# Guide to Transparent Investing

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# i. How to Find Extra Details for Ten Easy Steps


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# Chapter 1 Introduction

Transparent Investing describes a simple yet highly effective approach to investing available to almost anyone in the United States with assets to invest. This approach is already widely used by lots of smart individual investors and is even more widely used by institutions. The basic idea is to use index funds to construct simple portfolios that can help investors achieve their goals in the most cost-effective way.

This guide provides both investment insights but also some consumer advocacy. The financial services industry offers a myriad of ways to purchase advice on and management of portfolios for investors. This guide offers some insight into how investors can make smart decisions regarding what services to buy and how much to pay. Many investors approach investing with significant intimidation due to the complexity of the whole process. To some extent that intimidation is warranted, but to a significant extent a deceptively simple solution exists that too rarely gets mentioned by investment advisors or brokers because the simple solution is great from the perspective of an investor but terrible from the perspective of an advisor. Indexing is a successful approach to investing not because it's simple, but because it has performed so much better than the average active manager (the opposite of indexing), and the simplicity is just an added bonus.

Transparent Investing can be viewed as a wake-up call to investors everywhere to pay a lot more attention to fees. While fees don't sound like the most interesting part of investing, a lot of research supports the notion that they are the most important.

This Guide to Transparent Investing arose as a result of an article published in December 2006 in *San Francisco* magazine titled "The Best Investment Advice You'll Never Get." The article tells the story of how indexing as an approach to investing got its start in San Francisco in the 1970s. It also described Aperio Group, a money management firm in the San Francisco Bay Area that manages money based on the principles of indexing. The article clearly hit a raw nerve with readers of the magazine since Aperio Group received hundreds of phone calls and e-mails from investors seeking advice on how to invest. Most of the callers expressed how they had always suspected that they were getting ripped off in some fashion by the investment world, but couldn't quite articulate how until they read the article.

Since Aperio Group was not seeking clients for the kind of advice or service known as wealth management, the firm offered a free investment workshop in San Francisco in early February to over 100 people who had contacted us because of the article. The response to the workshop was overwhelmingly positive since people wanted to hear advice and learn about how to be savvy shoppers in the investment world. Many attendees were also shocked that they didn't have to listen to a sales pitch.

This simple approach is great for investors, but a terrible thing for lots of different businesses, including many brokers, money managers, wealth advisors, pension consultants and even parts of the financial press. All of these players stand to earn significantly less revenue if investors wake up and actually understand the role of fees and how unlikely it is that active management will outperform the stock market itself.

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Why do these industries fight so vociferously against the massive tide of evidence supporting indexing? Do they simply refuse to understand the evidence? I'll answer those questions by quoting Upton Sinclair, who said, "It is difficult to get a man to understand something when his salary depends upon his not understanding it."

The basic idea behind the simple approach is to follow the following steps:

1. Plan your cash needs in terms of time horizon and determine how much risk you can really tolerate (not as easy as it sounds)
2. Pick an asset allocation that matches your time horizon and risk tolerance
3. Buy a basket of index funds and hold them until you need to withdraw the money

This approach is so deceptively simple that people don't really trust it. Once when I gave an investment seminar to a group of twenty friends at a private home, one woman listened to my description of how to invest and then exclaimed, "You mean I can buy these index funds and then I don't have to pay attention to them, and I can just garden?" I answered with an emphatic "Yes" that she could spend her time gardening and still be a very responsible investor who was making a very smart choice. It just doesn't sound right that such a great solution can be so simple. Keep in mind, though, that the it's not the best solution because it's simple, but rather that it's a great solution that also happens to be very simple.

When presenting the first workshop on Transparent Investing, I ended by quoting a version of the Serenity Prayer by Reinhold Niebuhr:

> Grant me the serenity to accept the things I cannot change,
> The courage to change the things I can,
> And the wisdom to be able to tell the difference

The Serenity Prayer offers a great analogy into the smartest way to invest since it emphasizes distinguishing between the things you can control and the things you can't. What parts of investing can you control? The answers include fees, taxes and how much you save or spend. What can't you control? The answers include 1) whether the stock market is going up or down next year and 2) which active manager will beat the market next year. View video: What You Can Control

**Investment Advisors as a Profession**

The investment advisory business includes brokers, wealth managers and financial planners. Like all professions, there are plenty of honorable people striving to serve their clients' needs and there are also plenty looking out for their own interests first rather than the needs of their clients. Unfortunately for consumers, there is a basic problem with the main way that advisors earn their pay for the advice they provide. The default for most investors is to hire an advisor who then picks money managers, either through mutual funds or separate accounts. The concept is that advisors will be able to cull out the best managers, those who will perform better than the market, thus making it worthwhile to pay an extra fee for the selection of money managers. Unfortunately for investors, the ability to select the managers who will beat the market is highly suspect.

What I find personally galling is to speak with brokers or advisors "off the record," i.e. not around their clients. Then they will admit that most managers cannot beat index funds, but then they add, "But you can't make any money selling index funds, so we have to go with active." While it might be a stretch to call the profession as a whole dishonest, at the very least it's not an industry that has shown great integrity around 'fessing up to this problem. Let me state again that there are many ethical investment advisors practicing, but as a consumer you face difficult odds since so many are willing to charge high fees for the promise of picking the managers that will beat the market. Some advisors will pick managers that will beat the market, but the odds are heavily stacked against that happening.

An interesting trend has been developing within the financial planning and investment advisory industry. Clients are beginning to figure out that their advisors don't necessarily add much value in picking the best funds or managers, but they do add value with services such as financial planning. As a result, the industry is shifting slightly in its emphasis on payment from assets under management to payment for services actually rendered. While "fee only" advisors may tell you that they operate only in your best interests, they may still avoid index funds because it will make it too transparent what value they actually add or don't add. While as a consumer you can get good service by paying through a number of methods, paying someone hourly or on a retainer or by service (e.g. a specific price for a financial plan) offers the least conflict of interest. Unfortunately for consumers, many advisors refuse to operate that way because it's far less lucrative than managing assets for an ongoing fee.

Unfortunately for consumers, the default for most is to hire an advisor to pick active funds or managers and pay them a large and ongoing fee to do so. While I would not argue that indexing is the only way everyone should invest, I would argue that everyone should default to a simple index portfolio. If you have no idea what to do, then an indexing approach is going to be much simpler and cheaper than paying an advisor based on assets under management. If you feel as though you get good value for useful services from your advisor, then count yourself as a satisfied consumer. If you thought you were getting investments that were going to beat the market, then the odds are that you will be disappointed. Overall, the current standard revenue model is great for the investment advisors but terrible for consumers.

The academic research overwhelmingly favors indexing, thus showing that for most advisors it's a myth that they have the ability to beat the market. Another myth held dearly by consumers is that the very wealthy are sophisticated about investing and know how to buy high-quality advice, while the rest of us have to suffer through confusion and intimidation. In my opinion, that's a complete load of hogwash. The very wealthy might be brilliant as entrepreneurs or executives or real estate developers, but in my experience they are just as likely as the rest of us to romanticize investing and ignore the dull truth about fees and taxes. They may presume that they're being smart by getting advice from prestigious firms that have very high minimums, e.g. $10 million or more at certain investment banks. However, those highly polished investment banks can sometimes

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provide fancy overpriced products and services when their clients' wealth would be far better off in the long run were they to go with a simple indexed approach. In other words, having a lot of money does not inoculate you against overpaying for investment products and services. However, understanding the research on indexing and other nuances of investing can inoculate you against overpaying, whether you have lots of wealth or only a tiny nest egg. That understanding is the goal of TransparentInvesting.com.

How do you know if you're getting taken to the cleaners? There are some great and reputable high-end advisors and some great moderate ones too. To judge the fairness of any financial advice, do the same thing you would in judging any other product or service you consume—look at how much you're paying and what you get in return for what you're paying. In other words, pay attention to the fees, whether you have $5,000 or $50,000,000 to invest.

## Chapter 2 Recipe Card for Do-It-Yourself Investors

| Step | Action | Topics Covered | Complexity | Page |
|---|---|---|---|---|
| 1. | Financial Planning | What am I saving for?<br>For how long am I investing?<br>What's my risk tolerance? | Basic | 8 |
| 2. | Asset Allocation | How much do I invest in risky assets like stocks and how much in safer assets like bonds? | Basic | 10 |
| 3. | Choosing Securities | Which securities or funds are best?<br>Why is indexing such a superior strategy when it seems like settling for average? | Moderate | 13 |
| 4. | Which Index Funds? | What funds should I buy?<br>Where should I shop? | Basic | 15 |
| 5. | Dealing with Taxes | How do taxes affect investing?<br>What investments should go in my IRA or 401(k)? | Moderate | 17 |
| 6. | Converting an Existing Portfolio | How do I get the mixture of all my current accounts into a simple mix of index funds? | Moderate | 19 |

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## Financial Planning (Do-It-Yourself Step 1)

Here we'll define financial planning broadly as determining your needs for the money you're investing, specifically how much cash to invest and when you need it. For many investors, two major investing goals include retirement planning and paying for higher education. The financial planning process includes topics such as deciding how much you need to save per year to meet those goals or how much you can spend per year in retirement given a certain size of portfolio.

The second major component of how we'll define financial planning is assessing your individual tolerance to risk, which really means your ability to remain invested in risky assets like stocks in the middle of meltdowns such as the one we experienced in the U.S. from 2000 to 2002. Basically, investors earn a higher return the more risk they take. I describe it as the market paying you for the strength of your stomach lining in terms of the sorrow at having to watch a portfolio experience significant drops.

Lots of web sites offer excellent tools to help with financial planning. One helpful tool is a cash flow planner that allows you to input different portfolio amounts and savings rates. These tools try to help you determine how much to save or how much you can spend in retirement. While the tools can be very helpful, financial planning can still be confusing or overwhelming, which means it can be an area for which it's helpful to seek advice.

Vanguard offers a series of cash flow analysis tools, including a retirement planner ("Determine how much to save for retirement") and an overall life cash flow planner (the Vanguard Lifetime Spending Analyzer™).
https://flagship.vanguard.com/VGApp/hnw/planningeducation/general/PEdGPPlnToolsRetirementPlnContent.jsp

Fidelity also offers some great tools, specifically the Retirement Quick Check. You'll need to register with an e-mail address, but it's free to use.
http://personal.fidelity.com/planning/retirement/plan_overview.shtml.cvsr?refpr=rrc18

Identifying your own risk tolerance can be tricky if you're unsure as to what that really means. Risk tolerance refers to the ability to stomach the sudden lurches up and down in risky assets, such as the big drop in U.S. stocks in the period 2000-2002. Fundamentally the market pays you for the strength of your stomach lining, and you'll earn a higher return (in theory) for bearing more volatile ups and downs over the long term.

Another useful tool on many web sites is a risk questionnaire to help you determine how much market volatility you can actually stomach. The goal of these questionnaires is to help you determine how much you can withstand the gut-wrenching market gyrations associated with investing in stocks. Keep in mind that it may be sound advice to tell you to invest with a long-term horizon and just stay invested even through downturns, but if you're likely to panic and sell out during a big market drop, then you probably shouldn't have been as heavily invested in stocks in the first place. In my opinion, investing in stocks means that you always face the potential risk of significant losses, like the U.S.

market losing almost 50% of its value in the 2000 to 2002 period. However, stocks offer a great return for long-term investors who can tolerate the ups and downs.

**Risk Questionnaires**

Here are some links to risk questionnaires. Unfortunately, they don't always include instructions on how to score and interpret them, but the nature of the questions might be helpful.

MSN offers a short and simple list of twenty questions. It's pretty basic, but it can be helpful nonetheless.
http://moneycentral.msn.com/investor/calcs/n_riskq/main.asp

Here's a categorization of different levels of risk tolerance from a firm selling questionnaires. I'm not endorsing their products, but the list can be helpful.
http://www.toolsformoney.com/investment_risk_tolerance.htm

Vanguard offers a questionnaire on assessing your own level of risk tolerance.
https://flagship.vanguard.com/VGApp/hnw/FundsInvQuestionnaire

Here's a very basic risk tolerance assessment with a specific recommendation for how much risk you can take.
http://www.am-a.com/protected/education/ed_products/workbook/risk_tolerance_worksheet.phtml

Investment risk isn't an easy thing to master. Remember that the market pays you for the strength of your stomach lining, although that's not much comfort when you're looking at a plummeting account balance in the middle of a market meltdown. It's helpful to brace yourself in advance by realizing that losing money in the short term is an unavoidable part of the game. Your real challenge is knowing your own emotions in advance and taking only as much risk as you can really tolerate.

Keep in mind also that time lowers the risk of losing money. In general, the longer your time horizon, the lower your likelihood of a negative return over a given period. Shown below is the historical range of rolling period real returns, i.e. adjusted for inflation, from 1926 to 2000 (data from Dimensional Fund Advisors). The High returns show the best 1-year or 20-year period during that time frame, the Average is based on all periods, and the Low returns show the worst. As you can see, cash is a great investment for a one-year time horizon compared to stocks because the risk of loss is so much lower. However, for a twenty-year horizon, the worst stock performance was much better than the average cash performance.

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| | Historical Holding Period | |
|---|---|---|
| **Asset Allocation** | **1 Year** | **20 Years** |
| 100% Money Market (low market risk) | High +13%<br>Average 0%<br>Low -17% | High +32%<br>Average -9%<br>Low -49% |
| 100% Stocks (high market risk) | High +182%<br>Average 7%<br>Low -64% | High +1143%<br>Average +250%<br>Low +5% |

This table shows two important characteristics of risk: 1) that riskier assets are more appropriate for longer time horizons and 2) that over long periods of time inflation can make a safe investment look quite risky. In other words, while cash might seem like a safe investment, over the long term it's actually quite risky when subject to the ravages of inflation.

## Asset Allocation **(Do-It-Yourself Step 2)**

Before discussing constructing well-balanced portfolios, it's helpful to define what we mean by asset classes, the broad grouping of different types of securities. One simple approach is to divide all assets into two main groups, the non-risky basket and the risky basket.

The Safer Basket

The lowest risk asset in the Safer basket is cash, which is the same thing for our purposes as a money market fund. While most money market funds (except for those that invest exclusively in U.S. Treasury bills) aren't completely free of risk, they're still the safest of all assets outside of a guaranteed bank deposit.

The other asset in the Safer basket is bonds, which is the equivalent of loaning money to corporations or governments. Bonds do bring some risk, although far less than the stock market. Bonds can fluctuate in price, mainly as a function of changes in long-term interest rates. While there are a lot of different types of bonds and bond mutual funds, the simplest distinction for asset allocation is to understand the difference between taxable and tax-exempt bonds, also known as municipal bonds or munis. Taxable bonds include corporate bonds and bonds of the U.S. government, although U.S. Treasury bonds are not subject to state income tax.

The Risky Basket

The risky basket contains many different types of risky assets, with stocks and real estate as the most common. Stocks we'll divide into U.S. stocks and foreign stocks. Often U.S. stocks get further divided into large companies and small companies, although it isn't necessary to go even to that level of detail.

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What have returns been historically for different asset classes? The table below shows the historical risk and rates of return for major asset classes.

## Historical Risk & Return

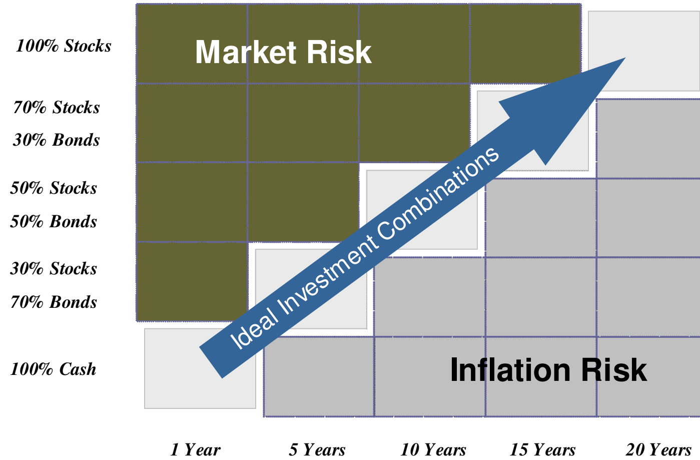
| Asset Class | Annual Return | Risk (Std Dev) |
|---|---|---|
| T-Bills | 3.72% | 3.13% |
| Long Gov't Bonds | 5.45% | 9.17% |
| Large U.S. Stocks | 10.44% | 18.66% |
| Foreign Stocks | 11.29% | 22.09% |
| Small U.S. Stocks | 12.06% | 26.30% |

Source: Dimensional Fund Advisors
Data for period 1926-2006 except for foreign stocks, which reflects 1970-2006

How Much Should I Allocate to Risky and Safer?
Let's assume that you've already determined your time horizon and risk tolerance. The next step takes those two factors and converts them into an appropriate asset allocation, meaning the selection of the appropriate blend of Risky and Safer. The key to risk tolerance is understanding your own behavior during big market drops. A higher level of risk tolerance implies that you're more able to endure significant drops without selling out in a panic.

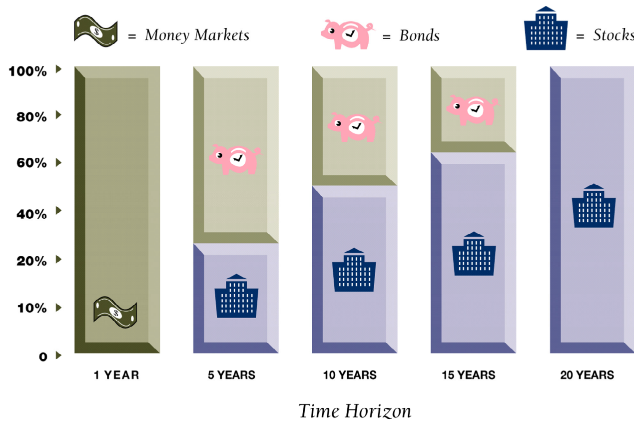
Another issue is the common danger of not taking enough market risk in order to offset inflation. Most investors think of risk in terms of short-term volatility, basically whether or not they will lose money in the short term. However, over long time periods, say more than ten years, inflation can become the truly dangerous risk. If you focus too much on keeping your portfolio from losing money just in terms of the nominal value, then you may end up losing money when measured in terms of purchasing power. While most investors dislike losing money about twice as much as they enjoy gaining the same amount, most investors in retirement plans do not take enough risk for their time horizon.

**Walking the Path Between Inflation and Market Risk**




The graph to the left shows how much inflation risk starts to matter more the longer your time horizon. For most investors, the challenge lies in finding the right balance between market risk and inflation risk. The graph oversimplifies the exact portfolio weights, which are somewhat flexible, but it illustrates the basic trade-off between the two types of risk and how much more market risk you should bear if you face a longer time horizon.

## Asset Allocation Over Time




In the short run, money instruments are the safest investment. For a longer horizon, increase your equity allocation.

The graph to the left shows the same allocations, but distinguished by the separate asset classes.

## Common Portfolio Guidelines

**Asset Allocation**

| Holding Period | Cash | Bonds | Stocks* |
|---|---|---|---|
| 1 Year | 100% | 0% | 0% |
| 5 Years | 0% | 70-100% | 0-30% |
| 10 Years | 0% | 30-70% | 30-70% |
| 20+ Years | 0% | 0-30% | 70-100% |

*Sub-divided as below

**Breakdown for Assets Allocated to Stocks**

| Large U.S. Stocks | 50-80% |
|---|---|
| Small U.S. Stocks | 10-40% |
| Foreign Stocks | 10-30% |

These asset class recommendations aren't hard and fast. In fact, a wide range of allocations may be appropriate, and not all advisors would agree as the exact allocation. The table on the left shows common guidelines as a range of acceptable allocations.

Don't sweat the exact precision of the percentage in each asset class. If you have 74% Risky when your target is 70%, you don't need to worry. Rebalance to your target every two or three years. You should rebalance as your time

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horizon shortens, e.g. you probably don't want the same asset allocation for retirement funds at age 60 that you want at age 75. One great advantage of the Vanguard Target Retirement funds is that they rebalance automatically.

## Choosing Securities **(Do-It-Yourself Step 3)**

Investors who want to invest in diversified portfolios of stocks face two basic choices, indexing or active management. With indexing, investors can get a very low cost and simple way to invest in stocks, and the goal is to simply earn returns equal to the market. With active management, investors can still invest in stocks, but the goal is to find managers that will earn returns after expenses that are better than the market itself. While active management sounds more appealing (who would want to settle for the market when you might be able to do better?), unfortunately on average it tends to worse than the market because those active managers cost so much more than indexing.

A very widely accepted body of academic research supports the conclusion that trying to pick active managers will actually in most cases leave the investor worse off than simply trying to earn market returns. How does trying so hard to do better leave most investors worse off? Active managers tend to fail to earn superior returns because for investors, their returns are measured after expenses, which means the fees investors pay. Active managers don't do poorly in general because they are stupid; they actually tend to be very smart people. However, they cost too much compared to the proven value they add.

When many investors hear that argument, they point to a particular mutual fund that has performed better than the market, and there are always funds that do earn superior returns. However, while it's easy to pick an active manager that has beaten the market in the past, it's extremely difficult to pick one that will do so consistently into the future, which is when the returns count. The odds are heavily stacked against anyone, expert or novice, being able to pick the managers that will beat the market, but investors keep trying anyway, partially because it's so counterintuitive to just "settle" for market returns. In truth, however, indexed investors are "settling" for lower fees than those who choose active management, and those fees, along with extra taxes, make active investing a poor bet statistically.

### What Is an Index Fund?

An index fund is a portfolio that is managed to track a particular target index, called a benchmark. Investors can take advantage of an indexing approach through mutual funds, exchange-traded-funds (ETFs) or even separate accounts. The oldest and most well-known index mutual fund is the Vanguard Index 500, which tracks the Standard & Poor's 500® index. The fund holds all of the stocks in the index in the same proportion as the index. For example, on March 31, 2007 the largest single holding in the S&P 500 was Exxon, which comprised 3.4% of the index value. The Vanguard mutual fund also holds Exxon as the largest single stock weight of 3.4%.

There exists a very wide range of index funds from which to choose, including those that specialize in certain industries, such as technology, or certain portions of the market, such as stocks of small U.S. companies. For those not sure of where to begin, the best choices

are the broadest index funds that capture entire asset classes. For example, the Vanguard Total Stock Market Index fund is a wonderful and very simple way to own the entire U.S. stock market. If you own that fund, then your investment rises and falls almost exactly in line with "the market." Instead of spending a lot of money in fees paying someone to try to "beat the market," you can earn higher returns in general by simply owning a small piece of "the market."

**Indexing vs. Active** View video: Choosing Securities

Over the past thirty years or more, academic research has overwhelmingly pointed to the superiority of indexing versus the average active manager. There is no serious debate among experts within the field (at least those without a profit motive to distort the research) about the fact that for U.S. stocks indexing offers a better statistical likelihood of higher returns than the average active manager.

However, there remains some interesting debate on whether or not the minority of managers that beat the market do so consistently enough to make it worthwhile to bet on them. In other words, if we observe that 10% to 20% of active managers beat the market, then the question arises as to why investors shouldn't just invest in those managers. The problem is that many of the managers that have beaten the market will not continue to do so, although some will. The key question remains whether their superior returns are dependable enough that investors should assume that the superior returns will continue into the future.

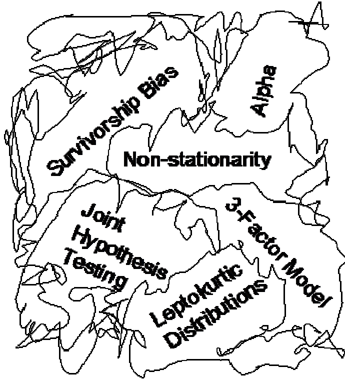
The bibliography summarizes much of the reliable research on indexing for U.S. stocks. A number of issues arise in the proper measurement of whether active managers can provide market-beating returns. First, the best research controls for risk to avoid just picking the riskiest fund managers since in general for most investments higher risk is supposed to lead to higher return. Furthermore, risk should be measured effectively, usually including the effects of style, e.g. large vs. small stocks or value vs. growth stocks. Thus looking at just raw returns generally doesn't capture the nuance of risk and specifically of style bets.

Second, the best research controls for what is known as survivorship bias, which is a tendency for mutual fund histories to be distorted due to the disappearance of the worst-performing funds. For example, if we look today at all of the U.S. stock funds with a ten-year history, you might think we would have a good representative sample of the funds from which investors could have chosen ten years ago. However, most popular databases don't include the funds that have disappeared due to being so terrible. In other words, the ugliest examples conveniently disappear, since fund companies don't like keeping around poorly performing funds; it's bad for marketing.

The research on U.S. stocks points heavily toward the superiority of indexing. For non-U.S. stocks, the research is more mixed. I still believe in indexing for foreign stocks, but the data aren't as unequivocally lined up against active the way they are for U.S. stocks. As for bonds, indexing can be a fine approach, but for bond funds of similar type, e.g. intermediate term general bond funds with moderate credit risk, the fees (expense ratio) is

the single most important factor. In other words, for bond funds, cheap is the best way to go, which means that indexing can be very good, but not the only way.

**Complex Research: Index vs. Active**




**Simple Yet Elegant Answer**

1. Use index funds
2. Stop worrying

One of the big challenges of convincing consumers of the superiority of indexing lies in a suspicion that something so simple can't really be the best solution. Consumers correctly perceive that the research behind the validity of indexing can be quite complicated, but the answer that falls out of that research is so simple that people just won't trust it.
Video: [Simple Solution]

## Which Index Funds? (Do-It-Yourself Step 4)

If we assume that indexing offers a superior approach to investing, the question arises, "Which index funds should I buy?" Since asset allocation boils down to choosing a diversified blend of asset classes, then the task remains of selecting the best index funds to represent each asset class.

If you've already determined your asset class allocation, and you have bought into the arguments in favor of indexing, then your next choice reflects either investing in a single pre-packaged solution or constructing your own collection of separate index funds. We'll discuss the pre-fabricated solution first and then show the slightly more complicated version.

For the simplest solutions, we'll use Vanguard's Target Retirement mutual funds as great examples of very low fees and pre-determined asset allocations. Vanguard has created a series of funds with different risk profiles intended for different time horizons. All of them combine a mixture of very low-cost index funds into one single fund without any extra layer of fees. Lots of other fund companies offer these "Life Cycle" funds, but Vanguard offers the lowest cost in most situations. The Vanguard funds provide great benchmarks for both low fees and sensible asset allocation. (See page 40 for a list of these funds.)

How do these Target Retirement funds work? Vanguard has put together portfolios for people planning on retiring at specific times in the future, with retirement dates ranging from 2005 to 2050. As an example, let's start with the Target Retirement 2010, which is designed for people who plan on retiring in the year 2010. Vanguard roughly assumes that people will live about 20 years after retiring, so the average time horizon is ten years after retirement date, which is the mid-point of retirement years for most people. That

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means that in 2007 the Target Retirement 2010 has a time horizon of about 13 years, three years until 2010 and then ten years extra. For a 13-year time horizon, Vanguard has chosen an asset allocation of 55% risky assets and 45% non-risky assets. They have blended different domestic and foreign stock and bond index funds to come up with a well-diversified single portfolio.

If you want a very simple solution, you can invest all of your assets in this one fund, assuming you have a 13-year time horizon and can tolerate the risk associated with that asset allocation. However, this approach may not be ideal if part of your portfolio is taxable (not in an IRA or retirement account) and your taxable income is more than about $125,000 per year if you're married or about $75,000 if you're single. If your goal is simplicity, though, the Target Retirement funds from Vanguard are a great choice.

The Target Retirement funds from Vanguard provide an excellent benchmark for both asset allocation and fees for those wishing to construct their own collection of individual index funds. However, many investors want to go beyond the simplicity of one fund to build their own custom portfolios of index funds. Listed below are a few situations for which it's a good idea to go beyond the simplicity of the Target Retirement funds.

> Situation 1—High Tax Bracket
> Since the Target Retirement funds were designed for tax-exempt accounts, all of the bond investments are in taxable bonds, which is the best choice if you don't have to pay taxes currently. However, if you have taxable assets, and you are in a high tax bracket, then you should substitute municipal bonds for the taxable bond component in the Target Retirement funds. See page 40 for a description of how to construct your own portfolio of individual Vanguard funds.
>
> Situation 2—Mix of Taxable and Tax-Exempt Accounts
> To optimally allocate your assets among taxable and tax-exempt accounts, you may need to take advantage of sheltering tax-inefficient assets in retirement accounts. (For more detail, see page 17 on taxes and investing.)
>
> Situation 3—More Varied Asset Class Allocation
> The Target Retirement funds do not include "real assets," which means real estate and commodities. Many high-net-worth investors have exposure to investment real estate (not including primary residence). For those investors without any additional exposure to real assets, consider a blend of index portfolios that also include REITs (Real Estate Investment Trust) and commodities. As a rule of thumb, if you have less than 20% of your total portfolio in real assets, consider including REITs and commodity funds as shown on page 41.

Choices Beyond Vanguard
There are some good low-cost index portfolios that can be built at other investment companies. Shown below are two different ways to build good portfolios of index funds, one using conventional index funds at Fidelity, and another using Exchange Traded Funds (ETFs) at a brokerage firm like Schwab or TD Ameritrade.

**Fidelity**
Using the same kind of asset allocation from a Vanguard Target Retirement fund or from the range shown in the table at the bottom of page 12, you can create a very low-cost blend of funds at Fidelity, in some cases cheaper than what you can get at Vanguard.

| Fund Name | Symbol | Asset Class | Fees |
|---|---|---|---|
| Spartan Total Market Index Fund | FSTMX | U.S. Stocks | 0.10% |
| Spartan International Index Fund | FSIIX | Non-U.S. Stocks | 0.10% |
| Spartan Intermediate Treasury Bond Index Fund | FIBIX | Bonds | 0.20% |

**ETFs at Brokerage Account**
Unlike no-load mutual funds, ETFs are bought and sold like a stock through a brokerage account. The following ETFs could be purchased at any brokerage firm, but let's assume you're going to use Schwab or TD Ameritrade, two popular low-cost brokerage firms. Remember that you have to pay a commission to buy and sell ETFs, so this choice wouldn't work as well as a traditional mutual fund if you'll have a lot of transactions.

| ETF Name | Symbol | Asset Class | Fees |
|---|---|---|---|
| Russell 3000 Index Fund | IWV | U.S. Stocks | 0.20% |
| MSCI EAFE Index Fund | EFA | Non-U.S. Stocks | 0.35% |
| Lehman Aggregate Bond Fund | AGG | Bonds | 0.20% |

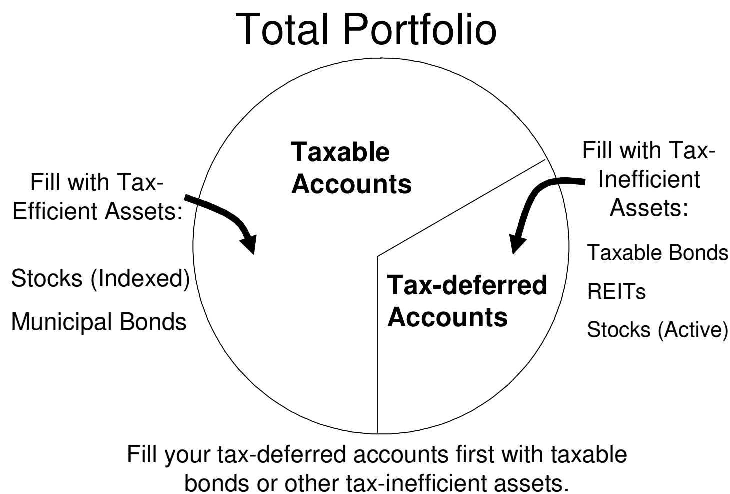
Note that the non-U.S. stock choice excludes emerging markets and Canada, but the EAFE is still the most widely-followed non-U.S. stock index. All of the ETFs listed in the table above are offered by iShares (from BGI, a subsidiary of Barclays Bank). Vanguard also offers very low-cost ETFs, but I'm mentioning the iShares to try to avoid sounding as though Vanguard is the only investment choice I ever recommend.

## Dealing with Taxes **(Do-It-Yourself Step 5)**
Unfortunately for most investors, investment advisors and money managers tend to ignore the effects of taxes on investors, which can be quite significant. Why do taxes get ignored? For one thing, they complicate investing, but, more importantly, investors are the ones paying the taxes, and advisors and money managers often hope that their clients won't understand the drag on returns from active management and poor tax planning. While the historical data of active management versus indexing overwhelmingly favors indexing, taxes are usually ignored in such research. When the effect of taxes are included, indexing is an even more compelling story. The big advantage of indexing is that the investor controls the timing of tax payments, not the manager.

There are three main areas where taxes should affect how a taxable investor decides to proceed. First is the allocation between tax-deferred accounts (IRAs, 401(k)s, etc.) and taxable accounts (regular accounts where the investor pays taxes on interest, gains and dividends). Second is the choice in stock funds between active and indexed investing. Third is the choice in bonds between taxable bonds and municipal bonds.

In addition, if you already have a portfolio with a lot of unrealized capital gain, it makes sense to pay attention to the capital gain tax effects of selling existing assets in order to rebalance. While I'm advocating that all investors default to a simple portfolio based on indexing, paying a lot of capital gain to do so makes things more complicated.

Turning to the first issue of how to allocate assets to taxable or qualified accounts (IRAs, 401(k)s, 403(b)s, etc.), the first step is to complete the asset allocation step as described in the Asset Allocation section. After determining your financial goals and then an appropriate asset allocation, you'll have a breakdown between how much you need to put in the Risky bucket and how much in the Safer bucket. Remember to combine all of your assets together, i.e. all investments across your different holdings, as clarified on the Asset Allocation worksheet (see page 39).



Fill your tax-deferred accounts first with taxable bonds or other tax-inefficient assets.

Now you can begin to allocate your assets in the most tax-efficient way possible, as shown in the chart on the left. The basic goal with dividing up assets between taxable and qualified accounts is to fill the qualified accounts first with the least tax efficient investments, i.e. the ones that throw off the worst kind of taxable income, what the IRS defines as either ordinary income or short-term capital gains. Taxable bonds and actively managed stocks generally are the most tax-inefficient assets. Index stock funds tend to be quite tax-efficient, which means they're best held in taxable accounts. In our discussion here, we're assuming that you don't need the cash flow from bonds immediately.

As an example, let's say you have completed your asset allocation and have determined that you want 70% of your portfolio in the Risky bucket and 30% in the Safer bucket. That allocation comes from a combination of your time horizon and your risk tolerance. Now let's say that you happen to have 55% of your total portfolio in taxable accounts and 45% in qualified (tax-deferred) accounts. Since you need only 30% of your overall portfolio in the Safer bucket (presumably bonds), you should put all of the bonds and 15% of the risky assets in your qualified accounts, bringing the total to 45%. Then you should invest in index stock funds for the 55% in taxable account, which leaves you with your ideal asset allocation of 70% high-risk and 30% low-risk, plus you've taken full advantage of the tax benefits of qualified accounts.

As a different example, let's assume the same asset allocation as above, but you have only 20% of your portfolio value in qualified plans, leaving 80% in taxable accounts.

Since you still need to get to 30% of your total in bonds, you should still use up the entire 20% of your portfolio in the qualified plans with taxable bonds, and then invest the additional 10% in bonds outside your qualified accounts. For those bonds in the 10%, you should invest in municipal bonds if your taxable income is greater than $75,000 (single) or $125,000 (married filing jointly). For those with taxable income less than those amounts, you should invest in taxable bonds even in taxable accounts.

## Converting an Existing Portfolio **(Do-It-Yourself Step 6)**

The advice in many books and articles on investing may presuppose that you're starting out with all cash, looking to create an ideal portfolio. Unfortunately, our financial lives tend to be messy in terms of our current portfolios. Many investors have a mishmash collection of mutual funds a broker may have once sold them, a few individual stocks they've picked, more mutual funds in a 401(k) or other retirement account, some IRAs, etc.

The first step is to get a good idea of your total portfolio across all of your different accounts. It's important to think of your portfolio as a whole rather than to focus on all of the individual pieces. Fill in the chart on page 39 to get a good sense of your current asset allocation.

Remember the importance of looking at your entire portfolio combined across all accounts and legal entities. For example, I recently recommended to a friend who had started a new job to put 100% of her 401(k) investment in bonds. When she asked me if that wasn't poor diversification, I responded by assuring her that her overall portfolio (which I had helped her design), including taxable accounts and all of her other tax-exempt accounts, made up a well-diversified portfolio *when combined together.* In other words, I suggested putting all bonds in her 401(k) because that used up the tax sheltering power of a retirement plan on tax-inefficient assets. It wasn't a diversification problem because I knew that her overall portfolio was still well balanced when seen as a whole.

Once you've looked at your entire portfolio, the tempting solution is simply to sell everything you currently own and start over with the portfolios described on page 40. Unfortunately, taxes can complicate such a realignment. The simple rule of thumb is that if you have all of your assets in retirement accounts, e.g. 401(k)s or IRAs, then you can transfer them directly to a low-cost investment company like Vanguard without incurring any tax penalty. Make sure to do a direct transfer or rollover to avoid any tax impact.

# Chapter 3 Recipe Card for Hiring an Advisor

| Step | Action | Topics Covered | Complexity | Page |
|---|---|---|---|---|
| 1. | What services should I buy? | How do I decide whether or not I need the help of a professional?<br>What services do I need to buy and which are unnecessary? | Basic | 21 |
| 2. | Fees | How do I pay advisors and money managers?<br>What fees are worthwhile?<br>How do I ask my advisor or broker how much I'm paying now? | Moderate | 29 |
| 3. | Choosing an advisor | If I do want professional help, how should I pick an advisor? | Basic | 32 |
| 4. | Where should I shop? | What firms are good for me if I'm a do-it-yourself type?<br>What firms are good for me if I delegate to a professional? | Basic | 33 |

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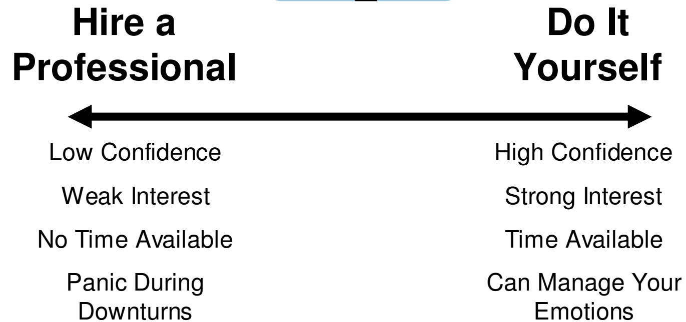
## What Services Should I Buy? (Hiring an Advisor Step 1)

As a consumer, it can be hard to figure out whether or not it's wise to try this investing stuff on your own or whether to hire professional help. Your decision will typically be driven by how much confidence, interest and time you have available, plus whether or not you can remain disciplined during market downturns. The graphic on the right shows how those factors tilt you toward either hiring a professional or taking it on yourself.




While these four factors should determine your choice, you may overestimate some of the challenges of doing it yourself since the Transparent Investing approach of a simple portfolio of index funds can be so much easier than expected.

| Factor | Transparent Investing Approach |
|---|---|
| Confidence | You should be more confident in the solution* |
| Interest | If you're bored now, you'll still be bored after learning |
| Time | Drastically reduces time requirement |
| Managing Emotions | Increased awareness of volatility helps w/ panic |

*You should not be more confident in your predictive ability.

**Hire a Professional** ◄——► **Do It Yourself**

Before consciousness raised

After consciousness raised

Higher awareness

Your tolerance for doing it yourself may actually be higher than you would suspect at first blush. After learning how simple the solution can be and how important fees are, you might find you're more open to doing it yourself. Alternatively, you may still hate the prospect of doing it yourself, but then at least you'll be clear as to why you're paying a professional.

**What Services Do Advisors Offer?**

The table below lists many of the services provided by investments professionals. For this discussion, when I use the term advisor I mean anyone to whom you pay a fee to provide asset allocation, which could include financial advisors, financial planners, stockbrokers, wealth managers, etc. There are a wide variety of skills and services available, but part of the goal here is to clarify exactly what consumers are buying and what are the most worthwhile services.

**Shopper's Guide to Advisor Services**

| Useful Services | Suspect Services |
|---|---|
| • Financial planning<br>• Hand-holding<br>• Trading & reporting<br>• Initial asset allocation<br>• Education | • Initially picking the managers that will outperform<br>• Ongoing portfolio management<br>• Market timing |
| **Here's how advisors add the most value** | **Here's how advisors get most of their pay** |

We'll discuss the merits of each type of service and then show how an advisor might pitch their services or defend themselves.

**Useful Services**

Let's start with all of the many valuable things an advisor does for you as a novice or naïve investor. While this guide may seem critical of the investment business, there's no doubt that consumers often need help in a lot of areas around their investing, and advisors often provide a lot of value.

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1. **Financial Planning**
   Help in understanding and managing your financial future can be a great benefit to many consumers. I'll define financial planning as the cash flow forecasting of your life, including how much you are saving, how much you can withdraw from a portfolio, by how much your portfolio is likely to grow, etc. You can do this yourself, but it requires work and some basic math. Some consumers find financial planning daunting both in terms of complexity and also in terms of it triggering anxiety about the future.

   An advisor might say:
   *Many investors simply won't go through the process themselves in spite of lots of readily available information through the web or books. People talk about sitting down and doing their own financial planning, but they often balk at the challenge and messiness of the range of financial assumptions necessary.*

   My response:
   It's true that lots of investors consider it worthwhile to pay for help in financial planning. In my view, such financial planning can often be a very wise investment from a consumer standpoint since they're buying expertise they may really need. One danger for consumers is that their need for financial planning leads them to pay high fees for ongoing money management that they don't really need. Some advisors prefer to bundle planning with investing for that very reason—the advisors don't really want consumers to be able to separate the useful services (like planning) from the ones that don't really add value (like ongoing portfolio management based on an effort to beat the market) given that it's the latter that can generate the most revenue for advisors.

   Many aspects of investing can be simplified and even eliminated by implementing the simple approach advocated here by Transparent Investing. Investment advisors often want to paint a picture of investing as much more difficult than it really needs to be. However, financial planning, while it doesn't automatically have to terribly complicated, in my opinion can be challenging enough that it's a situation where paying for advice can actually be the right consumer choice. For those willing to read about planning or use online calculators like those listed in the Resources section of TransparentInvesting.com, you can do this part yourself; for those who find such calculators intimidating, paying for planning might be a smart move.

2. **Trading and Reporting (Hassle Reduction)**
   Some consumers are just not into the do-it-yourself route. There's nothing wrong with paying for hassle reduction. However, you should understand two things before making that choice. First, you should know how much you're paying and be comfortable with that amount of money going to your getting to avoid a little hassle around things like rebalancing your portfolio. Second, you should understand how simple a portfolio can be with a basic collection of index funds.

Advisors provide a great service in actually signing you up to be a client, then compiling ongoing reports to analyze your portfolio. For those who dislike hassle, you might be getting acceptable value for your money. For those of you with a bit of tolerance for what can be a pretty low-maintenance process, you can save a lot of money.

As an analogy, I don't change the oil in my car; instead I pay someone else to do it. However, I understand what's involved in the process and I understand that I'm paying $30 for someone to take care of that mess for me. If it were to cost me $20,000 each time I have my oil changed, I would certainly figure out how to climb under my car with a drip pan to do it myself. Incidentally, changing your oil every three months is a lot more messy and time-consuming than monitoring a simple portfolio of index funds, which might require a couple of hours every one or two years.

3. **Hand Holding (Behavioral Finance)**
   Investing can appear pretty scary, and advisors can help consumers stay focused on their long-term plans. This hand-holding by advisors can help consumers avoid costly mistakes like buying at market peaks and then selling everything after the disastrous blow-ups that inevitably come. Furthermore, advisors can help overcome procrastination around financial decisions.

   An advisor might say:
   *Consumers panic at rough market conditions, and we can be very helpful holding their hands, talking them through the rough spots. In addition, lots of consumers aren't into the do-it-yourself regime, and they need help getting past things like procrastination. We help consumers with both of those challenges.*

   My response:
   They're accurate in describing how consumers can be their own worst enemies psychologically. Anything advisors do that assuages those self-harming behaviors benefits consumers. However, consumers should know how much they're paying for the benefit of that hand-holding and that they're buying said hand-holding.

4. **Initial Asset Allocation**
   Just setting up a well-balanced portfolio of a mix of asset classes can solve a lot of the confusion consumers face when looking at their existing portfolios or at constructing a new one from scratch. Note here that we're just talking about getting the asset allocation set up, not monitoring or managing it on an ongoing basis.

   An advisor might say:
   *Consumers don't really know how to build a well-diversified portfolio, and we can help provide that valuable service.*

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My response:
In terms of getting set up, providing an asset allocation can be really helpful to a wide range of consumers. In my opinion, it can be something even an informed consumer might deem as worthwhile in terms of purchasing. Note that I'm just talking about asset allocation here. The actual selection of money managers is, as the doorkeeper at the Land of Oz would put it, a horse of a different color.

5. **Education**
In addition to being scary, investing can be confusing too. Advisors can play a highly useful educational role in terms of making a consumer more clearly understand investing, from definitions of terms to description of different markets or special savings programs such as 529 plans.

An advisor might say:
*Consumers find investment terms confusing, and part of our job is offering some definitions and descriptions that raise their level of understanding of capital markets.*

My response:
Educating consumers can empower them, and empowered consumers are a wondrous sight to behold. Nonetheless, consumers still need to be careful about whether they're getting education about everything they need to know, especially regarding fees.

**Suspect Services**
Now let's turn to the suspect services offered by advisors, the facts and data that certain advisors might not want their clients to understand clearly.

1. **Initial Selection of Managers that Will Beat the Market**
Advisors who promote active management do so on the promise that they can pick managers that will perform better than the market. Of course this concept appeals to all of us, because who would want to settle for average when the alternative is superior performance?

An advisor might say:
*We are very experienced professionals who know the financial markets well and know how to select excellent managers. While there's no guarantee that these managers will continue to beat their benchmarks in the future, our firm's research process carefully screens only the best managers who have proven track records. After all, we have only our clients' best interest at heart. Besides, while most mangers don't beat the market, we know how to pick the ones that will.*

My response:
There's no doubt as to the emotional appeal of this argument. The problem is that the research data don't support their point. Furthermore, remember that the advisors are picking managers that have beaten the market in the past, not those

who will necessarily do so in the future. Most large firms, including institutional pension consultants, will not publish a track record of the performance of their recommendations *after the recommendations have been made*. Instead you get to see the track record that led to the manager being selected. It's quite easy to find managers that beat the market in the past; the challenge is identifying in advance the ones who will continue to do so.

I've heard lots of variations on how advisors dispute the massive edifice of academic research. One of my favorites is that indexing works fine in up markets but that it's better to have an active manager with his or her hand on the tiller in the rough seas of down markets. Again, that argument sounds quite appealing, but I'm not aware of any research that shows superior performance in down markets for the same level of risk. When I hear such stories I paraphrase the football player (as played by Cuba Gooding Jr.) in the film *Jerry Maguire*, by saying, "Show me the data!"

I've met many advisors who, when they hear about my bias in favor of indexing, admit, "Sure, most managers fail to beat the market after fees, but you can't make any money selling people index funds, so that's why we sell active management." As a consumer, if I were to hear my advisor admit that point, I'd feel as though I had been taken advantage of.

Finally, when advisors admit that most managers lose your money trying to beat the market, they often claim that they're different. The problem is that all advisors trying to pick managers that will beat the market claim they will do so, but very few managers actually manage to succeed in that goal. When I hear that reassurance, I'm reminded of the fictional Lake Wobegon from the radio show *A Prairie Home Companion*, where all of the children are above average. Everyone being above average is an appealing concept emotionally, but unfortunately the math doesn't really work that way.

2. **Ongoing Portfolio Management**

Beyond the initial selection of a portfolio, consumers like the idea of someone professional watching over the account on an ongoing basis. It just sounds too risky not to have someone monitoring an account regularly.

An advisor might say:
*Consumers ask us to provide reassurance by monitoring accounts, which is our fiduciary duty.*

My response:
Ongoing portfolio management presents a tricky issue, since there are valid reasons to want to pay for this service and invalid ones as well. Maybe your motivation is to avoid the hassle factor of having to deal with rebalancing a portfolio or deciding where to take cash if you need to raise funds. If so, then you may well want to pay someone else to take care of those hassles. However, if

you're paying for someone who is going to be better than you are at predicting markets (see section on Market Timing), then you may well be wasting your money.

I once gave an investment seminar in a private home, and one woman shared her desire to have someone who knows what's going on to be watching her portfolio. I replied, "It's normal that you're anxious because you don't know what's going to happen in the financial markets. We all feel that anxiety to various degrees. However, I'm wondering why you want to pay a lot of money to someone else who also doesn't know what's going to happen in the financial markets just so you'll feel more reassured."

3. **Market Timing** View video: Market Timing

Advisors like to use the natural volatility of equity markets as a way to intimidate consumers into having their assets managed. Popular investment magazines sell a lot of copy with headlines like "The 8 Funds You Need in These Turbulent Times," as if financial markets aren't always at risk of becoming turbulent. It's a very reassuring message, that an expert will guide your portfolio through up and down markets, being more aggressive when markets rise and less so when they decline.

An advisor might say:
*Consumers worry about the risk inherent in equity markets, and we reassure them. Would you want your entire net worth floating around unmanaged during stormy market conditions?*

My response:
Academic research overwhelmingly points to the superiority of indexing versus the average active manager. The research also points to the inability of the average money manager to time the market, i.e. to switch among stocks and bonds to be in the asset class that will perform the best. See the Bibliography for more detail on the research against market timing.

**Advice Beyond Basic Asset Classes**
For those with net liquid assets of more than say $5 million, advisors often argue that while indexing may work for investments in the public equity markets, advisors can provide value in alternative asset classes such as hedge funds, private equity or real assets such as natural resources or real estate. Such alternatives can provide very real diversification and in some cases attractive performance.

I'm not enough of an expert on these asset classes to provide soundly argued advice. However, I would urge anyone investing in these to bear in mind the same warning about the importance of fees that apply with publicly traded long-only securities. Furthermore, I would repeat the advice offered by David Swensen, the Chief Investment Officer of Yale University, who advised anyone with less than $200 million to stick with passive: "Picking successful active managers is difficult for endowments of all sizes, especially in

venture capital and absolute returns." (Source: Institutional Investor website, February 6, 2006)

**Advice Beyond Investing**
Finally, let's turn to areas beyond the scope of just the investing component of financial advice. Many advisors would define comprehensive financial planning as providing a wide range of advice and services, of which investing is only a small part.

1. **Estate and Tax Planning**
   Clearly consumers can benefit from estate tax planning, and there may be advantages to buying that service at the same place you get your investment advice. As for income tax planning, again consumers can benefit enormously from sound income tax planning, but you need to be careful that your income tax advisor truly understands the implications to your wealth of different investment strategies. Many investment advisors claim that they provide high-quality tax planning, but then they invest their client assets in actively-managed portfolios or mutual funds and ignore the significant tax burden on wealth of such strategies.

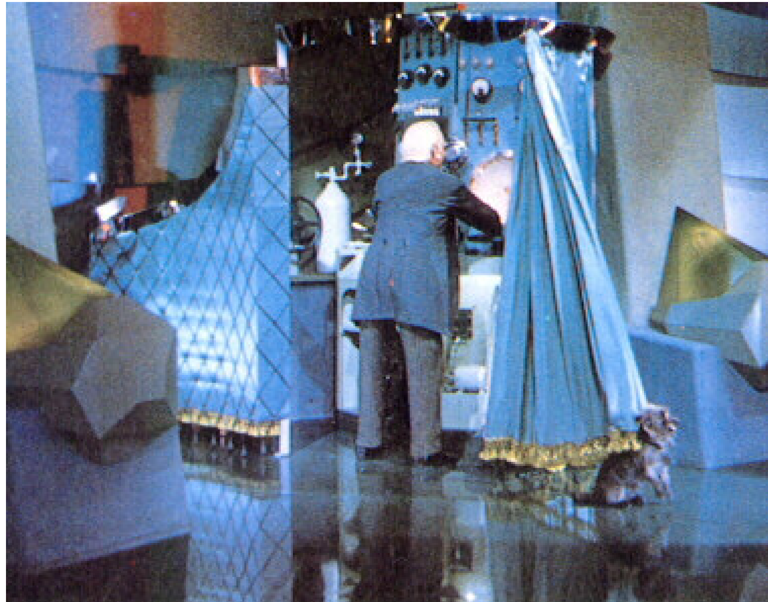
2. **Insurance**
   Insurance and other risk-management services can be very valuable to many consumers, depending on their situation. However, consumers need to be sure that they are getting the best insurance for their needs, and not just the best insurance for the income of the person advising them. There is nothing inherently wrong with paying for insurance advice, but consumers face a serious problem that much insurance, especially cash-value life insurance and variable annuity products are sold as a way to generate high fees rather than as the ideal way to solve a valid insurance need for the consumer. There are specific situations where cash-value life insurance can be worthwhile, but in my experience consumers who need life insurance should default to low-cost term insurance first and then choose life insurance with cash value only if it proves to be superior. Term life insurance is a bit analogous to indexing in that every consumer should default to the cheaper and simpler solution first and move to a more expensive choice only after making sure that it's worth the extra outlay.

**One Last Insight** View video: Indexing Too Boring
When describing their services, advisors might try to add one last point in their favor by claiming that index funds are boring and dull compared to active management. My response to that claim is to surrender completely. No matter how much you might try to dress them up, index funds are still dull as dishwater. As a consumer, you won't be impressing anyone at a party by bragging about you portfolio of all index funds. At that same party, you'll just have to console yourself with the fact that on average you'll have more than twice the wealth in thirty years compared to your friends who continue to chase returns and pay the high fees for active management.

## Fees (Hiring an Advisor Step 2)

Near the end of the movie *The Wizard of Oz,* there's a scene where the main characters are before the Great and Powerful Oz. At that point, Dorothy's dog Toto runs over to pull back a curtain and expose the misleading wizard, who calls out in a stern voice, "Pay no attention to the man behind the curtain," as if such instruction could reassure Dorothy and her companions that they're not being hoodwinked. View video: Fees Behind Curtain

"Pay No Attention to the Fees Behind the Curtain"



When Dorothy sees that there is no real wizard, that it's just a man pulling levers behind a curtain, she accuses him of being a bad man. The wizard then protests that he's actually a good man, but just a bad wizard. He then goes on to help and counsel the Scarecrow, the Tin Man and the Cowardly Lion. Similarly, if the advisors who recommend active management were to stop pretending that they are wizards in their ability to pick winners, those advisors could then offer more genuinely helpful counsel to their clients.

**All About Fees**

If you're going to become a smart consumer of investment products and services, you'll need to understand at least the basics of fees, or how advisors and investment managers get paid by you. The structure of fess can be pretty boring, but you won't be a smart consumer until you understand how the fees work.

Two Different Levels

The first thing to understand about how you pay for your services is that there are two basic levels of fees for working with most investment advisors. We'll divide the fees a consumer pays into the following two separate levels:

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1. Advice Fees
Let's define Advice Fees as the fees you pay to an advisor for all of the services described in "What Services Should I Buy?." Of course advisors need to get paid for the advice they provide, and they do so in three basic ways:

1) Commissions or loads (including 12b-1 fees)
2) Percentage of assets
3) Hourly, on a fixed retainer or by the service provided (e.g. a fixed price for a financial plan)

Commissions include "loads," charges tacked onto regular mutual fund fees to pay the brokers or other advisors who distribute them.

2. Money Management Fees
The second level of fees are those you pay to have someone else buy the individual stocks or bonds. A common form of money management fees is the operating expenses of a mutual fund. For wealthier investors, you might pay fees for a "separate account," which is just a different form of money management fee. Even if you're a do-it-yourself type, you'll still probably pay at least some fees to money managers unless you buy all of your own individual stocks or bonds. Some advisors charge one single fee for both Advice and Money Management. The important thing is the total of all fees you're paying, not so much how you pay them.

What Fees Are Reasonable?
The access to index funds sets a wonderful precedent for how low fees can go while still providing great return opportunities. For U.S. stocks, you should be very suspicious if you're paying more than 0.18% per year in money management fees, which is the cost of the Vanguard Total Stock Market Index fund. The average U.S. stock mutual fund charges 1.2% per year according to the Morningstar database.

The Psychology of Fees View video: Psychology of Fees
As an investors you face a major psychological challenge for the money you pay advisors and money managers—the fees get subtracted automatically from your account, and therefore you don't really pay much attention to how much you're paying. For example, if you have $1 million in assets and are paying 1% in advice fees and another 1% in money management fees, that's $20,000 per year. That money mysteriously disappears every day, and you don't really notice that you are relinquishing $20,000 of your money. If you hire an advisor on an hourly basis and incur costs of $2,000, then that seems like a big fee because you have to write a check for that amount, and you understand exactly how much money you're spending. Thus the investment industry benefits from one of the great paradoxes of investing, that consumers are more comfortable forking over $20,000 of their money if it's unseen than forking over $2,000 if it's seen. I'm not criticizing the deduction of fees; I'm urging all investors to pay more attention to the fees they're coughing up and to be aware of the danger to your wealth of the fees you don't really understand.

One technique to help raise your consciousness is to start with looking at how much you pay now. If you use an advisor, ask him or her to tell you (in writing) the total percentage of all the fees you pay, including advisory fees, loads, commissions, wrap fees, money management fees and any other underlying costs. Then calculate what you pay each year in total dollars (often a shockingly high number) and write a check for that amount and then rip up the check. Alternatively, if you are doing it yourself, calculate the average total fees (see below under Combined Effect) and write a check for the amount your saving into a separate vacation spending account. You'll probably be surprised at how fancy your vacations will become in exchange for doing your own index portfolios, which is a lot simpler than changing the oil in your car.

**The Combined Effect** View video: Fees Are a Drag

Let's look at the combined effect of all three of the drags on investment returns, 1) fees for money management, paid to a fund company or manager, 2) fees for advice paid to an advisor or broker and 3) taxes paid to the government. These three areas are the part of investing that's the easiest to control, yet many investors still ignore the negative effect on long-term wealth. For the purpose of our analysis, we'll assume here that the only reason you're paying an advisor is to pick managers that will beat the market, just to keep things focused on investment returns and not the useful services that advisors may provide.

The table on the right shows the net effect of these three different types of costs. In choosing between an advisor that picks actively managed funds versus picking your own index funds, on average you would lose about 3.1% per year to the three types of costs.

**Comparison of Fees & Taxes**

| | Simple Indexed | Average Active | Difference |
|---|---|---|---|
| **Taxes** | -0.3%[1] | -1.4%[2] | -1.1% |
| **Advice** | 0.0% | -1.0% | -1.0% |
| **Money Mgmt.** | -0.2%[3] | -1.2%[4] | -1.0% |

1 Taxes of 0.30% are based on assumed dividend yield of 2% for total U.S. stock market and dividend tax rate of 15%.

2 Average active manager reflects 10-year trailing return histories for all U.S. stock funds in Morningstar Principia database, excluding specialty funds, for period ending 06-30-06. Tax drag was calculated by comparing the pre-liquidation 10-year after-tax returns to the pre-tax returns. Actual cost for active was -1.8%, but the historical penalty was adjusted downward to reflect current maximum federal tax rates of 15% for dividends, 15% for long-term gains and 35% for short-term gains. Individual tax bracket and state taxes could change this figure. State taxes are ignored, which would make the active drag worse. Taxes on liquidation are not included, which would make the active drag less onerous versus indexing.

3 Reflects expense ratio for Vanguard Total Stock Market Index, which 0.18% for Investor class shares.

4 Based on average of all no-load U.S. equity funds in Morningstar Principia database as of 12-31-06. Furthermore, the 1% drag versus indexing reflects the average shortfall from active management as quantified in academic research, e.g. see Carhart's article under Bibliography on page 49.

**Fees and Taxes Are a Drag**

Let's view those costs in the context of your picking the winner in a footrace over a thirty-year period, as shown on the left. You can bet on either runner, Indexed or Active, but if you bet on an advisor picking active managers, you would have to earn 3.1% more in total return just to match your own simple portfolio of index funds.

**How Much Do Fees Affect Wealth?**

**Growth of $100,000 over time**

Ending Balance, $000

| | Index Fund | Active | You Lost | % of Your Wealth Lost |
|---|---|---|---|---|
| **0 Yrs** | $100 | $100 | $0 | 0% |
| **10 Yrs** | $257 | $193 | -$64 | 25% |
| **20 Yrs** | $661 | $373 | -$288 | 44% |
| **30 Yrs** | $1,698 | $720 | -$978 | 58% |

Numbers reflect an assumed return of 10.4% less 0.5% fees and taxes for Index and less 3.6% fees and taxes for Active. Values do not reflect any tax upon liquidation.

If you have $100,000 to start with, that means that after thirty years you would have $1.7 million with indexing versus $0.7 million with your advisor and active managers. That difference has all gone to enrich the advisor, the manager and the government.

## Choosing an Advisor (Hiring an Advisor Step 3)

Let's say you do want help with your portfolio, a perfectly reasonable desire. How should you pick an advisor? Most consumers go with a name they've heard of or seek recommendations from friends. I recommend starting with the fees you'll be paying and understanding what you're getting for your payments. If you can find an advisor who will work on that basis, payment on an hourly basis provides the least conflict of interest, but it means you'll be monitoring and rebalancing yourself. Paying a percentage of your assets can still be fine, as long as you're comfortable with both the amount of dollars you pay and the services you actually get. Paying on a commission basis can be good value for advice, but many consumers don't understand how much they pay and what advice is actually useful.

One thing you can do with your current advisor or broker is to ask what total fees you're paying. Ask for them to put it in writing, since they can be legally liable if they don't address all the fees. Make sure that you ask the total fees that include both the advice portion (percentage of assets, commissions) and the money management component. If you're paying 2% or more of your portfolio, I recommend that you look very carefully at the choice you're making as a consumer. Personally I thing that anything over 1% is not a good deal for most consumers, which is why I think hourly billing is the smartest way to go, although it presumes a do-it-yourself orientation.

If you're interviewing a prospective advisor, ask them about their fees and why they think those fees are justified. If they claim they can pick the managers that will beat the market, they may be right, but the research data show that the odds are that on average they will be wrong. Ask prospective advisors about indexing and whether or not they are willing to work on an hourly basis.

## Where Should I Shop? (Hiring an Advisor Step 4)

Consumers face a wide variety of firms offering investment advice and management services, including both big nationally known firms and smaller independents. The following is a list of some of the types of firms offering financial advice:

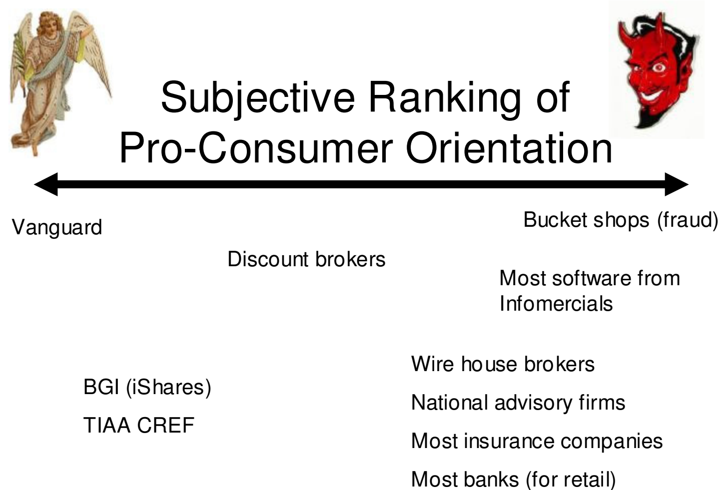
1. Full service (wire house) brokerage firms
2. Banks
3. National advisory firms
4. Insurance companies or agents

While there are lots of highly ethical people working at these types of firms, in general they tend to be expensive places to shop, although it's possible to find advisors there that charge low fees. These firms tend to target consumers who want to delegate the decisions to a professional. If you understand all the fees you're paying and you consider the services useful, then you may be content to pay high prices. However, if you suspect that you're not getting a fair deal, then you may want to consider a lower cost professional.

Discount brokerage firms like Schwab and Fidelity offer a slightly different approach, geared more toward the do-it-yourself client, but also offering advice or steering clients toward independent advisors. Discount brokerage firms can be wonderful places to keep your assets, i.e. as a custodian. However, if you seek advice there, these firms will tend to point you toward the more expensive products or expensive advisors, since they don't make much money on index funds.

Independent advisors offer some interesting variety. They can be just as expensive as traditional brokers. For example, an independent advisor charging a client 1.0% advice fee plus an average of 1.2% for money management is quite similar to a broker who charges a commission of 1.0% per year through a 12b-1 fee on top of a mutual fund expense ratio of 1.2%. On the other hand, independent advisors can also be inexpensive and offer excellent value. Again, the key is to know how much you're paying in total, irrespective of where you shop.

For do-it-yourself consumers, one choice stands out above all others, the Vanguard Group in Pennsylvania. Unlike almost all other firms, Vanguard is owned indirectly by the investors in its funds, i.e. it operates like a cooperative. Because of this unique ownership structure, Vanguard avoids most of the serious conflict of interest between profitability and telling clients the wisest way to invest. I don't agree with everything Vanguard does, but they have extraordinarily high ethics compared to the for-profit investment industry. Furthermore, they invented indexing at the retail level.




Should you as a reader of this guide be concerned that I may have a financial incentive to recommend Vanguard? Yes, you should be skeptical about the economic incentive of anyone offering you advice, but the fact is that Vanguard doesn't pay advisors or brokers to distribute its products the way most money management firms do. In other words, Vanguard doesn't provide the normal incentives to investment advisors or brokers to peddle their wares. The industry generally detests Vanguard because their fee structure makes it so clear how much profit everyone else makes.

Am I arguing that the seeking of profit is somehow unseemly and should be criticized? Absolutely not. The profit-seeking motive is what makes capitalism such a successful economic system. In fact, you could argue that indexing is capitalism at its purest form. Rex Sinquefield, a pioneer in the field, opened his talk at a Schwab conference in 1995 with the quip, "Who still believes markets don't work? Apparently it is only the North Koreans, the Cubans and the active managers." Though I'm a big fan of capitalism, I do oppose consciously misleading consumers in order to maximize profits, which is what too much of the investment industry does.

**Where Do I Go For Help?**

If you decide as a consumer that you do want help in the useful services offered by advisors, how do you find a good advisor? First, find out about the fees charged, and make sure you find out the total of all the fees, including advice fees and money management fees. You might also ask if the advisor offers hourly consulting, which can be a very cost-effective way to seek advice for consumers know as "validators," i.e. do-it-yourself types who want a little extra help.

In addition, listed below are some advisor firms that may be helpful. The listing of the following firms is merely as a convenience and in no way indicates approval, endorsement or verification of licensed status by Patrick Geddes, TransparentInvesting.com or Aperio Group LLC. Perform your own due diligence on any firm in advance of hiring them to ensure they are reputable and legitimate. The firms shown include only those who offer either 1) hourly consulting as a stand-alone service or 2) very low-cost portfolio management with relatively low minimum balances. Many reputable investment advisory firms may require higher minimums while still providing excellent service and value. However, I want to highlight some of the lowest-cost offerings here since it can be so challenging for consumers to find such vendors.

John L. Liechty, Integrated Financial Planning Solutions, LLC, john@IntegratedFPS.com, www.IntegratedFPS.com, Goshen, Indiana, 574-536-5919. Integrated Financial Planning Solutions is a fee-only financial planning firm that works on an hourly or retainer basis. Aperio Group has no ongoing economic relationship with John Liechty or Integrated Financial Planning Solutions.

Evan Oliver, Verity Wealth Advisors, evan@veritywealth.com, (415) 561-3340, http://www.veritywealth.com/, San Francisco Bay Area.
Verity offers both hourly consulting and ongoing investment management for a percentage of assets. By way of full disclosure, Verity is a client of Aperio Group, although Aperio receives no compensation for referring hourly clients to Verity.

Jane Bryk, janebryk@comcast.net, (415) 751-3330, San Francisco Bay Area.
Jane offers hourly consulting only, subject to minimums. Aperio Group has no economic relationship with Jane Bryk.

Steven Evanson, Evanson Asset Management, steven@evansonasset.com, 1-800-624-1015, http://www.evansonasset.com/, Monterey, CA.
Evanson Asset Management offers only ongoing investment management, although at relatively low fees. Aperio Group has no economic relationship with Evanson.

Rick Ferri, Portfolio Solutions, info@PortfolioSolutions.com, 800-448-3550, http://www.portfoliosolutions.com/, Troy, MI.
Portfolio Solutions offers low-cost ongoing investment management. They have one of the best discussions of fees on their web site, http://www.portfoliosolutions.com/v2/pdf/Price%20of%20Advice.pdf. Aperio Group has no economic relationship with Portfolio Solutions.

# Chapter 4 Case Studies

**Simple Investor Situation with Less than $100,000**
Robert is 32, and he's about to leave his old employer, where he has $40,000 in a 401(k) account. That's his total portfolio. Investing tends to bore Robert, so he's interested in the simplest solution that requires the least amount of effort, but he's also very anxious about risk, in spite of his long time horizon. The Vanguard Target Retirement 2040 would be Robert's normal default, but he decides to scale back the Risky/Safer allocation by choosing the Target Retirement 2025. He contacts Vanguard and transfers the assets directly from his old employer's 401(k) to a rollover IRA at Vanguard in the Target Retirement 2025.

**Complicated Investor Situation with Less than $100,000**
Donna, age 58, has a total of $80,000, split between $55,000 in an IRA and $25,000 in a taxable account. She's saving for her retirement in seven years, but she wants to be very aggressive in terms of her investment portfolio, willing to bear significant risk in exchange for higher return. The Target Retirement 2015 would allocate 60% Risky and 40% Safer, but she wants higher returns, so she will go with 75% Risky and 25% Safer. For the 25% Safer she picks the Vanguard Intermediate Bond Market Index for $20,000, all of which should be in the IRA account. The remaining $60,000 will be allocated to Risky, with $35,000 in the IRA and all of the taxable $25,000. As she is an aggressive investor, she wants to have 30% of her risky in foreign stocks, so she puts $18,000 (30% of $60,000) in the Vanguard Total International Index fund in a taxable account. The remaining $35,000 in the IRA and another $7,000 in taxable would go in the Vanguard Total Stock Market index fund in two separate accounts. Now her overall portfolio looks like a good balance, although the individual components may not, e.g. most of her taxable assets are in international stocks.

**Simple Investor Situation with $100,00 to $1,000,000**
Sam and Wendy are a retired couple in the early 80s who have just sold a house for net proceeds of $700,000. Their taxable income is $60,000 from social security and pensions. They put all of their assets in the Vanguard Target Retirement Income fund since they want to have as simple a portfolio as possible.

**Complicated Investor Situation with $100,00 to $1,000,000**
Susan has a portfolio worth $500,000, spread between a taxable brokerage account worth $300,000 with individual U.S. stocks she has bought over the years, $100,000 in actively managed stock mutual funds (taxable) plus $100,000 in fixed annuities in her retirement plan at the county government where she works. Her income is $110,000, and she is not married. All of her portfolio is earmarked for her retirement in ten years. Even though she has a lot of stock risk currently, she is quite pessimistic about the stock market, and wants to reduce her risk.

Normally Susan might end up with a Risky/Safer allocation of about 70%/30% since her retirement doesn't begin for ten years, and the mid-point of her retirement will probably

be about twenty years from now. Since she is so pessimistic, let's assume she can tolerate only 60% of the retirement assets in risky assets, with the remaining 40% in safer assets.

Furthermore, let's assume that she can sell all of the actively managed stock funds at little or no capital gain, but that $120,000 of the individual stocks are very low basis stocks that she would prefer to keep, with the remaining $180,000 of individual stocks available for sale at little or no gain. That means that Susan will keep the $120,000 in individual U.S. stocks, but can invest $280,000 ($180,000 from sale of stocks and $100,000 from sale of stock funds).

Even though the annuities may not be a good low-cost choice, they are her only alternative at her employer, and it's still usually a good idea to contribute even if the choices aren't ideal. The annuities represent 20% of her portfolio. Since she wants to have 40% in safer assets, she'll need to add $100,000 in bonds to get to a total of $200,000, or 40% of her total. Since her income is fairly high, Susan should put the $100,000 in the Vanguard California Intermediate Tax-Exempt fund (assuming she's a resident of California).

Now for the Risky bucket. Since she's keeping $120,000 in U.S. stocks, she needs to invest the remaining $180,000 in proceeds from the sale of the stocks and funds. To get 20% of her Risky allocation into foreign stocks, she should invest $60,000 (20% of $300,000) in the Vanguard Total International stock fund. That leaves $120,000 for the Vanguard Total Stock Market fund, Admiral, which gets her to her new lower-risk asset allocation.

**Simple Investor Situation with Greater than $1,000,000**

William, age 32, is an entrepreneur from California who has just sold his company for $2,500,000. His income is $250,000 per year. He wants to spend $500,000 on a down payment for a house in the next year or two, but the rest of his assets are for his retirement. William is comfortable with a 90% risky allocation for the retirement assets.

William should put the $500,000 for the down payment in the Vanguard California muni money market fund since he may need the cash at any time. For his remaining $2,000,000, he should put $200,000 in the Vanguard California Intermediate tax-exempt Admiral fund (a lower-cost fund with a minimum investment of $100,000). The remaining $1,800,000 should be allocated with $360,000 (20% of $1,800,000) to the Vanguard Total International Stock fund, and the remaining $1,440,000 in the Vanguard Total Stock Admiral fund.

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**Complicated Investor Situation with Greater than $1,000,000**

Barbara, a 26-year old Texas resident, has just inherited $4,000,000. She has a very long time horizon, and can tolerate a high level of risk, so she is interested in a risky allocation of 90%, but she wants to invest in the broadest possible range of assets, including an emphasis on small U.S. companies and a heavy weighting on foreign stocks, especially emerging markets. She also wants to spread her risk more widely by holding real assets. Her portfolio would look like this:

| Asset Class | Fund Name | $ Amount | Pct. |
|---|---|---|---|
| U.S. Stocks | Vang. Total Stock Market Index, Admiral | 1,400,000 | 35% |
| U.S. Stocks | Vang. Small-Cap Index, Admiral | 300,000 | 8% |
| Foreign Stocks | Vang. Total International Stock Index | 900,000 | 23% |
| Foreign Stocks | Vang. Emerging Markets Stock Index, Admiral | 200,000 | 5% |
| Bonds | Vang. Intermediate Term Tax-Exempt, Admiral | 400,000 | 10% |
| Real Assets | Vang. REIT Index Fund, Admiral | 600,000 | 15% |
| Real Assets | iPath Dow Jones AIG | 200,000 | 5% |

# Chapter 5 Worksheets

| Account | U.S. Large Stocks | U.S. Small Stocks | Foreign Stocks | Real Assets | Bonds | Cash | Total |
|---|---|---|---|---|---|---|---|
| Taxable Mutual Fund | | | | | | | $ |
| Taxable Brokerage | | | | | | | $ |
| Family Trust | | | | | | | $ |
| 401(k) | | | | | | | $ |
| IRA | | | | | | | $ |
| ________________ | | | | | | | $ |
| ________________ | | | | | | | $ |
| ________________ | | | | | | | $ |
| ________________ | | | | | | | $ |
| ________________ | | | | | | | $ |
| ________________ | | | | | | | $ |
| | | | | | | | $ |
| Total | $ | $ | $ | $ | $ | $ | $ |
| % of Portfolio | % | % | % | % | % | % | 100.0% |

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## Vanguard Target Retirement Funds

| Effective time horizon (midpoint of est. yrs in retirement)* | | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Vanguard Target Retirement Funds | | | | | | | | | | |
| **Fund Name** | **Asset Class** | **Income** | **2005** | **2010** | **2015** | **2020** | **2025** | **2030** | **2035** | **2040** | **2045** | **2050** |
| Vanguard Prime | Money Market | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vanguard Total Bond Index | Intermediate-Term Bond | 45 | 42 | 41 | 36 | 28 | 21 | 13 | 10 | 10 | 10 | 10 |
| Vanguard Inflation-Protected Bond | Inflation-Protected Bond | 20 | 13 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vanguard Total US Stock Market | US Stocks | 24 | 35 | 44 | 51 | 58 | 63 | 70 | 72 | 72 | 72 | 72 |
| Vanguard Europe | Europe Stock | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 10 | 10 | 11 | 11 |
| Vanguard Pacific | Japan Stock | 2 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 5 |
| Vanguard Emerging Market | Emerging Markets Stock | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| **Expense Ratio** | | **0.21%** | **0.21%** | **0.21%** | **0.21%** | **0.21%** | **0.21%** | **0.21%** | **0.21%** | **0.21%** | **0.21%** | **0.21%** |
| **Ticker Symbol** | | **VTINX** | **VTOVX** | **VTENX** | **VTXVX** | **VTWNX** | **VTTVX** | **VTHRX** | **VTTHX** | **VFORX** | **VTIVX** | **VFIFX** |
| | "Not Risky" | 70 | 56 | 45 | 36 | 28 | 21 | 13 | 10 | 10 | 10 | 10 |
| | "Risky" | 30 | 44 | 55 | 64 | 72 | 79 | 87 | 90 | 90 | 90 | 90 |
| | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | US Stocks | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| | Foreign Stocks | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

*Years in retirement based on our estimate of a life expentancy of 89 minus beginning of retirement at 65.

## Build Your Own Diversified Portfolio

**Effective time horizon (midpoint of est. years in retirement)*:** 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55

**Low Minimum Portfolios ($3,000 each fund)**

| Fund Name | Category | Expense Ratio | Ticker | Asset Allocation % 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vanguard Prime Money Market(1) | Money Market | 0.29 | VMMXX | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vanguard Intm Bd Idx(2) | Interm.-Term Bond | 0.18 | VBIIX | 45 | 42 | 41 | 36 | 28 | 21 | 13 | 10 | 10 | 10 | 10 |
| Vanguard Infl-Prot Secs | Interm.-Term Bond | 0.20 | VIPSX | 20 | 13 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vanguard Tot Stk | US Stocks | 0.19 | VTSMX | 24 | 35 | 44 | 51 | 58 | 63 | 70 | 72 | 72 | 72 | 72 |
| Vanguard Eur Stk Idx | Europe Stock | 0.27 | VEURX | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 10 | 10 | 11 | 11 |
| Vanguard Pac Stk Idx | Japan Stock | 0.27 | VPACX | 2 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 5 |
| Vanguard Em Mkt Idx | Diversified Emerging Mkts | 0.42 | VEIEX | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| ***Wtd Avg Expense Ratio*** | | | | ***0.20*** | ***0.20*** | ***0.20*** | ***0.20*** | ***0.20*** | ***0.20*** | ***0.21*** | ***0.21*** | ***0.21*** | ***0.21*** | ***0.21*** |

**Higher Minimum Portfolios ($100,000 for some funds)**

| Fund Name | Category | Expense Ratio | Ticker | Asset Allocation % 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vanguard Prime Money Market(1) | Money Market | 0.29 | VMMXX | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vanguard Intm Bd Idx Adm(3) | Interm.-Term Bond | 0.11 | VBILX | 45 | 42 | 41 | 36 | 28 | 21 | 13 | 10 | 10 | 10 | 10 |
| Vanguard Infl-Prot Secs A | Interm.-Term Bond | 0.11 | VAIPX | 20 | 13 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vanguard Tot Stk Adm | US Stocks | 0.09 | VTSAX | 24 | 35 | 44 | 51 | 58 | 63 | 70 | 72 | 72 | 72 | 72 |
| Vanguard Eur Stk Idx Adm | Europe Stock | 0.17 | VEUSX | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 10 | 10 | 11 | 11 |
| Vanguard Pac Stk Idx Adm | Japan Stock | 0.17 | VPADX | 2 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 5 |
| Vanguard Em Mkt Idx | Diversified Emerging Mkts | 0.42 | VEIEX | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| ***Wtd Avg Expense Ratio*** | | | | ***0.12*** | ***0.11*** | ***0.11*** | ***0.11*** | ***0.11*** | ***0.11*** | ***0.11*** | ***0.11*** | ***0.11*** | ***0.11*** | ***0.11*** |

(1) For CA taxable portfolios use the following fund instead:

| Vanguard CA Muni Money Market | Money Market | 0.13 | VCTXX |
|---|---|---|---|

(2) For CA taxable portfolios use the following fund instead:

| Vanguard CA IT T/E | Muni California Int/Sh | 0.16 | VCAIX |
|---|---|---|---|

(3) For CA taxable portfolios use the following fund instead:

| Vanguard CA IT T/E Adm | Muni California Int/Sh | 0.09 | VCADX |
|---|---|---|---|

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## Build Your Own Diversified Portfolio--Plus Real Assets

**Effective time horizon (midpoint of est. yrs in retirement)*** 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55

### Low Minimum Portfolios ($3,000 most funds)

| Fund Name | Category | Expense Ratio | Ticker | Asset Allocation % 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vanguard Prime Money Market(1) | Money Market | 0.29 | VMMXX | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vanguard Intm Bd Idx(2) | Interm.-Term Bond | 0.18 | VBIIX | 45 | 42 | 41 | 36 | 28 | 21 | 13 | 10 | 10 | 10 | 10 |
| Vanguard Infl-Prot Secs | Interm.-Term Bond | 0.20 | VIPSX | 20 | 13 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vanguard Tot Stk | US Stocks | 0.19 | VTSMX | 20 | 30 | 37 | 44 | 49 | 54 | 59 | 61 | 61 | 61 | 61 |
| Vanguard Eur Stk Idx | Europe Stock | 0.27 | VEURX | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 9 | 9 | 9 |
| Vanguard Pac Stk Idx | Japan Stock | 0.27 | VPACX | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| Vanguard Em Mkt Idx | Diversified Emerging Mkts | 0.42 | VEIEX | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Vanguard REIT Index | Specialty-Real Estate | 0.21 | VGSIX | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 9 | 9 | 9 |
| iPath DJ-AIGCom Id TR ETN | Specialty-Natural Res | 0.75 | DJP | 1 | 2 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 |
| | | | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| ***Wtd Avg Expense Ratio*** | | | | ***0.21*** | ***0.21*** | ***0.21*** | ***0.22*** | ***0.22*** | ***0.23*** | ***0.23*** | ***0.23*** | ***0.23*** | ***0.23*** | ***0.23*** |

### Higher Minimum Portfolios ($100,000 for some funds)

| Fund Name | Category | Expense Ratio | Ticker | Asset Allocation % 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vanguard Prime Money Market(1) | Money Market | 0.29 | VMMXX | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vanguard Intm Bd Idx Adm(3) | Interm.-Term Bond | 0.11 | VBILX | 45 | 42 | 41 | 36 | 28 | 21 | 13 | 10 | 10 | 10 | 10 |
| Vanguard Infl-Prot Secs A | Interm.-Term Bond | 0.11 | VAIPX | 20 | 13 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vanguard Tot Stk Adm | US Stocks | 0.09 | VTSAX | 20 | 30 | 37 | 44 | 49 | 54 | 59 | 61 | 61 | 61 | 61 |
| Vanguard Eur Stk Idx Adm | Europe Stock | 0.17 | VEUSX | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 9 | 9 | 9 |
| Vanguard Pac Stk Idx Adm | Japan Stock | 0.17 | VPADX | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| Vanguard Em Mkt Idx | Diversified Emerging Mkts | 0.42 | VEIEX | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Vanguard REIT Index Adm | Specialty-Real Estate | 0.14 | VGSLX | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 9 | 9 | 9 |
| iPath DJ-AIGCom Id TR ETN | Specialty-Natural Res | 0.75 | DJP | 1 | 2 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 |
| | | | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| ***Wtd Avg Expense Ratio*** | | | | ***0.13*** | ***0.13*** | ***0.13*** | ***0.13*** | ***0.14*** | ***0.14*** | ***0.14*** | ***0.14*** | ***0.14*** | ***0.14*** | ***0.14*** |

(1) For CA taxable portfolios use the following fund instead:
Vanguard CA Muni Money Market — Money Market — 0.13 — VCTXX

(2) For CA taxable portfolios use the following fund instead:
Vanguard CA IT T/E — Muni California Int/Sh — 0.16 — VCAIX

(3) For CA taxable portfolios use the following fund instead:
Vanguard CA IT T/E Adm — Muni California Int/Sh — 0.09 — VCADX

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# Chapter 6 Psychology of Investing

View video: Risk Tolerance

**Anxiety Around Investing**
A lot of the people who called about the article in *San Francisco* magazine were clearly anxious about making the best investment decisions. It's natural that people feel a lot of anxiety about money and investing.

Let's identify three separate types of worry around investing and see how we can assuage the worry.

Worry #1 **I can lose money since securities go both up and down in value.**

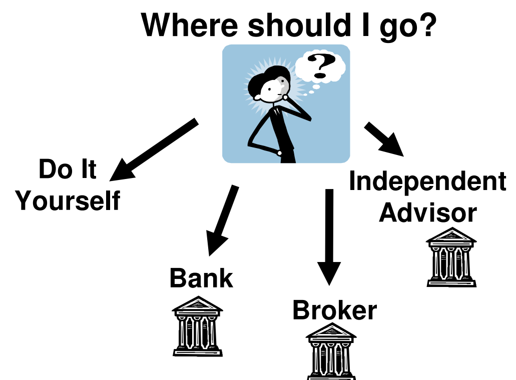
We'll call this worry the roller coaster effect since we all dislike having to face the stomach-lurching effects of the ups and downs of the market, especially loss on an investment. The fact of the matter, though, is that risk is part of investing, and that the more you assume that it's a normal and expected part of the process, the more ups and downs you can tolerate. Remember that the market generally pays you for the strength of your stomach lining.

Worry #2 **I don't know how much to save or how much I'll need to reach my financial goals. I worry that I'm not saving enough.**

We'll call this worry empty pockets since it's often about running out of money. Good planning can help you to determine the math for how much you need, but saving may still be an anxious process.

Worry #3 **I don't know where to go for help, and I'm worried I might get taken for a ride.**

This worry is quite natural since the world of investing can seem overwhelming. However, by picking the simple solution of a balanced collection of index funds, you end up with a very smart solution that happens to be simple.

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View video: Resistance & Anxiety

Educating yourself can help with all three worries, but especially #1 and #3. Consumers may not trust a simple solution like a Vanguard Target Retirement fund because it seems just too basic. We assume that something that simple must be a "dumbed down" version of good investing, whereas it's actually a very smart solution that happens to save you a lot of money and make the investment advisors grumble because they're missing all of that revenue you were paying in fees.

Ignorance may be bliss in some parts of life, but with investing it can cost you a lot of money. You may decide that you do want to manage your own portfolio, or you may decide you don't want to. Either way, you should make that decision as an informed consumer that understands the services offered by the advisory industry and the associated costs. As described in the section on the recipe card for how to choose an advisor, there are lots of services that investors can find quite valuable.

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The following is an article I wrote in 1999. The topic is still germane today.

"Zen and the Art of Portfolio Maintenance"

By now many investors have heard the story of how the vast majority of mutual fund managers can neither beat the stock market nor predict when it is going to drop. Highly complex financial models have proven that most investors should simply buy index mutual funds, i.e. funds that buy the entire market instead of trying to guess the future winners. Because mutual fund managers charge such high fees, they start a race handicapped with the weight of covering those expenses, which makes it particularly difficult to beat the stock market as a whole.

Thus individual investors face the sad reality that most of the time neither they nor professional managers add value by trying to pick the best stocks or mutual funds. Yet if we don't actively manage our portfolios, what's left for investors to do? We can shift our focus to the challenge of actively managing ourselves and our emotions, and we can learn from Zen Buddhism how to achieve this new goal.

Long-term investors face the hurdle of remaining calm when facing two emotional dangers of owning stocks: the urge to panic and sell out during a market collapse and the fear of picking the wrong stock or mutual fund from the bewildering array of available choices. Both of these fears can be allayed by utilizing concepts found in Zen Buddhism: detachment and humility. Detachment can help investors ride through market upheavals by taking the long-term perspective instead of getting attached to the emotional turmoil of the moment. Humility can help us since knowing the virtual impossibility of picking the perfect investment in advance frees us to make the simple yet wise choice of investing in index funds and giving up the futile effort to beat the market. A steady portfolio of index funds offers Zen-like simplicity, yet is backed up by the best of Western quantitative analysis like risk-adjusted multivariate regression models.

Numerous research findings by financial academics and practitioners show that most of us, at least to some extent, tend to buy into markets at the peak and sell out at the bottom. We commit this mistake because we lose confidence in our original plans when markets go awry. The trouble is that markets always go awry; it's in their very nature.

We can take advantage of the Buddhist concept of detachment to help us avoid such panic by conditioning ourselves not to get as swept away by our emotions when investing. One Buddhist meditation technique entails picturing one's thoughts and emotions as the flow of a river. When thoughts or emotions enter the mind, the person meditating acknowledges them, but doesn't become attached to them, instead letting them flow on down the river and out of consciousness. Like the person focusing on the river, we can watch the ticker tape go by without frenetically jumping up, thinking we have to do something. When investing, we benefit by practicing detachment toward all of the noise and hysteria in coverage by the financial media or in conversations with others.

Besides panic during bear markets, investors also face the problem of analyzing a bewildering number of individual stocks or mutual funds and the bombardment of advice about how to do so. Naturally we fear making the wrong choice, since something as critical as our retirement or our children's education can depend on making the perfect decision. The pressure to choose well ourselves or uncertainty over whether to hire a professional adviser can trigger as unpleasant an emotional response as watching one's assets shrink during a market downturn.

Buddhism often teaches that the ego gets in the way of experiencing life to the fullest, and as investors we can take advantage of this concept of humility to improve our portfolios. In Buddhist thought, humility allows us to accept the imperfection we all face in ourselves or in financial markets. A failure to be perfect worries us as investors since we too often assume that we should be able to predict markets, e.g. cleverly getting out of the stock market right before it collapses. We also think we should be able to identify the next Microsoft or Wal-Mart, buying in while it's still incredibly cheap.

To help people learn humility, Zen masters teach a technique known as "don't-know mind," in which a person tries to empty the mind of all noise, approaching the truth through a quiet letting go of distractions. "Don't-know mind" helps calm the confusion from information overload. Index funds allow us to apply this concept in our portfolios: we buy them precisely because we don't know in advance which stocks or mutual funds will earn the highest return.

How do we actually implement the Buddhist concepts of detachment and humility in our portfolios? The solution is actually quite simple, though not at all sexy: buy a well-balanced portfolio of stock and bond index funds and then never trade them until you need the money. A well-balanced portfolio should include a fund that covers the entire US stock market, plus a small portion in an international stock index fund. Bond index funds offer an inexpensive and simple solution for those who can tolerate less risk or require an income from their investments.

When buying index funds, be sure that the expenses are as low as possible and that the index covers as large a universe of securities as possible. Vanguard offers the best selection of index funds and generally the lowest fees, though other firms like Fidelity, Charles Schwab and T. Rowe Price also offer index funds.

Buying index funds solves the highly complex problem of constructing and maintaining an investment portfolio by taking advantage of the best of both East and West. A fairly constant portfolio of index funds may not bring inner peace and harmony, but we can avoid a lot of unnecessary worry, which is at least a step in the right direction.

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# Chapter 7 Heroes of Transparent Investing

For many people, the great heroes of investing are those who have earned the highest returns over time, brilliant investors such as Warren Buffet. While I do admire Buffet and would not argue that he has just been lucky, I'm officially anointing John Bogle and David Swensen as Transparent Investing Heroes.

**John Bogle**
Also know as "Saint Jack" for his strong pro-consumer stance, Bogle has argued eloquently about the importance of fees and advantages of indexing. However, his biggest contribution is having made Vanguard what it is today, a place where both retail and institutional consumers can shop and be sure of getting honest treatment. Besides its emphasis on indexing, Vanguard is unique among investment managers in the United States because it's owned indirectly by those who invest in its funds, basically a cooperative. That structure means that Vanguard does not face the same conflict of interest inherent in the investment advisory business, that what's good for the advisor is often the opposite of what's good for the consumer.

I'd admire Bogle just for the voice he has brought to the investment world and the way he has battle for consumers. What really sets him apart is his conscious decision in the creation of Vanguard not to enrich himself at the expense of consumers. Given how large and successful Vanguard has become, Bogle could have had the opportunity to amass a personal net worth similar to that of Ned Johnson, an owner of Fidelity, whose family's fortune is usually estimated as over $10 billion (see *Forbes* magazine for rankings of wealthiest people). Bogle earns hero status because he has been willing to stand up for consumers at considerable cost to his own personal wealth.

**David Swensen**
Swensen has been the Chief Investment Officer of Yale University since 1985. He has earned extraordinary rates of return for the university's endowment and thus earned widespread admiration as one of the best investors of the past twenty years. In addition, Swensen has written *Unconventional Success*, a book for retail investors warning about the dangers of high fees and how much the mutual fund industry has enriched itself at the expense of investors.

Swensen would be worthy of admiration just for the combination of his investment success and his consumer advocacy. Beyond those qualities, though, Swensen, like Bogle, has proved his integrity by walking away from enormous personal wealth in order to remain true to his values. Swensen has earned fame for setting his compensation ridiculously low, earning about $1 million per year rather than what would probably be well above $100 million per year were he running his own investment firm. (See http://www.yalealumnimagazine.com/issues/2005_07/swensen.html or *Trader Monthly* magazine for details.)

Both of these people have combined brilliant investment knowledge and execution along with extraordinary integrity. Both in their way have helped make the world of investing a

little more transparent. Should they be admired because they walked away from personal enrichment? No, but their credibility is significantly higher than others in the investment industry arguing against indexing, who have significant economic incentive to prevent consumers from learning just how damaging high fees can be to wealth.

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# Chapter 8 Resources

### Web Sites

| Web site | Description |
|---|---|
| www.morningstar.com | Excellent source for information about fund statistics; offers premium service for a fee |
| https://flagship.vanguard.com/VGApp/hnw/FundsByType | List of Vanguard funds by asset class. Useful for researching composition of funds, e.g. Target Retirement and current yield on bond or money market funds |
| https://flagship.vanguard.com/VGApp/hnw/planningeducation/retirement/PEdRetInvHowMuchToSaveContent.jsp#early | Vanguard's retirement calculator |
| http://www3.troweprice.com/ric/RIC/ | T. Rowe Price retirement calculator |
| http://www.ennisknupp.com/DesktopDefault.aspx?tabid=22 | Research summary from EnnisKnupp, an excellent independent pension consultant |
| www.pimco.com | PIMCO for Bill Gross's monthly market commentary (focused on bonds) |
| www.gmo.com | GMO's Jeremy Grantham is one of the most respected tactical asset allocators, meaning the opposing viewpoint from static asset allocation as espoused in this seminar |
| http://www.uesp.org/index.html | Utah's 529 plan, the recommended default |
| http://www.collegeadvantage.com/cms.aspx?SectionID=39 | Ohio's 529 plan. Choose Vanguard funds only. Can take a little more work than Utah's, but can be slightly cheaper for low balances. |

### Books

*Unconventional Success*, David Swensen.
An excellent work by the head of Yale's endowment. Fairly technical, but a great exposé of the for-profit mutual fund industry and the importance of taxes. Swensen is not only one of the most successful and admired people in the investment world, he's also among the most ethical.

*The Little Book of Common Sense Investing*, John C. Bogle

*Personal Finance for Dummies*, Eric Tyson.

*Investment Policy*, Charles D. Ellis

*A Random Walk Down Wall Street*, Burton Malkiel

*The Smartest Investment Book You'll Ever Read,* Daniel Solin

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Recent and straightforward research on indexing out-performing active for mutual funds. Excellent bibliography and summary of research challenges.

"On Persistence in Mutual Fund Performance," Mark M. Carhart, *The Journal of Finance*, Vol. LII, No. 1, March 1997, pp. 57-82. In one of the best works of academic research, Carhart found that 80% to 90% of domestic active managers do not outperform the index. He found some consistency among the very worst and the very best.

"The Persistence of Risk-Adjusted Mutual Fund Performance," Edwin J. Elton, Martin J. Gruber, Christopher R. Blake, *Journal of Business*, 1996, vol. 69, no. 2, pp. 133-157.
"A Study of Monthly Mutual Fund Returns and Performance Evaluation Techniques," Mark Grinblatt and Sheridan Titman, *Journal of Financial and Quantitative Analysis*, Vol. 29, No. 3, September 1994, pp. 419-444.

"Returns from Investing in Equity Mutual Funds 1971 to 1991," Burton G. Malkiel, *The Journal of Finance*, Vol. L, No.2, June 1995, pp. 549-572.

"Determinants of Persistence in Relative Performance of Mutual Funds," David A. Volkman and Mark E. Wohar, *The Journal of Financial Research*, Vol. XVIII, No. 4, Winter 1995, pp. 415-430.

"Do Winners Repeat?" William N. Goetzmann and Roger G. Ibbotson, *The Journal of Portfolio Management*, Winter 1994 pp. 9-18.

"Mutual Fund Investment Performance," William G. Droms and David A. Walker, *The Quarterly Review of Economics and Finance*, Vol. 36 No. 3, Fall 1996, pp. 347-363.

For research on market timing, I'll quote from a report by Ennis, Knupp, one of the premier pension consulting firms in the U.S., who said, "Few investment strategies have been debunked—by academics and practitioners alike—as roundly as has market timing. Oft-cited studies include those of Treynor & Mauzy (1966), Alexander & Stover (1980), Veit & Cheney (1982), Henriksson (1984), Kon (1983), Chang & Lewellen (1984), Chua & Woodward (1988) and Shukla & Trzcinka (1992)."

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# Glossary

| | |
|---|---|
| 12b-1 Fees | Ongoing expenses charged to cover the cost of paying a broker or other distribution channel. Originally designed to allow brokers to sell load funds yet spread the charge over a longer period, typically five years. In other words, instead of charging a client five percent up-front for the purchase of a fund, the client is charged 1 percent per year for five years. |
| Alpha | The value added by a fund's manager, adjusted according to the fund's beta. Valid only if one believes in the Capital Asset Pricing Model and if the explanatory index is valid. |
| Asset allocation | The overall weighting of a portfolio in asset classes such as domestic stocks, international stocks, bonds and cash. |
| Beta | A comparative measure of risk and return relative to an index. |
| Closed end fund | A mutual fund that trades on the stock exchange rather than being bought and sold directly by the fund. Closed end funds trade at premiums and discounts, i.e. amounts greater or less than the fund NAV. |
| Duration | A measure of a bond or bond fund's sensitivity to changes in interest rates, measured in years. A duration of five years means that a bond's price will drop by approximately five percent if interest rates rise by one percent. |
| Efficient frontier | The best combinations of risk and return available by all possible portfolios, determined by software called an optimizer. |
| Emerging markets | Securities from the less-developed economies of the world, e.g. Thailand, Turkey, etc. |
| Expenses | Ongoing charges against the assets in a fund, consisting of both operating expenses and 12b-1 fees. |
| Growth style | A type of equity investing in which managers focus on stocks with high P/E and P/B ratios. The rational for growth investing is the expected earnings growth of the stocks purchased, with price as a secondary consideration. |
| Index | A combination of securities used to represent an entire market, e.g. Dow Jones Industrial Average, S&P500. |
| Index fund | A mutual fund that purchases all or the equivalent of all securities in an index, thus avoiding any research expenses and generally ensuring low turnover. |
| Junk bond | A bond with a credit rating BB or below, also known as "high-income" bond. |
| Large-cap | Stocks or a mutual fund buying stocks that have large market capitalizations, typically greater than $10 billion. |

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|---|---|
| Load | A sales charge paid to a planner or broker in exchange for selecting a fund, paid either up-front or on an ongoing basis through a 12b-1 fee. |
| Load fund | A mutual fund that charges a load. |
| Market capitalization | The total stock market value of a stock, calculated by multiplying the share price times the number of shares outstanding. |
| Money market | Also known as cash, this asset class is debt of less than one year in maturity. Money market mutual funds seek to maintain a stable price of $1 per share, though they're not guaranteed by the FDIC or the fund company. |
| Muni bond | A bond that pays interest exempt from federal tax. California charges no income tax on munis from within the state. |
| NAV | Net Asset Value, the share price of a mutual fund, calculated by adding together the total market value of all securities held by the fund and dividing by the number of shares outstanding. |
| No load fund | A mutual fund that charges no loads at all. Technically, a fund must charge no 12b-1 fees to qualify as a "pure" no load. |
| Open end fund | A mutual fund for which the fund company readily buys and sells shares directly. The amount of money invested can fluctuate as investors add to or subtract from their shares in the fund. |
| Operating expense | The ongoing charge to pay the management and administrators of a mutual fund. Both load and no-load funds charge operating expenses. |
| Optimizer | A software that calculates the ideal combination of assets to maximize return and minimize risk, based on the statistics of portfolio risk. Unfortunately the exact returns, standard deviations and correlations can be know precisely only for the past, not the future. |
| P/B ratio | The price-to-book ratio, a measure of how much a stock costs compared to the book value of its equity. |
| P/E ratio | The price-to-earnings ratio, a measure of how much a stock costs compared to the amount it its earning. The P/E represents the amount investors are willing to pay for each $1 of earnings, based on the assumed growth of earnings in the future. Microsoft trades at a higher P/E than PG&E because investors think its earnings will grow more rapidly. |
| $R^2$ | A statistical measure of correlation and the quality of a fund's beta and alpha, it ranges between 0% and 100% and indicates how much of a fund's volatility can be explained by an index. |

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|---|---|
| REIT | Real Estate Investment Trust, a stock that comprises real estate holdings. REITs allow investors to own real estate indirectly. |
| Sharpe ratio | Excess return of a fund over the T-bill rate, divided by the fund's standard deviation. The Sharpe ratio measures the return earned for each unit of risk taken. |
| Small-cap | Stocks or a mutual fund buying stocks that have small market capitalizations, typically less than $1billion. |
| Standard deviation | A statistical measure of dispersion around the mean, it's the most commonly used method to quantify risk. |
| Turnover | The amount of buying and selling of a fund's assets. An annual turnover of 100% means that on average each holding is sold once per year. |
| Value style | A type of equity investing in which managers focus on stocks with low P/E and P/B ratios. The rational for value investing is the superiority of stocks with low prices, with earnings growth prospects as a secondary consideration. |

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