them since they were too green.

After studying the performance numbers I would advise you to consider owning PPTIX instead of XLK. Obviously PPTIX has some drawbacks (same as traditional index funds) versus ETFs, but its price-weighted index makes it very attractive when you

Table 23-4

Top percentage holdings XLK vs. PPTIX

XLK	% of net assets	PPTIX	% of net assets
Microsoft	14.8	IBM	4.3
Intel	10.1	St. Jude Medical	2.7
IBM	8.0	First Data	2.7
Cisco Systems	6.2	Electronic Data Sys.	2.5
AOL Time Warner	5.0	Amgen	2.4
Oracle	4.1	Symantec	2.4
Dell Computer	3.1	Microsoft	2.4
AT&T	2.7	Electronic Arts	2.2
Texas Instruments	2.3	Millipore	2.2
Hewlett-Packard	1.8	Biogen	2.2

Source: *Morningstar* data (XLK as of 1/31/02 and PPTIX as of 11/30/01)

consider the volatility of the technology sector. An index that is as diversified as possible within this sector, with relatively small bets placed on many companies, greatly appeals to me. The fact that it has some health care and biotechnology exposure doesn't bother me (it is a relatively small percentage) and neither does the 0.70% expense ratio—although it's almost 3 times XLK's ongoing fee. The fact that PPTIX kept up with its competition during the boom and lost less during the subsequent plunge is impressive. I wish there were more price-weighted sector and asset class funds to choose from.

The only caveat I would mention concerning PPTIX is that it has a fairly high turnover compared to a traditional index fund (due to all the selling from stock splits). And, because it is structured like a typical mutual fund (not an ETF) the tax efficiency will be lower than XLK. If possible, if you buy PPTIX, try to hold it in a tax-deferred account so you don't have to concern yourself with any future capital gains distributions.

24

Creating your own price-weighted sector indexes

My main concern with the market-cap weighted approach is that it concentrates too many of your dollars in too few companies. The price-weighted approach spreads out your investment dollars more evenly across the companies in the index, therefore giving you better diversification.

I HAVE ALREADY WRITTEN ABOUT my concerns with market-cap weighted indexes like the S&P 500. I outlined in the last chapter, the diversification benefits of using price-weighted indexes—especially in very volatile, top-heavy sector indexes. For this reason, and others, I'd advise some of you to create your own price-weighted sector indexes of individual stocks.

Let me briefly mention again the main difference between a price- and cap-weighted index. A price-weighted index, like the Dow Jones Industrials, owns the same number of shares for each company in the index. Therefore, a \$100 stock carries twice as much clout as a \$50 stock. Because the index owns the same number of shares per company, the higher priced stocks can

greatly influence performance. But, what makes this approach appealing is that it allows investors to have more diversification of their dollars—more so than the cap-weighted approach. And, since diversification is the key to reducing risk, this is an advantage over market-cap indexes—especially in down markets. Market-cap weighted indexes (i.e., S&P 500, Select Sector SPDRs) are heavily weighted toward companies with the largest capitalization. So, as a company enjoys great success and grows its market cap, its performance has a greater influence on the returns of the index.

My main concern with the market-cap weighted approach is that it concentrates too many of your dollars in too few companies. The price-weighted approach spreads out your investment dollars more evenly across the companies in the index, therefore giving you better diversification. You may still own the same number of companies, but you won't be loaded up on only a few of the largest companies, like in a cap-weighted index.

Let me show you an example of how a price-weighted sector index would compare to a cap-weighted sector index. I've chosen the iShares Healthcare ETF (IYH) to make a comparison. (See Table 24-1.)

This sector price-weighted index is calculated in the following manner. First, you add up the current prices of all the companies in your price-weighted index. In this example, this equaled \$1,111.96. This is the dollar amount you would have to pay for one share of this entire basket of stocks. Then, divide \$1,111.96 by 20 (the number of stocks in your index) = \$55.60. This is the average share price for the 20 companies. Divide \$55.60 into the total dollar amount to be invested, \$500,000 in this case. Your answer, 8,993, is the total number of shares you need to purchase for the entire basket. Finally, divide 8,993 by 20 to give you the number of shares you need to purchase per company. This equals

Table 24-1
iShares Healthcare—cap-weighted vs. price-weighted
 (\$500,000 allocated to the top-20 holdings only)

Stocks	#shares	Cap-weighted		\$ inv.	Price-weighted		\$ invested
		%weighting*	%weighting**		#shares	%weighting	
Pfizer	2008	16.41	20.65	103233	449	3.66	18305
Johnson & Johnson	923	10.99	13.83	69136	449	5.34	26673
Merck	693	8.39	10.56	52780	449	5.42	27112
Bristol-Myers Squibb	602	5.47	6.88	34411	449	4.07	20339
Abbott Labs	458	5.22	6.57	32838	449	5.10	25491
American Home Prod.	393	5.01	6.30	31517	449	5.70	28519
Eli Lilly	293	4.52	5.69	28434	449	6.90	34473
Medtronic	404	3.71	4.67	23339	449	4.11	20567
Amgen	311	3.60	4.53	22647	449	5.19	25925
Pharmacia	409	3.25	4.09	20445	449	3.56	17781
Schering-Plough	428	2.95	3.71	18558	449	3.08	15406
Baxter Intl.	185	2.05	2.58	12896	449	4.95	24743
United Health Group	96	1.44	1.81	9058	449	6.69	33461
Tenet Healthcare	104	1.29	1.62	8115	449	5.56	27776
HCA	139	1.22	1.53	7674	449	3.91	19559
Forest Labs	58	0.92	1.16	5787	449	7.01	35033
Guidant	58	0.92	1.16	5787	449	3.68	18408
Cigna	45	0.83	1.04	5221	449	8.27	41328
Genentech	71	0.67	0.84	4214	449	4.18	20921
MedImmune	76	0.62	0.78	3900	449	3.63	18148

*Percentage weighting of IYH, total of 187 companies. ** Adjusted percentage weighting using top 20 companies only.

approximately 449 shares. Remember, you need to allocate an equal number of shares per company.

My concerns are made apparent in the cap-weighted example in Table 24-1. The price-weighted healthcare ETF shows much better diversification of dollars. The top holding in the market-cap ETF (unadjusted weightings) accounted for 16.4%, or \$82,050 of the index, whereas the largest holding in the price-weighted basket accounted for 8.2%, or \$41,328 of its index. The top-5 companies in the cap-weighted index (unadjusted weightings) accounted for 46.48% of the total basket. And, in the price-weighted index the top-5 companies made up 34.57% of the index.

This example shows that better diversification of dollars is the key, not diversification of companies. Look at MedImmune—it makes up only 0.62% of the cap-weighted healthcare index. Does that represent any true diversification benefit? Should it even count? Almost all of the money is allocated to the biggies, so they totally influence the index's returns. Therefore, I would argue that the cap-weighted approach does not offer proper diversification.

When you create your own price-weighted indexes, you are basically trying to create a representative sample of the underlying index without having to buy every company in the index. It would obviously be prohibitively expensive to purchase all 187 companies in the iShares Healthcare ETF, and do the same with each sector. I believe that by buying the top-20 companies of each sector ETF you'll get adequate representation of the sector index. And, you'll reduce your costs too. For some of the more concentrated sector ETFs (e.g. energy) you could probably get away with buying fewer companies and still get a good representative sample.

One interesting aspect of the price-weighted approach is how to deal with stock splits. If a stock splits you need to reallocate the dollars from selling the “extra” shares evenly among all the companies in the index. So, in a price-weighted index, you are actually reducing the importance of the company that is splitting its shares. Share splits within a price-weighted index force you to trim your winning positions, since these are usually the companies that end up splitting their shares. Again, this is one of the reasons the North Track PSE 100 Technology Fund Index (reviewed in the last chapter) performed so well versus its peers. The price-weighted approach helps you maintain proper diversification and avoids loading up on only a few great performers, therefore reducing risk.

I’d advise some of you to consider creating your own price-weighted indexes, probably for the large-cap portion of your portfolios *only*. The small- and mid-cap ETFs (value and growth) have adequate diversification and are not heavily weighted in a handful of companies. So, most investors should stick with buying the ETFs that track these indexes, as long as they are properly diversified, which they are right now.

Is the price-weighted approach for you?

1) *The brokerage commissions you pay will be less than the ongoing management fees for ETFs.* Your brokerage commission rate will greatly influence your decision to create your own price-weighted sector indexes. Depending on how much you pay for a trade, the price-weighted approach may be prohibitive. Let’s look at an example. If you pay 3 cents a share to your brokerage firm, to create your own representative-sample, price-weighted index with the health care ETF (shown in Table 24-1) would cost about \$270. Compare this dollar amount to the cost of ongoing ownership of a sector ETF (.28% to .60%, depending on whether you buy SPDRs or iShares). Assuming the alternative to your

price-weighted index is one of the Select Sector SPDRs (.28%), let's say your ongoing fee is \$1,400 annually on a \$500,000 investment. Remember, you won't be paying this fee if you own the individual stocks separately, in your own representative portfolio. And, don't forget, you had to pay brokerage commissions to buy the ETF Select Sector SPDR too. Anyway, the commission question is important. Does it make sense to create your own index and avoid the ongoing costs of the ETFs? *In this example, it obviously saves money to create your own price-weighted index.* You can do your own calculation, factoring in how much you pay per share to your brokerage firm. Then, compare the total brokerage commissions versus the ongoing management fee charged by the ETF you're looking to buy.

Don't forget, you may need to replicate up to 10 different sector ETFs with your own price-weighting system—so multiply your commission costs by 10. Unless, of course, you decide to avoid certain large-cap sectors, for whatever reason. At any rate, you can make a relatively simple calculation to see if you will save money by creating your own price-weighted large-cap sector portfolio.

2) *You don't mind the extra work involved in monitoring your own indexes.* Obviously creating your own price-weighted indexes is somewhat labor intensive. You not only have to buy all the top individual companies of your chosen sectors—to have adequate representation in the sectors—but you have to monitor the individual companies as well. I'm not trying to frighten you, but there will be a lot more work involved than simply buying sector ETFs. You'll have to monitor your own price-weighted components on a regular basis, and make any necessary changes to your own indexes—at least on an annual basis, or when the index components change. You'll need to regularly check the top holdings of the ETF sector indexes on www.amex.com, www.morningstar.com or www.ishares.com, to make sure your

holdings are still representative of the sector ETF. You may find that you will only change a few companies annually for each price-weighted index you create. To me this is not a big deal, but you may not want to do it.

3) *You don't mind the extra bookkeeping.* Since you will be buying many companies for each price-weighted index you create, you will need excellent portfolio management software to track your cost basis for tax purposes. Perhaps your custodian takes care of this for you. If you don't have automated recordkeeping, then I wouldn't even consider creating your own indexes—it would be an accounting nightmare to do this by hand.

4) *You don't mind buckets of mail.* You may own in excess of 150 companies in your portfolio and you'll occasionally be flooded with mail. Annual reports and proxies will be sent from the different companies you own. If you don't want more mail, stick with sector ETFs.

5) *You have a lot of money to invest in large-cap stocks—at least \$1.2 million.* What I've found is that it will only make sense to create and buy your own price-weighted sector indexes if you have quite a bit of money to allocate to the large-cap asset class. Let's assume you will invest approximately 60% of your equity investments in the large-cap market. (You'll get your exposure to small- and mid-cap stocks with broad-based ETFs.) If you have to divide 9 or 10 sectors into approximately 20 companies each—for adequate representation of the sector—this means you're going to be buying a lot of companies. And, you'll need a lot of money to do so. If you're going to own over 150 companies, you'll probably only want to consider the price-weighted approach if you have a total of \$2 million or more to allocate to equities. Assuming you will allocate roughly 60% of your equity portfolio to large caps, this means you will need at least \$1.2 million to create your sector indexes.

Summary

If you have enough money to properly diversify among many sectors, I'd definitely advise you to create your own price-weighted, large-cap sector indexes. It involves some extra work, but, given the diversification benefits of the price-weighted approach, it's a smart move.

25

Betting on tech stocks—
not a good idea

*There's never been a sector that for extended periods
of time outperformed the economy as a whole.*

—FRANK ARMSTRONG, Financial Planner

IF WE CAN AGREE THAT WAGERING your entire portfolio on only a handful of stocks is irrational, then making the same bet on one sector is only slightly *less* dumb. You've read this far, so you know I'm in favor of proper diversification in a portfolio, and loading up an entire portfolio in one sector of the market is obviously something I'd advise against. There are certain risks you assume when you overweight your portfolio to a particular sector or asset class, but these risks are usually mitigated by mixing uncorrelated asset classes and sectors. If you decide to go beyond a slight overweighting and allocate most of your portfolio in one sector, you're taking on a lot of risk. And, in my opinion, you could be making a grave mistake.

Let me show you a simple example to get you to think seriously about the risks associated with concentrating your portfolio in a certain sector. I'll use the technology sector in my example, since we're all familiar with the recent meteoric rise of this sector and its subsequent (more recent) meltdown.

For much of the 1990s, and certainly the last five years of that decade, the sector to own was technology. If you owned *only* technology stocks during the late 1990s, you greatly outperformed the broad market. This outperformance was eventually followed by 2 years of underperformance, and who knows how much longer it will continue. I personally could have never imagined a sector blowing up the way technology did—losing approximately 70% of its value (peak-to-valley). But, a look at the history of some of the past bubbles proves to me, and hopefully to you too, that the meltdown wasn't completely *unpredictable*.

“Technology is the place to be. It's the ‘new’ economy. The Internet is the place to get rich.” I don't need to remind you what investors (professional and private) were saying about the future of technology and Internet companies a few years ago. When I think about the aftermath, and Wall Street's baseless enthusiasm during the runup, other bubbles come to mind. I remember quite well the real estate market in Southern California in the late 1980s, when every other real estate agent was saying that the only thing better than owning a home was owning *two* homes. Well, real estate prices peaked around 1990 and it has taken about a decade to get back to the previous highs.

I'm also reminded of the Japanese stock market in the late 1980s. The Nikkei was up almost 500% during that decade, and had surpassed 39,000. The Japanese economy was going to be the new model for the world. It was obvious to so many investors, at that time, that the Japanese were apparently globally dominant, and their stocks *deserved* such lofty valuations. (Sound

familiar?) Japanese investors bought up key real estate properties around the world with their wealth and leveraged their stock market gains. Many Wall Street firms launched mutual funds specializing in the Asian markets because it was so obviously a “sure thing.” (Wall Street firms have a knack for coming out with their “funds du jour” at about the time the bubbles are beginning to pop.) We all know what happened next—the Nikkei began declining, and suffered horrendous losses during the 1990s. A decade later it is still off its highs by more than 70%. And, its real estate market isn’t close to recovering either.

Many of you will remember this last example of “irrational exuberance.” In the late 1960s the highflying Nifty-Fifty stocks were the ones to own. While their P/E ratios were out of whack with the rest of the market—well over 60 in many cases, the investing public and professionals believed these companies should be owned at any price. Like Internet and technology stocks of the late 1990s, it was acceptable to pay ridiculous multiples for these companies. Some of the Nifty-Fifty stocks never recovered, and those that did took a decade or more to reach their old highs.

The few bubbles I’ve cited have all taken place during my relatively young lifetime. Bubbles go back many centuries, but it’s quite different to actually live through them as an investor. Hopefully we learn something by experiencing one firsthand. My main reason for advising *against* owning only one asset class or sector is obvious in the examples I’ve cited—if it blows up in your face, you may never get your money back during your lifetime. Or, you may underperform the market for many years to come. At present, more than two years after the Internet and technology bubbles began deflating, there are still many diehard investors who are loaded up on the “must-own” stocks of the late 1990s. Many investors are still living in denial. The sad truth is that nobody knows if and when these companies will ever return

to favor. Cisco moving back to \$80 and Yahoo! to \$240 a share? My guess is it won't happen in our lifetimes, but there are many who disagree with me.

If you're still loaded up on tech stocks, here's how to play the game

1) *Know your risk tolerance.* I think the most important thing to realize, if you choose heavy exposure in one part of the market (like tech), is that you are assuming increased risk of loss. Of course you also have greater upside potential, but I'd rather first focus on the worst-case scenario, and understand the risks inherent in a concentrated approach to investing. If the entire stock market has the potential to drop by more than 40% from peak-to-valley at any given time, then it is obvious a concentrated bet can do much worse. Recognize that technology stocks have dropped almost 70% from their highs, and many of the individual companies did worse—they're in the graveyard.

Technology stocks returned more than 30%, averaged annually, from 1989-1999. But, they were incredibly volatile. The standard deviation for the group was 33%. A broadly, diversified portfolio of asset classes (small- and large-cap stocks, value and growth, U.S. and international) would have had a standard deviation of about 16%, with average annual returns of about 16% during the same period. So, with the added risk came reward in the 1990s, but it was a wild ride.

So, accept the fact that tech stocks are at least twice as risky as a diversified stock portfolio. The rewards have been there in the past, but will you continue to be rewarded for assuming the extra risk? I doubt it—I think the party is over for a long time.

2) *Have a very long-term outlook and a lot of patience.* If the broad stock market can have periods of 5 years or longer of

negative returns, individual sectors or asset classes (more concentrated investments) could be losers for many, many years. If a sector like technology can outperform the broad market for a decade, it is only logical to assume that it could *underperform* for the same number of years, or more. We simply don't know how long it will take for the sector to come back. One example of a sector crashing and not recovering is energy stocks in the early 1980s. Energy stocks made up about 35% of the S&P 500, and oil and oil service companies had increased about 400% in the two years prior to the meltdown. When the bubble burst, the sector ended up underperforming for a decade. The energy sector now comprises about 6% of the S&P 500. Could the same happen to tech? Yep.

And, in the example of the Nifty-Fifty stocks, it also took them about 10 years to get back to their old highs after crashing—and they underperformed the broad market during their comeback. So, can you afford to wait a decade for a sector to *maybe* come back—assuming you bought it at the highs? Only you know. My point is, you may have to be very patient.

3) *Consider the facts—it's not all gloomy.* If you are still loaded up on technology stocks and you have a very long-term time horizon, you could make a bundle. Look at Table 25-1. The Pacific Stock Exchange Technology Index's declines during the past 15 years have been severe, but they were always followed by incredible annualized performance for investors who had the patience to weather the storm. The tech sector is presently near the bottom of an extreme sell-off period. It is still off more than 60% from its highs (4/'02), so if history repeats itself one more time, it would be wise to hold tight. Consider this fact, however, a 15-year track record for a sector isn't very long, and certainly not reliable. Nevertheless, if tech repeats its familiar pattern of the past, investors would once again be rewarded for assuming the extra volatility for holding these stocks.

Table 25-1
Tech sell-offs and recoveries

Sell-off period	% PSE decline	Annualized % return through 12/31/00*
10/5/87-12/4/87	-42.2	18.4
7/5/88-11/21/88	-22.0	22.1
7/16/90-10/16/90	-34.0	25.7
1/17/92-10/5/92	-17.6	26.8
3/13/94-4/20/94	-15.2	31.3
9/20/95-1/15/96	-13.4	29.2
5/20/96-7/23/96	-21.9	31.6
10/13/97-12/24/97	-20.5	30.3
7/20/98-10/8/98	-25.2	37.8
3/27/00-present**	-58.6	NA

*Measured from the index's peak during the specified sell-off period.

Source: *T. Rowe Price Associates*

**As of 6/02, from www.bigcharts.com

26

Turbocharging your portfolio

*Most people don't know how to use futures or options,
so this allows individual investors to do something
they know how to do—buy a mutual fund, to offset
the risk of their traditional stock funds.*

—MICHAEL L. SAPIR, chairman, ProFund Advisors

THIS CHAPTER IS FOR AGGRESSIVE INVESTORS only. The topic is leveraged index funds—funds that seek to replicate a particular index or sector, and add leverage at the same time. This works somewhat similar to a margin account, although you will never get a margin call on one of these funds. Here's how they work. Take a leveraged S&P 500 fund from ProFunds, for example. The fund, appropriately named ProFunds UltraBull Fund, uses index futures contracts and options to mirror the returns of the S&P 500 by 200%. In other words, this fund is leveraged at 2 times your investment. If you invest \$500,000 in this fund, you'll actually be trading at about \$1,000,000. So, a 1% drop on any given day in the S&P 500 will be doubled in this fund—you'd lose about 2% (same leverage on the upside).

The creators of leveraged funds argue that they are great tools for traders and they are cheaper than margin accounts. If you open a margin account right now, and you borrow money from a brokerage firm, you may have to pay them about 6% to borrow the money (the rate varies depending on prevailing interest rates). A leveraged mutual fund will not incur the same charges, since it isn't using margin to get its leverage—it's using options and futures. There is a cost, however, for using this type of leverage, but it's significantly less than 6% annually.

In addition to cheaper borrowing costs, leveraged index funds allow aggressive investors to leverage an IRA or other tax-deferred account, when it is otherwise impossible to do so. You cannot borrow money in an IRA, so you don't have the option of having a margin account. But, with leveraged index funds, you get around this problem since the fund creates leverage for you. If you are inclined to use leveraged index funds, I would try to hold the funds in your tax-deferred account. The funds have high turnover and may be somewhat unpredictable as far as their tax efficiency is concerned.

If you decide to use leverage, I would also pay particular attention to the Fed Model to give you an indication as to when the market is trading at extremes. Although the model is not supposed to be used as a day-trading, market-timing tool, it does give you a good idea as to whether the market is under- or overvalued. Obviously I would not buy a bullish leveraged index fund if the Fed Model shows an overvaluation reading. On the other hand, if you are aggressive and you know you can assume the risk of substantial loss, it could pay handsomely to leverage if the Fed Model is showing the market to be undervalued by 10% or more. Or, if you've got the guts, you could buy a "short" leveraged fund if the market is extremely overvalued. Review Chapter 20 for more on the Fed Model.

ProFunds and Rydex also have some leveraged, short funds that appreciate in a *declining* stock market. This is similar to selling short. These funds also utilize futures and options contracts to create leverage. I typically will not advise shorting stocks or buying a leverage short fund, unless you are doing so for tax reasons to hedge an existing position in a taxable portfolio—hedging an unrealized gain. These funds can successfully hedge risks in existing portfolios.

My reason for typically not recommending short funds—except as a hedge—is that it is very tough to make money over the long haul shorting stocks. The market has basically been in a long-term uptrend for more than a century, so it’s pretty tough to predict a reversal. And, I am not one to bet against corporate America over the long term—I firmly believe the stock market will continue its long-term upward trend, eventually.

I’ll give you a brief example of how difficult it can be to make money on the short side of the market. If you employ the Fed Model to help you determine stock market valuations, the model would have indicated an overvalued stock market in the beginning of 1999, by 25%. The market rarely gets overvalued by this much. If you had bought a short fund in early 1999, you would have been pretty miserable, and poorer, as stocks soared and the market became more and more overvalued. Valuations didn’t seem to matter anymore as investors pushed stocks to extremes. Yes, you were ultimately proven right by buying your short fund, but you would have had to wait almost 3 years to make money. And, I doubt you would have been able to maintain your losing position as the market soared higher, and your short fund showed a huge unrealized loss. Anyway, my point is that it is very tough to make money on the short side of the market.

Summary—a leveraged fund will rarely work well as an outright bet, so tread lightly.

Table 26-1
Leveraged funds from ProFunds and Rydex

Name and Symbol	Description	Expense Ratio
ProFunds UltraBull (ULPIX)	2x the return of the S&P 500	1.44%
Rydex Titan 500 (RYTNX)	2x the return of the S&P 500	1.75%
Rydex Nova (RYNVX)	1.5x the return of the S&P 500	1.33%
ProFunds Ultra Mid-Cap (UMPIX)	2x the return of the S&P 400	NA
ProFunds Ultra Small-Cap (UAPIX)	2x the return of the Russell 2000	NA
ProFunds Ultra OTC (UOPIX)	2x the return of the Nasdaq-100	1.33%
Rydex Velocity 100 (RYVYX)	2x the return of the Nasdaq-100	1.75%
ProFunds Ultra Japan (UJPIX)	2x the return of the Nikkei 225	NA

Leveraged “short” broad-based index funds

Name	Description	Expense Ratio
ProFunds UltraShort OTC (USPIX)	2x the inverse return of the Nasdaq-100	1.48%
ProFunds UltraBear (URPIX)	2x the inverse return of the S&P 500	1.56%
Rydex Tempest 500 (RYTPX)	2x the inverse return of the S&P 500	1.75%

Table 26-2
Leveraged “long” sector index funds
(if you’re an “ultrabull” on a certain sector)

Name and Symbol	Description	Expense Ratio*
ProFunds Ultra Banking (BKPIX)	1.5x the return of the D.J. Banking	1.65%-2.65%
ProFunds Ultra Basic Mat. (BMPIX)	1.5x the return of the D.J. Basic Materials	1.65%-2.65%
ProFunds Ultra Biotech (BIPIX)	1.5x the return of the D.J. Biotechnology	1.95%-2.95%
ProFunds Ultra Energy (ENPIX)	1.5x the return of the D.J. Energy	1.95%-2.95%
ProFunds Ultra Financial (FNPIX)	1.5x the return of the D.J. Financial	1.95%-2.95%
ProFunds Ultra Healthcare (HCPIX)	1.5x the return of the D.J. Healthcare	1.95%-2.95%
ProFunds Ultra Internet (INPIX)	1.5x the return of the D.J. Internet	1.95%-2.95%
ProFunds Ultra Pharmaceutical (PHPIX)	1.5x the return of the D.J. Pharmaceutical	1.95%-2.95%
ProFunds Ultra Real Estate (REPIX)	1.5x the return of the D.J. Real Estate	1.95%-2.95%
ProFunds Ultra Semiconductor (SMPIX)	1.5x the return of the D.J. Semiconductor	1.95%-2.95%
ProFunds Ultra Technology (TEPIX)	1.5x the return of the D.J. Technology	1.95%-2.95%
ProFunds Ultra Telecom (TCPIX)	1.5x the return of the D.J. Telecom	1.95%-2.95%
ProFunds Ultra Utilities (UTPIX)	1.5x the return of the D.J. Utilities	1.95%-2.95%

*Investor Class or Service Class Shares

27

Using correlation coefficients to diversify an existing portfolio

The key is to add asset classes and sectors that have shown a low correlation to your existing portfolio. The idea is to create more balance within your portfolio to reduce volatility and risk.

LET'S ASSUME YOU OWN A VERY TECH-HEAVY portfolio that comprises the big tech names—Microsoft, IBM, Intel etc. You have very high unrealized gains in these stocks in a taxable account. Obviously you don't want to sell these stocks and pay taxes. But, you *are* worried about your downside risk and you have new money available to add to your stock portfolio. You can effectively use correlation coefficients to help you decide which sectors and asset classes to add to your portfolio to get proper diversification.

The key is to add asset classes and sectors that have shown a low correlation to your tech stocks. Again, you're trying to create more balance within your portfolio to reduce volatility and risk.

Looking at the correlation coefficients in Table 27-1 it's obvious which asset classes and sectors you would want to add to your portfolio. Financial services, foods, mid-cap value and small-cap value have all been relatively uncorrelated to tech since 1984. These holdings should move counter to your technology stocks. If technology continues to underperform, as it has recently, there is a decent chance that your "new" uncorrelated investments will hold up fairly well. Yes, there will be times when these investments may be correlated to tech—they all lose at the same time. But, over time, you will more than likely see the benefits of this proper diversification. Caveat—the correlation relationship between the various investments will continue to change over time, so you should get in the habit of monitoring the behavior of the various investments you own.

Let me give you an example of how I use correlation coefficients to work within an existing portfolio. Let's assume that I've "inherited" a portfolio of stocks from another advisor—an investor is transferring an already existing portfolio under my management. There may be some individual stock positions in the existing portfolio that this client cannot part with. Perhaps he or she has an emotional attachment to these stocks, or perhaps there are large unrealized gains and making changes would result in a tax hit. Whatever the reasons, I've got to do something to diversify the risk in the present concentrated portfolio. The hypothetical portfolio is shown in Table 27-2. What can I do to help?

It's pretty obvious this portfolio is improperly diversified. It's all large cap and with a growth-style tilt. My focus should be on diversifying risk by adding asset classes and sectors that are uncorrelated to large-cap growth, and to a lesser degree, uncorrelated to the large-cap health care and tech sectors—these are already represented in this existing portfolio. So, looking at the correlation coefficients, I make a decision to add small- and

Table 27-1—Stock asset class and sector correlations (1/84-12/01)

Description	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
A) S&P Industrials	-	.33	.43	.19	.36	.64	.51	.46	.65	.73	.43	.97	.76	.71	.38	.75	.32
B) S&P Chemicals	.33	-	.66	.19	.61	.18	.48	.54	.50	(.01)	.39	.20	.59	.35	.68	.32	.65
C) S&P Foods	.43	.66	-	.22	.74	.45	.56	.57	.70	(.17)	.52	.30	.63	.13	.64	.30	.63
D) S&P Oil	.19	.19	.22	-	.32	.09	.40	.13	.12	.06	.15	.10	.45	.12	.19	.29	.14
E) S&P Retail Stores	.36	.61	.74	.32	-	.42	.59	.55	.37	(.11)	.47	.22	.66	.21	.63	.31	.62
F) S&P Telephone	.64	.18	.45	.09	.42	-	.47	.46	.46	.28	.66	.60	.64	.26	.41	.33	.22
G) S&P Transportation	.51	.48	.56	.40	.59	.47	-	.64	.52	.22	.67	.40	.76	.42	.64	.46	.59
H) Financials	.46	.54	.57	.13	.55	.46	.64	-	.35	.18	.60	.39	.79	.48	.91	.51	.85
I) S&P Health Care	.65	.50	.70	.12	.37	.46	.52	.35	-	.19	.43	.59	.54	.25	.30	.28	.16
J) Technology	.73	(.01)	(.17)	.06	(.11)	.29	.22	.18	.19	-	.14	.80	.38	.84	.10	.83	.10
K) S&P Utilities	.43	.39	.52	.15	.47	.66	.67	.60	.43	.14	-	.32	.63	.30	.60	.30	.40
L) Large-Cap Growth	.97	.20	.30	.10	.22	.60	.40	.39	.59	.80	.32	-	.63	.73	.28	.76	.20
M) Large-Cap Value	.75	.59	.63	.45	.66	.64	.76	.79	.54	.34	.63	.63	-	.57	.78	.63	.75
N) Mid-Cap Growth	.71	.35	.13	.12	.21	.26	.42	.48	.25	.84	.30	.73	.57	-	.51	.97	.50
O) Mid-Cap Value	.38	.68	.64	.19	.64	.41	.64	.91	.30	.10	.60	.28	.78	.51	-	.51	.91
P) Small-Cap Growth	.75	.32	.16	.14	.31	.83	.46	.51	.28	.83	.30	.76	.63	.97	.51	-	.53
Q) Small-Cap Value	.32	.65	.49	.29	.62	.22	.59	.85	.16	.10	.40	.20	.75	.50	.91	.53	-

Table 27-2

Hypothetical “inherited” portfolio

Existing portfolio	Asset Class/Sector
IBM	Large-cap tech
Cisco Systems	Large-cap tech
Intel	Large-cap tech
Merck	Large-cap health care
Pfizer	Large-cap health care
Exxon Mobil	Large-cap energy
General Motors	Large-cap cyclicals
General Electric	Large-cap industrials
Philip Morris	Large-cap staples
Wal-Mart	Large-cap retail stores

mid-cap value, in addition to the sectors of the large-cap marketplace that are not presently represented in this portfolio. I would suggest adding utilities, financials and consumer staples (foods) in the large-cap area. Sure I want to own some small- and mid-cap growth stocks too, but they are also highly correlated to large-cap tech stocks, so I would prefer to have a heavier weighting in value-style asset classes and sectors. Note, before recommending these purchases for this client, I will obviously look at the valuation measurements covered in Chapter 7.

Here’s one last example that shows how correlation coefficients can help diversify risk. Assume a retired investor has a large position in a large-cap oil company that he has accumulated over the past years. He has more than 25% of his investable assets in one stock and a very low basis. It’s obvious he is assuming a lot of risk by having one stock make up a quarter of his portfolio. If this stock blows up, he would lose a significant amount of his retirement assets. He understands the risks, but because of his low basis, he doesn’t want to sell the oil company

stock and pay hefty capital gains taxes. Furthermore, let's assume he still likes the prospects for the company's earnings.

So, what should this investor do to diversify risk in his equity portfolio? The obvious answer is to overweight the rest of the stock portfolio in asset classes and sectors that are uncorrelated to the energy sector. Why? Because this *should* substantially reduce the overall volatility of the portfolio—if the low correlation continues. You could argue that technology and telecommunication services stocks have moved somewhat opposite the energy sector for more than a decade. This low correlation, if the trend continues, could give reason to add technology and telecom stocks to the mix. Again, this should help smooth out the volatility of the total portfolio. I could also make a strong case for this investor to avoid certain sectors that are highly correlated to the energy sector. Utilities, industrials, and basic materials all have above-average correlation coefficients to the energy sector. So, they should have an underweighting in this portfolio, or be avoided.

The risks of owning a poorly diversified portfolio of stocks are obvious, and the recent Enron debacle has highlighted these risks. If your portfolio is heavily weighted to a certain sector or only a handful of companies, I'd urge you to use correlation coefficients to properly diversify your portfolio.

28

The low-basis stock dilemma

Obviously the relative volatility of one stock versus a diversified portfolio makes holding a one-stock portfolio unattractive. And, the chances of outperformance of any given stock versus a diversified stock portfolio are poor.

AS A RULE, I WOULD NOT RECOMMEND having more than 4% of your stock portfolio in any given company—I don't want any company to make up more than 4% of a total equity portfolio. So, how do you deal with a situation where you have a significant portion of your portfolio in one company with a low basis? In the last chapter we looked at diversifying your risk by adding uncorrelated investments to your portfolio. Now we'll look at hedging your risk.

Here's what you need to consider to decide whether or not to put on a hedge— 1) The relative volatility of your stock versus a diversified portfolio; 2) The relative returns of your single position versus a diversified portfolio; and, 3) how long the stock will be held if it is not sold. The results from a study by *Sanford*

Table 28-1
Relative Risk of an Equity Portfolio
("Worst-Case"—One standard deviation)

One-Year Holding Period		
Diversified Portfolio	Typical stock	Risky stock
-9%	-18%	-30%
Five-Year Holding Period		
Diversified Portfolio	Typical stock	Risky stock
10%	-16%	-40%

Source: *Sanford Bernstein*

Bernstein, and written up in Harold Evensky's excellent book entitled *Wealth Management*, shown in Table 28-1, can help you make a decision. The study showed that holding a diversified portfolio over a 5-year holding period, or longer, is much more likely to show a positive return than a one-stock portfolio. So, a diversified portfolio of stocks will definitely give you a better chance of making money over the long haul. And, the study showed that a "typical" and "risky" stock also had much more downside risk than a diversified portfolio. This should not come as news to you. Furthermore, the study showed that any given stock has a much greater chance of showing negative returns than a diversified portfolio over the short and long term.

Obviously the relative volatility of one stock versus a diversified portfolio makes holding a one-stock portfolio unattractive. And, the chances of outperformance of any given stock versus a diversified stock portfolio are poor. But, what if your life expectancy is relatively short—should you sell now or wait for your estate to get a step up in basis upon your death? My advice is this—if your life expectancy is 15 years or more, I would recommend selling a portion of your holding to diversify each year over the coming 5 years. If you reduce your exposure

to your one stock by approximately 20% a year you will have entirely diversified your risk at the end of the period. And, you will have spread out the capital gains due over many years.

If your life expectancy is *less* than 15 years, you may decide to diversify *only* part of your position. Perhaps you decide to diversify half the position over the coming 5 years and assume the risk and added volatility of holding the remainder of the position until your death. Common sense tells you that the shorter your life expectancy, the more comfortable you are with continuing to hold an overweighted position in one stock. A decent rule-of-thumb is if you have a life expectancy beyond 15 years, you're definitely better off selling a percentage of your stock each year and paying your capital gains tax. Since you still have many years left to live (hopefully) you should more than make up for the money you paid in taxes, with better performance of your diversified portfolio in the coming years.

Obviously, if a significant loss in your overweighted, one-stock portfolio will force you to change your lifestyle, you really should make a change (start diversifying) immediately. Wouldn't you rather pay some capital gains taxes than risk a comfortable retirement?

Hedging a low-basis portfolio

If you have a low-basis stock portfolio in a taxable account and you decide you can't part with your stocks, for whatever reasons, you may want to consider hedging. Or, depending on whether or not you are interested in following the valuations of the stock market by using the Fed Model, you may decide to hedge your portfolio to protect against losses during extreme overvaluation periods. Let's look at an example. If you were fortunate enough to buy a handful of large-cap technology and health care stocks in the late 1980s, and you didn't get scared out

of the market, you're probably now sitting on some pretty hefty unrealized gains. You'd like to diversify, but you can't get yourself to pay the taxes (we'll call you tax-averse). Let's also assume the market is extremely overvalued right now, as indicated by P/Es, PEGs and the Fed Model. So, you're afraid your portfolio is going to get hit hard, but you don't want to sell and pay taxes. An alternative strategy you could consider is hedging your portfolio by buying a "short" index fund. The funds are listed in Table 28-2.

Table 28-2		
Leveraged "short" broad-based index funds		
Name	Description	OE
ProFunds UltraShort OTC (USPIX)	2x the inverse return of the Nasdaq-100	1.48%
ProFunds UltraBear (URPIX)	2x the inverse return of the S&P 500	1.56%
Rydex Tempest 500 (RYTPX)	2x the inverse return of the S&P 500	1.75%

If you're looking to hedge a large-cap growth portfolio (mostly health care and technology companies), I'd advise you to buy the ProFunds UltraShort OTC Fund or the ProFunds UltraBear Fund. The UltraShort OTC Fund will inversely track the Nasdaq-100 (with 2x leverage) which comprises mostly technology-related companies and a small amount of health care exposure too. The UltraBear Fund will inversely track the S&P 500 (with 2x leverage), which is basically a large-cap growth index. So, either fund would make a good hedge against a decline in your individual positions in health care and tech stocks. You would obviously need to have money on hand to purchase the fund with about half the amount that you have in your individual stocks. Since these funds utilize 2x leverage, you'll *only* need to come up

with half the money to hedge 100% of your individual stock positions. For example, if you have \$1 million in your stock portfolio, purchase the ProFunds UltraShort OTC Fund for \$500,000, since it will trade at \$1 million (remember, it's leveraged). If your strategy works and the stock market drops, you should make up (hopefully) for the losses in your individual stock positions, with gains in your UltraShort OTC Fund.

Note—once again, if you decide to hedge your portfolio using the ProFunds (or Rydex), try to hold these funds in a tax-deferred account. The turnover on these funds is extremely high and may make them tax *inefficient*—you may receive a taxable distribution unexpectedly. And, if you hold them in your IRA or other tax-deferred account, and you happen to be right about the market's valuation (and it declines) the gain you post in your short fund will not be subject to taxes.

The short funds offered by ProFunds and Rydex can be a valuable tool to hedge an existing portfolio. If you can't get yourself to sell some of your existing low-basis stocks to diversify, you may want to hedge your portfolio at some time in the future to control risk. These funds can help you do that, and bypass some of the expenses associated with margin accounts.

29

Optimizers, can they help you build the “optimal” portfolio?

*Optimizers aren't all bad.
They can teach you how to effectively
mix and match asset classes and sectors.*

ASSET ALLOCATION IS NOT AN EXACT science. However, there are some who think it is. Some investment professionals use what is called an optimization process to help find the “optimal” asset allocation mix for their clients. Optimizers are basically number-crunching software programs that attempt to construct a portfolio in the most efficient way across the entire “spectrum of risk.” In simple english, an optimizer will try to put together a portfolio that has the greatest return for a stated amount of risk.

Most optimizers utilize what are called efficient frontier models to determine your ideal portfolio based on your stated tolerance for risk. An optimizer will allocate “optimal” percentages into each chosen asset class or sector by looking at correlations, standard deviations and expected returns. The problem with this approach to structuring a portfolio is that no computer program can predict future correlations, standard deviations or returns. And, optimizers do not factor in all the risks inherent in investing in stocks. They will typically *only* use standard deviation measurements to define risk. But, as we explored earlier in the book, there are other types of risk in stock investing—notably size and style. If standard deviation was the *only* type of risk, then optimizers would be a perfectly legitimate approach to investing.

I’d like to show you a couple of examples to highlight the potential pitfalls of owning an “optimized” portfolio. In the May 2001 issue of *Financial Planning*, a table showing 6 “Optimal Domestic Equity Portfolios” appeared in an article by C. Michael Carty on ETFs. The optimized portfolios (Table 29-1), show various allocations the optimizer came up with, depending on a stated level of risk. Note, look how the optimizer changed the allocation if the stated level of risk was changed from conservative to aggressive.

If you are an aggressive investor, and can handle a lot of risk (high standard deviations or variation of returns), this optimizer recommends you allocate 39.8% of your portfolio to technology stocks, and much of the remainder of your money in the cyclical/transport, energy and utility sectors. So, you would basically be investing your entire portfolio in only 4 sectors. The optimizer has decided that the industrials, basic industries and consumer services don’t warrant your money. Obviously by owning only 4 sectors—40% in one sector—you would be assuming a lot of risk.

Table 29-1—ETF Asset Allocations for 6 Optimal Domestic Equity Portfolios										
Resampled Portfolios										
Asset classes	conservative			Risk			aggressive			
	1	11	21	31	41	51				
T-bills	99.7%	75.6%	51.1%	27.3%	9.6%	2.6%				
Basic Industries	0.0	0.1	0.2	0.2	0.3	0.2				
Consumer Services	0.0	0.7	1.5	2.1	2.0	0.2				
Consumer Staples	0.0	3.0	6.1	8.9	9.8	6.4				
Cyclical/Transports	0.1	3.9	7.7	11.6	15.0	12.8				
Energy	0.0	3.9	7.8	11.7	14.4	14.0				
Financials	0.0	0.8	1.7	2.5	4.3	8.6				
Industrials	0.0	0.2	0.3	0.5	0.8	0.4				
Technology	0.2	4.8	9.4	14.3	21.5	39.8				
Utilities	0.0	7.1	14.2	20.8	22.2	15.0				
S&P 500	0.0	0.0	0.1	0.1	0.1	0.0				
Total	100.0	100.0	100.0	100.0	100.0	100.0				
Annual Return (%)	5.3	6.5	7.8	9.0	10.1	11.0				
Std. Deviation (%)	0.2	3.6	7.1	10.7	14.1	19.1				
Source: New Frontier Advisors LLC										

Table 29-2
Optimized Portfolio 1

Asset class	% Allocated
6-month T-bills	73.05
S&P 500 Value	11.58
Financials	5.64
S&P Broadcast	3.88
Health Care	2.95
S&P Entertainment	2.32
Technology	0.57

To give you another example of how an optimization package can come up with some pretty funky portfolios, take a look at Tables 29-2 through 29-4. In Table 29-2 I have chosen the parameter of always earning a positive annual return—I'm not willing to accept down years—with a 99% probability of occurrence. The optimization software allocated 73% of the portfolio to 6-month Treasury bills and the rest of the money to 6 asset classes and sectors. It put 0.57% of the portfolio in tech stocks—like that will make a difference? Anyway, this optimized portfolio is basically large-cap value holdings, financial services and T-bills—a seemingly strange combination. Sure, going back to 1981, this portfolio showed no losses and a 9.99% annual return. But, my guess is that history will not repeat itself.

For the portfolio shown in Table 29-3 I input the same parameters as in Table 29-2, but I indicated that I would accept a portfolio with negative returns in any given year—a maximum loss of -10%. It's interesting to note that as soon as I indicated that I was willing to accept an annual loss in my portfolio, the optimizer allocated almost 35% to large value and a lot less to T-bills. Again, the optimizer has chosen only a few asset classes and has eliminated many sectors—this time it completely eliminated tech stocks.

Table 29-3

Optimized Portfolio 2

Asset class	% Allocated
6-month T-bills	15.34
S&P 500 Value	34.85
Financials	14.80
Health Care	17.97
S&P Broadcasting	16.62
S&P Entertainment	0.42

Table 29-4

Optimized Portfolio 3

Asset class	% Allocated
Financials	19.42
Health Care	30.95
S&P Broadcasting	49.63

Table 29-4 gives you one last example that shows the potential dangers of relying on a computer system to determine the best allocations for your money. The constraints used are the same as in the other portfolios, except, this time I’ve indicated that I am willing to accept even more downside risk. I have chosen an acceptable loss at -20%. For this portfolio, shown in Table 29-4, the optimizer chose to allocate nothing to fixed income, and dumped half the portfolio in S&P Broadcasting. The rest of the portfolio was split between *only* two other sectors.

I think I’ve made my point about the dangers of blindly relying on a computer program for asset allocation purposes. Optimizers aren’t all bad, and that is why I’ve taken the time to write about them. They can help you learn how various asset classes relate to one another (correlation coefficients). They can also give you an idea as to the volatility (standard

deviation) of different sectors and asset classes. And, they can show you hypothetical results of how certain portfolio mixes would have performed in the past. Obviously optimizers cannot predict the future behavior of asset classes and sectors. But, we can still learn a fair amount from studying past relationships with the help of optimizers.

30

The case *against* investing in foreign
stocks, and one reason you may want to

*Though most ETFs have paid out little in capital gains,
many of them have short histories. And already there have
been notable exceptions: Barclays' Canada and Sweden
ETFs paid out massive capital gains last year,
for instance—just as many as traditional mutual funds did.*

—JOSH FRIEDMAN, *Los Angeles Times*

I'M NOT PARTICULARLY FOND OF investing in foreign stock markets. Many advisors and professionals disagree with me, but I don't feel that owning the markets in Europe or Asia offer many advantages. Proponents of international stock investing will often point out that foreign markets are uncorrelated to our domestic markets, and this helps lessen risk. Furthermore, "pure" indexers believe it is a must to own the foreign markets. They approach the topic as if you are some sort of heretic if you don't have some of your portfolio invested abroad—you're not a true indexer or believer in efficient markets.

Jonathan Clements, of the *The Wall Street Journal*, is a proponent of indexing. He recommends investing up to 25% of your money abroad. I respect Mr. Clements, but I question his advice for the following reasons:

1) *Approximately 25% of the earnings for companies that make up the S&P 500 come from abroad.* So, if you own companies in the S&P 500 index—most investors do—you have sufficient international exposure simply by the fact that a quarter of the earnings come from abroad.

2) *Costs.* Indexing a portfolio of foreign stocks can be expensive. The costs associated with domestic indexing is anywhere from .095% to .60%. My guess is the average structured index portfolio—diversified among small-, mid- and large-cap stock indexes—has ongoing management fees of approximately .30%. The management fees for the iShares that track international markets are generally .84% annually—paying almost 3 times more to index foreign markets is not inconsequential.

3) *Currency risk.* When you buy an ETF that tracks the European markets, the fund management company exchanges your dollars for Euros, to purchase the local stocks. Your investment is quoted in U.S. dollars, however, on a U.S.-based exchange. The result is that you have currency exposure that could hurt, or help, your performance. If the Euro appreciates versus the U.S. dollar, and you own the iShares S&P Europe 350, you will make money on the currency appreciation. In addition, if the European stock markets appreciate, you will also make money on the underlying stocks in your ETFs. You could effectively get an extra boost from the currency appreciation, in addition to the rising value of the underlying stocks. Unfortunately the reverse can happen too. And, that has been the case for the past 5 years or so. The U.S. dollar has been rising against most foreign

currencies, and foreign stock markets have been falling in sympathy with the U.S. market. (We'll leave the Japanese market out of this, since it has been falling for more than a decade.) Anyway, as the U.S. dollar has appreciated against most major currencies, the losses in mutual funds that track foreign stock markets have been exacerbated by the falling local currencies. When the fund management companies exchange their holdings back into U.S. dollars, the losses are ugly. So, U.S.-based investors, with the dollar as their currency of reference, have been hurt by a strong dollar *and* weak foreign stock markets—a double whammy.

4) *Foreign stock markets continue to become more correlated to the U.S. markets, therefore the diversification argument is lost.* As the world's economies have become more reliant on one another, the global stock markets have become more highly correlated. If this high correlation persists, there will be virtually no diversification benefit from investing abroad. As shown in Table 30-1, this has been the case recently, especially during the past 5 years. This correlation trend should be a cause for concern for asset allocators. Owning the foreign stock markets has not reduced risk in equity portfolios.

Table 30-1
Correlations of EAFE* and major U.S. indexes

Asset Class	1981-1986	1986-1991	1991-1996	1996-2001
EAFE to S&P 500	0.43	0.47	0.40	0.79
EAFE to S&P 400	0.43	0.42	0.38	0.73
EAFE to Russell 2000	0.35	0.41	0.34	0.67

*MSCI Europe Index.

5) *More volatility in the foreign markets.* We've already seen that the foreign markets don't offer much diversification of returns

Table 30-2
Risk versus Return

Description	Rate of Return	Standard Deviation	Sharpe Ratio
S&P 500	15.30%	14.56%	.63
London F.T.A.	12.19%	13.31%	.46
Paris CAC	13.11%	20.57%	.34
EAFE	11.80%	19.45%	.29
Frankfurt FAZ	9.21%	19.55%	.16

Data from 11/79-12/01

when compared to our domestic markets (unless you want to own Japan, which I doubt). In addition to not adding any diversification benefit, the foreign markets give investors a wild ride (without a reward premium). The standard deviations shown in Table 30-2 give you an idea of the variation of returns associated with owning some of the markets abroad. All, with the exception of the United Kingdom, show more volatility than the S&P 500.

6) *Potentially less tax efficiency investing in the international markets.* ETFs that track foreign markets have historically shown less tax efficiency than domestic ETFs. This could be due to higher turnover or less efficiency in offsetting capital gains distribution by the ETF managers. I should note, however, ETFs that track foreign markets are still, on average, much more tax efficient than actively managed international mutual funds. Table 30-3 (data from Morningstar), shows the tax-adjusted annual returns for the recent 3- and 5-year periods for the S&P 500 and some ETFs that track local European markets. The tax-efficiency ratio is also given. It is obvious that the ETF that tracks the S&P 500 was significantly more tax efficient than the other ETFs. (If you hold ETFs that track foreign markets in a tax-deferred account, then the tax efficiency question becomes a moot point.)

Table 30-3
Tax Efficiency Ratios

Holding	% Return 3-Year Avg.	% Return 5-Year Avg.	Tax Efficiency Ratio
S&P 500 (SPY)			
Pretax NAV Return	-2.92	8.92	
Tax-adjusted Return	-3.35	8.39	93.05
iShares Germany (EWG)			
Pretax NAV Return	-9.40	3.60	
Tax-adjusted Return	-10.99	2.40	65.16
iShares France (EWQ)			
Pretax NAV Return	-5.03	6.33	
Tax-adjusted Return	-5.97	5.47	84.92
iShares United Kingdom (EWU)			
Pretax NAV Return	-6.89	3.42	
Tax-adjusted Return	-8.39	2.06	58.70

Source: *Morningstar*

7) *No performance advantage from the international stock markets.* The performance numbers for ETFs that track the main European stock markets compare *unfavorably* to the U.S. markets over the past 3 years, or more. Look at Table 30-4. It compares the performance of the S&P 500 and S&P 400 to the iShares United Kingdom, Germany and France. The European markets have been hurt by weak local stock markets and the ETFs that track these markets have also been hurt by the strength in the U.S. dollar. From this data, and data I've looked at going back to 1979, the performance numbers look poor in Europe. Who knows if this trend will continue?

Table 30-4
Recent, 3-Year ETF performance comparison

Index	(Approximate, 2/99-2/02) 3-Year Total Performance
S&P 500 (SPY)	-12%
S&P 400 (MDY)	+30%
iShares United Kingdom (EWU)	-30%
iShares Germany (EWG)	-38%
iShares France (EWQ)	-22%

One good reason you should consider buying the foreign stock markets now

I'll admit it. I'm seriously considering investing in foreign stock markets through ETFs, right now, in spite of their shortcomings. Here's why. As I've mentioned, most of the foreign markets have performed miserably over the past few years—worse than our domestic markets. Their currencies and stock markets have been creamed. But, a reversion-to-mean scenario would indicate that this will change in the coming years. If the U.S. dollar has plateaued, which appears as if it may be the case, and foreign stock markets recover, owning international ETFs would be pretty appealing. Dollar-based investors could potentially benefit from a falling U.S. dollar *and* rising international stock markets.

If you recognize the risks and the potential negatives that I've outlined in this chapter, but you believe in reversion-to-mean, you may ultimately decide to buy some ETFs that track foreign stock markets. If you do, own them in a tax-deferred account, if possible, and keep your allocation to no more than 30% of your total portfolio.

Table 30-5

Recommended ETFs tracking foreign markets**Broad-based**

iShares Germany (EWG)

iShares France (EWQ)

iShares United Kingdom (EWU)

iShares EAFE (EFA)

iShares EMU (EZU)

iShares S&P Europe 350 (IEV)

Sectors

iShares Global Energy Sector (IXC)

iShares Global Financial Sector (IXG)

iShares Global Health Care Sector (IXJ)

In Table 30-5 I've listed a few ETFs that I would consider buying, given a possible reversion-to-mean scenario in the foreign markets.

Note—on the global sector iShares, some of the ETFs don't offer that much diversification from the U.S. markets, since they contain many U.S.-based companies. The term "global" in investing, refers to any stock market in the world, including the U.S. The term "international" refers to all markets *excluding* the U.S. Therefore, the international ETFs do *not* own U.S.-based companies, but the global ETFs do.

31

Annuity blues

No other investment product gives sales agents a fatter commission. A broker usually pockets a fee of 5% to 8% when selling an annuity contract.

—DAVID FRANECKI, *Barron's*

I AM NOT A LICENSED INSURANCE AGENT. I don't sell life insurance products and I don't sell variable annuities. But, I do have a strong opinion. I'll put the facts down on paper, and you can decide for yourself. First of all, a variable annuity can be defined as basically a mutual-fund account that is wrapped inside an insurance product. The insurance portion of the annuity guarantees the return of your principal (the original dollar amount you contributed to your account), if the value of your account is below your initial contribution when you die.

Advantages

Yes, there are a few advantages—read them and then jump to the section that discusses their disadvantages to see how I really feel about them.

- 1) *Tax-deferred growth.* You can contribute an unlimited amount of money to a variable annuity (unlike an IRA or 401k) and all taxes will be deferred until you take your money out.
- 2) *Guaranteed death benefit.* When you die the beneficiary of your variable annuity will receive at least all of your original contributions back. This can be a great feature if you happen to die near a bear-market bottom.
- 3) *Tax-free changes.* Unlike in a taxable investment account, you can switch your money among various mutual funds within your annuity, without any tax consequences.
- 4) *Costs.* The ongoing management fees of the mutual funds found within variable annuities are generally less expensive than most mutual funds outside of annuities (about .80% versus 1.40%).

Disadvantages

- 1) *High cost of the insurance portion of the variable annuity.* The insurance wrapper that you have purchased will probably cost you about 1%. And, you are very unlikely to receive any benefit from the insurance wrapper since you will probably *not* die at exactly the time your account value is below your original contributions. Over time, it is much more likely your account will appreciate, and these Mortality and Expense (M&E) fees will have been for naught.

2) *Early withdrawal penalties.* Most variable annuities come with surrender fees that start at 7%. If you need your money and want to make a withdrawal before 7 years is up, you will pay penalties. There is usually a sliding scale—each year, until the seventh year, the penalty drops by 1%. And, if you need to cash out your annuity before age 59 $\frac{1}{2}$, you will also have to pay a 10% tax penalty (except in certain circumstances).

3) *High total operating costs.* If you calculate the total fees (M&E plus mutual fund fees) the average expense ratio for variable annuities amounts to approximately 2.17%. You can save yourself a lot of money by simply investing in a tax-efficient, index-based investment without an annuity, where fees range from .095% to .60% annually.

4) *Limited investment choices.* Annuities have a limited selection of funds available to investors. And, there is generally a very poor selection of index-based investments. So, you may not be able to invest the way you want within the annuity.

5) *Loss of capital gains.* When you make your withdrawals from your annuity, any appreciation is taxed at ordinary income tax rates. Even if you owned stock mutual funds within your annuity, and your gains are capital gains (not ordinary income), the proceeds are still taxed as ordinary income. This is a great disadvantage since capital gains tax rates are 20% at the federal level, while ordinary income rates can go up to almost 40%.

6) *Loss of a step up in basis.* This disadvantage is unknown to many annuity holders. When you die, and your assets are within an annuity, your estate will not receive a step up in basis for these assets. Unlike a taxable account, where upon your death, your estate receives a step up to the fair-market value on the date of your death, your heirs will not receive this stepped-up basis. Gains on your annuity will be subject to ordinary income tax rates.

Here's an example of the loss of a stepped-up basis—you invest \$100,000 in a variable annuity and the account grows to \$1 million. Unfortunately, the tax basis for your beneficiaries would be \$100,000, leaving \$900,000 to be taxed. If the investment had been made in a taxable account, however, the tax basis for the beneficiaries would have been \$1 million, thanks to the stepped-up basis at death.

Summary

The disadvantages of owning variable annuities far outweigh the advantages. Tax-deferred growth can basically be accomplished by owning index-based investments within a taxable account. So, the so-called tax-deferral advantage offered by variable annuities is not a great selling point. Index funds and ETFs are tax efficient, so why lock up your money in an annuity and pay the extra M&E costs? Annuities are usually sold by agents looking to make a hefty up-front commission after the sale. Before you purchase an annuity, consult an advisor you trust—one who is not commission-based.

32

Real Estate Investment Trusts

*Real-estate funds can be an important part of asset allocation,
but it's not something that is a core holding.*

—MICHAEL CHASNOFF, ACS Financial Advisors

*A constant 5% to 10% allocation of real estate can
boost income while simultaneously providing additional
planning advantages: diversification, risk reduction,
capital preservation, and tax efficiency.*

—LEO F. WELLS III, *Financial Planning*

MANY INVESTMENT ADVISORS BELIEVE in adding a real estate component to a traditional asset-class portfolio. I have mixed emotions on Real Estate Investment Trusts (REITs). I believe they may make sense for some investors, so I want to take some time to cover the advantages and disadvantages of owning index-based REITs.

REITs can be defined as similar to a typical mutual fund, however, rather than owning shares in a diversified portfolio of

stocks or bonds, you own shares in a portfolio of real estate investments. REIT investors can share ownership in apartment buildings, office properties, malls and shopping centers.

Here are the advantages and disadvantages of owning REITs—

Advantages

1) *Instant diversification.* Index-based REITs give you indirect ownership in various real estate investments—apartment buildings, office properties, warehouses, malls, shopping centers, hotels, health care and storage facilities. This is great diversification across an entire asset class.

2) *High-yield investment.* REITs “pass through” their income to the investor. Presently REITs are yielding approximately 6%, while money-market rates are hovering around 1.6%. So, from a yield-perspective only, REITs look very attractive.

3) *Low costs.* REIT index funds can be bought through traditional index funds or ETFs (e.g. Vanguard REIT Index Fund, DFA Real Estate Portfolio, iShares Dow Jones U.S. Real Estate Index Fund). The ongoing management fees for all of these funds are very reasonable. The iShares charge 0.60% annually, Vanguard’s fund charges 0.33% and DFA’s charges 0.47%. Like index-based stock and bond funds, these passively managed REIT funds offer great savings compared to actively managed funds.

4) *Convenient way to own income-producing real estate.* Many of us don’t want to deal with tenants, upkeep and collecting rent. Furthermore, not many retirees are comfortable owning an illiquid investment in a real estate property—it’s pretty tough to locate a buyer quickly if you need your money. REITs allow you to bypass these disadvantages. You simply buy shares in the open market—like buying a stock or mutual fund—and sell

them the same way, if you need your money. Very convenient.

4) *Potential real estate appreciation.* As an asset class, real estate has been one of the best for capital appreciation. Actually it is second only to stocks for capital appreciation over long periods of time. So, owning REITs will give you significant potential appreciation to outpace inflation. From 1975 to 1999, REITs provided a total average annual rate of return of 16%. This compares closely to the 17.2% return of the S&P 500 during the same period.

Table 32-1
REIT returns versus S&P 500

	1998	1999	2000	2001
S&P 500	26.7	19.5	-10.1	-13.0
REIT Index	-18.8	-6.5	25.9	15.5

Source: *Bloomberg*

5) *Uncorrelated to the stock and bond markets.* One advantage to owning REITs is that they are uncorrelated to stocks and bonds. By owning asset classes that have a low correlation you reduce the volatility of your overall portfolio—lessens risk. We’ve seen this low correlation at work in the past couple of years. REITs have performed very well while most stock asset classes have been creamed. This low correlation can be nice if stocks are performing poorly.

Note—REITs are actually becoming even *more* uncorrelated to other major asset classes. (See Table 32-2.) The correlation of REIT returns with small stocks declined 65% from the 1970s to the period from 1993-2000. And, the correlation of REIT returns with large stocks declined 61% during the same period. Bottom line, the fact that REITs are uncorrelated to other major asset

Table 32-2
Declining Equity REIT Correlation
 Correlation of REIT Total Returns to other investments

Asset Class	1972-2000	1970s*	1980s	1990s	1993-2000
Small Stocks	0.63	0.74	0.74	0.58	0.26
Large Stocks	0.55	0.64	0.65	0.45	0.25
Bonds	0.20	0.27	0.17	0.26	0.16

*1972-1979

Source: *Ibbotson Associates*

classes is a great argument for adding them to a traditional portfolio of stocks and bonds. By doing so you will definitely smooth out your overall returns and therefore lessen risk.

Disadvantages

1) *High taxable income.* Yes, the long-term returns of REITs have been excellent, but much of the return is a taxable dividend. The taxable dividend of approximately 6% reduces the total return of REITs by at least a couple of percentage points on average, annually. So, stocks have probably outperformed REITs by more than 2 or 3 percentage points, averaged annually, on an after-tax basis for many years. So, if you are already in a high tax bracket you may not need the extra income. However, if you can own REITs in a tax-deferred account, then this tax issue is irrelevant.

2) *Your home may already be your greatest asset.* Does it make sense to concentrate more money in this asset class? If you calculate how much equity you have in your home, you may feel that you already have enough exposure to real estate. For most investors, the equity in their homes represents their largest concentrated investment—more than their stocks or bonds. Real estate can have periods of very poor returns, as we've witnessed in California in the early to mid-1990s. So, you must

consider whether or not you want to concentrate even more of your money in this asset class.

3) *REIT returns seem very unpredictable, and do not track residential real estate.* This may not necessarily be a disadvantage, but it makes REIT returns difficult to grasp. The appreciation or depreciation of your home may not necessarily correlate to the types of real estate that REITs own. This can be somewhat annoying when your home is appreciating, but your REIT fund is going down. This happened in 1998 and 1999 in Southern California. So, in this sense, it is a bit difficult for some residential homeowners to understand how REITs work and why they make or lose money when they do. They are a bit of a strange animal.

Summary

I think REITs probably deserve some of your money, but not right now. After plunging about 25% during 1998-1999, REITs have been in an uptrend. They have attracted more and more money from investors as stocks have fallen along with bond yields. So, the yield offered by REITs has attracted bond investors, and the capital appreciation potential has attracted stock investors. I believe this is simply a case of naive investors “chasing performance” and I am wary of the lofty prices.

A recent article in the *The Wall Street Journal* mentioned the work of Ian Morris, an economist at HSBC Securities. Mr. Morris has a simple, common-sense approach to valuing real estate. He applies a ratio to real estate that he believes is akin to P/E ratios for stocks. His ratio compares real estate prices with what Americans are earning. In other words, how homes are priced relative to our salaries. His recent findings showed this ratio to be at 1.6, which means homes, right now, are very expensive by historical standards. This ratio hovered around 1.2 during the

1960s and 1970s. The recent reading is at the same level it was at the peak in 1989, just before real estate prices plunged. Mr. Morris sees more expensive homes “higher end,” particularly vulnerable.

Again, while it may make sense to add REITs to a traditional portfolio of stocks and bonds, I don’t believe it’s the right time to do so. Real estate valuations are extreme, and if a reversion-to-mean scenario happens, we’re probably going to soon be entering a period of real estate underperformance. Be patient and you’ll probably find a better time to add REITs to your portfolio.

If you eventually decide to own REITs, I would recommend *not* allocating more than 20% of your total portfolio to this asset class. And, again, hold your REITs in a tax-deferred account if possible, so you won’t give up much of that fat dividend check to Uncle Sam.

Epilogue

I think we are in a structural bear market that will last for five to ten years. It is not a nice picture. But it will not go straight down. From time to time there will be monetary stimulus. Markets will get oversold and will rise for awhile. Markets will zigzag downward. It will not be over until stocks trade at attractive valuation levels.

—FELIX ZULAUF, president, Zulauf Asset Management AG

There is one way to succeed on Wall Street. It is the way Warren Buffett got rich. Pay low prices for the shares of good businesses. Buy them when the rest of the world wants to sell them. Keep your wits about you. Have the courage of your convictions.

—JAMES GRANT, writer, editor, *Grant's Interest Rate Observer*

WHAT CAN WE EXPECT FROM STOCKS going forward? The stock market's average annual returns of 27.5% from 1996-1999, in hindsight, appear ridiculously generous. Actually, we've been spoiled going back to the early 1980s. Average annual compounded returns were about 16% for the S&P 500 from 1982-2000. Even after the recent bloodbath, stock valuations are still high by historical standards. So, what's a reasonable assumption for stock returns in this decade?

Where Returns Come From

	1950-1995 ¹	1996-1999 ¹	2000-2010 ^{1,2}
Corporate Earnings Growth	7.3%	7.3%	6.0%
P/E Improvement	+1.5%	+18.1%	+None
Reinvested Dividends	+4.3%	+2.1%	+1.5%
Total Stock Market Returns	= 13.1%	= 27.5%	= 7.5%

Notes: ¹Numbers are annual. ²Estimates.

Source: *The Bank Credit Analyst*

If we analyze how we got to where we are today, maybe we can have an idea about what to expect in the future. With the help of the table shown above, from *The Credit Bank Analyst*, it's illuminating to see the differences in what accounted for the stock market's returns during the period 1950-1995, and from 1996-2000. In the earlier period, corporate earnings growth was about 7.3%. Add the dividend during the period of 4.3% and P/E improvement—the premium that investors were willing to pay for stocks—of another 1.5%, and you get an average annual stock market return of 13.1%.

In the period 1996-1999 stock prices climbed dramatically, but not because of earnings improvements. Earnings growth was about the same as it had been in the past half century, but investors were all of a sudden willing to pay a huge premium for stocks—P/E improvement of 18.1%. With reinvested dividends equaling 2.1%, the total average annual return from 1996-1999 was a nose-bleeding 27.5%.

How do we estimate future earnings growth? Martin Barnes, the managing editor of *The Bank Credit Analyst*, explained in an article in *Mutual Funds*, that “one of the more durable economic trends is that earnings grow in line with nominal gross domestic

product (real growth *plus* inflation). So, if real GDP grows at its historical average pace of 3.5% a year, and inflation stays low, this implies that earnings will at best rise by maybe 6% a year.”

Okay, if we’re likely to get 6% annual earnings growth in the coming years, as Barnes suggests, what about P/E improvement? P/Es have historically ranged between 12 and 26 for the S&P 500 (average of about 15). If you buy stocks near the upper range, the P/Es are unlikely to rise much further, so your profits will be reliant on earnings growth—entirely. With a forward P/E of 23 right now for the S&P 500, it would appear unlikely that P/E improvement will help stock prices in the near future. If dividends stay where they are, at 1.5%, and we can expect no P/E improvement, and about 6% in corporate earnings growth, our total annual return will be about 7.5% for stocks. Not too exciting, but still likely to be more attractive than bonds and cash.

Appendix

Contents—detailed information on ETFs

Large-cap blend	335-339
Large-cap growth	340-341
Large-cap value	342-343
Mid-cap blend	344-345
Mid-cap growth	346
Mid-cap value	347
Small-cap blend	348
Small-cap growth	349-350
Small-cap value	350-351
Sectors	352-367
Real Estate	368-369
Global/International	369-386
HOLDERS	386-394
Traditional index funds	395-396

Vanguard Total Stock Market VIPERs (VTI)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.15%	Utilities	3.20%
Total Net Assets:	\$880M	Energy	5.80%
Fund Inception Date:	05/31/01	Financials	19.80%
		Industrials	10.50%
		Durables	1.90%
		Staples	5.70%
		Services	13.40%
		Retail	6.10%
		Health	12.80%
		Technology	21.00%
<u>Top 10 Holdings</u>		<u>Performance & Distributions</u>	
General Electric	3.56%	1-Year Return	n/a
Microsoft	2.89%	3- and 5-year returns	n/a
Exxon Mobil	2.22%	Cumu. Life of Fund	n/a
Citigroup	1.95%	Dividends	
Pfizer	1.86%	Previous Year	\$0
AOL Time Warner	2.07%	Year-to-Date	\$0
Wal-Mart Stores	1.60%	Capital Gains	
American Intl. Group	1.47%	Previous Year	\$0
IBM	1.45%	Year-to-Date	\$0
Intel	1.44%		
Number of stocks	3428		

iShares S&P 500 Index (IVV)Fund Information

Expense Ratio:	.09%
Total Net Assets:	\$4B
Fund Inception Date:	5/15/00

Top 10 Holdings

General Electric	3.86%
Microsoft	3.65%
Exxon Mobil	2.68%
Citigroup	2.62%
Wal-Mart Stores	2.53%
Pfizer	2.47%
Intel	2.34%
IBM	2.11%
American Int. Grp.	1.98%
Johnson & Johnson	1.75%

Number of stocks 500

Sector Breakdown

Utilities	2.80%
Energy	6.10%
Financials	18.10%
Industrials	11.50%
Durables	1.60%
Staples	7.40%
Services	11.10%
Retail	7.10%
Health	14.40%
Technology	19.80%

Performance & Distributions

1-Year Return	-11.9%
3- and 5-year returns	n/a
Cumu. Life of Fund	-12.39%
Dividends	
Previous Year	\$1.33
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

DIAMONDS Trust (DIA)Fund Information

Expense Ratio:	.17%
Total Net Assets:	\$3B
Fund Inception Date:	1/20/98

Top 10 Holdings

IBM	8.30%
3M	8.10%
Procter & Gamble	5.42%
Microsoft	4.54%
United Tech.	4.43%
Merck & Co.	4.03%
Johnson & Johnson	4.05%
Wal-Mart Stores	3.94%
Caterpillar	3.58%
Home Depot	2.43%

Number of stocks 30

Sector Breakdown

Utilities	0.00%
Energy	2.70%
Financials	8.50%
Industrials	31.90%
Durables	5.70%
Staples	11.90%
Services	7.20%
Retail	7.50%
Health	8.10%
Technology	16.50%

Performance & Distributions

1-Year Return	-5.52%
3- and 5-year returns	n/a
Cumu. Life of Fund	8.00%
3 yr. tax efficiency ratio	85.75%

iShares S&P 100 Index (OEF)Fund Information

Expense Ratio:	.20%
Total Net Assets:	\$160M
Fund Inception Date:	10/23/00

Sector Breakdown

Utilities	1.60%
Energy	5.10%
Financials	16.20%
Industrials	13.10%
Durables	1.50%
Staples	9.60%
Services	9.00%
Retail	6.60%
Health	14.90%
Technology	22.50%

Top 10 Holdings

General Electric	6.43%
Microsoft	6.08%
Exxon Mobil	4.47%
Wal-Mart Stores	4.21%
Pfizer	4.11%
Intel.	3.90%
IBM	3.52%
American Intl Group	3.30%
Johnson & Johnson	2.92%

Performance & Distributions

1-Year Return	-13.99%
3- and 5-year returns	n/a
Cumu. Life of Fund	-16.56%
Dividends	
Previous Year	\$0.59
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 100

iShares Russell 1000 Index (IWB)Fund Information

Expense Ratio:	.15%
Total Net Assets:	\$394M
Fund Inception Date:	5/15/00

Sector Breakdown

Utilities	3.20%
Energy	5.10%
Financials	19.40%
Industrials	10.20%
Durables	1.80%
Staples	6.60%
Services	12.20%
Retail	6.20%
Health	15.40%
Technology	19.90%

Top 10 Holdings

General Electric	4.07%
Microsoft	3.12%
Exxon Mobil	2.82%
Citigroup	2.76%
Pfizer	2.60%
Intel.	3.50%
IBM	3.33%
Johnson & Johnson	2.48%
American Intl Group	2.43%
Wal-Mart Stores	2.16%

Performance & Distributions

1-Year Return	-12.59%
3- and 5-year returns	n/a
Cumu. Life of Fund	-12.63%
Dividends	
Previous Year	\$.69
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 996

iShares Dow Jones US Total Market Index (IYY)Fund Information

Expense Ratio:	.20%
Total Net Assets:	\$104M
Fund Inception Date:	6/12/00

Top 10 Holdings

General Electric	3.40%
Microsoft	2.75%
Exxon Mobil	2.36%
Citigroup	2.31%
Pfizer	2.18%
Intel	2.07%
IBM	1.86%
American Intl. Group	1.74%
Johnson & Johnson	1.54%
Wal-Mart Stores	1.38%

Number of stocks 1768

Sector Breakdown

Utilities	3.10%
Energy	5.20%
Financials	19.30%
Industrials	11.30%
Durables	1.80%
Staples	6.50%
Services	12.30%
Retail	6.00%
Health	14.80%
Technology	19.80%

Performance & Distributions

1-Year Return	-12.13%
3- and 5-year returns	n/a
Cumu. Life of Fund	-12.88%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$.57
Year-to-Date	\$0

Fortune 500 Index (FFF)Fund Information

Expense Ratio:	.21%
Total Net Assets:	\$45M
Fund Inception Date:	10/10/00

Top 10 Holdings

General Electric	4.14%
Microsoft	3.72%
Exxon Mobil	2.80%
Citigroup	2.70%
Wal-Mart Stores	2.67%
Pfizer	2.61%
Intel	2.19%
IBM	2.17%
American Intl. Grp.	2.16%
Johnson & Johnson	1.87%

Number of stocks 441

Sector Breakdown

Utilities	3.30%
Energy	4.30%
Financials	19.60%
Industrials	11.00%
Durables	1.60%
Staples	7.80%
Services	12.60%
Retail	8.00%
Health	13.80%
Technology	18.00%

Performance & Distributions

1-Year Return	-10.18%
3- and 5-year returns	n/a
Cumu. Life of Fund	-10.18%
Dividends	1.09
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Russell 3000 Index (IWV)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.20%	Utilities	3.20%
Total Net Assets:	\$1.5B	Energy	5.00%
Fund Inception Date:	5/22/00	Financials	19.50%
		Industrials	10.60%
		Durables	1.90%
		Staples	6.40%
<u>Top 10 Holdings</u>		Services	12.40%
General Electric	3.49%	Retail	6.10%
Microsoft	2.68%	Health	15.20%
Exxon Mobil	2.42%	Technology	19.80%
Citigroup	2.36%		
Pfizer	2.23%	<u>Performance & Distributions</u>	
Intel	2.11%	1-Year Return	-11.50%
IBM	1.91%	3- and 5-year returns	n/a
Johnson & Johnson	1.58%	Cumu. Life of Fund	-15.54%
American Intl. Group	1.57%	Dividends	
Wal-Mart Stores	1.42%	Previous Year	\$0.64
		Year-to-Date	\$0
Number of stocks 3001		Capital Gains	
		Previous Year	\$0
		Year-to-Date	\$0

S&P 500 Index (SPY)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.11%	Utilities	2.90%
Total Net Assets:	\$30B	Energy	5.50%
Fund Inception Date:	1/29/93	Financials	18.60%
		Industrials	11.90%
		Durables	1.70%
<u>Top 10 Holdings</u>		Staples	7.40%
General Electric	3.80%	Services	11.20%
Microsoft	3.40%	Retail	7.40%
Exxon Mobil	2.57%	Health	14.00%
Citigroup	2.48%	Technology	19.40%
Wal-Mart Stores	2.46%		
Pfizer	2.39%	<u>Performance & Distributions</u>	
Intel	2.02%	1-Year Return	-11.86%
American Int. Grp.	1.99%	3- and 5-year returns	n/a
IBM	1.99%	Cumu. Life of Fund	13.38%
Johnson & Johnson	1.73%	Dividends	
Number of stocks 500		5-yr tax efficiency ratio	93.58%

iShares S&P 500/BARRA Growth Index (IVW)Fund Information

Expense Ratio:	.18%
Total Net Assets:	\$398M
Fund Inception Date:	5/22/00

Top 10 Holdings

General Electric	7.52%
Microsoft	7.11%
Wal-Mart Stores	4.92%
Pfizer	4.80%
Intel	4.56%
IBM	4.11%
Johnson & Johnson	3.42%
Cisco Systems	2.90%
Merck	2.54%
Home Depot	2.28%

Number of stocks 159

Sector Breakdown

Utilities	0.10%
Energy	0.00%
Financials	5.70%
Industrials	9.80%
Durables	.50%
Staples	13.00%
Services	3.70%
Retail	11.20%
Health	25.40%
Technology	30.60%

Performance & Distributions

1-Year Return	-12.87%
3- and 5-year returns	n/a
Cumu. Life of Fund	-17.66%
Dividends	
Previous Year	\$0.40
Year-to-Date	\$0.00
Capital Gains	
Previous Year	\$0.00
Year-to-Date	\$0.00

iShares Russell 1000 Growth Index (IWF)Fund Information

Expense Ratio:	.20%
Total Net Assets:	\$502M
Fund Inception Date:	5/22/00

Top 10 Holdings

General Electric	7.63%
Microsoft	5.86%
Pfizer	4.87%
Intel	4.62%
Wal-Mart Stores	3.10%
Cisco Systems	2.94%
IBM	2.88%
AOL Time Warner	2.72%
Johnson & Johnson	2.68%
American Intl Grp.	2.39%

Number of stocks 544

Sector Breakdown

Utilities	.50%
Energy	1.50%
Financials	7.70%
Industrials	9.10%
Durables	.60%
Staples	5.90%
Services	6.60%
Retail	9.70%
Health	25.00%
Technology	33.20%

Performance & Distributions

1-Year Return	-20.64%
3- and 5-year returns	n/a
Cumu. Life of Fund	-23.61%
Dividends	
Previous Year	\$0.21
Year-to-Date	\$0.00
Capital Gains	
Previous Year	\$0.00
Year-to-Date	\$0.00

iShares Russell 3000 Growth Index (IWZ)Fund Information

Expense Ratio:	.25%
Total Net Assets:	\$49M
Fund Inception Date:	7/24/00

Top 10 Holdings

General Electric	6.84%
Microsoft	5.24%
Pfizer	4.36%
Intel	4.14%
Wal-Mart Stores	2.78%
Cisco Systems	2.63%
IBM	2.57%
AOL Time Warner	2.43%
Johnson & Johnson	2.40%
American Intl Group	2.14%

Number of stocks 1480

Sector Breakdown

Utilities	.50%
Energy	1.70%
Financials	7.80%
Industrials	9.20%
Durables	.70%
Staples	5.70%
Services	7.30%
Retail	9.50%
Health	24.80%
Technology	33.00%

Performance & Distributions

1-Year Return	-19.96%
3- and 5-year returns	n/a
Cumu. Life of Fund	-30.02%
Dividends	
Previous Year	\$.15
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

streetTRACKS DJ US Large Cap Growth (ELG)Fund Information

Expense Ratio:	.22%
Total Net Assets:	\$20M
Fund Inception Date:	9/25/00

Top 10 Holdings

GE	12.05%
Microsoft	9.12%
Pfizer	8.14%
Intel	6.63%
Wal-Mart Stores	5.47%
American Intl Grp.	5.36%
Cisco Systems	3.99%
Coca-Cola	3.86%
Home Depot	3.65%
AOL Time Warner	3.26%

Number of stocks 59

Sector Breakdown

Utilities	0.00%
Energy	0.30%
Financials	6.40%
Industrials	12.10%
Durables	0.50%
Staples	3.90%
Services	9.80%
Retail	14.00%
Health	14.90%
Technology	38.20%

Performance & Distributions

1-Year Return	-16.91%
3- and 5-year returns	na
Cumu. Life of Fund	-48.7%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares S&P 500 BARRA/Value Index (IVE)Fund Information

Expense Ratio:	.18%
Total Net Assets:	\$525M
Fund Inception Date:	5/22/00

Sector Breakdown

Utilities	5.60%
Energy	12.20%
Financials	30.70%
Industrials	13.30%
Durables	2.80%
Staples	1.30%
Services	19.10%
Retail	3.20%
Health	1.60%
Technology	10.20%

Top 10 Holdings

Exxon Mobil	5.14%
Citigroup	5.01%
American Intl Grp	3.80%
AOL Time Warner	2.74%
Verizon Comm.	2.59%
SBC Comm.	2.54%
Tyco Intl.	2.05%
Royal Dutch	1.95%
Bank of America	1.88%
ChevronTexaco	1.81%

Performance & Distributions

1-Year Return	-11.85%
3- and 5-year returns	n/a
Cumu. Life of Fund	-3.71%
Dividends	
Previous Year	\$.83
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 347

iShares 1000 Value Index (IWD)Fund Information

Expense Ratio:	.20%
Total Net Assets:	\$643M
Fund Inception Date:	5/22/00

Sector Breakdown

Utilities	5.80%
Energy	8.80%
Financials	31.40%
Industrials	6.40%
Durables	6.11%
Staples	5.44%
Services	5.27%
Retail	3.87%
Health	3.31%
Technology	6.30%

Top 10 Holdings

Exxon Mobil	5.05%
Citigroup	4.38%
Verizon Comm.	2.42%
SBC Comm.	1.93%
Bank of America	1.86%
ChevronTexaco	1.80%
Procter & Gamble	1.55%
Wells Fargo	1.38%
JP Morgan Chase	1.36%
Bellsouth	1.35%

Performance & Distributions

1-Year Return	-5.73%
3- and 5-year returns	n/a
Cumu. Life of Fund	.86%
Dividends	
Previous Year	\$.87
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 717

iShares Russell 3000 Value Index (IWW)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.25%	Utilities	5.90%
Total Net Assets:	\$64M	Energy	8.30%
Fund Inception Date:	7/24/00	Financials	31.40%
		Industrials	12.10%
		Durables	3.20%
		Staples	7.10%
		Services	17.60%
		Retail	2.70%
		Health	5.40%
		Technology	6.40%
<u>Top 10 Holdings</u>		<u>Performance & Distributions</u>	
Exxon Mobil	5.05%	1-Year Return	-4.61%
Citigroup	4.38%	3- and 5-year returns	n/a
Verizon Comm.	2.42%	Cumu. Life of Fund	3.12%
SBC Comm.	1.93%	Dividends	
Bank of America	1.86%	Previous Year	\$1.21
ChevronTexaco	1.80%	Year-to-Date	\$0
Procter & Gamble	1.55%	Capital Gains	
Wells Fargo	1.38%	Previous Year	\$0
JP Morgan Chase	1.36%	Year-to-Date	\$0
BellSouth	1.35%		
Number of stocks	1862		

streetTRACKS DJ US Large Cap Value (ELV)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.21%	Utilities	2.60%
Total Net Assets:	\$49M	Energy	6.40%
Fund Inception Date:	9/25/00	Financials	30.30%
		Industrials	10.70%
		Durables	1.70%
		Staples	9.40%
		Services	14.20%
		Retail	1.30%
		Health	18.40%
		Technology	5.00%
<u>Top 10 Holdings</u>		<u>Performance & Distributions</u>	
Exxon Mobil	5.84%	1-Year Return	-6.25%
Citigroup	5.66%	3- and 5-year returns	n/a
IBM	4.53%	Cumu. Life of Fund	-2.41%
Johnson & Johnson	3.94%	Dividends	
Merck & Co.	2.91%	Previous Year	na
SBC Comm.	2.88%	Year-to-Date	na
Verizon Comm.	2.78%	Capital Gains	
Tyco Intl.	2.56%	Previous Year	na
Procter & Gamble	2.24%	Year-to-Date	na
Philip Morris Co.	2.16%		
Number of stocks	104		

iShares Russell MidCap Index (IWR)Fund Information

Expense Ratio:	.20%
Total Net Assets:	\$18M
Fund Inception Date:	7/17/01

Top 10 Holdings

Guidant	0.57%
Albertson's	0.50%
ConAgra	0.50%
Equity Office Prop. Tr.	0.50%
Best Buy	0.49%
USA Educ	0.49%
Raytheon	0.47%
Masco	0.46%
Northrop Grumman	0.45%
Sanmina	0.45%

Number of stocks 793

Sector Breakdown

Utilities	7.10%
Energy	5.10%
Financials	17.90%
Industrials	12.70%
Durables	3.80%
Staples	5.00%
Services	12.80%
Retail	7.40%
Health	11.10%
Technology	17.20%

Performance & Distributions

1-Year Return	na
3- and 5-year returns	na
Cumu. Life of Fund	-1.10%
Dividends	
Previous Year	\$.35
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares S&P MidCap 400 Index (IJH)Fund Information

Expense Ratio:	.20%
Total Net Assets:	\$462M
Fund Inception Date:	5/22/00

Top 10 Holdings

IDEC Pharmaceuticals	1.10%
SunGard Data Sys	0.97%
Electronic Arts	0.94%
M & T Bk.	0.82%
Marshall & Illsley	0.76%
Quest Diagnostics	0.75%
Affiliated Comp. Sv. A	0.73%
Gilead Sciences	0.68%
SPX	0.67%
DST Sys.	0.66%

Number of stocks 400

Sector Breakdown

Utilities	6.30%
Energy	6.10%
Financials	19.00%
Industrials	9.60%
Durables	3.50%
Staples	5.00%
Services	15.40%
Retail	4.30%
Health	11.80%
Technology	19.10%

Performance & Distributions

1-Year Return	-0.68%
3- and 5-year returns	na
Cumu. Life of Fund	11.41%
Dividends	
Previous Year	\$.80
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Vanguard Extended Market VIPERs (VXF)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.20%	Utilities	2.90%
Total Net Assets:	\$4.8B	Energy	4.10%
Fund Inception Date:	7/17/01	Financials	25.20%
		Industrials	8.70%
		Durables	2.50%
		Staples	3.20%
		Services	19.40%
		Retail	4.40%
		Health	11.80%
		Technology	17.90%
<u>Top 10 Holdings</u>		<u>Performance & Distributions</u>	
Berkshire Hathaway	1.51%	1-Year Return	na
Liberty Media Corp.	1.31%	3- and 5-year returns	na
Cox Comm.	1.29%	Cumu. Life of Fund	1.82%
UPS	1.16%	Tax Efficiency	na
Goldman Sachs.	1.13%		
Prudential	1.09%		
eBay	1.05%		
GM	1.04%		
Genentech	1.02%		
USA Networks	0.97%		

Number of stocks 3061

MidCap SPDR (MDY)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.25%	Utilities	6.60%
Total Net Assets:	\$6.4B	Energy	6.20%
Fund Inception Date:	5/4/95	Financials	19.00%
		Industrials	9.50%
		Durables	3.50%
		Staples	5.00%
		Services	15.10%
		Retail	4.20%
		Health	12.50%
		Technology	18.60%
<u>Top 10 Holdings</u>		<u>Performance & Distributions</u>	
IDEC Pharm.	1.24%	1-Year Return	14.83%
Electronic Arts	0.97%	3- and 5-year returns	13.27%, 17.44%
SunGard Data Sys	0.96%	Cumu. Life of Fund	137%
M & T Bk	0.81%	Tax Efficiency	95.08%
Quest Diagnostics	0.81%		
Marshall & Ilsley	0.79%		
Affiliated Comp. Svc.	0.76%		
Gilead Sciences	0.75%		
DST Sys	0.71%		
SPX	0.65%		

Number of stocks 400

iShares S&P MidCap 400/BARRA Growth (IJK)Fund Information

Expense Ratio:	.25%
Total Net Assets:	\$250M
Fund Inception Date:	7/24/00

Top 10 Holdings

IDEC Pharmaceuticals	2.28%
SunGard Data Sys	2.01%
Electronic Arts	1.96%
Quest Diagnostics	1.55%
Affiliated Comp Svcs A	1.50%
Gilead Sciences	1.42%
SPX	1.39%
DST Sys	1.37%
Microchip Tech	1.32%
Cadence Design Sys	1.27%

Number of stocks 148

Sector Breakdown

Utilities	.80%
Energy	1.70%
Financials	10.10%
Industrials	5.10%
Durables	4.30%
Staples	5.30%
Services	18.40%
Retail	6.30%
Health	21.00%
Technology	27.20%

Performance & Distributions

1-Year Return	-8.22%
3- and 5-year returns	na
Cumu. Life of Fund	-15.92%
Dividends	
Previous Year	\$.11
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Russell MidCap Growth Index (IWP)Fund Information

Expense Ratio:	.25%
Total Net Assets:	\$25M
Fund Inception Date:	7/17/01

Top 10 Holdings

Guidant	1.51%
USA Educ	1.31%
Best Buy	1.29%
TJX	1.16%
Genzyme Corp.	1.13%
KLA-Tencor	1.09%
Bed Bath & Beyond	1.05%
Interpublic Grp.	1.04%
MedImmune	1.02%
Sanmina	0.97%

Number of stocks 420

Sector Breakdown

Utilities	.40%
Energy	4.70%
Financials	4.60%
Industrials	5.90%
Durables	1.80%
Staples	2.30%
Services	14.50%
Retail	10.10%
Health	22.20%
Technology	33.40%

Performance & Distributions

1-Year Return	-6.25%
3- and 5-year returns	na
Cumu. Life of Fund	-1.93%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$.57
Year-to-Date	\$2.25

iShares S&P MidCap 400/BARRA Value (IJJ)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.25%	Utilities	11.70%
Total Net Assets:	\$298M	Energy	10.30%
Fund Inception Date:	07/24/00	Financials	27.50%
		Industrials	13.90%
		Durables	2.80%
		Staples	4.80%
		Services	12.40%
		Retail	2.40%
		Health	3.00%
		Technology	11.30%
<u>Top 10 Holdings</u>		<u>Performance & Distributions</u>	
M & T Bk.	1.63%	1-Year Return	7.05%
Marshall & Ilsley	1.52%	3- and 5-year returns	na
RJ Reynolds Tob.	1.27%	Cumu. Life of Fund	27.27%
Natl Commerce	1.21%	Dividends	
Telephone & Data Sys	1.21%	Previous Year	\$1.06
Etrade Grp.	1.04%	Year-to-Date	\$0
GreenPoint Finl	1.01%	Capital Gains	
Valero Energy (New)	1.01%	Previous Year	\$0
Tyson Foods CI A	1.00%	Year-to-Date	\$0
Weatherford Intl.	0.98%		
Number of stocks	252		

iShares Russell MidCap Value Index (IWS)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.25%	Utilities	11.20%
Total Net Assets:	\$35M	Energy	5.40%
Fund Inception Date:	7/17/01	Financials	26.00%
		Industrials	16.90%
		Durables	5.00%
		Staples	6.50%
		Services	11.80%
		Retail	5.60%
		Health	4.30%
		Technology	7.30%
<u>Top 10 Holdings</u>		<u>Performance & Distributions</u>	
Albertson's	0.81%	1-Year Return	na
ConAgra	0.80%	3- and 5-year returns	na
Equity Office Prop.	0.80%	Cumu. Life of Fund	na
Raytheon	0.76%	Dividends	
Masco	0.74%	Previous Year	\$.67
Air Products & Chem.	0.69%	Year-to-Date	\$0
Deere	0.68%	Capital Gains	
Northrop Grumman	0.68%	Previous Year	\$0
KeyCorp	0.67%	Year-to-Date	\$0
May Dept Stores	0.67%		
Number of stocks	577		

iShares S&P SmallCap 600 Index (IJR)Fund Information

Expense Ratio:	.20%
Total Net Assets:	\$627M
Fund Inception Date:	5/22/00

Top 10 Holdings

Cephalon	1.02%
Advanced Paradigm	0.73%
DR Horton	0.65%
Whole Foods Market	0.61%
Varian Medical Sys.	0.60%
Michaels Stores	0.55%
Copart	0.54%
XTO Energy	0.54%
Constellation Brands A	0.53%
Alliant Techsystems	0.52%

Number of stocks 600

Sector Breakdown

Utilities	3.40%
Energy	4.20%
Financials	10.30%
Industrials	20.50%
Durables	4.50%
Staples	3.20%
Services	15.30%
Retail	8.40%
Health	11.70%
Technology	18.50%

Performance & Distributions

1-Year Return	6.34%
3- and 5-year returns	na
Cumu. Life of Fund	11.75%
Dividends	
Previous Year	\$.58
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Russell 2000 Index (IWM)Fund Information

Expense Ratio:	.20%
Total Net Assets:	\$2.1B
Fund Inception Date:	5/22/00

Top 10 Holdings

Dean Foods	0.38%
Michaels Stores	0.28%
Alliant Techsystems	0.26%
Bell	0.26%
New York Comm. B.	0.26%
Andrew	0.25%
Adaptec	0.24%
Globespan Virata	0.24%
Novell	0.24%
Furniture Brands Intl	0.23%

Number of stocks 1949

Sector Breakdown

Utilities	3.30%
Energy	2.90%
Financials	19.70%
Industrials	16.40%
Durables	3.10%
Staples	3.40%
Services	14.50%
Retail	5.40%
Health	12.00%
Technology	19.40%

Performance & Distributions

1-Year Return	1.97%
3- and 5-year returns	na
Cumu. Life of Fund	4.98%
Dividends	
Previous Year	\$1.04
Year-to-Date	\$0
Capital Gains	
Previous Year	\$.57
Year-to-Date	\$2.25

iShares S&P SmallCap 600/BARRA Growth (IJT)Fund Information

Expense Ratio:	.25%
Total Net Assets:	\$112M
Fund Inception Date:	7/24/00

Top 10 Holdings

Cephalon	2.28%
Advance Paradigm	1.63%
Whole Foods Market	1.37%
Varian Medical Sys	1.35%
Michaels Stores	1.23%
XTO Energy	1.22%
Copart	1.20%
99 Cents Only Stores	1.16%
Alliant Techsystems	1.16%
Zebra Tech	1.08%

Number of stocks 220

Sector Breakdown

Utilities	1.30%
Energy	.80%
Financials	5.90%
Industrials	13.90%
Durables	4.40%
Staples	2.60%
Services	18.00%
Retail	10.50%
Health	19.00%
Technology	23.70%

Performance & Distributions

1-Year Return	-1.38%
3- and 5-year returns	na
Cumu. Life of Fund	-6.69%
Dividends	
Previous Year	\$.06
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Russell 2000 Growth Index (IWO)Fund Information

Expense Ratio:	.25%
Total Net Assets:	\$414M
Fund Inception Date:	7/24/00

Top 10 Holdings

Globespan Virata	0.47%
Triquint Semicon	0.41%
Lee Enterprises	0.40%
Affiliated Mgr. Grp.	0.38%
N.Y. Comm. Banc.	0.38%
Legato Sys	0.37%
Performance Food Grp.	0.37%
Renal Care Grp.	0.37%
Techne	0.37%
Titan	0.37%

Number of stocks 1262

Sector Breakdown

Utilities	.40%
Energy	4.00%
Financials	8.20%
Industrials	10.40%
Durables	1.50%
Staples	2.20%
Services	16.60%
Retail	5.70%
Health	20.90%
Technology	30.10%

Performance & Distributions

1-Year Return	-9.82%
3- and 5-year returns	na
Cumu. Life of Fund	-28.70%
Dividends	
Previous Year	\$.11
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

streetTRACKS DJ US SmallCap Growth (DSG)Fund Information

Expense Ratio:	.30%
Total Net Assets:	\$27M
Fund Inception Date:	9/25/00

Top 10 Holdings

Dean Foods	1.22%
Patterson Dental	1.03%
Trigon Healthcare	0.98%
Semtech	0.97%
Dentsply Intl	0.95%
Investors Finl Svcs	0.92%
Advance Paradigm	0.90%
Eaton Vance	0.87%
Triad Hospitals	0.86%
Gentex	0.83%

Number of stocks 355

Sector Breakdown

Utilities	0.00%
Energy	2.50%
Financials	5.20%
Industrials	5.10%
Durables	2.40%
Staples	4.10%
Services	20.90%
Retail	7.30%
Health	19.40%
Technology	33.20%

Performance & Distributions

1-Year Return	-2.29%
3- and 5-year returns	na
Cumu. Life of Fund	-22.8%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares S&P SmallCap 600/BARRA Value (IJS)Fund Information

Expense Ratio:	.25%
Total Net Assets:	\$283M
Fund Inception Date:	7/24/00

Top 10 Holdings

DR Horton	1.27%
Constellation Brands A	1.04%
Adaptec	0.96%
Raymond James Finl.	0.92%
Massey Energy Co.	0.86%
Cullen/Frost Bankers	0.82%
Washington Federal	0.81%
Newfield Explorer	0.78%
Toll Brothers	0.78%
Zale	0.76%

Number of stocks 380

Sector Breakdown

Utilities	5.30%
Energy	7.50%
Financials	14.40%
Industrials	26.70%
Durables	4.60%
Staples	3.90%
Services	12.80%
Retail	6.50%
Health	4.70%
Technology	13.60%

Performance & Distributions

1-Year Return	12.61%
3- and 5-year returns	na
Cumu. Life of Fund	27.48%
Dividends	
Previous Year	\$59
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Russell 2000 Value Index (IWN)Fund Information

Expense Ratio:	.25%
Total Net Assets:	\$560M
Fund Inception Date:	7/24/00

Top 10 Holdings

Dean Foods	0.65%
Ball	0.47%
Novell	0.43%
Furniture Brands Intl.	0.42%
IKON Office Solutions	0.41%
Adaptec	0.40%
CBRL Grp	0.40%
Colonial BancGroup	0.39%
KB Home	0.39%
Sierra Pacific Res.	0.38%

Number of stocks 1293

Sector Breakdown

Utilities	6.10%
Energy	1.80%
Financials	30.50%
Industrials	21.90%
Durables	4.60%
Staples	4.60%
Services	12.50%
Retail	5.00%
Health	3.70%
Technology	9.40%

Performance & Distributions

1-Year Return	13.42%
3- and 5-year returns	na
Cumu. Life of Fund	28.15%
Dividends	
Previous Year	\$2.36
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

streetTRACKS DJ US SmallCap Value (DSV)Fund Information

Expense Ratio:	.28%
Total Net Assets:	\$28M
Fund Inception Date:	9/25/00

Top 10 Holdings

Valero Energy (New)	1.43%
Plum Creek Timber	1.10%
Tyson Foods Cl A	0.77%
Allied Cap	0.74%
Astoria Finl	0.72%
Ball	0.70%
General Gr. Prop.	0.68%
FirstMerit	0.66%
Omnicare	0.65%
Equitable Resources	0.61%

Number of stocks 337

Sector Breakdown

Utilities	7.80%
Energy	5.60%
Financials	37.90%
Industrials	21.40%
Durables	3.70%
Staples	3.80%
Services	9.20%
Retail	5.70%
Health	2.70%
Technology	2.30%

Performance & Distributions

1-Year Return	32.12%
3- and 5-year returns	na
Cumu. Life of Fund	37.40%
Tax Efficiency	na

iShares Dow Jones US Basic Materials (IYM)Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$27M
Fund Inception Date:	6/12/00

Sector Breakdown

Industrials	98.50%
Energy	.60%
Staples	.90%

Top 10 Holdings

DuPont	17.76%
Alcoa	12.37%
Dow Chemical	12.21%
Intl Paper	7.71%
Weyerhaeuser	4.53%
Air Products & Chem.	4.18%
PPG Inds.	3.45%
Praxair	3.40%
Georgia-Pacific	2.43%
Rohm and Haas	2.41%

Number of stocks 67

Performance & Distributions

1-Year Return	1.08%
3- and 5-year returns	na
Cumu. Life of Fund	9.56%
Dividends	
Previous Year	\$.61
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Dow Jones US Consumer Cyclical (IYC)Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$56M
Fund Inception Date:	6/12/00

Sector Breakdown

Energy	.10%
Industrials	2.30%
Durables	9.50%
Staples	1.50%
Services	31.90%
Retail	41.80%
Health	2.70%
Technology	10.20%

Top 10 Holdings

Wal-Mart Stores	10.11%
AOL Time Warner	8.89%
Home Depot	7.50%
Viacom Cl B	4.60%
Walt Disney	3.09%
Target	2.40%
Walmart	2.26%
Liberty Media Cl A	2.25%
McDonald's	2.25%
Comcast	2.05%

Number of stocks 272

Performance & Distributions

1-Year Return	.34%
3- and 5-year returns	na
Cumu. Life of Fund	-6.35%
Dividends	
Previous Year	\$.07
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Dow Jones US Industrial (IYJ)

Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$48M
Fund Inception Date:	6/12/00

Sector Breakdown

Financials	1.60%
Industrials	64.20%
Durables	3.10%
Services	20.20%
Retail	.10%
Health	.20%
Technology	10.70%

Top 10 Holdings

General Electric	23.58%
Tyco Intl	8.04%
3M	3.96%
Automatic Data Proc.	2.88%
Boeing	2.71%
United Tech	2.51%
First Data	2.38%
Emerson Elec.	2.22%
Honeywell Intl.	2.12%
Illinois Tool Works	1.86%

Performance & Distributions

1-Year Return	-2.22%
3- and 5-year returns	na
Cumu. Life of Fund	8.66%
Dividends	
Previous Year	\$.52
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 231

iShares Dow Jones US Chemicals (IYD)

Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$8M
Fund Inception Date:	6/12/00

Sector Breakdown

Energy	1.30%
Industrials	96.70%
Staples	2.10%

Top 10 Holdings

DuPont	26.16%
Dow Chemical	20.73%
Air Products & Chem.	6.39%
Praxair	5.22%
PPG Inds	4.87%
Avery Dennison.	4.50%
Ecolab	3.47%
Engelhard	3.24%
Rohm and Haas.	3.24%
Eastman Chemical	2.65%

Performance & Distributions

1-Year Return	.57%
3- and 5-year returns	na
Cumu. Life of Fund	8.85%
Dividends	
Previous Year	\$.82
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 32

iShares Dow Jones US Consumer Non-Cyclical (IYK)Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$50M
Fund Inception Date:	6/12/00

Top 10 Holdings

Coca-Cola	11.75%
Procter & Gamble	11.49%
Philip Morris	11.47%
PepsiCo	9.56%
Anheuser-Busch	4.62%
Colgate-Palmolive	3.49%
Gillette	3.49%
Kimberly-Clark	3.44%
Safeway	2.31%
Cendant	2.12%

Number of stocks 105

Sector Breakdown

Financials	.10%
Industrials	4.50%
Durables	1.40%
Staples	80.80%
Services	6.50%
Retail	6.90%

Performance & Distributions

1-Year Return	2.22%
3- and 5-year returns	na
Cumu. Life of Fund	5.48%
Dividends	
Previous Year	\$.52
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Dow Jones US Healthcare (IYH)Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$223M
Fund Inception Date:	6/12/00

Top 10 Holdings

Pfizer	15.30%
Johnson & Johnson	10.82%
Merck & Co.	8.06%
Bristol-Myers Squibb	5.91%
American Home Prod.	4.99%
Abbott Labs	4.90%
Eli Lilly	4.52%
Medtronic	3.58%
Amgen	3.54%
Pharmacia	3.25%

Number of stocks 188

Sector Breakdown

Financials	2.70%
Industrials	.60%
Durables	.20%
Services	.10%
Health	96.30%
Technology	.20%

Performance & Distributions

1-Year Return	-13.34%
3- and 5-year returns	na
Cumu. Life of Fund	4.71%
Dividends	
Previous Year	\$.24
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Dow Jones US Telecommunications (IYZ)Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$55M
Fund Inception Date:	5/22/00

Sector Breakdown

Services	99.90%
----------	--------

Top 10 Holdings

SBC Comm.	21.68%
Verizon Comm.	21.31%
BellSouth	10.25%
Centurytel	6.01%
Citizens Comms	5.43%
Alltel	5.18%
AT&T	4.53%
Telephone & Data Sys.	4.34%
AT&T Wireless Svc.	4.12%
Broadwing	3.90%

Performance & Distributions

1-Year Return	-18.70%
3- and 5-year returns	na
Cumu. Life of Fund	-45.60%
Turnover	43%

Number of stocks 27

iShares Goldman Sachs Technology Index (IGM)Fund Information

Expense Ratio:	.50%
Total Net Assets:	\$73M
Fund Inception Date:	3/13/01

Sector Breakdown

Financials	.70%
Industrials	.40%
Services	5.00%
Retail	.40%
Technology	93.50%

Top 10 Holdings

Intel	9.34%
Microsoft	9.17%
IBM	8.64%
Cisco Systems	6.36%
AOL Time Warner	6.32%
Oracle	3.35%
Dell Computer	3.09%
Texas Instruments	2.37%
Sun Microsystems	1.97%
Qualcomm	1.89%

Performance & Distributions

1-Year Return	na
3- and 5-year returns	na
Cumu. Life of Fund	na
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 227

iShares Goldman Sachs Semiconductor (IGW)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.50%	Utilities	0.00%
Total Net Assets:	\$446M	Energy	0.00%
Fund Inception Date:	7/10/01	Financials	0.00%
		Industrials	0.00%
		Durables	0.00%
		Staples	0.00%
		Services	0.00%
		Retail	0.00%
		Health	0.00%
		Technology	100.00%
<u>Top 10 Holdings</u>		<u>Performance & Distributions</u>	
Applied Materials	9.93%	1-Year Return	na
Texas Instruments	9.20%	3- and 5-year returns	na
Intel	8.22%	Cumu. Life of Fund	8.91%
STMicroelectronics	7.56%	Dividends	
Motorola	7.55%	Previous Year	\$0
Micron Tech	5.52%	Year-to-Date	\$0
Maxim Integ. Prod.	4.24%	Capital Gains	
Analog Devices	3.86%	Previous Year	\$0
Xilinx	3.44%	Year-to-Date	\$0
Linear Tech	3.34%		
Number of stocks	38		

iShares Dow Jones US Technology (IYW)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.60%	Industrials	1.20%
Total Net Assets:	\$154M	Services	1.40%
Fund Inception Date:	5/15/00	Technology	97.50%
<u>Top 10 Holdings</u>		<u>Performance & Distributions</u>	
Microsoft	16.04%	1-Year Return	-28.72%
Intel	12.07%	3- and 5-year returns	na
IBM	10.86%	Cumu. Life of Fund	-54.41%
Cisco Systems	7.59%	Dividends	
Dell Computer	3.47%	Previous Year	\$0
Oracle	3.36%	Year-to-Date	\$0
Texas Instruments	2.59%	Capital Gains	
Sun Microsystems	2.26%	Previous Year	\$0
Hewlett-Packard	1.91%	Year-to-Date	\$0
EMC	1.86%		
Number of stocks	323		

iShares Dow Jones US Energy (IYE)Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$74M
Fund Inception Date:	6/12/00

Sector Breakdown

Utilities	6.70%
Energy	91.30%
Industrials	1.90%
Services	.10%

Top 10 Holdings

Exxon Mobil	25.89%
ChevronTexaco	20.97%
Schlumberger	5.87%
Phillips Petro	4.91%
Conoco	4.74%
El Paso	3.84%
Occidental Petro	2.97%
Anadarko Petro	2.68%
Baker Hughes	2.68%
Williams Comp.	2.54%

Number of stocks 63

Performance & Distributions

1-Year Return	-11.83%
3- and 5-year returns	na
Cumu. Life of Fund	-4.68%
Dividends	
Previous Year	\$.62
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Dow Jones US Financial Sector (IYF)Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$96M
Fund Inception Date:	5/22/00

Sector Breakdown

Financials	99.40%
Industrials	.20%
Services	.40%
Technology	.10%

Top 10 Holdings

Citigroup	12.13%
American Intl Grp	9.15%
Bank of America	4.54%
J.P. Morgan Chase	3.53%
Fannie Mae	3.48%
Wells Fargo	3.42%
Morgan Stanley/D.W.	2.71%
Bank One	2.07%
Merrill Lynch	2.05%
American Express	2.03%

Number of stocks 294

Performance & Distributions

1-Year Return	-7.07%
3- and 5-year returns	na
Cumu. Life of Fund	15.18%
Dividends	
Previous Year	\$1.04
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Dow Jones US Internet Index (IYV)Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$20M
Fund Inception Date:	5/15/00

Top 10 Holdings

eBay	10.20%
Yahoo	9.30%
BEA Systems	9.06%
Check Point Software	8.37%
VeriSign	7.54%
Amazon.com	6.32%
E*Trade Group	4.31%
TMP Worldwide	4.22%
WebMD	4.09%
I2 Tech	2.90%

Number of stocks 40

Sector Breakdown

Utilities	0.00%
Energy	0.00%
Financials	5.60%
Industrials	0.00%
Durables	0.00%
Staples	0.00%
Services	20.40%
Retail	7.60%
Health	0.00%
Technology	66.40%

Performance & Distributions

1-Year Return	-22.30%
3- and 5-year returns	na
Cumu. Life of Fund	-58.37%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

streetTRACKS Morgan Stanley Internet (MII)Fund Information

Expense Ratio:	.53%
Total Net Assets:	\$6M
Fund Inception Date:	9/25/00

Top 10 Holdings

Expedia	4.39%
Juniper Net	4.37%
McAfee.com	4.19%
EMC	4.12%
Cisco Systems	4.04%
Sapient	4.04%
Amazon.com	4.03%
Oracle	4.01%
Ciena	3.97%
Intuit	3.97%

Number of stocks 26

Sector Breakdown

Utilities	0.00%
Energy	0.00%
Financials	3.70%
Industrials	0.00%
Durables	0.00%
Staples	0.00%
Services	20.00%
Retail	7.70%
Health	0.00%
Technology	68.70%

Performance & Distributions

1-Year Return	-43.10
3- and 5-year returns	na
Cumu. Life of Fund	-83.1%
Tax Efficiency	na

streetTRACKS Morgan Stanley High Tech (MTK)Fund Information

Expense Ratio:	.51%
Total Net Assets:	\$6M
Fund Inception Date:	9/25/00

Sector Breakdown

Services	5.70%
Technology	94.30%

Top 10 Holdings

Solectron	6.25%
Sycamore Networks	4.77%
Nortel Networks	3.81%
Sun Microsystems	3.66%
Yahoo	3.64%
Lucent Tech	3.50%
Broadcom	3.33%
Xilinx	2.48%
eBay	2.43%
JDS Uniphase	2.16%

Number of stocks 35

Performance & Distributions

1-Year Return	-24.33%
3- and 5-year returns	na
Cumu. Life of Fund	-46.50%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Fortune e-50 Index (FEF)Fund Information

Expense Ratio:	.22%
Total Net Assets:	\$13M
Fund Inception Date:	10/4/00

Sector Breakdown

Utilities	0.00%
Energy	0.00%
Financials	4.70%
Industrials	1.30%
Durables	0.00%
Staples	0.00%
Services	13.70%
Retail	1.80%
Health	0.00%
Technology	78.50%

Top 10 Holdings

Cisco Systems	8.16%
Intel	7.80%
Microsoft	7.46%
AOL Time Warner	5.81%
Oracle	5.59%
IBM	4.42%
Texas Instruments	3.69%
Dell Computer	3.38%
SBC Comms.	2.85%
eBay	2.53%

Number of stocks 50

Performance & Distributions

1-Year Return	-32.00%
3- and 5-year returns	n/a
Cumu. Life of Fund	-56.98%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Nasdaq Biotechnology (IBB)

Fund Information

Expense Ratio:	.50%
Total Net Assets:	\$25M
Fund Inception Date:	2/5/01

Sector Breakdown

Health	98.90%
Technology	1.10%

Top 10 Holdings

Amgen	17.71%
Immunex	5.20%
MedImmune	3.81%
Genzyme Corp	3.56%
IDEC Pharm.	3.55%
Gilead Sciences	3.50%
Chiron	3.04%
Biogen	2.81%
Intermune	1.96%
Cephalon	1.95%

Number of stocks 70

Performance & Distributions

1-Year Return	-11.69%
3- and 5-year returns	na
Cumu. Life of Fund	-19.83%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Dow Jones US Financial Services (IYG)

Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$59M
Fund Inception Date:	6/12/00

Sector Breakdown

Financials	99.40%
Services	.50%
Technology	.10%

Top 10 Holdings

Citigroup	16.56%
Bank of America	6.19%
J.P. Morgan Chase	4.82%
Fannie Mae	4.75%
Wells Fargo	4.67%
MSDW	3.69%
Bank One	2.83%
Merrill Lynch	2.80%
American Express	2.76%
Freddie Mac	2.16%

Number of stocks 164

Performance & Distributions

1-Year Return	-6.38%
3- and 5-year returns	na
Cumu. Life of Fund	8.98%
Dividends	
Previous Year	\$1.14
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Goldman Sachs Software Index (IGV)Fund Information

Expense Ratio:	.50%
Total Net Assets:	\$25M
Fund Inception Date:	7/10/01

Sector Breakdown

Utilities	0.00%
Energy	0.00%
Financials	0.00%
Industrials	0.00%
Durables	0.00%
Staples	0.00%
Services	3.20%
Retail	0.00%
Health	0.00%
Technology	100.00%

Top 10 Holdings

Oracle	1.51%
Microsoft	1.31%
Veritas Software	1.29%
Siebel Systems	1.16%
Computer Assoc Intl	1.13%
PeopleSoft	1.09%
Adobe Systems	1.05%
Intuit	1.04%
Electronic Arts	1.02%
Check Point Software	0.97%

Performance & Distributions

1-Year Return	na
3- and 5-year returns	na
Cumu. Life of Fund	-16.11%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 52

iShares Goldman Sachs Networking Index (IGN)Fund Information

Expense Ratio:	.50%
Total Net Assets:	\$44M
Fund Inception Date:	5/22/00

Sector Breakdown

Industrials	4.10%
Services	5.00%
Technology	90.90%

Top 10 Holdings

Lucent	10.07%
Motorola	9.45%
Agilent	9.18%
Cisco Systems	8.82%
Nortel	8.02%
Qualcomm	7.10%
Corning	4.07%
Amdocs	4.01%
Broadcom	3.64%
JDS Uniphase	3.64%

Performance & Distributions

1-Year Return	-29.01%
3- and 5-year returns	na
Cumu. Life of Fund	-33.41%
Dividends	
Previous Year	\$.24
Year-to-Date	\$.09
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 38

iShares Dow Jones US Utilities (IDU)Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$73M
Fund Inception Date:	6/12/00

Sector Breakdown

Utilities	93.90%
Energy	5.40%
Industrials	.20%
Services	.50%

Top 10 Holdings

Duke Energy	8.25%
Southern	4.65%
Dominion resources	4.45%
Exelon	4.24%
American Elec Pwr.	3.96%
TXU	3.47%
FirstEnergy	3.00%
FPL Group	2.91%
Xcel Energy	2.80%
Progress Energy	2.69%

Number of stocks 82

Performance & Distributions

1-Year Return	-26.42%
3- and 5-year returns	na
Cumu. Life of Fund	-4.87%
Dividends	
Previous Year	\$2.05
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Goldman Sachs Natural Resources (IGE)Fund Information

Expense Ratio:	.50%
Total Net Assets:	\$26M
Fund Inception Date:	10/22/01

Sector Breakdown

Utilities	6.50%
Energy	72.80%
Financials	0.00%
Industrials	20.70%
Durables	0.00%
Staples	0.00%
Services	0.00%
Retail	0.00%
Health	0.00%
Technology	0.00%

Top 10 Holdings

ChevronTexaco	11.79%
Exxon Mobil	7.99%
BP Amoco ADR	7.97%
Royal Dutch Petro.	7.55%
Alcoa	4.34%
Schlumberger	3.58%
El Paso	2.95%
Phillips Petro	2.90%
Intl Paper	2.51%
Conoco Cl A	2.23%

Number of stocks 110

Performance & Distributions

1-Year Return	na
3- and 5-year returns	na
Cumu. Life of Fund	10.02%
Dividends	
Previous Year	\$
Year-to-Date	\$.26
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Financial Select Sector SPDR (XLF)Fund Information

Expense Ratio:	.28%
Total Net Assets:	\$580M
Fund Inception Date:	12/22/98

Sector Breakdown

Utilities	0.00%
Energy	0.00%
Financials	99.70%
Industrials	0.00%
Durables	0.00%
Staples	0.00%
Services	0.30%
Retail	0.00%
Health	0.00%
Technology	0.00%

Top 10 Holdings

Citigroup	13.15%
American Intl Grp.	9.73%
Bank of America	5.52%
Wells Fargo	4.32%
Fannie Mae	4.12%
J.P. Morgan Chase	3.63%
Morgan Stanley/DW	3.25%
American Express	2.82%
First Union	2.61%
Bank One	2.52%

Performance & Distributions

1-Year Return	3.52%
3- and 5-year returns	2.55%
Cumu. Life of Fund	17.40%
Tax Efficiency	87.02%

Number of stocks 74

Utilities Select Sector SPDR (XLU)Fund Information

Expense Ratio:	.28%
Total Net Assets:	\$113M
Fund Inception Date:	12/22/98

Sector Breakdown

Utilities	54.30%
Energy	1.90%
Services	43.80%

Top 10 Holdings

SBC Comms	18.52%
Verizon Comm.	18.13%
Duke Energy	4.95%
BellSouth	3.50%
Alltel	3.09%
Exelon	3.06%
American Elec. Pwr.	2.96%
Southern	2.96%
Dominion resources	2.94%
Xcel Energy	2.65%

Performance & Distributions

1-Year Return	-13.05%
3- and 5-year returns	na
Cumu. Life of Fund	4.11%
Dividends	
Previous Year	\$.91
Year-to-Date	\$.88
Capital Gains	
Previous Year	\$.25
Year-to-Date	\$0

Number of stocks 40

Energy Select Sector SPDR (XLE)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.28%	Utilities	7.80%
Total Net Assets:	\$292M	Energy	89.40%
Fund Inception Date:	12/22/98	Industrials	2.80%
 <u>Top 10 Holdings</u>			
Exxon Mobil	22.49%		
Royal Dutch Pet. ADR	15.01%		
ChevronTexaco	6.16%		
Schlumberger	4.52%		
Phillips Petro	4.23%		
El Paso	4.12%		
Conoco Inc.	3.44%		
Williams Companies	2.90%		
Anadarko Petro	2.79%		
Baker Hughes	2.16%		
Number of stocks 32			
		<u>Performance & Distributions</u>	
		1-Year Return	-18.34%
		3- and 5-year returns	na
		Cumu. Life of Fund	20.70%
		Dividends	
		Previous Year	\$.48
		Year-to-Date	\$.49
		Capital Gains	
		Previous Year	\$0
		Year-to-Date	\$0

Basic Industries Select Sector SPDR (XLB)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	.28%	Industrials	100.00%
Total Net Assets:	\$232M		
Fund Inception Date:	12/22/98		
 <u>Top 10 Holdings</u>			
DuPont	16.06%		
Dow Chemical	11.69%		
Alcoa	11.57%		
Intl. Paper	6.70%		
Alcan Aluminum	3.99%		
Weyerhaeuser	3.95%		
Air Products & Chem.	3.62%		
PPG Inds	3.14%		
Praxair	2.95%		
Rohm & Haas	2.72%		
Number of stocks 41			
		<u>Performance & Distributions</u>	
		1-Year Return	2.74%
		3- and 5-year returns	na
		Cumu. Life of Fund	12.38%
		Dividends	
		Previous Year	\$.40
		Year-to-Date	\$.44
		Capital Gains	
		Previous Year	\$.51
		Year-to-Date	\$0

Consumer Services Select Sector SPDR (XLV)Fund Information

Expense Ratio:	.28%
Total Net Assets:	\$173M
Fund Inception Date:	12/22/98

Sector Breakdown

Financials	8.00%
Industrials	.70%
Durables	1.10%
Services	75.30%
Retail	1.40%
Health	12.30%
Technology	1.20%

Top 10 Holdings

Viacom Cl B	14.14%
Walt Disney	7.63%
Clear Channel Comms.	5.63%
Comcast	5.08%
UnitedHealth Grp.	4.17%
McDonald's	4.04%
HCA-The Healthcare	3.72%
Cendant	3.70%
Tenet Healthcare	3.69%
Gannett	3.34%

Number of stocks 43

Performance & Distributions

1-Year Return	-.2%
3- and 5-year returns	na
Cumu. Life of Fund	9.90%
Dividends	
Previous Year	\$.05
Year-to-Date	\$.07
Capital Gains	
Previous Year	\$.01
Year-to-Date	\$0

Cyclical/Transportation Select SPDR (XLY)Fund Information

Expense Ratio:	.28%
Total Net Assets:	\$262M
Fund Inception Date:	12/22/98

Sector Breakdown

Industrials	5.20%
Durables	14.80%
Staples	3.30%
Services	9.50%
Retail	67.10%

Top 10 Holdings

Wal-Mart Stores	6.25%
Home Depot	4.77%
Target	3.81%
Lowe's	3.66%
Ford Motor	3.64%
General Motors	3.50%
Kohl's	3.33%
Costco Wholesale	2.48%
Best Buy	2.43%
Fedex	2.16%

Number of stocks 66

Performance & Distributions

1-Year Return	13.44%
3- and 5-year returns	na
Cumu. Life of Fund	16.10%
Dividends	
Previous Year	\$.23
Year-to-Date	\$.22
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Consumer Staples Select Sector SPDR (XLP)Fund Information

Expense Ratio:	.28%
Total Net Assets:	\$323M
Fund Inception Date:	12/22/98

Sector Breakdown

Industrials	1.40%
Staples	32.80%
Retail	4.50%
Health	61.40%

Top 10 Holdings

Pfizer	11.09%
Johnson & Johnson	8.02%
Merck & Co.	5.92%
Coca-Cola	5.19%
Procter & Gamble	4.54%
Philip Morris	4.40%
Bristol-Myers Squibb	4.37%
Eli Lilly	3.91%
Abbott Labs	3.83%
PepsiCo	3.77%

Number of stocks 69

Performance & Distributions

1-Year Return	-9.91%
3- and 5-year returns	na
Cumu. Life of Fund	-.45%
Dividends	
Previous Year	\$32
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Industrial Select Sector SPDR (XLI)Fund Information

Expense Ratio:	.28%
Total Net Assets:	\$219M
Fund Inception Date:	12/22/98

Sector Breakdown

Industrials	84.40%
Durables	6.60%
Services	8.30%
Technology	.70%

Top 10 Holdings

General Electric	15.74%
Tyco Intl	13.44%
3M	5.29%
Waste Management	4.67%
Emerson Electric	3.83%
Honeywell Intl.	3.61%
Illinois Tool Works	3.45%
Boeing	3.30%
Caterpillar	3.30%
United Tech	3.08%

Number of stocks 43

Performance & Distributions

1-Year Return	-10.25%
3- and 5-year returns	na
Cumu. Life of Fund	23.63%
Dividends	
Previous Year	\$33
Year-to-Date	\$34
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Technology Select Sector SPDR (XLK)Fund Information

Expense Ratio:	.28%
Total Net Assets:	\$1.4B
Fund Inception Date:	12/22/98

Sector Breakdown

Financials	.70%
Industrials	1.10%
Services	11.20%
Technology	87.10%

Top 10 Holdings

Microsoft	14.98%
Intel	8.86%
IBM	8.75%
AOL Time Warner	5.99%
Cisco Systems	5.58%
Oracle	3.26%
Dell Computer	2.99%
AT&T	2.69%
Texas Instruments	2.06%
Sun Microsystems	1.69%

Number of stocks 97

Performance & Distributions

1-Year Return	-22.96%
3- and 5-year returns	na
Cumu. Life of Fund	-24.64%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

NASDAQ 100 Trust Shares (QQQ)Fund Information

Expense Ratio:	.18%
Total Net Assets:	\$21.8B
Fund Inception Date:	3/10/99

Sector Breakdown

Financials	1.70%
Industrials	.80%
Services	12.00%
Retail	4.20%
Health	15.10%
Technology	66.30%

Top 10 Holdings

Microsoft	10.87%
Intel	6.54%
Cisco Systems	4.20%
Qualcomm	4.12%
Oracle	2.84%
Amgen	2.44%
Dell Computer	2.31%
Maxim Integ Prod.	2.10%
Immunex	1.83%
Concord EFS	1.65%

Number of stocks 100

Performance & Distributions

1-Year Return	-32.77%
3- and 5-year returns	na
Cumu. Life of Fund	-22.96%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Dow Jones US Real Estate (IYR)

Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$106M
Fund Inception Date:	6/12/00

Sector Breakdown

Financials	95.70%
Industrials	3.50%
Services	.70%

Top 10 Holdings

Equity Office Prop.	9.80%
Equity Resid. Prop.	6.07%
Simon Ppty	3.59%
Archstone Smith Tr	3.56%
Plum Creek Timber	3.54%
Prologis Tr	3.25%
Apartment Invest.	2.79%
Vornado Realty Tr.	2.76%
Boston Properties	2.66%
AvalonBay Comm.	2.52%

Number of stocks 70

Performance & Distributions

1-Year Return	-20.25%
3- and 5-year returns	na
Cumu. Life of Fund	18.73%
Dividends	
Previous Year	\$4.00
Year-to-Date	\$1.18
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares Cohen & Steers Realty Majors (ICF)

Fund Information

Expense Ratio:	.35%
Total Net Assets:	\$63M
Fund Inception Date:	1/29/01

Sector Breakdown

Financials	100.0%
------------	--------

Top 10 Holdings

Equity Resid. Prop.	7.95%
Equity Office Prop.	7.88%
Simon Ppty	6.61%
Archstone Smith Tr	5.58%
Public Storage	5.20%
Vornado Realty Tr.	5.13%
Prologis Tr	3.25%
Boston Properties	4.25%
Apartment Invest.	4.17%
AvalonBay Comm.	3.93%

Number of stocks 30

Performance & Distributions

1-Year Return	31.62%
3- and 5-year returns	na
Cumu. Life of Fund	20.14%
Dividends	
Previous Year	\$4.36
Year-to-Date	\$1.30
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

streetTRACKS Wilshire REIT (RWR)

Fund Information

Expense Ratio:	.32%
Total Net Assets:	\$19M
Fund Inception Date:	4/23/01

Sector Breakdown

Financials	99.4%
Services	0.60%

Top 10 Holdings

Equity Office Prop.	8.94%
Equity Resid Prop.	5.61%
Simon Pty Grp.	4.01%
Archstone Smith Tr	3.36%
Vornado Realty Tr	3.34%
Public Storage	3.06%
Prologis Tr	2.96%
Apartment Invest.	2.66%
Boston Properties	2.58%
Duke-Weeks Realty	2.46%

Performance & Distributions

1-Year Return	19.07%
3- and 5-year returns	na
Cumu. Life of Fund	26.45%
Turnover	2%

Number of stocks 91

iShares MSCI EMU (EZU)

Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$89M
Fund Inception Date:	7/25/2000

Country Breakdown

U.S. & Canada	0.00%
Europe	97.10%
France	26.20%
Germany	20.30%
Netherlands	15.30%
Italy	9.90%
Spain	9.50%

Top 10 Holdings

Nokia	5.76%
Royal Dutch Petro	5.11%
Total Fina Cl B	4.25%
Telefonica	2.65%
Siemens	2.62%
Aventis Cl A	2.23%
Vivendi	2.22%
ING Groep	2.02%
Philips Electncs (NV)	1.82%
Banco Bibao Viz. Arg	1.78%

Performance & Distributions

1-Year Return	-22.96%
3- and 5-year returns	n/a
Cumu. Life of Fund	-22.12%
Dividends	
Previous Year	\$0.67
Year-to-Date	\$0.00
Capital Gains	
Previous Year	\$0.00
Year-to-Date	\$0.00

Number of stocks 281

iShares MSCI Pacific ex-Japan (EPP)

<u>Fund Information</u>		<u>Country Breakdown</u>	
Expense Ratio:	.50%	Pacific Rim	98.80%
Total Net Assets:	\$22M	Australia	60.80%
Fund Inception Date:	10/25/01	Hong Kong	25.10%
		Singapore	10.90%
		New Zealand	2.00%
 <u>Top 10 Holdings</u>			
Natl Australia Bk.	6.41%		
Hutchison Whampoa	5.05%		
BHP	4.88%		
Commwlth. Bk. Austl.	4.66%		
Cheung Kong Hldgs	3.64%		
Westpac Bkg.	3.41%		
ANZ Bkg Grp.	3.11%		
News Pfd	2.90%		
News	2.83%		
AMP Australia	2.79%		
Number of stocks	130		
		<u>Performance & Distributions</u>	
		1-Year Return	na
		3- and 5-year returns	na
		Cumu. Life of Fund	9.59%
		Dividends	
		Previous Year	\$0
		Year-to-Date	\$.27
		Capital Gains	
		Previous Year	\$0
		Year-to-Date	\$0

iShares MSCI EAFE (EFA)

<u>Fund Information</u>		<u>Country Breakdown</u>	
Expense Ratio:	.35%	U.S. & Canada	.40%
Total Net Assets:	\$1B	Europe	63.20%
Fund Inception Date:	8/14/01	U.K.	23.00%
		France	8.6%
		Germany	6.6%
		Switzerland	6.5%
		Japan	19.70%
 <u>Top 10 Holdings</u>			
Vodafone Grp	2.83%		
BP Amoco	2.70%		
GlaxoSmithKline	2.53%		
Nokia	1.84%		
HSBC Hldgs (UK)	1.72%		
Royal Dutch Petro	1.70%		
Novartis ADR	1.66%		
Total Fina Cl B	1.30%		
Nestle (Reg) ADR	1.28%		
Astrazeneca	1.26%		
Number of stocks	782		
		<u>Performance & Distributions</u>	
		1-Year Return	na
		3- and 5-year returns	na
		Cumu. Life of Fund	na
		Dividends	
		Previous Year	\$.17
		Year-to-Date	\$.08
		Capital Gains	
		Previous Year	\$0
		Year-to-Date	\$0

iShares S&P/TOPIX 150 (ITF)

Fund Information

Expense Ratio: .50%
 Total Net Assets: \$29M
 Fund Inception Date: 10/23/01

Country Breakdown

Japan 97.30%
 U.S. .60%

Top 10 Holdings

Toyota Motor 6.25%
 NTT DoCoMo 4.77%
 Sony 3.81%
 Takeda Chem Inds 3.66%
 Nippon Telegraph 3.64%
 Honda Motor 3.50%
 Canon Electncs 3.33%
 Nomura Secs 2.48%
 Tokyo Elec. Pwr. 2.43%
 Matsushita Elec. Indl. 2.16%

Number of stocks 150

Performance & Distributions

1-Year Return na
 3- and 5-year returns na
 Cumu. Life of Fund -9.02%
 Dividends
 Previous Year \$0
 Year-to-Date \$0
 Capital Gains
 Previous Year \$0
 Year-to-Date \$0

iShares S&P/TSE 60 (IKC)

Fund Information

Expense Ratio: .50%
 Total Net Assets: \$7M
 Fund Inception Date: 6/12/00

Country Breakdown

Canada 98.50%

Top 10 Holdings

Nortel Networks 8.23%
 Royal Bk Canada 6.59%
 BCE 5.73%
 Toronto-Dom. ADR 5.12%
 Bank of Nova Scotia 4.73%
 Manulife Finl 4.06%
 Canadian Imperial Bk 3.96%
 Alcan Aluminum 3.48%
 Bank of Montreal 3.42%
 Bombardier Cl B 3.38%

Number of stocks 60

Performance & Distributions

1-Year Return -16.58%
 3- and 5-year returns na
 Cumu. Life of Fund -23.10%
 Dividends
 Previous Year \$.32
 Year-to-Date \$.11
 Capital Gains
 Previous Year \$0
 Year-to-Date \$0

iShares S&P Global 100 (IOO)Fund Information

Expense Ratio:	.40%
Total Net Assets:	\$47M
Fund Inception Date:	12/5/00

Country Breakdown

U.S. & Canada	62.60%
Europe	30.10%
UK	9.20%
France	4.80%
Switzerland	4.10%
Germany	4.00%
Japan	3.80%
Pacific Rim	.40%

Top 10 Holdings

General Electric	5.74%
Microsoft	4.69%
Exxon Mobil	4.03%
Citigroup	3.80%
Pfizer	3.67%
Intel	3.32%
IBM	3.16%
American Intl Group	2.84%
Vodafone Grp	2.57%
BP Amoco	2.55%

Performance & Distributions

1-Year Return	-14.90%
3- and 5-year returns	na
Cumu. Life of Fund	-18.20%
Dividends	
Previous Year	\$.55
Year-to-Date	\$.08
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 98

iShares S&P Europe 350 (IEV)Fund Information

Expense Ratio:	.60%
Total Net Assets:	\$195M
Fund Inception Date:	7/25/00

Country Breakdown

Europe	90.30%
U.K.	34.50%
France	12.60%
Germany	10.30%
Switzerland	9.50%
Netherlands	6.40%
Pacific Rim	.10%

Top 10 Holdings

Vodafone Grp	3.83%
BP Amoco	3.74%
GlaxoSmithKline	3.36%
Nokia	2.66%
HSBC Holdgs (UK)	2.42%
Total Fina Cl B	2.25%
Novartis (Reg)	2.15%
Royal Dutch Petro	2.15%
Nestle (Reg)	1.79%
Astrazeneca	1.75%

Performance & Distributions

1-Year Return	-20.05%
3- and 5-year returns	n/a
Cumu. Life of Fund	-17.46%
Dividends	
Previous Year	\$79
Year-to-Date	\$14
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 334

iShares S&P Global Energy Sector (IXC)Fund Information

Expense Ratio:	.65%
Total Net Assets:	\$16M
Fund Inception Date:	11/12/01

Country Breakdown

U.S. & Canada	53.50%
Europe	41.90%
Japan	1.70%
Latin America	.60%
Pacific Rim	.60%

Top 10 Holdings

Exxon Mobil	20.26%
BP Amoco	13.74%
Total Fina Cl B	7.51%
Royal Dutch Petro	7.01%
ChevronTexaco	5.00%
Shell Transp & Trad	4.74%
ENI	3.98%
Schlumberger	2.73%
Phillips Petro	2.27%
BG Grp II	2.26%

Performance & Distributions

1-Year Return	na
3- and 5-year returns	na
Cumu. Life of Fund	-0.05%
Dividends	
Previous Year	\$0.07
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 45

iShares S&P Global Financials Sector (IXG)Fund Information

Expense Ratio:	.65%
Total Net Assets:	\$10M
Fund Inception Date:	11/12/01

Country Breakdown

U.S. & Canada	54.8%
Europe	30.7%
Japan	3.6%
Pacific Rim	4.4%

Top 10 Holdings

Citigroup	6.87%
American Intl Grp.	6.16%
HSBC Hldgs (UK)	3.21%
Bank of America	2.81%
Fannie Mae	2.24%
J.P. Morgan Chase	2.13%
Wells Fargo	2.10%
UBS (Reg)	1.85%
MSDW	1.76%
Royal Bk Scotland	1.70%

Performance & Distributions

1-Year Return	na
3- and 5-year returns	na
Cumu. Life of Fund	2.73%
Dividends	
Previous Year	\$0
Year-to-Date	\$.04
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 192

iShares S&P Global Healthcare Sector (IXJ)Fund Information

Expense Ratio:	.65%
Total Net Assets:	\$17M
Fund Inception Date:	11/12/01

Country Breakdown

U.S.	71.70%
U.K.	11.60%
Switzerland	7.10%
Japan	3.00%
France	1.30%

Top 10 Holdings

Pfizer	12.80%
Johnson & Johnson	8.26%
GlaxoSmithKline	7.33%
Merck & Co.	7.28%
Bristol-Myers Squibb	4.89%
Novartis (Reg)	4.76%
Eli Lilly	4.35%
Abbott Labs	3.99%
Astrazeneca	3.71%
American Home Prd.	3.70%

Performance & Distributions

1-Year Return	na
3- and 5-year returns	na
Cumu. Life of Fund	-.36%
Dividends	
Previous Year	\$0
Year-to-Date	\$.01
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 63

iShares S&P Global Technology Sector (IXN)Fund Information

Expense Ratio:	.65%
Total Net Assets:	\$17M
Fund Inception Date:	11/12/01

Country Breakdown

U.S. & Canada	78.20%
Japan	7.70%
Finland	4.60%
France	2.00%
Sweden	1.70%

Top 10 Holdings

Microsoft	14.42%
Intel	9.17%
IBM	8.37%
Cisco Systems	6.24%
Nokia	4.59%
Oracle	3.29%
Dell Computer	3.04%
Texas Instruments	2.32%
Sun Microsystems	1.94%
Qualcomm	1.86%

Performance & Distributions

1-Year Return	na
3- and 5-year returns	na
Cumu. Life of Fund	3.68%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 123

iShares S&P Global Telecommunications (IXP)Fund Information

Expense Ratio:	.65%
Total Net Assets:	\$14M
Fund Inception Date:	11/12/01

Country Breakdown

U.S.	41.90%
U.K.	16.30%
Japan	7.10%
Spain	4.90%
Italy	4.10%

Top 10 Holdings

Vodafone Group	14.51%
Verizon Comm.	10.60%
SBC Comms.	10.49%
BellSouth	6.02%
AT&T	5.04%
Telefonica	4.86%
NTT DocoMo	4.05%
WorldCom	3.50%
Deutsche Tele. (Reg)	3.45%
Nippon Tele. & Tel.	3.05%

Performance & Distributions

1-Year Return	na
3- and 5-year returns	na
Cumu. Life of Fund	1.96%
Dividends	
Previous Year	\$0
Year-to-Date	\$.02
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 47

iShares MSCI Malaysia (Free) (EWM)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$71M
Fund Inception Date:	3/12/96

Country Breakdown

Malaysia	98.40%
----------	--------

Top 10 Holdings

Malayan Bkg	11.22%
Telekom Malaysia	9.05%
Tenaga Nasional	7.96%
Sime Darby Malaysia	5.63%
Genting	4.26%
British Amer Tob-Mal.	3.50%
Malaysia Intl Ship	3.27%
Petronas Gas	3.04%
Commerce Asset Hldg	3.00%
Public Bk (For)	2.89%

Performance & Distributions

1-Year Return	4.56%
3- and 5-year returns	19.30%, -16.87%
Cumu. Life of Fund	-55.07%
Dividends	
Previous Year	\$.05
Year-to-Date	\$.03
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 61

iShares MSCI Singapore (EWS)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$76M
Fund Inception Date:	3/12/96

Country Breakdown

Pacific Rim	95.90%
Singapore	97.60%

Top 10 Holdings

DBS Grp Hldgs	14.73%
United Overseas Bk	13.55%
Overseas Chinese Bkg	10.56%
Singapore Telecom	10.33%
Singapore Tech Engnrg	5.02%
Singapore Air	4.70%
Singapore Press Hldg.	4.65%
Chartered Semicon	3.66%
City of Developments	3.23%
Venture Mfg.	2.84%

Number of stocks 34

Performance & Distributions

1-Year Return	-23.22%
3- and 5-year returns	-3.67%, -13.86%
Cumu. Life of Fund	-53.89%
Dividends	
Previous Year	\$.04
Year-to-Date	\$.03
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares MSCI South Korea (EWY)Fund Information

Expense Ratio:	.99%
Total Net Assets:	\$72M
Fund Inception Date:	5/9/00

Country Breakdown

South Korea	88.50%
-------------	--------

Top 10 Holdings

Samsung Electnics	27.15%
Kookmin Bk	8.61%
SK Telecom	8.38%
Pohang Iron & Steel	6.78%
Shinhan Financial Grp	3.64%
Korea Elec Pwr	3.58%
Hyundai Motor	2.97%
Korea Telecom	2.97%
Samsung Electro-Mech.	2.25%
LG Electnics	1.98%

Number of stocks 66

Performance & Distributions

1-Year Return	46.74%
3- and 5-year returns	na
Cumu. Life of Fund	13.30%
Dividends	
Previous Year	\$.10
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares MSCI United Kingdom (EWU)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$123M
Fund Inception Date:	3/12/96

Country Breakdown

Europe	94.20%
U.K.	96.80%
Pacific Rim	.30%
Australia	.30%

Top 10 Holdings

Vodafone Group	9.75%
BP Amoco	7.28%
GlaxoSmithKline	6.81%
Astrazeneca	4.73%
HSBC Hldgs (UK)	4.63%
Shell Transp & Trad	4.47%
LLoyds TSB Grp	3.75%
Royal Bk of Scotland	3.73%
Barclays	3.29%
HBOS	2.43%

Number of stocks 124

Performance & Distributions

1-Year Return	-15.94%
3- and 5-year returns	-5.92%, 3.57%
Cumu. Life of Fund	52.84%
Dividends	
Previous Year	\$.26
Year-to-Date	\$.22
Capital Gains	
Previous Year	\$0
Year-to-Date	\$.01

iShares MSCI Switzerland (EWL)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$31M
Fund Inception Date:	3/12/96

Country Breakdown

Switzerland	90.00%
-------------	--------

Top 10 Holdings

Novartis	19.91%
Nestle	12.21%
UBS AG REG	9.92%
Roche Holding	7.35%
Credit Suisse Grp	5.11%
Schweizerische	4.91%
Zuarich Financial	4.40%
Holcim	2.88%
ABB	2.82%
Richemont A	2.36%

Number of stocks 40

Performance & Distributions

1-Year Return	-24.93%
3- and 5-year returns	-8.39%, 3.84%
Cumu. Life of Fund	20.13%
Dividends	
Previous Year	\$.09
Year-to-Date	\$.01
Capital Gains	
Previous Year	\$.04
Year-to-Date	\$0

iShares MSCI Sweden (EWD)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$11M
Fund Inception Date:	3/12/96

Country Breakdown

Europe	99.80%
Sweden	99.50%
Switzerland	.30%

Top 10 Holdings

LM Ericsson Tele	6.25%
Nordic Baltic Hldg	4.77%
Hennes & Mauritz	3.81%
Svenska	3.66%
Handelsbanken	3.64%
Skandia Foersaekrings	3.50%
Securitas CI B	3.33%
Sandvik AB	2.48%
Svenska Cellulosa CI B	2.43%
Electrolux CI B	2.16%

Number of stocks 36

Performance & Distributions

1-Year Return	-23.86%
3- and 5-year returns	-1.63%, 3.10%
Cumu. Life of Fund	54.17%
Dividends	
Previous Year	\$.05
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares MSCI Spain (EWP)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$27M
Fund Inception Date:	3/12/96

Country Breakdown

Spain	96.70%
-------	--------

Top 10 Holdings

Telefonica	21.78%
Banco Bilbao Vizcaya	14.23%
Blanco Santander	12.38%
Repsol	4.85%
Iberdrola	4.68%
Endesa	4.64%
Union Electrica Fen.	3.78%
Prisa	2.94%
Industria De Dis.	2.93%
Gas Natural SDG	2.59%

Number of stocks 34

Performance & Distributions

1-Year Return	-10.21%
3- and 5-year returns	-8.78%, 7.11%
Cumu. Life of Fund	91.29%
Dividends	
Previous Year	\$.16
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares MSCI Netherlands (EWN)

Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$22M
Fund Inception Date:	3/12/96

Country Breakdown

Europe	99.90%
Netherlands	95.00%
U.K.	5.00%

Top 10 Holdings

Royal Dutch	24.86%
ING Groep	14.46%
AEGON NV (Ams)	7.47%
Philips Electncs (NV)	5.03%
Unilever (Cert)	5.01%
Ahold	4.82%
ABN Amro Hldgs	4.70%
Akzo Nobel NV	4.63%
Heineken	4.47%
TNT Post grp	3.11%

Number of stocks 25

Performance & Distributions

1-Year Return	-23.95%
3- and 5-year returns	-9.84%, 1.57%
Cumu. Life of Fund	35.09%
Dividends	
Previous Year	\$.28
Year-to-Date	\$.04
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares MSCI Italy (EWI)

Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$32M
Fund Inception Date:	3/12/96

Country Breakdown

Italy	82.30%
-------	--------

Top 10 Holdings

Ente Nazionale Idro.	15.14%
Assicurazioni Gen.	12.34%
TIM	9.50%
Telecom Italia	8.90%
UniCredito Italiano	5.06%
Telecom Italia (RNC)	4.70%
Enel Spa	4.66%
Istituto Bancario	4.34%
Banca Intesa	3.77%
Autostrade Conc.	2.87%

Number of stocks 42

Performance & Distributions

1-Year Return	-26.71%
3- and 5-year returns	-10.03%, 8.23%
Cumu. Life of Fund	67.74%
Dividends	
Previous Year	\$.31
Year-to-Date	\$0
Capital Gains	
Previous Year	\$.07
Year-to-Date	\$0

iShares MSCI Germany (EWG)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$108M
Fund Inception Date:	3/12/96

Country Breakdown

Germany	95.00%
---------	--------

Top 10 Holdings

Siemens	12.66%
Allianz (Reg)	8.15%
DaimlerChrysler	8.10%
Deutsche Bk (Reg)	8.02%
Deutsche Telekom	7.56%
SAP	5.86%
E.ON Cl B	4.61%
Bayer	4.56%
BASF	4.53%
Muenchener	4.47%

Number of stocks 45

Performance & Distributions

1-Year Return	-22.57%
3- and 5-year returns	-7.70%, 4.37%
Cumu. Life of Fund	35.56%
Dividends	
Previous Year	\$.19
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares MSCI France (EWQ)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$56M
Fund Inception Date:	3/12/96

Country Breakdown

France	89.10%
--------	--------

Top 10 Holdings

Total Fina Cl B	15.20%
Vivendi	7.99%
Aventis Cl A	7.96%
BNP Paribas	5.99%
Sanofi-Synthelabo	4.58%
Carrefour	4.35%
L'Oreal	4.09%
Alcatel	3.15%
Societe Generale Cl A	2.82%
STMicroelectronics	2.65%

Number of stocks 49

Performance & Distributions

1-Year Return	-23.99%
3- and 5-year returns	-2.13%, 8.03%
Cumu. Life of Fund	75.64%
Dividends	
Previous Year	\$0.05
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares MSCI Belgium (EWK)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$9M
Fund Inception Date:	3/12/96

Country Breakdown

Belgium	99.80%
---------	--------

Top 10 Holdings

Fortis CI B	6.25%
Dexia	4.77%
Electrabel	3.81%
KBC Bancassurance	3.66%
Solvay	3.64%
UCB	3.50%
Interbrew	3.33%
Groupe Bruxelles Lam.	2.48%
Delhaize-Le Lion	2.43%
Union Miniere	2.16%

Number of stocks 20

Performance & Distributions

1-Year Return	-12.99%
3- and 5-year returns	-12.99%, 1.21%
Cumu. Life of Fund	15.73%
Dividends	
Previous Year	\$.23
Year-to-Date	\$.07
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares MSCI Austria (EWO)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$10M
Fund Inception Date:	3/12/96

Sector Breakdown

Austria	99.70%
---------	--------

Top 10 Holdings

Erste Bk Der Oester	17.91%
OMV	16.33%
Telekom Austria	15.39%
Voest-Alpine Stahl	4.97%
Mayr-Meinhof Karton	4.88%
Boehler-Uddeholm	4.86%
Wienerberger-Baustoff	4.84%
Vienna Intl. Airport	4.83%
Osterreich Elek.	4.79%
VA Technologie	4.58%

Number of stocks 17

Performance & Distributions

1-Year Return	-2.57%
3- and 5-year returns	-7.91%, -4.97%
Cumu. Life of Fund	-24.64%
Dividends	
Previous Year	\$.14
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares MSCI Australia (EWA)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$60M
Fund Inception Date:	3/12/96

Country Breakdown

Australia	100.00%
-----------	---------

Top 10 Holdings

Natl Australia Bk.	10.26%
BHP	8.08%
Commonwealth Bk.	7.74%
Australia Westpac	5.71%
ANZ Bkg Grp	5.22%
News	4.74%
News Pfd	4.62%
AMP Australia	4.27%
Telstra	2.47%
Woolworths	2.44%

Performance & Distributions

1-Year Return	2.33%
3- and 5-year returns	na
Cumu. Life of Fund	11.30%
Dividends	
Previous Year	\$.19
Year-to-Date	\$.04
Capital Gains	
Previous Year	\$.57
Year-to-Date	\$2.25

Number of stocks 53

iShares MSCI Hong Kong (EWH)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$60M
Fund Inception Date:	03/12/96

Country Breakdown

Hong Kong	89.60%
-----------	--------

Top 10 Holdings

Hutchison Whampoa	18.06%
Cheung Kong Hldgs	14.95%
Sun Hung Kai Prop.	8.14%
Hang Seng Bk.	7.44%
Swire Pacific CIA	5.10%
H.K. China & Gas	3.50%
H.K. Elec. Hldgs.	3.33%
Henderson Land Dev.	2.48%
Wharf Hldgs	2.43%
Mass Transit Railway	2.16%

Performance & Distributions

1-Year Return	-18.98%
3- and 5-year returns	2.37%, -6.58%
Cumu. Life of Fund	-12.39%
Dividends	
Previous Year	\$.17
Year-to-Date	\$.06
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

Number of stocks 28

iShares MSCI Japan (EWJ)

Fund Information

Expense Ratio: .84%
Total Net Assets: \$475M
Fund Inception Date: 3/12/96

Country Breakdown

Japan 97.80%

Top 10 Holdings

Toyota Motor 4.64%
NTT DoCoMo 3.50%
Sony 3.11%
Takeda Chem Inds 2.89%
Canon 2.20%
Tokyo Elec Pwr 2.04%
Matsushita Elec. Ind. 1.91%
Nomura Secs 1.91%
Mitsubishi Tokyo Fin. 1.86%
Honda Motor 1.78%

Performance & Distributions

1-Year Return -29.90%
3- and 5-year returns -7.53%, -8.97%
Cumulative Life of Fund -44.63%
Dividends
Previous Year \$0
Year-to-Date \$0
Capital Gains
Previous Year \$0
Year-to-Date \$0

Number of stocks 207

iShares MSCI Taiwan (EWT)

Fund Information

Expense Ratio: .99%
Total Net Assets: \$160M
Fund Inception Date: 6/20/00

Country Breakdown

Pacific Rim 94.70%
Taiwan 94.60%
Malaysia .10%

Top 10 Holdings

Taiwan Semicon ADR 17.73%
United Micro. ADR 11.97%
Asustek Comp 4.90%
Hou Hai Prec. Inds 4.27%
Nan Ya Plastic 2.72%
Quanta Comp 2.43%
Formosa Plastic 2.40%
Fubon Group 2.11%
Winbond Electncs 1.76%
Advanced Semicon 1.73%

Performance & Distributions

1-Year Return 4.99%
3- and 5-year returns na
Cumulative Life of Fund -42.58%
Dividends
Previous Year \$0
Year-to-Date \$0
Capital Gains
Previous Year \$0
Year-to-Date \$0

Number of stocks 95

iShares MSCI Mexico (Free) (EWW)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$35M
Fund Inception Date:	3/12/96

Sector Breakdown

Mexico	80.70%
--------	--------

Top 10 Holdings

Telefonos de Mex	23.32%
America Movil	17.28%
Cemex (Part)	8.14%
Grupo Fin Bancomer	5.18%
Grupo Televisa (Part)	5.07%
Wal-Mart De Mexico	5.04%
Kimberly-Clark de Mex	4.98%
Fomento Economico	4.34%
Grupo Carso CIAI	3.24%
Grupo Modelo CI C	2.96%

Number of stocks 25

Performance & Distributions

1-Year Return	13.49%
3- and 5-year returns	15.57%, 8.30%
Cumu. Life of Fund	72.14%
Dividends	
Previous Year	\$.11
Year-to-Date	\$.07
Capital Gains	
Previous Year	\$.03
Year-to-Date	\$0

iShares MSCI Canada (EWC)Fund Information

Expense Ratio:	.84%
Total Net Assets:	\$26M
Fund Inception Date:	3/12/96

Country Breakdown

U.S. & Canada	95.60%
Canada	95.60%

Top 10 Holdings

Nortel Networks	6.96%
Royal Bk Canada	6.46%
Bank of Nova Scotia	4.50%
Manulife Finl	3.70%
Canadian Imperial Bk	3.64%
Bank of Montreal	3.25%
Bombardier CI B	3.09%
Alcan Aluminum	3.04%
Canadian Natl Railway	2.70%
Sun Life Finl Svcs	2.70%

Number of stocks 84

Performance & Distributions

1-Year Return	-17.86%
3- and 5-year returns	8.92%, 6.04%
Cumu. Life of Fund	62.41%
Dividends	
Previous Year	\$.08
Year-to-Date	\$.01
Capital Gains	
Previous Year	\$.01
Year-to-Date	\$0

iShares MSCI Brazil (EWZ)Fund Information

Expense Ratio:	.99%
Total Net Assets:	\$28M
Fund Inception Date:	7/10/00

Country Breakdown

Brazil	98.10%
--------	--------

Top 10 Holdings

Petrobras Pfd	16.32%
Petrobras	9.46%
Companhia De Bebidas	8.91%
Banco Itau	7.46%
Telenorte Leste	6.43%
Banco Bradesco Pfd	5.11%
Vale do Rio Doce Pfd	4.84%
Unibanco (Unit)	3.57%
Brasil Telecom	3.39%
Eletrobras	3.00%

Number of stocks 39

Performance & Distributions

1-Year Return	-19.52%
3- and 5-year returns	na
Cumu. Life of Fund	-33.53%
Dividends	
Previous Year	\$.64
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

iShares S&P Latin America 40 (ILF)Fund Information

Expense Ratio:	.50%
Total Net Assets:	\$7M
Fund Inception Date:	10/25/01

Country Breakdown

Latin America	78.60%
Mexico	47.20%
Brazil	27.60%
Chile	2.30%
Argentina	1.50%

Top 10 Holdings

Telefonos de Mex CI L	15.78%
Cemex (Part)	9.10%
America Movil De Dv	8.14%
Petrobras ADR	7.99%
Companhia De Beb.	5.63%
Banco Itau ADR	4.68%
TeleNorte Leste ADR	4.13%
Banco Bradesco ADR	3.81%
Carso Global Tele	3.72%
Companhia Vale	3.70%

Number of stocks 36

Performance & Distributions

1-Year Return	na
3- and 5-year returns	na
Cumu. Life of Fund	15.63%
Dividends	
Previous Year	\$0
Year-to-Date	\$0
Capital Gains	
Previous Year	\$0
Year-to-Date	\$0

streetTRACKS DJ Global Titans (DGT)Fund Information

Expense Ratio:	.52%
Total Net Assets:	\$20M
Fund Inception Date:	9/29/00

Sector Breakdown

Utilities	0.00%
Energy	11.20%
Financials	19.40%
Industrials	9.90%
Durables	3.30%
Staples	6.90%
Services	12.10%
Retail	2.80%
Health	15.20%
Technology	19.30%

Top 10 Holdings

General Electric	6.87%
Microsoft	5.26%
Exxon Mobil	4.64%
Citigroup	4.49%
Pfizer	4.34%
Intel	3.65%
IBM	3.61%
American Intl. Group	3.59%
Johnson & Johnson	3.13%
BP PLC ADR	2.99%

Performance & Distributions

1-Year Return	-12.90%
3- and 5-year returns	n/a
Cumu. Life of Fund	-20.18%

Dividends & Capital Gains

Previous Year	\$.13
Year-to-Date	\$.71

Capital Gains

Previous Year	\$0
Year-to-Date	\$0

Number of stocks 50

Broadband HOLDRs (BDH)Fund Information

Expense Ratio:	na
Total Net Assets:	na
Fund Inception Date:	4/6/00

Sector Breakdown

Technology	100.00%
------------	---------

Top 10 Holdings

Qualcomm	22.39%
Motorola	16.42%
Nortel Networkds	12.99%
Lucent Tech.	12.29%
JDS Uniphase	5.54%
Broadcom	5.43%
Corning	5.03%
Tellabs	3.75%
Scientific-Atlanta	3.22%
Comverse Technology	2.51%

Performance & Distributions

1-Year Return	na
3- and 5-year returns	na
Cumu. Life of Fund	na

Dividends

Previous Year	\$0
Year-to-Date	\$0

Capital Gains

Previous Year	\$0
Year-to-Date	\$0

Number of stocks 20

Biotech HOLDRs (BBH)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	na	Technology	100.00%
Total Net Assets:	na		
Fund Inception Date:	9/29/00		

Top 10 Holdings

Amgen	22.34%
Genentech	17.99%
Immunex	10.19%
Biogen	6.10%
IDEC Pharm.	5.72%
Chiron	5.56%
MedImmune	5.30%
Genzyme	5.16%
Gilead Sciences	4.56%
Applera	2.43%
Sepracor	2.12%

Performance & Distributions

	1-Year Return	na
	3- and 5-year returns	na
	Cumu. Life of Fund	na
	Dividends	
	Previous Year	\$0
	Year-to-Date	\$0
	Capital Gains	
	Previous Year	\$0
	Year-to-Date	\$0

Number of stocks 20

Europe 2001 HOLDRs (EKH)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	na	na	
Total Net Assets:	na		
Fund Inception Date:	1/18/01		

Top 10 Holdings

GlaxoSmithKline	6.25%
Ryanair Hldgs.	4.77%
Asm Intl N V	3.81%
Diageo P L C	3.66%
Total Fina Elf S A	3.58%
Astrazeneca	3.24%
Novartis A G	3.50%
Bp Plc	3.33%
Business Objects	2.48%
Scottish Pwr	2.43%

Performance & Distributions

	1-Year Return	na
	3- and 5-year returns	na
	Cumu. Life of Fund	na
	Dividends	
	Previous Year	\$0
	Year-to-Date	\$0
	Capital Gains	
	Previous Year	\$0
	Year-to-Date	\$0

Number of stocks 49

Internet Architecture HOLDRs (IAH)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	na	Technology	100.00%
Total Net Assets:	na		
Fund Inception Date:	3/16/00		

Top 10 Holdings

IBM	38.93%
Dell Computer	14.20%
Cisco Systems	12.83%
Hewlett-Packard	8.14%
Sun Microsystems	6.80%
EMC Corp.	6.71%
Compaq	4.18%
Apple Computer	1.39%
Network Appliance	.97%
Veritas Software	.96%

Performance & Distributions

	1-Year Return	na
	3- and 5-year returns	na
	Cumu. Life of Fund	na
	Dividends	
	Previous Year	\$0
	Year-to-Date	\$0
Number of stocks 20	Capital Gains	
	Previous Year	\$0
	Year-to-Date	\$0

Internet HOLDRs (HHH)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	na	Technology	100.00%
Total Net Assets:	na		
Fund Inception Date:	12/28/99		

Top 10 Holdings

AOL Time Warner	37.47%
eBay	21.90%
Yahoo	13.71%
Amazon	7.63%
Network Associates	6.28%
ETrade	3.53%
Earthlink	1.86%
Ameritrade	1.69%
RealNetworks	1.56%
DoubleClick	1.37%

Performance & Distributions

	1-Year Return	na
	3- and 5-year returns	na
	Cumu. Life of Fund	na
	Dividends	
	Previous Year	\$0
	Year-to-Date	\$0
Number of stocks 19	Capital Gains	
	Previous Year	\$0
	Year-to-Date	\$0

Internet Infrastructure HOLDRs (IIH)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	na	Technology	100.00%
Total Net Assets:	na		
Fund Inception Date:	3/16/00		

Top 10 Holdings

Bea Systems	31.02%
Verisign	30.45%
RealNetworks	7.07%
Vitria Technology	4.57%
Openwave Systems	3.94%
Vignette	3.87%
BroadVision	3.85%
Inktomi	3.60%
Infospace	2.82%
E Piphany	2.58%

Performance & Distributions

	1-Year Return	na
	3- and 5-year returns	na
	Cumu. Life of Fund	na
	Dividends	
	Previous Year	\$0
	Year-to-Date	\$0
Number of stocks 19	Capital Gains	
	Previous Year	\$0
	Year-to-Date	\$0

Market 2000 HOLDRs (MKH)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	na	Various	
Total Net Assets:	na		
Fund Inception Date:	8/30/00		

Top 10 Holdings

Wal-Mart Stores	4.15%
Johnson & Johnson	3.93%
IBM	3.70%
Home Depot	3.48%
Astrazeneca	3.37%
BellSouth	3.36%
Novartis	3.22%
Microsoft	3.16%
Verizon Comm.	3.14%
Merck & Co.	3.07%

Performance & Distributions

	1-Year Return	na
	3- and 5-year returns	na
	Cumu. Life of Fund	na
	Dividends	
	Previous Year	\$0
	Year-to-Date	\$0
Number of stocks 56	Capital Gains	
	Previous Year	\$0
	Year-to-Date	\$0

Oil Service HOLDRs (OIH)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	na	Energy	100.00%
Total Net Assets:	na		
Fund Inception Date:	2/26/01		

Top 10 Holdings

Baker Hughes	12.47%
Schlumberger Ltd.	10.58%
Globalsantafe	9.56%
Transocean Sedco	8.94%
BJ Services	7.21%
Nabors Industries	6.50%
Weatherford Intl.	6.23%
Noble Drilling	6.02%
Halliburton	5.69%
Diamond Offshore	5.36%

Performance & Distributions

	1-Year Return	na
	3- and 5-year returns	na
	Cumu. Life of Fund	na
	Dividends	
	Previous Year	\$0
	Year-to-Date	\$0
Number of stocks 18	Capital Gains	
	Previous Year	\$0
	Year-to-Date	\$0

Pharmaceutical HOLDRs (PPH)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	na	Health care	100.00%
Total Net Assets:	na		
Fund Inception Date:	2/26/01		

Top 10 Holdings

Pfizer Inc.	23.67%
Johnson & Johnson	18.11%
Merck & Co.	13.67%
Abbott Laboratories	8.37%
Wyeth	8.30%
Eli Lilly	8.07%
Bristol-Myers Squibb	6.28%
Schering-Plough	4.57%
Biovail	2.27%
Forest Labs	1.67%

Performance & Distributions

	1-Year Return	na
	3- and 5-year returns	na
	Cumu. Life of Fund	na
	Dividends	
	Previous Year	\$0
	Year-to-Date	\$0
Number of stocks 18	Capital Gains	
	Previous Year	\$0
	Year-to-Date	\$0

Regional Bank HOLDRs (RKH)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	na	Financial	100.00%
Total Net Assets:	na		
Fund Inception Date:	2/26/01		

Top 10 Holdings

Wachovia Corp.	12.74%
Bank One	11.32%
US Bancorp Del	10.88%
Wells Fargo	9.99%
Fifth Third Bancorp	7.61%
Fleetboston Finl	7.36%
SunTrust Banks.	4.98%
National City Corp.	4.60%
Mellon Financial	4.45%
The PNC Fin. Svc.	4.30%

Performance & Distributions

	1-Year Return	na
	3- and 5-year returns	na
	Cumu. Life of Fund	na
	Dividends	
	Previous Year	\$0
	Year-to-Date	\$0
	Capital Gains	
	Previous Year	\$0
	Year-to-Date	\$0
Number of stocks	18	

Retail HOLDRs (RTH)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	na	Retail	100.00%
Total Net Assets:	na		
Fund Inception Date:	2/26/01		

Top 10 Holdings

Wal-Mart Stores	20.90%
Home Depot	19.57%
Walgreen Co.	7.56%
Target	7.06%
Lowe's	6.26%
Kohl's	4.50%
Safeway	4.02%
Kroeger	3.43%
Costco	3.34%
Sears	3.26%

Performance & Distributions

	1-Year Return	na
	3- and 5-year returns	na
	Cumu. Life of Fund	na
	Dividends	
	Previous Year	\$0
	Year-to-Date	\$0
	Capital Gains	
	Previous Year	\$0
	Year-to-Date	\$0
Number of stocks	20	

Semiconductor HOLDRs (SMH)Fund Information

Expense Ratio: na
 Total Net Assets: na
 Fund Inception Date: 2/26/01

Sector Breakdown

Technology 100.00%

Top 10 Holdings

Intel 12.47%
 Texas Instruments 10.58%
 Applied Matl. 9.56%
 Micron Tech 8.94%
 Maxim Integrated 7.21%
 Analog Devices 6.50%
 Linear Technology 6.23%
 Xilinx 6.02%
 KLA-Tencor 5.69%
 Altera Corp. 5.36%

Performance & Distributions

1-Year Return na
 3- and 5-year returns na
 Cumu. Life of Fund na
 Dividends
 Previous Year \$0
 Year-to-Date \$0
 Capital Gains
 Previous Year \$0
 Year-to-Date \$0

Number of stocks 20

Software HOLDRs (SWH)Fund Information

Expense Ratio: .20%
 Total Net Assets: \$49M
 Fund Inception Date: 9/29/00
 Price per Share \$124.50

Sector Breakdown

Technology 100.00%

Top 10 Holdings

Microsoft 23.65%
 Sap Aktieng. 15.4%
 Computer Assoc. 9.42%
 Adobe Systems 7.17%
 Intuit 7.04%
 Oracle 6.38%
 Veritas Software 5.73%
 PeopleSoft 5.45%
 Siebel Systems 5.42%
 BMC Software 3.38%

Performance & Distributions

1-Year Return -6.25%
 3- and 5-year returns na
 Cumu. Life of Fund -1.93%
 Dividends
 Previous Year \$0
 Year-to-Date \$0
 Capital Gains
 Previous Year \$.57
 Year-to-Date \$2.25

Number of stocks 20

Utilities HOLDRs (UTH)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	na	Utilities	100.00%
Total Net Assets:	na		
Fund Inception Date:	6/23/00		

Top 10 Holdings

Duke Energy	12.10%
Exelon	8.94%
The Southern Co.	8.39%
Dominion resources	7.41%
TXU	7.05%
American Elec. Pwr.	6.74%
FPL Group	4.94%
Public Serv. Entrp.	4.85%
Entergy	4.74%
El Paso	4.27%

Performance & Distributions

	1-Year Return	na
	3- and 5-year returns	na
	Cumu. Life of Fund	na
	Dividends	
	Previous Year	\$0
	Year-to-Date	\$0
	Capital Gains	
	Previous Year	na
	Year-to-Date	na

Number of stocks 20

Wireless HOLDRs (WMH)

<u>Fund Information</u>		<u>Sector Breakdown</u>	
Expense Ratio:	na	Technology	100.00%
Total Net Assets:	na		
Fund Inception Date:	11/1/00		

Top 10 Holdings

Verizon Comm.	16.37%
Motorola	11.58%
Qualcomm	11.17%
Nokia	11.11%
AT&T Wireless	8.96%
Vodafone Group	8.67%
Korean Mobile Tele.	7.33%
Ericsson	6.76%
Deutsche Tele.	5.32%
Sprint	5.29%

Performance & Distributions

	1-Year Return	na
	3- and 5-year returns	na
	Cumu. Life of Fund	na
	Dividends	
	Previous Year	\$0
	Year-to-Date	\$0
	Capital Gains	
	Previous Year	\$0
	Year-to-Date	\$0

Number of stocks 20

Telecom HOLDRs (TTH)Fund Information

Expense Ratio: na
 Total Net Assets: na
 Fund Inception Date: 11/1/00

Sector Breakdown

Technology 100.00%

Top 10 Holdings

Verizon Comm. 27.19%
 SBC Comm. 26.12%
 BellSouth 14.18%
 AT&T 10.22%
 Alltel 3.08%
 BCE Inc. 2.72%
 Sprint 2.96%
 Telephone & Data 2.68%
 AT&T Wireless 2.24%
 QWest 2.02%

Performance & Distributions

1-Year Return na
 3- and 5-year returns na
 Cumu. Life of Fund na
 Dividends
 Previous Year \$0
 Year-to-Date \$0
 Capital Gains
 Previous Year \$0
 Year-to-Date \$0

Number of stocks 20

B2B Internet HOLDRs (BHH)Fund Information

Expense Ratio: na
 Total Net Assets: na
 Fund Inception Date: 11/26/99

Sector Breakdown

Technology 100.00%

Top 10 Holdings

Retek 16.81%
 Ariba Inc. 16.59%
 Freemarkets Inc. 16.19%
 Checkfree Corp 12.67%
 Agile Software Corp. 12.63%
 Pegasus Solutions Inc. 7.66%
 Commerce One 6.29%
 Internet Cap Group 3.65%
 QRS Corp. 3.12%
 Verticalnet 1.63%

Performance & Distributions

1-Year Return na
 3- and 5-year returns na
 Cumu. Life of Fund na
 Dividends
 Previous Year \$0
 Year-to-Date \$0
 Capital Gains
 Previous Year \$0
 Year-to-Date \$0

Number of stocks 15

Traditional Index Mutual Funds

Description	Symbol	Style	Exp. Ratio %
Large-Cap Blend			
Vanguard 500 Index	VFINX	Blend	.18
Vanguard Total Stk. Index	VTSMX	Blend	.20
DFA U.S. Large Company	DFLCX	Blend	.15
Schwab 1000 Inv.	SNXFX	Blend	.47
Schwab S&P 500	SWPIX	Blend	.36
Schwab Total Stk Mkt Index	SWTIX	Blend	.40
Large-Cap Value			
Vanguard Value Index	VIVAX	Value	.22
DFA U.S. Large Cap Value	DFLVX	Value	.33
Large-Cap Growth			
Vanguard Growth Index	VIGRX	Growth	.22
Rydex OTC Inv.	RYOCX	Growth	1.16
Mid-Cap Blend			
Vanguard Ext. Mkt. Index	VEXMX	Blend	.25
Vanguard Mid-Cap Index	VIMSX	Blend	.25
Small-Cap Blend			
DFA U.S. Small Cap	DFSTX	Blend	.43
Schwab Small Cap Index	SWSMX	Blend	.49
Small-Cap Value			
Vanguard Small-Cap Value	VISVX	Value	.27
DFA U.S. Micro Cap	DFSCX	Value	.56
International			
Vanguard Dev. Mkts Index	VDMIX	Lrg-Blend	.32
Vanguard Emerg. Mkts. Index	VEIEX	Mid-Value	.60
Vanguard European Stk. Index	VEURX	Lrg-Value	.30
DFA International Value	DFIVX	Lrg-Value	.52
DFA Large-Cap International	DFALX	Lrg-Blend	.47
DFA International Small Co.	DFISX	Sm-Blend	.71
DFA Continental Sm. Co.	DFCSX	Sm-Value	.72
DFA Japanese Sm. Co.	DFJSX	Sm-Value	.72
DFA Pacific Rim Sm. Co.	DFRSX	Sm-Value	.74
DFA United Kingdom Sm Co.	DFUKX	Sm-Blend	.73
DFA International Small Value	DISVX	Sm-Value	.82
DFA Emerging Mkts Value	DFEVX	Sm-Value	1.05
DFA Emerging Markets	DFEMX	Mid-Value	.90
Schwab International Index	SWINX	Lrg-Blend	.58
Real Estate			
Vanguard REIT Index Fund	VGSIX	Sm-Value	.33
DFA Real Estate Securities	DFREX	Mid-Value	.45

Traditional Index Mutual Funds

Description	Symbol	Style	Exp. Ratio %
Fixed Income			
Vanguard S/T Bond Index	VBISX	Short-term	.21
DFA One-Year Fixed Income	DFIHX	Short-term	.20
DFA Two-Year Global Fixed	DFGFX	Short-term	.27
DFA Five-Year Govt.	DFFGX	Intermediate	.28
DFA Intermediate Govt. F.I.	DFIGX	Intermediate	.18
Vanguard L/T Bond Index	VBLTX	Long-term	.21
Vanguard Total Bond Index	VBMFX	Intermediate	.22

Glossary

accrued interest—the amount of interest to be paid the buyer of a bond on a purchase completed between interest payment dates. Accrued interest is effectively returned as the investor receives the full coupon payment.

active manager—a portfolio manager who takes an active role in any aspect of the investment process, including asset allocation, style exposures, security selection, and risk management in an attempt to outperform a given benchmark index.

affluent—financially-speaking, this refers to someone with a net worth between \$2.5 million to \$3 million, or more. Your annual income is typically greater than \$250,000.

after-tax return—the return from an investment after all income taxes have been deducted.

agency debt—obligations issued by an agency of the U.S. government and benefiting from government credit. In the U.S., debt of certain former agencies such as Fannie Mae and Freddie Mac is still referred to as agency debt because it retains implied government support.

alpha—a measure of the incremental return generated from active portfolio management.

american stock exchange —a stock exchange. Companies that trade on the AMEX are generally smaller than those traded on the New York Stock exchange. The AMEX is the principal listing exchange for ETFs.

annualized rate of return—the average return over a stated number of years, taking into account the effect of compounding.

asset allocation—the process of dividing up your money into various asset classes. Also referred to as your portfolio mix.

asset class—a group of securities with similar characteristics (e.g., stocks). Asset classes can be divided into sub-groups. For example, large-cap value stocks or small-cap foreign stocks are also considered asset classes.

asset-class investing—also referred to as indexing, this is the practice of investing in asset classes, as opposed to buying individual securities within an asset class. Asset-class investors will typically buy an entire asset class (i.e., all small-cap growth stocks) rather than selecting individual securities within the asset class.

average maturity—for a bond portfolio, the average of the stated maturity dates of the fixed-income securities held. In general, the longer the average maturity, the greater the portfolio's sensitivity to interest-rate changes, which means greater price fluctuation.

basis point—a basis point is one one-hundredth of a percent (1/100% or .01%). Yield differences between fixed-income securities are stated in basis points. (For example, the difference between a bond yielding 5.0% and one yielding 5.15% is 15 basis points.)

bear market—a declining market. In stocks this refers to a drop of 20% or more of a major market index.

benchmark—typically an index or some standard that is used as a performance comparison for portfolio managers.

beta—a measure of the variability of an investment's return in relation to the S&P 500 Index. Securities with betas higher than 1.0 have been, and are expected to be, more volatile than the S&P. Securities with betas lower than 1.0 have been, and are expected to be, less volatile than the S&P.

bid-ask spread—the difference between what a buyer is willing to bid (pay) for a security and the seller's ask (offer) price.

blue chip—a common stock that has had good earnings growth for many years.

bond—an IOU from a municipality, local government, corporation or federal government. You lend them money and they agree to pay you a fixed interest rate for a specified period of time.

book value—the net worth, or liquidation value, of a business. Calculated by subtracting from total assets all liabilities, including debt and preferred stocks, and dividing by the number of shares of common stock outstanding.

bottom-up approach—an investment strategy that emphasizes finding outstanding individual companies before considering broad economic trends.

broad-based index—an index designed to reflect the movement of the entire market or all stocks in a specific capitalization range.

bull market—a rising market (typically for several years or more).

buy-and-hold investment strategy—a strategy whereby you buy securities and hold them for the long term.

callable bond—callable bonds are redeemable by the issuer prior to the stated maturity date. A call date and price are specified. Bonds are likely to be called if interest rates drop.

call risk—the possibility that callable bonds will be redeemed prior to maturity.

capital gain (or loss)—profit (or loss) resulting from the sale of a security. If the security is sold and the holding period is less than one year this will be a short-term capital gain (or loss). If it is held for more than one year, it will be considered long term.

capital gains distribution—a distribution (payment) you receive from a mutual fund or other investment company when it makes a profit from selling a security. Capital gains are typically distributed at the end of the year.

capitalization—the total stock market valuation of a company.

cash equivalents—short-term securities like money market accounts, Treasury bills and to a lesser extent, bond funds with maturities of two years or less. These investments can easily be converted to cash and their values are relatively stable.

certificate of deposit (CD)—an investment typically made with a bank. You loan the bank a certain amount of money for a specified period of time, and in return you receive a fixed rate of interest for your loan.

common stock—ownership interest (shares) in a company.

compounding—the growth that comes from investment income and gains on both the original principal and the previously reinvested income and capital gains of an investment.

contrarian investing—an investing technique that ignores market trends by buying securities that are considered by the investor to be undervalued and out of favor.

corporate bonds—debt obligations issued by private or public companies to raise funds for a variety of corporate purposes, such as building a new facility, purchasing equipment, or expanding the business.

correction—a relatively short-term drop in stock prices, usually defined as a decline of 10% or more from the market's high.

cost basis—the original cost of an investment, used in determining capital gains. Cost basis is usually the purchase price including all fees.

coupon—usually refers to a bond's stated interest rate based on face value. Coupons are generally paid every six months.

creation unit—the minimum module for issue or redemption of shares in an open exchange-traded fund (ETF), usually between 25,000 and 300,000 fund shares, depending on the fund's policy. Existing ETFs issue their shares in return for portfolio deposits of securities in multiples of the creation unit basket specified by the fund's advisor.

credit quality—a measure of a bond issuer's ability to repay interest and principal in a timely manner.

credit rating—an evaluation of the creditworthiness of a debt security by an independent rating service.

credit risk—the potential for default by an issuer on its obligation to pay interest or principal on debt securities. Most U.S. government securities are considered to have very little credit risk.

cumulative total return—the actual performance of an investment over a stated period of time.

currency risk—the risk of fluctuation (appreciation or depreciation) in the value of an investment (international stocks or bonds) versus the U.S. dollar. U.S.-based investors have currency risk when purchasing foreign stocks or bonds.

current yield—the rate of actual cash flow as a percentage of the purchase price. It is calculated by dividing the annual interest dollars received on the bond by its purchase price.

custodian—the bank, trust or brokerage firm that holds your assets.

default—failure to pay principal or interest promptly when due.

Diamonds—an exchange-traded fund product that seeks to mimic the dividend and price of the Dow Jones Industrial Average. It comprises the 30 companies in the Dow Jones Industrials.

direct rollover—a distribution from a qualified plan or IRA account that is sent directly to the custodian of an IRA account and is reported to the IRS as a rollover.

diversification—allocating investments among many securities to lessen or spread risk. Also, the practice of including in a portfolio different types of assets in order to minimize risk or improve performance.

dividend—a payment of cash or stock from a company's earnings to each stockholder as declared by the company's board of directors.

Dow Jones Industrial Average—the most widely followed average of the performance of the stock market. However, because it is made up of only 30 large-cap, U.S.-based companies, it does not represent the total stock market.

early withdrawal penalty—a penalty on money withdrawn early from a fixed-term investment. For example, withdrawing from a tax-advantaged retirement plan before age 59 ^{1/2} or cashing in a certificate of deposit (CD) before its maturity.

earnings per share—a measure of a company's financial performance, calculated by dividing a company's earnings by the number of common shares outstanding. This is an important figure for investors who are looking for stocks they consider to be undervalued in price.

efficient market—the theory that stock prices reflect all market information that is known by all investors. Also states that investors

cannot beat the market because it is impossible to determine future stock prices.

equivalent taxable yield—the yield needed from a taxable bond to give the same after-tax yield as a tax-exempt issue.

exchange-traded funds (ETFs)—an ETF is basically a hybrid. It's sort of like an indexed, closed-end fund that trades throughout the day. You purchase ETFs on the American Stock Exchange (not through a fund company) and you pay normal brokerage commissions to do so. What you're buying is a fund designed to track a certain index or sector. In this way, ETFs are very similar to traditional index funds. As their advertisement states, they "act like index funds but trade like stocks."

expense ratio—for mutual funds, ETFs or unit investment trusts, this refers to the percentage of the investment's assets that are used to pay for expenses (e.g., management fees, 12b-1 fees, administrative fees).

Federal Home Loan Mortgage Corporation (FHLMC)—a government organization designed to create and maintain a secondary market for conventional home mortgages. The FHLMC buys and pools mortgages from federally insured financial institutions and sells them as mortgage-backed securities called "Freddie Macs."

Federal National Mortgage Association "Fannie Mae"—a government-sponsored private corporation authorized to purchase and sell mortgages and to facilitate the orderly operation of a secondary market for home mortgages.

fee-only compensation—an arrangement in which an investment advisor charges a set hourly rate, or an agreed upon percentage of assets under management to manage a portfolio.

first in, first out (FIFO)—a method for calculating taxable gain or loss when an investment is sold. The FIFO method assumes that the first shares sold were the first shares purchased.

fixed-income investments—typically refers to investments that pay out a certain rate of interest for a specified period of time.

fundamental analysis—the study of a company's business and financial condition to help forecast future movements in its stock price. Analysts consider the company's past record of earnings and sales as well as

company assets, management, and markets to predict trends that could affect a company's stock.

general obligation bond—a municipal bond that is backed by the full faith and credit of the issuer. These bonds are of higher quality than bonds issued for specific projects but also provide lower returns.

global fund—a mutual fund that invests in stocks of companies in the United States and foreign countries.

good-till-canceled order—an order to buy or sell a security, usually at a specified price, that remains in effect until the order is executed or canceled.

Government National Mortgage Association (GNMA)—an agency within the U.S. Department of Housing and Urban Development that buys mortgages from lending institutions and pools them to form securities, known as “Ginny Maes,” which are then sold to investors.

growth investing—a style of equity investing that emphasizes stocks with above-average price-to-book ratios and sales and earnings growth, but below-average dividend yields.

hedge—to hedge is to offset investment risk in a particular security with another investment or transaction in another market.

highest in, first out (HIFO)—a principle of tax efficiency in a conventional mutual fund or other security that defers taxes as much as possible by selling the highest cost lot of a particular stock first and then others in sequence until the lowest cost lot is sold last.

high yield bonds—bonds that are rated below Baa (Moody's), the lowest investment grade bond rating.

index—a group of securities considered a benchmark for performance for professional money managers.

index fund—a passively managed mutual fund that seeks to parallel the performance of a particular market index.

indexing—a low-cost investment strategy that seeks to match, rather than outperform, the return and risk characteristics of an index, by holding all securities that make up the index or a statistically representative sample of the index. Also known as passive management.

index tracking—a reference to the correlation between a portfolio's return and the return on a benchmark index, or, alternately, to the portfolio's tracking error relative to the index.

individual retirement account (IRA)—a tax-deferred retirement account into which an investor may contribute a portion of his or her earned income. Withdrawals before the investor reaches age 59 ^{1/2} are generally subject to a 10% penalty tax imposed by the federal government. Types of IRAs include the traditional IRA and Roth IRA.

inflation risk—the risk that the purchasing power of your dollars will decline over time, due to inflation.

interest rate risk—the risk that a security or fund will decline in price because of changes in market interest rates.

Investment Company Act of 1940—the federal law, enforced by the Securities and Exchange Commission (SEC), that regulates the activities of investment companies.

investment grade—a bond whose credit quality is considered to be among the highest by independent bond-rating agencies.

interest—compensation paid to a lender (investor) by the borrower (issuer of bonds) for the use of money. Interest is usually expressed as an annual percentage rate.

international fund—a mutual fund that invests in securities traded in markets outside of the United States. Foreign markets present additional risks, including currency fluctuation and political instability.

investment horizon—the length of time an investor expects to keep a sum of money invested.

investment style—an investment style that emphasizes either stocks with growth or value characteristics, or a blend of these characteristics.

iShares—a type of exchange-traded funds (ETFs) managed by Barclays Global Investors.

issuer—the issuer is the entity borrowing money through the issuance of bonds.

junk bonds—lower-rated, higher-yielding bonds with a credit rating of BB (S&P) or Ba (Moody's) or lower.

large capitalization stocks—the stocks of companies whose market value is typically more than \$10 billion.

leverage—the act of borrowing on margin or using forward or futures contracts to effectively invest more money than is on deposit with the custodian. A leveraged fund will often trade at 2x your investment—your percentage return will be doubled (up or down).

limit order—an order to buy or sell a security at a specific price or better.

liquidity—the ability to easily turn assets into cash. An investor should be able to sell a liquid asset quickly with little effect on the price.

long-term capital gain—a profit on the sale of an investment that has been held for more than one year—generally taxed at 20%.

management company—the firm that organizes, manages, and administers a fund.

margin account—a brokerage account that allows investors to buy securities by borrowing a portion of the purchase price. Margin accounts are governed by the National Association of Securities Dealers (NASD), the New York Stock Exchange (NYSE), and the lending brokerage firm.

margin call—a brokerage firm's requirement that a customer deposit enough money or securities to bring a margin account up to the minimum maintenance amount. If the customer fails to do so, account holdings may be liquidated.

market capitalization—a determination of a company's value, calculated by multiplying the total number of company stock shares outstanding by the price per share. Also called capitalization.

market order—an order to buy or sell immediately at the best available price. Most orders executed on the exchanges are market orders.

market risk—the possibility that stock or bond prices will fluctuate.

market timing—an investment strategy based on predicting market trends. The goal is to anticipate trends, buying before the market goes up and selling before the market goes down.

maturity (maturity date)—the maturity date is when the face amount of a security is returned to the investor. A bond issue can have multiple

maturities.

micro-capitalization stock—a stock with a median market capitalization of approximately \$75 million.

mid-capitalization stock—a “middle-sized” company. Mid caps generally have a median market capitalization between \$2 and \$7 billion.

money market fund—a type of mutual fund that invests in very short-term, fixed-income securities. A money market fund typically invests in T-bills or commercial paper with maturities of three months or less. It is considered a “safe” investment, and is usually used to park money that you will need in the near term.

Moody's Investors Service, Inc.—a company that independently rates bonds covering the entire U.S. bond market.

mortgage-backed security—debt instruments that are guaranteed (or collateralized) by residential, commercial, or industrial real-estate mortgages.

municipal bond—an IOU issued by a state, city, or other municipality to finance public works such as the construction of roads or schools. The interest is usually free from federal income tax and may be free from state and local taxes as well.

mutual fund—an investment company that pools money from many investors to buy securities.

NASDAQ—the National Association of Securities Dealers Automated Quotations. A computerized system for pricing securities of over-the-counter traded stocks.

Nasdaq Composite—launched in 1971, the composite represents all the stocks listed on the Nasdaq market.

net asset value (NAV)—the value (price) of a mutual fund share. The NAV is calculated daily by taking the fund's total assets (securities, cash, and accrued earnings), subtracting the fund's liabilities, and dividing by the number of shares outstanding.

net worth—your total assets minus your total liabilities.

New York Stock Exchange (NYSE)—the oldest stock exchange in the U.S.

Nikkei Index—an index of more than 200 leading stocks traded on the Tokyo Stock Exchange. Like the Dow Jones Industrial Average, it is made up of representative blue chip companies.

nominal return—the return on an investment before adjustment for inflation.

noncallable bond—a bond that cannot be redeemed prior to its stated maturity.

open-end investment company—technically, a mutual fund that constantly offers new shares for sale.

operating expenses—the amount paid for asset maintenance or the cost of doing business.

par value—the face value amount of a bond or note, which is payable at maturity. The par value is the amount on which interest payments are calculated.

passive investing—investing in a fund or other investment that attempts to match the risk/return pattern of a market index.

portfolio allocation—the proportion of a portfolio's assets invested in stocks, bonds and cash equivalents.

portfolio manager—a person (professional) who manages a portfolio of securities.

portfolio mix—also known as asset allocation, this refers to the combination of asset classes in your portfolio.

portfolio transaction costs—the expenses associated with buying and selling securities, including commissions, purchase and redemption fees, exchange fees, and other miscellaneous costs.

portfolio turnover—a measure that shows how frequently a portfolio is traded. A turnover of 100% would indicate that the entire portfolio is replaced annually. The typical equity mutual fund has a turnover ratio of about 80%.

price/book ratio—the price per share of a stock divided by its book value.

price/earnings ratio (P/E)—a stock's price divided by its earnings for the most recent year. Higher P/E ratios are typically seen in companies

that have strong growth potential.

real estate investment trust (REIT)—a company that manages a group of real estate investments and distributes to its shareholders at least 95% of its net earnings annually. REITs often specialize in a particular kind of property. They can, for example, invest in real estate such as office buildings, shopping centers, or hotels.

real rate of return—the return on an investment after it is adjusted for inflation.

redemption fee—a fee charged by some mutual funds when an investor sells shares within a short period of time.

redemption price—the price at which a holder can sell (redeem) a fund's shares, determined by deducting any applicable sales charge from the net asset value (NAV) per unit/share.

registered investment advisor—an investment professional who is registered—but not endorsed—by the Securities and Exchange Commission (SEC) and/or state, who may recommend certain types of investment products.

replicating portfolio—a portfolio constructed to match the performance of an index or benchmark almost exactly.

required minimum distribution (RMD)—the minimum amount that the IRS requires must be withdrawn each year from all tax-advantaged retirement plans starting in the calendar year following the year in which the planholder reaches age 70 ¹/₂. Roth IRAs are excluded from this rule.

retail investor—private investors that typically purchase and sell securities in smaller quantities than institutional investors.

revenue bond—a municipal bond that is backed by the revenue from the project being financed. Revenue bonds are less securely backed than general obligation bonds, and thus may trade with higher yields.

risk—the potential to lose money. There are various risks inherent in owning stocks, for example—size, style and market risk.

risk-adjusted return—a measure of how much risk a portfolio has assumed to earn its returns. Sharpe ratios and alphas are risk-adjusted return measurements.

rollover IRA—a tax-free rollover of one tax-deferred account into another.

sector—a group of stocks, often related to a particular industry, that have certain shared characteristics.

sector fund—a concentrated fund that invests exclusively in a related group of industries. Sector funds are often more volatile than funds that invest in a more diversified group of industries.

Securities and Exchange Commission (SEC)—The federal agency created by the Securities and Exchange Act of 1934 that administers the laws governing the securities markets. The SEC also regulates the registration and distribution of unit investment trusts, exchange-traded fund shares and mutual fund shares.

Securities Investor Protection Corporation (SIPC)—a nonprofit membership corporation created under the Securities Investor Protection Act of 1970 to protect client accounts of brokerage firms that are forced into bankruptcy. The SIPC does not protect investors from market risk.

Select Sector SPDRs—an exchange-traded fund product line that began trading on December 22, 1998 on the AMEX. There are nine Select Sector SPDR funds that offer diversification among the various sectors that make up the S&P 500. Each company of the S&P 500 is allocated to a different sector.

settlement date—the settlement date is the date on which the transaction settles, and either securities or money is due. For many securities, the settlement day is typically the trade date plus 3 days.

share—a unit of ownership in a mutual fund or a unit of equity ownership in a corporation, represented by a stock certificate naming the company and the shareholder.

Sharpe ratio—a measure of risk-adjusted return. To calculate a Sharpe ratio, an asset's excess returns (its return in excess of the return generated by risk-free assets such as Treasury bills) is divided by the asset's standard deviation.

short sale—the sale of a security not owned by the seller, in the expectation that it will be possible to repurchase at a lower price some time in the future.

short sale rule—a requirement imposed by the SEC requiring that short sales can only be made on a plus tick or zero plus tick (a price higher than the last sale at a different price).

short-term capital gain—a profit on the sale of an investment held for one year or less.

small-capitalization stock—stock of a company with a total market value of under \$2 billion.

specialist—a floor member of an exchange who accepts primary responsibility for making a fair market in securities at all times that the exchange is open for business.

spread—for stocks and bonds, the difference between the bid price and the asked price.

Standard & Poor Depositary Receipts (SPDRs, commonly referred to as a Spiders)—exchange-traded funds designed to mirror the returns of the S&P 500 Composite Stock Index. Created as a unit investment trust, a Spider holds shares of all the companies in the S&P 500. Its objective is to track the price performance and dividend yield of the S&P 500.

Standard & Poor's 500 Stock Index (S&P 500)—a widely followed index of 500 large-cap companies in diversified industries. It accounts for approximately 80% of the total value of the U.S. stock market. It is the performance benchmark for most equity mutual funds.

Standard & Poor's MidCap 400 Index—a market-cap weighted benchmark index made up of 400 securities in the mid-cap market.

Standard & Poor's SmallCap 600 Index—a small-capitalization benchmark index made up of 600 domestic stocks.

standard deviation—a measure of the degree to which an investment's return varied from its average return over a certain period. The smaller the difference, the lower the standard deviation, and the greater the degree of stability.

stock—a security that represents part ownership, or equity, in a corporation.

stock split—a company-initiated increase in the number of shares of the company's stock, accompanied by a decrease in share price, so that shareholder equity remains the same. For example, in a "2 for 1" stock

split, a shareholder who had 100 shares of the stock when its price was \$60 a share will have 200 shares valued at \$30 a share after the split.

target investment mix—the percentage mix of stocks, bonds, and cash equivalents that an investor considers appropriate based on his or her personal objectives, time horizon, risk tolerance, and financial resources.

taxable equivalent yield—the interest rate that must be received on a taxable security to provide the holder with the same after-tax return as the yield earned on a tax-exempt security.

tax deferred—taxes can be postponed until a later date. Typically contributions to an IRA, for example, are not taxed until they are withdrawn from the account, but when withdrawn, they are fully taxed at the applicable tax rate.

tax efficient—an investment (e.g., mutual fund, exchange-traded fund) that maximizes after-tax returns for shareholders. A tax-efficient investment will typically distribute minimal capital gains to shareholders annually and have a low turnover ratio.

tax-exempt bond—a bond, usually issued by municipal, county, or state governments, whose interest payments are not subject to federal and, in some cases, state and local income tax.

tax-exempt income—dividends and interest not subject to federal and, in some cases, state and local income.

tax-loss carryforward—a tax benefit that allows an individual or a fund to offset past losses against future profits.

tax-loss harvesting—tax-loss-motivated sales of securities.

tax-sheltered—an investment exempt from federal and, in some cases, state or local income taxes.

technical analysis—analysis of the supply and demand for securities using charts and graphs to identify price trends that may forecast future price movements.

time horizon—the amount of time, usually expressed in years, that an investor expects to hold an investment.

top-down approach—an approach to investing in which the investor first looks at general trends in the economy and then chooses specific

industries and particular companies that will benefit from these broad trends.

total return—the all-inclusive return of an investment, which includes gains and losses from all sources, namely dividends and capital gains.

traditional IRA—a personal, tax-deferred retirement account that allows an investor to make contributions from current income.

Treasury bills (T-bills)—a T-bill is a U.S. government security with a maturity of one year or less.

Treasury bonds—long-term obligations of the U.S. Treasury that mature in 10 to 30 years are called bonds. Interest is paid semiannually, and they can be easily purchased in minimum denominations of \$1,000.

Treasury notes—U.S. government obligations that are available for terms of from 1-10 years. Interest is paid twice a year and they can be purchased in denominations of \$1,000.

turnover rate—an indication of trading activity during the past year. Portfolios with high turnover rates incur higher transaction costs and are more likely to distribute capital gains.

undervalued security—a security selling below its market value or liquidation value.

unit investment trust (UIT)—a portfolio of securities bought and held in trust for a specified period of time. The trust units are sold to investors and the trust is priced much like a mutual fund.

unrealized capital gain—a dollar gain that is not yet “realized” or taken.

valuation—the estimated worth of an asset such as a security. A valuation makes it easier to decide if an asset would make a good investment at a given purchase price. The price/earnings ratio is an example of a stock valuation.

value investing—a strategy for equity investing that emphasizes stocks with low price-to-book ratios and/or low price-to-earnings ratios.

variable annuity—a type of insurance contract having a value that changes based on an underlying investment portfolio, which may include mutual funds, or on another performance index. Funds held in the annuity accumulate on a tax-deferred basis.

VIPERs—Vanguard Index Participation Equity Receipts (VIPER Shares) are exchange-traded funds that represent an interest in stocks held by certain Vanguard index mutual funds.

volatility—the fluctuations in market value of an investment.

volume—the amount (expressed in shares or dollars) of a security that trades during a specific period.

wash sale—the sale and repurchase of the same asset within 30 days. The IRS does not allow an investor to claim a tax loss on a wash sale.

Wilshire 5000 Index—this index measures the stock market as a whole. It originally contained 5,000 companies, but it has grown to include over 7,000. The biggest 500 stocks in this index represent about 80% of the total market. To be included in this index a company must be headquartered in the U.S.

yield—a measure of the amount of income an investment generates.

yield to maturity—the annual return on a bond, assuming the bond is held until its maturity date. This takes into consideration the purchase price, redemption value, time to maturity, coupon yield, and time between interest payments.

Bibliography and recommended reading

Here are some books that have helped me. You may find them helpful, too.

Belsky, Gary and Gilovich, Thomas *Why Smart People Make Big Money Mistakes—And How To Correct Them: Lessons from the New Science of Behavioral Economics* Simon & Schuster

Bernstein, Peter L. *Against the Gods; The remarkable story of risk* John Wiley & Sons, Inc.

Bernstein, William *The Intelligent Asset Allocator* McGraw-Hill

Blitzer, David M. *Outpacing the Pros; Using indexes to beat Wall Street's Savviest Money Managers* McGraw-Hill

Bogle, John C. *Common Sense on Mutual Funds: New Imperatives for the Intelligent Investor* John Wiley & Sons, Inc.

Clements, Jonathan *25 Myths You've Got to Avoid If You Want to Manage Your Money Right: The New Rules for Financial Success* Simon & Schuster

Edleson, Michael E. *Value Averaging: The Safe and Easy Strategy for Higher Investment Returns* International Publishing Corporation

Evans, Richard E., Malkiel, Burton G. *Earn More (Sleep Better): The Index Fund Solution* Simon & Schuster

- Evensky, Harold R. *Wealth Management: The Financial Advisor's Guide to Investing and Managing Client Assets* Irwin Professional Publishing
- Faerber, Esmé *All About Bonds and Bond Mutual Funds* McGraw-Hill
- Gastineau, Gary I. *The Exchange Traded Funds Manual* John Wiley & Sons
- Gibson, Roger C. *Simple Asset Allocation Strategies* Marketplace Books
- Good, Walter R. CFA, Hermansen, Roy W. CFA *Index Your Way to Investment Success: Using Institutional Investment Strategies to Boost Returns and Control Risk* New York Institute of Finance
- Lerman, David *Exchange Traded Funds and E-Mini Stock Index Futures* John Wiley & Sons
- Malkiel, Burton G. *A Random Walk Down Wall Street* Norton & Company
- Murray, Nick *The Excellent Investment Advisor and The Craft of Advice: Essays 1995-1998*
- Reinhardt, Werba, Bowen *The Prudent Investor's Guide to Beating the Market* Irwin Professional Publishing
- Schott, M.D., John W. *Mind Over Money: Match Your Personality to a Winning Financial Strategy* Little, Brown and Company
- Schwab, Charles *Charles Schwab's Guide To Financial Independence: Simple Solutions for Busy People* Three Rivers Press
- Siegel, Jeremy J. *Stocks For The Long Run: The Definitive Guide to Financial Market Returns and Long-Term Investment Strategies* McGraw-Hill
- Simon, W. Scott *Index Mutual Funds: Profiting from an Investment Revolution* Namborn Publishing Co.
- Slesnick, Twila and Suttle, John C. *Taking Your Money Out; IRAs, 401(k)s & other retirement plans* Nolo Press
- Swedroe, Larry E. *What Wall Street Doesn't Want You To Know; How you can build real wealth investing in index funds* St. Martin's Press

Tanous, Peter J. *Investment Gurus* New York Institute of Finance

Thau, Annette *The Bond Book* McGraw Hill

Thomas, Kaye A. *Capital Gains, Minimal Taxes* Fairmark Press

Wiandt, Jim and McClatchy, Will *Exchange Traded Funds; An Insider's Guide to Buying the Market* John Wiley & Sons

Favorite Web sites

www.amex.com	www.morningstar.com
www.barra.com	www.nasdaq.com
www.bigcharts.com	www.russell.com
www.bloomberg.com	www.schwab.com
www.cnnfn.com	www.spglobal.com
www.dfafunds.com	www.stockcharts.com
www.djindexes.com	www.thestreet.com
www.etfconnect.com	www.thomsonfn.com
www.firstcall.com	www.tiaacref.com
www.ifa.tv	www.troweprice.com
www.indexfunds.com	www.yahoo.com (finance)
www.ishares.com	www.yardeni.com



Stuart Chaussée is an independent, fee-only Registered Investment Advisor. Since 1986 Mr. Chaussée has focused on advising affluent individuals and business owners. He received a Bachelor of Arts degree from the University of California at Berkeley and a Master's degree from Thunderbird School of Global Management. He is the author of five investment books including the award-winning *Advanced Portfolio Management: Strategies for the Affluent* (Palisade Business Press). His most recent writings, *Understanding Risk*, *Investor Behavior and Surviving Bubbles* and *Dividend Investing for Income and Growth* are available together in *Essential Works of Stuart Chaussée*. Mr. Chaussée is married with three children.