

Index and Enhanced Index Funds

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DIMENSIONAL FUND ADVISORS' INVESTMENT STRATEGIES provide access to a wide range of fixed income and equity risk dimensions. The funds under management are either "index funds," designed to closely track the returns of an index, or "enhanced index funds." Of the assets under management, approximately 90% are invested in enhanced index funds and 10% are invested in straight index funds. Our enhanced index funds add 100-200 basis points a year over conventional benchmarks while tracking their benchmarks almost as well as index funds.

The purpose of this paper is to develop a case for the use of index funds and, by extension, our type of enhanced index funds.

The Research into Fund Management

Index funds were first launched in the early 1970s. The motivation for indexing was the poor performance of what might be called "conventional" active management, the attempt at improving returns through stock selection and market timing.

Today, we take for granted the calculation of time-weighted rates of return and the availability of comparative universes for professionally managed funds. Before the mid-1960s, there was neither a generally accepted way to calculate a total return nor a way to compare the returns of different funds. This all changed with the advent of computers and the collection of data for mutual funds as well as for individual stocks and bonds. For the first time, investors could calculate returns on a consistent basis and compare their returns with the returns achieved elsewhere. And, for the first time, they became aware of the poor performance of professional money managers.

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Exhibit 1 typifies the findings. The Wall Street Journal article reports that, based on the newest methods of analyzing investment returns, the average mutual fund underperformed its risk-adjusted benchmark by 140 basis points (1.4%) a year. The findings are consistent with previous research. There is now more than 30 years of research into fund performance, covering a span of over 50 years. The research is clear: In every time period examined, active management has lower returns than would be expected from index funds. And the results are the same for all equity styles. In his article “Mutual Fund Performance and Manager Style,” Davis finds that both small cap and large cap stock funds, both growth and value funds, all underperform risk-adjusted benchmarks.

Upon hearing about the research findings, investors sometimes respond that they are not concerned about the results of the average manager. They plan on hiring only the above-average managers. Exhibit 2 is a follow-up Wall Street Journal article that addresses that bit of wishful thinking. Once again, the conclusions are revealing. Managers with good track records are no more likely to have good records in the future than are managers with poor returns. The one bit of consistency concerns the funds with poor track records—they are more likely to have poor future returns than are other funds. With high fees and high turnover rates it is easy to be a consistent loser.

The performance of pension funds and outside investment consultants mirrors that of mutual funds. Some argue that pension funds and other investment professionals should have better returns than mutual funds because professional investors should be able to select the best managers. The results indicate they do not. The only difference in performance can be explained by their ability to negotiate lower management fees than those charged by mutual funds.

The negative view of professionally managed funds is not restricted to the U.S. Quigley and Siquefield, in their article “Performance of U.K. Equity Unit Trusts,” report the performance of actively managed U.K. funds is even worse than the performance of U.S. funds.

Thus, part of the case for indexing is based on extensive empirical research. Before fees, the track records of traditional managers are similar to what would be expected from a room full of orangutans throwing darts at stock and bond listings. After fees, the expected distribution of results is better for the orangutans because they are assumed to work for bananas.

Index funds, with low management fees and low turnover costs, always rank high in long-term performance studies. They have ranked in the top of the comparative universes since their inception in the 1970s, the 1980s, and the 1990s.

It is astonishing that more investors do not embrace index and enhanced index funds. In Exhibit 3, Jonathan Clements writes a third article that describes the “lottery” thinking of investors.

What Seems to Matter

Investors should be happy with the research findings. Ignoring fee differentials, systematic differences in average portfolio returns can be explained by differences in average risk. Portfolio management becomes an issue of asset allocation across the dimensions of risk rather than an issue of which money manager is best.

Over the last 35 years, academics have led the way in improving our understanding of risk and return in public securities markets. Currently, the generally accepted view of leading academics is that risk can be thought of as having the following dimensions:

- (1) Fixed income. The two dimensions of fixed income risk appear to be maturity and quality. Low quality obligations have higher returns than high quality obligations. To some, the difference is so great that they invest in high-yield strategies. The maturity dimension is somewhat more complicated. Longer-term obligations do not have reliably higher average returns than shorter-term obligations, even though their prices fluctuate more. Investors concerned about return volatility should shrink away from long-term obligations.
- (2) Stocks. The two dimensions explaining differences in average equity returns appear to be related to company size and financial health. Exhibit 4 displays the differences in average returns calculated by Fama and French for large cap vs. small cap stocks and for value stocks vs. growth stocks. Value stocks are low-priced stocks, which are biased toward financially unhealthy companies. Growth stocks represent high-priced, financially healthy companies.

In essence, risk is related to distress in an intuitively appealing way. Financially distressed companies have higher costs of capital than financially healthy companies. When they borrow from a bank, they pay higher interest rates. When they issue stock, they receive lower prices.

Cost of capital is the flip side of the coin from investment return. A firm’s cost of capital is an investor’s expected return. If a company sells off 20% of its stock, the investor gets a claim of 20% of the earnings forever. The return received by the investor is a return forgone by the company.

Exhibit 5 displays the negative relation between profitability and average stock returns. Value stocks and small cap stocks are less profitable than are growth and large cap stocks, but their returns are higher. It is hard to believe a stock market could behave any differently. What would the world be like if the largest, safest companies offered the highest average returns? The two dimensions of stock returns rightfully appear in all of the stock markets around the world.

The Fatal Flaw of Active Management

The positive relation between distress and returns drives a spike through the heart of active management. Not many active managers invest in companies with poor earnings prospects and poor management. But, these are the companies with high costs of capital and high expected returns. Much of the 140 basis point shortfall from active management could be due to their selling companies whose costs of capital have increased recently and buying companies whose costs of capital have declined recently.

Shifting risk levels to avoid distress also explains why the return for the average investor is less than the return for the average fund in which they invest, according to a Dalbar study. The average investor equity return is about 1,000 basis points (10%) per year lower than the S&P 500 Index.

Similarly, the relation between distress and returns causes problems for fund trustees. Expected stock returns tend to be highest when economic prospects look bleak, and lowest when economic prospects look bright. Trustees move in the opposite direction. When economic prospects worsen, stock prices drop and trustees want to reduce their equity commitments. They want to increase equity commitments when economic prospects look bright. The market has already discounted those prospects, so the timing of the equity commitment lowers average returns.

Tax Considerations

For taxable investors, the case against conventional stock management is even stronger than it is for tax-exempt investors. With its high portfolio turnover rates, conventional active management generates a much larger portion of its returns in the form of taxable capital gains.

Index funds can be engineered to eliminate most capital gains distributions. An index fund holds all of the winners and losers. To the extent that it is forced to recognize a capital gain, there are usually ample numbers of losers in a portfolio that can be sold to eliminate the capital gain. Sampling techniques can be used to eliminate much of the dividend income as well, without sacrificing total return.

Exhibit 6 displays the greater tax liability of active managers. Two of the best-performing funds have been Janus and Magellan. Once taxes are deducted, Morningstar reports that the after-tax return for the two funds is less than the after-tax return of Vanguard's S&P 500 Index Fund. If an index fund could eliminate the dividend income without reducing the total return, it would rank in the top 4% of funds over the last 15 years.

Random Drift

The research into investment return is concerned with whether conventional active management is a "fair game". Active management would be a fair game if the average actively managed fund return equaled the average benchmark index return.

Suppose active management were a fair game instead of a game that loses 140 basis points a year. Based on the agony of random drift, it would still not be a game worth playing.

One example of a fair game is a coin-tossing gamble. Almost no one would wager millions of dollars on the flip of a coin, no matter how fair the flip. Similarly, it does not make sense to wager large sums of money on an active manager, whose performance is erratic at best, when an index fund closely tracks the performance target. For any year, the return for an equity fund can only be predicted to be within the S&P 500 return $\pm 7.5\%$, approximately equal to the standard deviation of S&P 500 returns. Even though drift is random, the volatility of active manager drift is almost half as large as the volatility of the stock market.

Exhibit 7 displays the performance of three equity risk factors developed by Fama and French: the market factor ($R_m - R_f$), the size factor (SMB), and the book-to-market factor (HmL). The random drift in returns for these factors is readily apparent. Note that the risk premium in stocks is negative for the 17-year period 1965-81. Investors often want to make decisions based on the most recent 5-year or 10-year period. Unfortunately for such investors, the magnitude of stock returns makes it difficult to make informed decisions over such short intervals.

Types of Index Funds

There has been a rapid increase in the development of index funds. The most popular type of index fund is the S&P 500 Index fund, which tracks the performance of the largest 500 U.S. stocks. It is a large cap growth index. The international equivalent is the MSCI EAFE (Europe, Australia, and Far East) Index fund.

Based on the research into the dimensions of equity returns, we pioneered the development of small cap index funds as well as large cap, value, and the S&P 500 Index funds. These types of funds are also available in international markets, both developed and emerging.

Real estate appears to be a separate asset class, sufficiently different from the two dimensions of equity returns to justify a separate commitment. We offer an REIT index fund for investors wanting real estate exposure through marketable securities.

Fixed income can also be accessed through index funds. There are long-term, intermediate, and short-term funds. Almost all are high quality, because high-yield investing requires significantly more subjective decision-making.

Asset Allocation: The Essence of Portfolio Management

In a nutshell, academic research points to asset allocation as the main emphasis of portfolio management. Expected portfolio returns are shaped by how much is invested in stocks vs. fixed income. The fixed income expected return is largely a function of the maturity and quality decisions. The stock portfolio expected return depends on the proportions invested in international vs. domestic stocks, in value vs. growth stocks, and in small cap vs. large cap stocks.

Exhibit 8 displays the asset allocation examples for clients willing to invest in all of the equity dimensions. The commitments to the index funds are constant, which solves the problem of adverse timing. With constant commitments, the portfolio adjustments force the discipline of investing more in an asset class after it has done poorly, when its expected return may have gone up.

The purpose of including Exhibit 8 is to demonstrate that portfolio management is a sufficiently complicated task even when index funds are used. In some ways, the role of an investment committee is made more difficult, because it has to decide which asset classes should be indexed and how much to invest in each.

Once the asset mix is established, investing is less stressful. There is no second-guessing of the manager, because an index fund always provides the return of an asset class to within tight tolerances. There is no anxiety about market forecasting, because the proportion of the portfolio invested in each fund remains fixed.

In summary, logic and empirical evidence overwhelmingly favor an investment approach based on index funds. The returns are higher and the fees are lower. The returns of an asset class are assured. The discipline keeps the portfolio fully invested, thereby avoiding the adverse timing pitfall inherent in investment committees and active managers.

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Exhibit 1

The following article appeared in *The Wall Street Journal* issue of October 5, 1999.

GETTING GOING / By JONATHAN CLEMENTS

Stocks Funds Just Don't Measure Up

It's time to settle the question once and for all.

Should you buy actively managed stock funds in an effort to earn market-beating returns, or should you abandon this quest and instead plunk your money in market-tracking index funds? It's a question that goes to the heart of stock-fund investing.

To get at the answer, I turned to Ira Weiss, an accounting professor at Columbia Business School. Mr. Weiss, in turn, tapped into a database maintained by the Center for Research in Security Prices at the University of Chicago's Graduate School of Business.

What is so special about the CRSP database? For starters, it allows us to take the long view. Diversified U.S. stock funds may have kept pace with the Standard & Poor's 500-stock index in 1999, but they trailed the index in each of the prior five years, prompting much carping among investors.

The recent comparison, however, isn't entirely fair. The S&P 500's performance is heavily influenced by the biggest stocks, which have posted astonishing gains of late. By contrast, stock funds tend to own somewhat smaller companies. By tapping into the CRSP database, Mr. Weiss was able to analyze results since year-end 1961, a period that encompasses patches of strong performance by both large and small stocks.

More critically, the CRSP database includes not only funds still operating, but also those that have disappeared, because they were liquidated or merged out of existence. As you might imagine, these funds usually disappeared for a good reason: They stunk.

In fact, many fund statistics suffer from "survivorship bias." As rotten funds are put out of their misery, the average performance for the remaining funds creeps upward, making funds seem like a better bet than they really are.

To make sense of this statistical quagmire, Mr. Weiss studied performance for diversified U.S. stock funds over the 36 years through year-end 1997. The 109 funds that were around for the entire period gained an average 10.9% a year, compared with 11.6% for the S&P 500.

Thousands of funds, of course, have been introduced during this stretch. To include their performance, Mr. Weiss next calculated results for each of the 36 years, using those funds that were around in each year and are still around today. He then linked together these 36 years and calculated an average annual return. Result? Funds look a tad better, with the average climbing to 11.2%.

That, however, is as good as it gets. Remember, we are still looking only at existing funds. Over

half the funds that were around at the start of the 1970s aren't around today. What if, in calculating each year's return, you include these now-defunct funds? The average plummets to 9.9%.

"It's not only the case that the survivors lag the market," Mr. Weiss says. "When you put in all the funds, they're really, really lagging the index."

But our statistical journey isn't over. Many funds that disappeared were small. They may have performed poorly, but their poor performance wasn't inflicted on many investors. What if you weight returns by the assets each fund had at the beginning of each year? That helps modestly, pushing up the average to 10.2%.

The bottom line? After adjusting for size and survivorship bias, Mr. Weiss found that funds trailed the S&P 500 by some 1.4 percentage points a year. As it happens, that is what diversified U.S. stock funds currently charge in average annual expenses.

The result is not an unmitigated disaster. After all, in addition to annual expenses, funds incur trading costs. They also tend to hold some cash, which acts as a drag on performance. Put it all together, and maybe fund managers added some value, but not enough to overcome these various handicaps.

Before you accept Mr. Weiss's results, keep in mind a few quibbles. As advocates of active management note, funds typically take less risk than the index. That is true, Mr. Weiss says. But he found that funds trailed the S&P 500, even after adjusting for risk.

Fans of active management also note that funds often buy smaller stocks than those in the S&P 500. But this turned out to have been an advantage over the 36 years. During this stretch, the S&P's 11.6% annual gain lagged behind the 14.8% return for smaller stocks, as tracked by Chicago's Ibbotson Associates.

Moreover, in his calculations, Mr. Weiss ignored both fund sales commissions and taxes, which would have made fund returns seem even more bleak. Historically, funds have been far less tax efficient than index funds, which don't trade actively but instead simply buy and hold the stocks that constitute a market index.

Mr. Weiss's results don't surprise John Bogle, senior chairman of Vanguard Group, the Malvern, Pa., fund company, and the fund industry's most vocal proponent of index funds. For him, it is just another reason to index.

"If you earn 11.6% for 36 years, a dollar grows to \$52." Mr. Bogle notes. "If you earn 10.2%, the dollar grows to \$33? Which would you rather have, \$52 or \$33? To ask the question is to answer it."

Exhibit 2

The following article appeared in *The Wall Street Journal* issue of November 9, 1999.

GETTING GOING / BY JONATHAN CLEMENTS

Not Everyone Can Pick Funds. Really

Most stock funds fail to beat the market. Yet a lot of folks are still mighty confident they can pick the winners.

A tad delusional? Could be.

"We can't all be above-average investors," says John Rekenhaller, director of research at Chicago's Morningstar Inc. "If you survey investors, probably 80% say they're better than average. But at most, only 50% can be."

Investors' abundant self-confidence was on full display following my Oct. 5 column. In that piece, I detailed the results of a study by Ira Weiss, an accounting professor at Columbia Business School.

Prof. Weiss looked at fund performance over the 36 years through December 1997. His findings? Diversified U.S. stock funds gained 10.2% a year over that stretch, compared with 11.6% for the Standard & Poor's 500-stock index.

This 10.2% average included the performance of both existing and defunct funds and was dollarweighted, so that the result reflected which funds were most popular with investors. All of these investors, no doubt, thought they were picking superior funds, yet they wound up trailing the market by 1.4 percentage points a year.

The result underlined a brutal truth: It is extraordinarily difficult for fund managers to beat the market, because of the drag on performance caused by trading costs, annual fund expenses and the need to hold cash to pay off departing shareholders.

To me, Prof. Weiss's study seemed like a slam-dunk argument for abandoning actively managed funds and dumping everything into market-tracking index funds. But my e-mail correspondents saw it differently. They argued that averages were immaterial, because they could pick winning funds.

But can they? Evidence is scant. Morningstar's five-star funds haven't generated market-beating returns. Ditto for the Forbes magazine honor roll, another seemingly intelligent system for picking funds. The honor-roll funds returned 13.6% a year over the 25 years through June 1998, compared with 14.3% for the S&P 500.

Meanwhile, studies suggest that past stock-fund performance has little predictive value. In a paper published in the March 1997 *Journal of Finance*, Mark Carhart found that funds that did well one year tended to do well the next. But Mr. Carhart, now co-head of quantitative strategies at Goldman Sachs Asset Management, attributes that to the momentum of the stocks owned by the funds, rather than to manager skill.

Moreover, Mr. Carhart found that after back-to-back years of good returns, a fund's stellar performance tended to peter out. "You really can't say

whether a manager is skillful from short-term performance," he says.

In fact, to conclude with some conviction that a manager is skillful, you may need a 25-year track record, suggested Richard Brealey in the Summer 1990 *Journal of Portfolio Management*. Most stock-fund managers, of course, don't stick around nearly that long.

Still, if you insist on buying actively managed funds, careful fund analysis can help. "If you're a rational investor, you can stack the odds in your favor," says Morningstar's Mr. Rekenhaller. "But that doesn't mean things won't turn out poorly. And even if things work out well, that doesn't mean you'll beat the market."

As an experiment, Mr. Rekenhaller took all U.S. stock funds as of year-end 1988 and ran a series of statistical screens, to get rid of risky, unproven and high-cost funds. He tossed out funds with portfolio turnover of 200% and above, assets of \$50 million and below and expenses of 1% and over. He also got rid of sector funds and funds where the manager had been on the job for three years or less.

The resulting collection of funds gained 16.8% a year over the 10 years through December 1998, a marked improvement over the 16.1% average annual gain for all U.S. stock funds. But the -selected funds still lagged behind the Wilshire 5000 index of most regularly traded U.S. stocks, which gained 18.1%.

"These simple rules helped," Mr. Rekenhaller says. "But they alone didn't get you close enough. It's an investment. There is risk involved."

Is it worth taking that risk? Dan Goldie, a financial planner in Portola Valley, Calif., doesn't think so. "If you buy an actively managed fund, you're taking a risk for which you will not necessarily be rewarded," he says.

That's why Mr. Goldie favors index funds. "With an index fund, you know what you're getting, you know it will be tax-efficient and you know it will be inexpensive," he notes.

Indeed, once you factor in taxes, actively managed funds look even worse. In the Spring 1993 *Journal of Portfolio Management*, investment experts Robert Jeffrey and Robert Arnott calculated that, to match an index fund's posttax return, a fund with 100% portfolio turnover would need to outpace the market by 2.2 percentage points a year. This figure assumes you pay taxes on each year's distributed gains, but doesn't reflect the taxes owed upon liquidating a fund.

"The only reason to buy an actively managed fund is if you think you can find funds that will be superior performers in the future," Mr. Goldie says. "Studies show that there's no reliable way of doing that."

Exhibit 3

The following article appeared in *The Wall Street Journal* issue of February 27, 2001.

GETTING GOING / By JONATHAN CLEMENTS

Investors Should Learn To Resist Managed Funds

Most investors are pretty smart. Yet most investors also remain heavily invested in actively managed stock funds.

This is puzzling.

It is no secret that market-tracking index funds whip most actively managed funds. Nonetheless, year after year, many folks continue to eschew index funds and pour money into actively managed stock funds.

The temptation, of course, is to dismiss these investors as ignorant fools. But I suspect these folks know the odds are stacked against them, and yet they are more than happy to take their chances.

Make no mistake: The odds are indeed grim. For proof, consider some statistics calculated by Columbia Business School accounting professor Ira Weiss. I first published these stats in an October 1999 column.

Mr. Weiss looked at the performance of diversified U.S. stock funds during the 36 years through year-end 1997. He considered all funds, including those that are now defunct. Result? The funds returned an average 9.9% a year. If you weight returns by the assets each fund had at the beginning of each year, that boosted the average to 10.2%.

That 10.2% doesn't reflect the impact of fund sales commissions and taxes. Still, it is a pretty good gauge of how the typical stock-fund investor fared over the 36 years. Meanwhile, Standard & Poor's 500-stock index climbed 11.6% a year, while small-company stocks gained 14.8%, as measured by Chicago's Ibbotson Associates.

Sure, you can quibble with these numbers. But it doesn't change the conclusion: Over this 36-year stretch, most investors got market-lagging returns and would have fared far better in a market-tracking index fund.

Index funds, of course, weren't available in the 1960s. But they are now. So why do we persist in betting on actively managed funds? My contention: When we buy an actively managed fund, we are like gamblers in Vegas. We know it is likely to be a losing proposition, yet somehow we feel we are getting our money's worth.

"People have aspirations that can only be met by a winning lottery ticket or a winning actively managed fund," says Meir Statman, a finance professor at Santa Clara University in California. "Index funds aren't just boring. Index funds also extinguish all hope of getting really rich. You can't win big with an index fund. To win big, you have to pick one stock that does really well or buy a fund that beats other funds by a wide margin."

Owning actively managed funds or individual stocks is also much more entertaining than owning index funds. There is more to talk about with friends and colleagues and more anticipation when you crack open the morning newspaper or switch on the business news.

"What is nice about lotteries is that, before you hear the winning number, you have the time to dream about what you will do with the money," Mr. Statman says. "That happens with the investment field as well. People enjoy the chance to dream and the chance to be part of a community. It's this sense that there is hope in this world. That keeps us going."

But with all that, maybe we aren't entirely clear-headed about the gamble we are taking. At issue is our overconfidence, possibly the great deterrent to rational investing. We may know that the odds of picking a market-beating stock fund are slim. Yet we believe we can succeed where others fail.

"People feel that, while picking winning funds is hard, they can do it," Mr. Statman says. "There is a sense that investing is governed by skill. Yet the evidence suggests that trying to pick winning stock funds is as futile as trying to pick winning lottery tickets."

It isn't that fund investors and fund managers are fools. The problem is, there aren't enough fools around. Savvy professional and amateur investors hunt diligently for undervalued stocks, which makes the market pretty efficient. Result? Once you figure in the hefty investment costs incurred by active investors, it is hard for even the smartest folks to beat the market.

"Money managers are educated professionals, like attorneys and doctors," says Terrance Odean, a finance professor at the University of California at Davis. "We believe that some lawyers and doctors are better than others. We expect persistence. But there isn't persistence among money managers—or at least there's very little evidence for that."

So how much are fund investors paying for the slim chance of beating the market? Indexfunds.com, a San Francisco Web site, figures that stock-and bond-fund investors could save \$36 billion a year by swapping out of higher-priced funds and into the low-cost alternative, which is often an index fund. That \$36 billion works out to more than \$400 a year for every fund investor.

For the same money, you could pay for a year of cable television or buy a moderately priced bottle of wine every week. Put that way, actively managed funds seem like cheap entertainment. Still, I would rather have the cash.

Exhibit 4

Historical Simulation Results

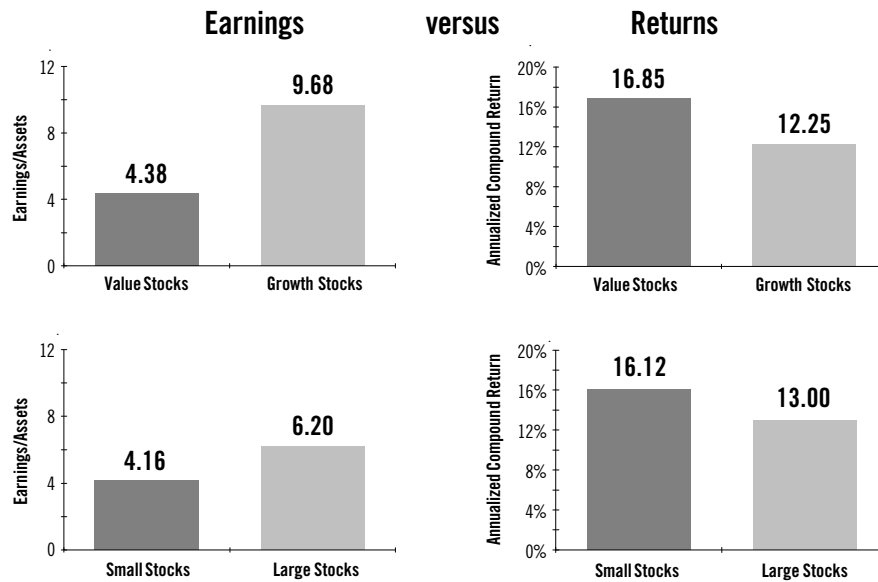
		Annualized Compound Return (%)	Annual Standard Deviation (%)
1964-2000	U.S. Large Value	14.48	16.68
	S&P 500 Index	11.90	15.92
	U.S. Large Growth	11.07	17.53
1964-2000	U.S. Small Value	16.57	23.84
	CRSP 6-10 Index	13.23	25.51
	U.S. Small Growth	11.95	27.17
1975-2000	International Large Value	18.74	21.55
	International Small Company	17.40	28.05
	MSCI EAFE (net divs.)	13.69	20.58
1988-1998	Emerging Markets Value	24.50	37.70
	Emerging Markets "Market"	20.10	24.60
	Emerging Markets Growth	15.10	24.00

Data courtesy Fama/French.

Exhibit 5

Company Size and Financial Strength

Annual Data: 1964-2000



Earnings/Assets through 1999 due to data availability.
Data courtesy Fama/French.

Exhibit 6

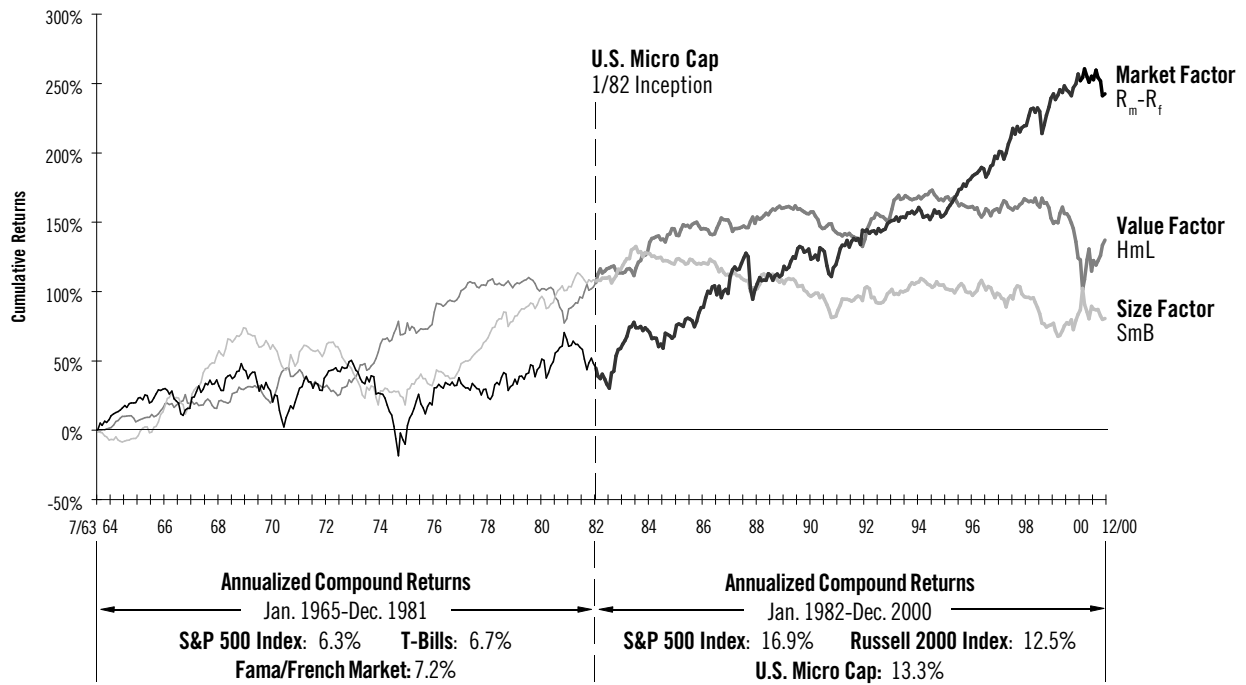
Tax Effects on U.S. Equity Mutual Funds
Annualized Returns (%) 15 Years: 1986-2000

Fund Name	Pre-Tax Return	After-Tax Return	Difference
Janus	17.23	13.79	3.44
Magellan	17.04	13.96	3.08
<hr/>			
Vanguard S&P 500 Index	15.81	14.44	1.37
Percentile Rank	21	9	
Vanguard S&P 500 Index assuming zero tax liability	15.81	15.81	0.00
Percentile Rank	21	4	

Source: Morningstar, January 2001; all 355 domestic equity funds with 15 years of return history.

Exhibit 7

Three-Factor Cumulative Returns
Monthly Data: July 1963-December 2000



Data courtesy Fama/French.
 SmB is Small stocks minus Big stocks.
 HmL is High BtM (value) stocks minus Low BtM (growth) stocks.

Exhibit 8

Balanced Strategies
Portfolio mixes

	Fixed	Conservative	Moderate	Normal	Aggressive	Equity
Equity	0.0%	20.0%	40.0%	60.0%	80.0%	100.0%
U.S. Stocks	0.0%	14.0%	28.0%	42.0%	56.0%	70.0%
Large Cap Market Enhanced U.S. Large Company	0.0	4.0	8.0	12.0	16.0	20.0
Large Cap Value U.S. Large Cap Value	0.0	4.0	8.0	12.0	16.0	20.0
Small Cap Market U.S. Micro Cap	0.0	2.0	4.0	6.0	8.0	10.0
Small Cap Value U.S. Small Cap Value	0.0	2.0	4.0	6.0	8.0	10.0
Real Estate Stocks Real Estate Securities	0.0	2.0	4.0	6.0	8.0	10.0
International Stocks	0.0%	6.0%	12.0%	18.0%	24.0%	30.0%
Large Cap Value International Value	0.0	2.0	4.0	6.0	8.0	10.0
Small Cap Market International Small Company	0.0	1.0	2.0	3.0	4.0	5.0
Small Cap Value International Small Cap Value	0.0	1.0	2.0	3.0	4.0	5.0
Emerging Markets Large Emerging Markets	0.0	0.6	1.2	1.8	2.4	3.0
Emerging Markets Value Emerging Markets Value	0.0	0.6	1.2	1.8	2.4	3.0
Emerging Markets Small Emerging Markets Small	0.0	0.8	1.6	2.4	3.2	4.0
Fixed Income	100.0%	80.0%	60.0%	40.0%	20.0%	0.0%
One-Year Fixed Income	25.0	20.0	15.0	10.0	5.0	0.0
Two-Year Global Fixed Income	25.0	20.0	15.0	10.0	5.0	0.0
Five-Year Government	25.0	20.0	15.0	10.0	5.0	0.0
Five-Year Global Fixed Income	25.0	20.0	15.0	10.0	5.0	0.0