



How Much Money Are You Willing to Lose for a Theory?



Muhlenkamp & Company, Inc.
Intelligent Investment Management







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Ronald H. Muhlenkamp is founder and president of Muhlenkamp & Company, Inc., established in 1977 to manage private accounts for individuals and institutions. In 1988, Muhlenkamp & Company launched a no-load mutual fund as an investment vehicle for all investors, no matter their asset size.

A top-rated investment manager, frequent guest of the media, and featured speaker at investment shows nationwide, Mr. Muhlenkamp's entire business career has been devoted to the professional management of investment portfolios. His work since 1968 has been focused on extensive studies of investment management philosophies, both fundamental and technical. As a result of this research, he developed a proprietary method of evaluating both equity and fixed income securities, which continues to be employed by Muhlenkamp & Company. In addition to publishing his quarterly newsletter, *Muhlenkamp Memorandum*, Mr. Muhlenkamp is the author of *Harvesting Profits on Wall Street: Essays in Investing*.

Mr. Muhlenkamp received a Bachelor of Science degree in Engineering from M.I.T. in 1966, and a Masters in Business Administration from the Harvard Business School in 1968. He holds a Chartered Financial Analyst (CFA) designation. He and his wife, Connie, make their home on a farm near Pittsburgh, but travel extensively to meet and talk with companies and clients around the country.

The majority of Mr. Muhlenkamp's long-term investment assets are invested in the company's self-named mutual fund.

The fund's investment objectives, risks, charges and expenses must be considered carefully before investing. The prospectus contains this and other important information about the investment company, and it may be obtained by calling (800) 860-3863, or visiting www.muhenkamp.com. Read it carefully before investing.

*Mutual Fund investing involves risk.
Principal loss is possible.*

Fund holdings are subject to change at any time.

While the fund is no-load, management and other expenses still apply. Please refer to the prospectus for further details.

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How Much Money Are You Willing to Lose for A Theory?

This essay was adapted from a presentation Ron Muhlenkamp delivered at the May 2005 Financial Planning Association (FPA) Retreat. FPA's individual members include financial planners and brokers, accountants and attorneys, along with a broad range of others who champion the financial planning process. FPA's charter is to "offer services and resources designed to help the public understand the importance of the financial planning process and the value of objective advice."

In the spirit of the FPA charter, we offer an adaptation of Ron's presentation to assist the public and, in particular, anyone having conversations with financial advisers. Additionally, the original version of this "Slide Show" is available on our website at www.muhlenkamp.com.

We're going to cover a few ideas which have become widely popular in recent years, but have certain flaws.

- In the last year I've heard Jeremy Siegel, professor at the Wharton School and author of *Stocks for the Long Run*, and Jack Bogle, founder of Vanguard, talk about the maximum return you can get from stocks, saying it's about 7½%. I want to talk about expected total returns from stocks and point out what I think they're missing.
- For decades, investors have asked "aren't stocks risky?" As a result, a lot of very good minds have crafted some very good theories about risk-adjusted returns. But that's all it is: theory! I'll explain, from a practitioner's point of view, why the notion of risk-adjusted returns is nonsense, and demonstrate how it can cost you money.
- Finally, we're finding many financial planners are using Style Boxes as a tool for ensuring diversification. I'll explain why this, too, is nonsense.

Stocks: Total Returns

Let's begin with a few definitions:

- **Book Value (BV)** – BV is a company's total assets minus total liabilities. It is the owner's equity in the business.
- **Earnings Per Share (EPS)** – EPS is the portion of the total profit of a company that may be allotted to each share. EPS is computed by dividing net income (or earnings) by the total number of shares outstanding.
- **Return on Equity (ROE)** – ROE is a company's net income (earnings), divided by the owner's equity in the business; $ROE = EPS/BV$. This percentage indicates company profitability or how effectively a company is using its equity capital.
- **Price-to-Earnings Ratio (P/E)** – P/E equals the current stock price divided by the current earnings per share; it is the price currently paid for \$1.00 worth of earnings.

A Look at the Numbers

To keep the numbers simple, let's assume that book value is \$10. Today, return on equity (ROE) for the average company is about 13%. (Incidentally, ROE has been between 12%-15% since World War II; it's an amazingly stable number.) Given these figures, you can compute the earnings per share (EPS) at \$1.30. With a price-to-earnings ratio (P/E) of 19¹, you get a share price of about \$25.00.

Stocks: Total Returns

Book Value = Assets-Liabilities		\$10.00
ROE = EPS/BV		13%
EPS = ROE x BV	.13 x \$10.00 = \$1.30	\$ 1.30
P/E Ratio = Share Price/EPS		19
Share Price = EPS x P/E	\$1.30 x 19 = \$24.70	\$25.00

¹According to "The Value Line Investment Survey[®]," today's average P/E ratio is 19.

When Jeremy Siegel and Jack Bogle talk about growth in the economy and, therefore, growth in earnings, they use something like 6%, arguing (rightly) that, over time, growth will approximate the change in GDP (Gross Domestic Product). Currently, the yield on an average stock is 1.8%. Everybody knows that “total return” equals growth plus yield, right? So they add those two figures and get 7.8%.

I want to know what happens to the rest of the money. Remember: when companies grow, they need to increase their book value by the rate of the expected growth. The balance sheet of a company must grow to support the growth in the income statement. For example, with growth at 6% and the book value at \$10, you have to plow sixty cents of the earnings back into book value. With the yield on an average stock at 1.8% and a share price of \$25.00, the dividend is forty-five cents. Sixty cents and forty-five cents total \$1.05.

Stocks: Total Returns

Growth in Book Value = BV x Growth	$\$10.00 \times .06 = \0.60	\$.60
Dividend Yield = Share Price x Yield	$\$25.00 \times .018 = \0.45	\$.45
Total Return = Growth + Yield	$6.0\% + 1.8\% = 7.8\%$ <i>or</i> $\$0.60 + \$0.45 = \$1.05$	\$1.05

But there is another twenty-five cents that they are not accounting for! (Remember, the EPS was \$1.30.)

Stocks: Total Returns

EPS = ROE x BV	$.13 \times \$10.00 = \1.30	\$1.30
Total Return = Growth + Yield	$6.0\% + 1.8\% = 7.8\%$ <i>or</i> $\$0.60 + \$0.45 = \$1.05$	\$1.05
Surplus Cash = EPS – (Growth + Yield)	1.0% <i>or</i> extra \$0.25	\$.25

If management pours the extra 25 cents down a rat hole or buys a Gulfstream IV (a very nice airplane), then the twenty-five cents is worth nothing. But with that twenty-five cents — which happens to be 1% — management could increase the dividend and have a 2.8% yield. Or, management could buy in 1% of its own stock. The point is if they do something useful with that extra 1%, you and I, as owners of the company, can benefit by that 1%.

So when prominent folks in the industry use 7.8% as the maximum return for stocks, we disagree. We think the extra 1%, giving an 8.8% total return, makes a difference. In fact, we've been saying since 1998 that stocks are priced to return 8%-9% per year. So when you hear people talking about growth plus dividend, remember: they are talking about growth plus the existing dividend. But that extra 1%, which we call surplus cash flow over and above dividends, is not being accounted for in those numbers.

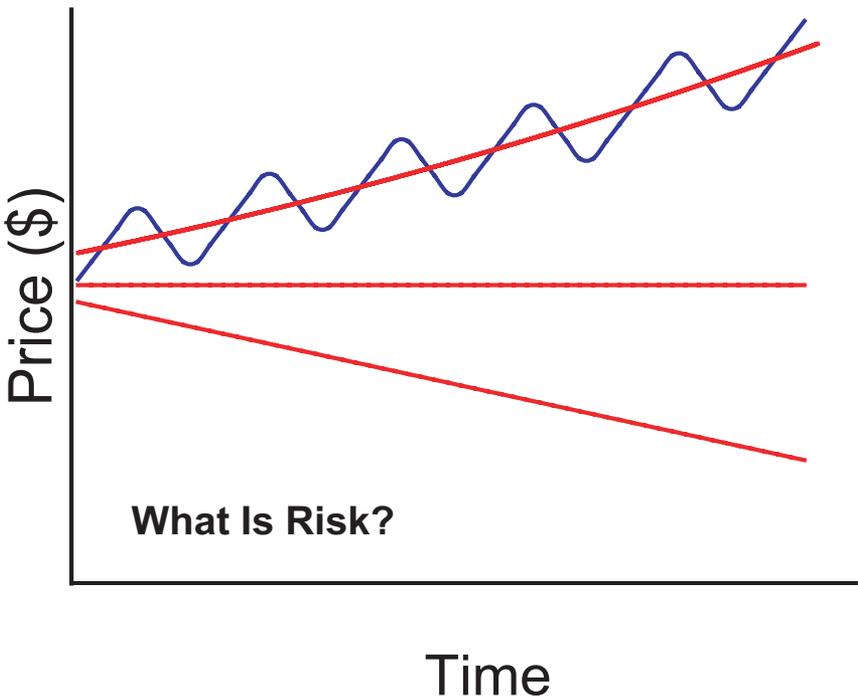
Risk-Adjusted Returns

What's your definition of risk?

More importantly, what's your client's definition of risk? When we ask people, they tell us it's the possibility of losing money. Is that fairly close? My definition of risk is the *probability of losing purchasing power*. That means to me, inflation is a risk because I'm losing purchasing power.

What's Wall Street's definition of risk? Wall Street's definition of risk is volatility. So Wall Street will tell you that the wavy blue line is riskier than the top red line. I'll buy that. But Wall Street will also tell you that the wavy blue line is riskier than the middle red line and you might be able to squeeze that by me. But Wall Street will also tell you that the blue line is riskier than the bottom red line and I won't buy that at all. What Wall Street won't tell you is that the bottom red line is available to you, the middle red line is available to you, and the top red line is not. The blue line is available, but the top red line isn't. So now which line do you want?

Figure 1 Volatility Vs. Risk



Beware when you are told that stocks are risky. You need to know what definition is used. The big risk for the last 30 years has been inflation. A remaining risk is taxes. The risk that most people suffer from is that they pay too much for what they get! We tell our people to make sure they understand the definition of risk that is being used. Frankly, as financial planners, if you are speaking of risk using the Wall Street definition and your clients are using another definition, I question whether you are having an honest conversation. And if you don't have honest conversations with your clients, sooner or later you are going to lose them because you are talking apples and they are talking oranges. To tell them that in the last five years, "You couldn't help going down, because the S&P went down," doesn't cut much ice. I learned in the 1970s that relative performance is only useful on the upside. On the downside, you want absolute performance. And when people pay us a fee, they are entitled to that. At the very least, they are entitled to have us live by their definitions.

So let's talk about risk-adjusted returns. Most of you know that the market only goes up about half the year. And typically, not always, but typically, it occurs between October and May. And, on average, between May and October, the markets are flat. So, if you care about risk-adjusted returns (i.e., striving to lower your volatility), you are in the market for six months, and then you are out of the market for six months. Folks, the time that you are out of the market you have zero risk, right? The trouble with striving for risk-adjusted returns is that it encourages you to move out of (and into) the market on a frequent basis. But this ups your tax rate — not to mention other trading costs and commissions!

You and I can pick our tax rate. We really can. The difference is between short-term gains taxed as ordinary income at 35%, and long-term capital gains taxed at 15%. If we strive for risk-adjusted returns, we're encouraged to take actions that result in short-term gains. If we strive for tax-adjusted returns, we're encouraged to take actions that result in long-term gains.

Figure 2 Risk-Adjusted Returns %

Risk-Adjusted Returns %

Return %	<u>6</u>	<u>8</u>	<u>10</u>
<i>Tax @35%</i>	3.9	5.2	6.5
<i>@15%</i>	5.1	6.8	8.5
<i>Inflation @ 2%</i>	1.9	3.2	4.5
	3.1	4.8	6.5
Difference	39%	33%	31%

The above table lists potential returns of 6%, 8% and 10%. As you can see, choosing a short-term return reduces a 10% gain to 6.5% after taxes. And with inflation at 2%, the return is down to 4.5%. At 10%, the difference between a short-term (risk-adjusted) return and a long-term (tax-adjusted) return is 31%. At 6%, the difference between a risk-adjusted return and a tax-adjusted return is 39%! Folks, you are giving up 30%-40% of your return because you chose to pay ordinary income tax instead of long-term capital gains.

The bottom line: Risk-adjusted returns encourage trading and a short-term mentality and, therefore, higher taxes and lower net returns.

Figure 3 2006 Risk-Adjusted Returns %

2006 Risk-Adjusted Returns %

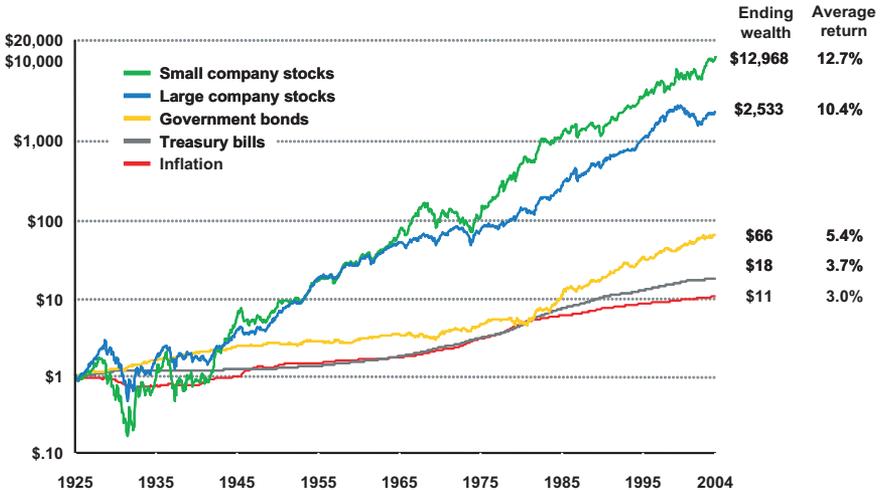
Return %	<u>6</u>		<u>8</u>		<u>10</u>		Bonds	Cash
							<u>5</u>	<u>4.5</u>
<i>Tax @35%</i>	3.9		5.2		6.5		3.3	2.9
<i>@15%</i>		5.1		6.8		8.5		
<i>Inflation @ 2%</i>	1.9		3.2		4.5		1.3	0.9
		3.1		4.8		6.5		
Difference	39%		33%		31%			

Refer to the above table for today's choices. Here's what you have:

1. We know that cash (i.e. short-term debt, including passbook savings accounts, CDs and Treasury bills) is priced to do about 4.5%. When taxed at 35%, you get 2.9%. And if you take 2% off that for inflation, you net 0.9%.
2. Long-term bonds are priced at 5%; on a corporate bond, you might get 6 percent. The majority of long-term bonds are held by pension plans, which are tax free. But if you're a tax payer, you keep 3.3% and, after inflation, you have only 1.3%.
3. When you invest in stocks you become an owner of the company and become eligible to share in the successes and the failures of the companies. There are no "guarantees." Over the long term, the stock price will reflect the true value of the company. Over the short term, however, the perceived value (current stock price) of the company may not always reflect the company's true value. We believe that stocks are priced to give a decent return over bonds and cash, but the ultimate return is up to you: long-term, (tax-adjusted) or short-term, (risk-adjusted).

Taking these choices one step further, following is an Ibbotson chart comparing stocks, bonds, T-Bills and inflation since 1925:

**Figure 4 Ibbotson Associates Stocks, Bonds, Bills and Inflation
Year-end 1925–2004**



Hypothetical value of \$1 invested at year-end 1925. Assumes reinvestment of income and no transaction costs or taxes.

Source: *Ibbotson Presentation Materials*, ©2004 Ibbotson Associates, Inc.
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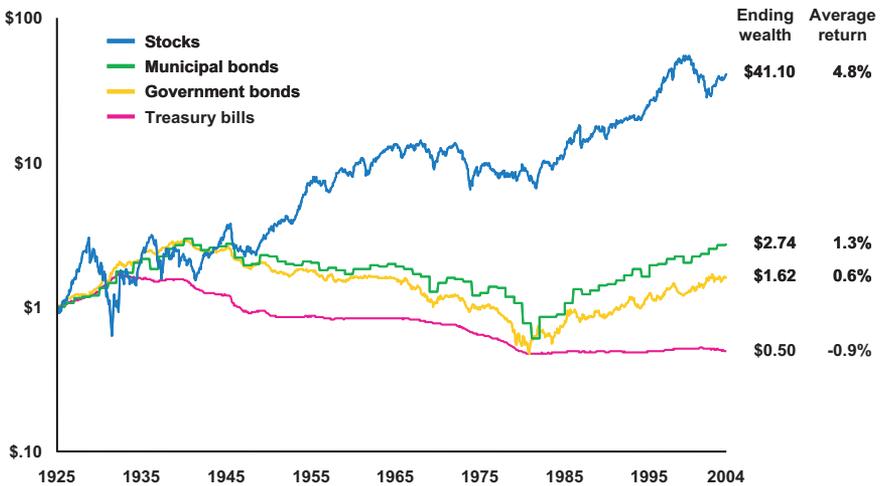
This chart says that inflation has averaged 3% and that Treasury Bills have averaged 3.7%. So the spread between T-Bills and inflation has been a “real” 0.7%. We think that inflation, today, is at 2%. It makes sense then, that short-term T-Bills should be priced at 2.7%-3% — and we have finally gotten there. This also says that government bonds have averaged 5.4% (and with inflation of 3%), they’ve netted a “real” 2.4%.

You have heard a lot of people in the last year who couldn’t understand how short-term rates could move up, while long-term rates have not. Folks, long-term rates have been fairly priced for several years. Short-term rates were unusually low. They are just now getting back to normal.

Other than examining rates, this is a totally useless chart. What’s wrong with it?

You can’t spend that money — it’s pre-tax and pre-inflation. Finally, a few years ago, they started producing a useful chart: “Stocks, Bonds, and Bills after Taxes and Inflation.”

Figure 5 Ibbotson Associates Stocks, Bonds, and Bills after Taxes and Inflation Year-end 1925–2004



Hypothetical value of \$1 invested at year-end 1925, with taxes paid monthly. No capital gains taxes are assumed for municipal bonds. Assumes reinvestment of income and no transaction costs.

Source: *Ibbotson Presentation Materials*, ©2004 Ibbotson Associates, Inc. All rights reserved. Used with permission.

Does this chart look a bit different?

This chart tells me that for the last 80 years if you've owned Treasury bills and never spent a dime of the principal or the income, but you did pay your taxes, your dollar went to fifty cents -- guaranteed. T-bills may be guaranteed by the federal government, but, in real terms, you are guaranteed to lose purchasing power.

If you owned government bonds, paid your taxes and never spent a dime — never spent any of the income — your dollar went to a \$1.62. You made 0.6% per year. What's interesting, and it's fairly easy to see (refer to the yellow line), is that there have been two periods in your grandfather's lifetime or your father's lifetime, when you could make money on bonds. The first period was the Great Depression; and if you think we're in a depression, then I will tell you to own nothing but long-term Treasuries. The other period of time was from 1982 to 2002, when interest rates went from 13% to 5%. Bonds are now priced at 5% and they might go to 4½%. The game in bonds is pretty much over.

We argue that back in the 1970s it was a lousy time to own stocks, but it was a worse time to own bonds. If you think that bonds are safe, be aware that in the late 1970s we spoke of bonds as “Certificates of Guaranteed Confiscation.” A bit ago, we talked about definitions of risk. Some economists define risk as “the uncertainty of the outcome” — not the outcome itself, but the uncertainty of the outcome. So those economists will tell you that if you and I jump out of an airplane with a parachute, it’s risky because the outcome is uncertain. But if we jump out of an airplane without a parachute, the outcome is quite certain and, therefore, is not risky. Back in the 1970s, there was nothing risky about bonds — they were guaranteed to lose you money.

Stocks have been kind of choppy, but have averaged 4.8% over the past 80 years. To draw a parallel to today, take a look at the 1960s. This was a period of time when inflation was relatively low and fairly stable; when interest rates were fair and fairly stable; and when stock prices were fair. Back in the 1960s, you had your choice of making money in stocks — in a jagged fashion, or losing money consistently — in bonds.

Which risk do you want to take?

Style Boxes

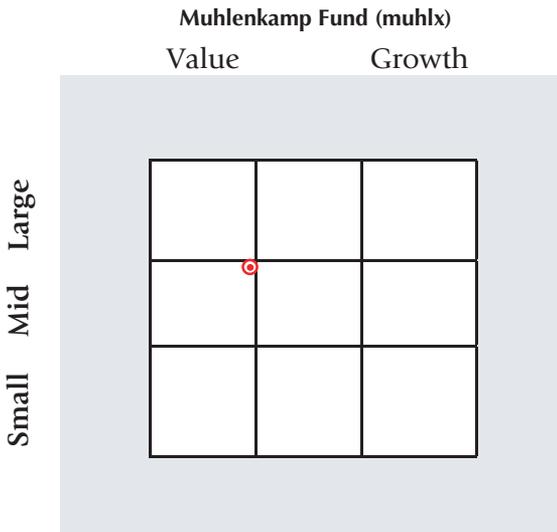
A bit of background may be useful for those who are not acquainted with “Style Boxes.”

Morningstar, Inc. is a Chicago-based investment research company that uses a nine-box matrix, attempting to display both a fund’s investment methodology (horizontal axis) and the size of the companies in which it invests (vertical axis). Generally speaking, the investment methodology of a growth-oriented portfolio will contain companies that its portfolio manager believes have the potential to increase earnings faster than the rest of the market. A value orientation, on the other hand, focuses on stocks that the manager thinks are currently undervalued in price and believes their worth will eventually be recognized by the market. A blend fund will mix the two philosophies.

Regarding size, the top 5% of the 5,000 largest domestic stocks in Morningstar’s equity database are classified as “Large Cap,” the next 15% of the 5,000 are “Mid Cap,” and the remaining 80% (as well as companies that fall outside the largest 5000) are “Small Cap.”

Following is a recent example of how Morningstar characterizes the Muhlenkamp Fund (MUHLX):

Figure 6 Morningstar Style Box



Equity Style Box

Morningstar, Inc. As of April 29, 2004

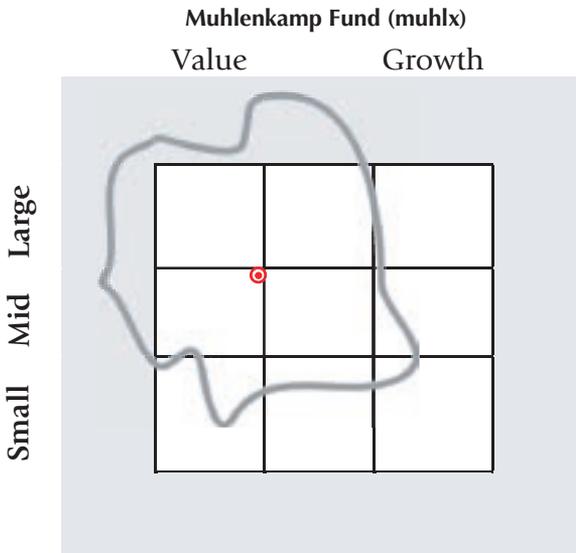
Source: Morningstar, Inc. All rights reserved. Used with permission.

The theory of Style Boxes suggests that I ought to own nine equity funds, one for each style box, right? And I've come across many financial planners who buy into this theory, using Style Boxes as a tool for ensuring diversification. What's missing is an appreciation that Style Boxes were meant to be descriptive — not restrictive. Either way, Style Boxes may be a useful tool in marketing, but I find them of no value in investing. Here's why:

As a portfolio manager, let's say I own a stock in the Small Value box and it doubles in price. Should I sell it from the fund dedicated to that box and buy it in the Middle Value box? And, if it doubles again, should I sell it from the fund dedicated to that box and buy it in the Mid-Blend or Large Value box? The theory of Style Box investing says I should. But, every time I sell and re-buy, I have to pay taxes and commissions. How does that help the client?

Morningstar seems to understand this trap. In fact, a few years ago at a World Money Show in Florida, I was on a panel chaired by Don Phillips, President of Morningstar. Recognizing that Style Boxes are regularly used in a restrictive fashion, Phillips was launching a new tool called the "Ownership Zone." When he introduced me, he said "Ron covers the left six boxes."

Figure 8 Morningstar Style Box



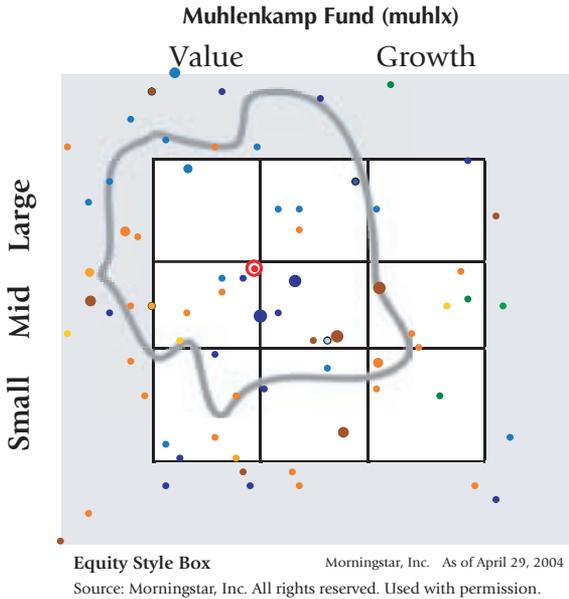
Equity Style Box

Morningstar, Inc. As of April 29, 2004

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Additionally, Morningstar offers a scatter diagram of everything we own in the Fund:

Figure 9 Morningstar Style Box



The above chart is a recent picture of our Fund using the style-box metrics.

It seems to me that when you look at this chart, you come to one of three conclusions about our investment style:

- We're not disciplined; or
- We're diversified; or
- We don't care about Style Boxes.

Folks, at least two out of those three are true.

If we don't care about Style Boxes, what do we care about?

Good Companies at Good Prices

If you own a company, what you own is just the assets minus the liabilities. That equals your equity, right? (And if you don't own a company, if you own a house, what you own is the equity: the asset minus the liability.)

<p>Company</p> $\text{Assets} - \text{Liabilities} = \text{Equity}$
--

What management tries to do with a company is generate revenue. Revenue minus expenses gives you net income. The net income either goes to dividends, or it gets plowed back into growth of equity. And, in fact, the net income divided by the equity gives us a thing called return on shareholder equity (ROE), which we find to be a very useful metric.

<p>Company</p> $\begin{array}{r} \text{Revenue} \\ - \text{Expenses} \\ \hline \text{Net Income} = \text{Dividends} + \Delta\text{Equity} \\ \text{Net Income/Equity} = \text{ROE} \end{array}$
--

If you own a portfolio, unless you are on margin, your assets equal your equity.

<p>Portfolio</p> $\text{Assets} = \text{Equity}$

What to Pay

We think there are three classes of securities: short-term debt, long-term debt and equities. If you invest in short-term debt (e.g. savings accounts), you get an interest payment on your assets called an interest rate. If you own bonds, you get a coupon. If you divide the coupon by the asset, you get an interest rate. If you own stock (or a company), you get net income. The net income, divided by the equity, gives you the ROE.

Portfolio Returns

$$\text{Savings Account} = \text{Interest}/\text{Assets} = \text{Interest Rate}$$

$$\text{Bond} = \text{Coupon}/\text{Asset} = \text{Interest Rate}$$

$$\text{Stock} = \text{Net Income}/\text{Equity} = \text{ROE}$$

In bonds, if the coupon is greater than the current interest rate, you will pay a premium over par for the bond. If the coupon is less than the current interest rate, you will demand a discount to par on the bond. So all I'm saying is that the yield-to-maturity will determine whether you pay a premium or a discount to par value on the bond. In stocks, if the ROE is greater than your required return, you'll pay a premium to book value. If the ROE is less than your required return, you'll demand a discount to book value.

We think about ROE and premium, or discount, to book value the same way we think about yield-to-maturity and premium, or discount, to par on a bond. The arithmetic is the same.

How Much to Pay

Bond:

Yield to Maturity determines Premium/Discount to Book Value

Stock:

ROE/Required Return determines Premium/Discount to Book Value

Good Companies at Good Prices

A few years ago we pointed out to Morningstar that our companies were growing faster than average and asked why they didn't call us a growth fund. They explained: "Your P/E is below average." Well, folks, if the far right-hand column of the Style Box is P/E-related and not growth-related, it should be labeled glamour. It's not *growth* versus value; it's *glamour* versus value.

To get a better picture of the Fund, take a look at Morningstar's Metrics:

Figure 10 Morningstar Metrics

Morningstar Metrics		
Value Measures		Relative Category
Price/Earnings	11.51	0.76
Price/Book	2.02	1.06
Price/Sales	0.87	0.99
Price/Cash Flow	4.39	0.75
Dividend Yield %	1.05	0.66
Growth Measures (%)		Relative Category
Long-Term Earnings	12.40	1.14
Book Value	15.83	2.89
Sales	10.53	2.24
Cash Flow	42.45	10.40
Historical Earnings	25.57	2.24
Profitability (%)		Relative Category
Return on Equity	23.51	1.90
Return on Assets	12.58	2.25
Net Margin	10.85	1.29

Morningstar, Inc. As of November 30, 2004

Source: Morningstar, Inc. All rights reserved. Used with permission.

These metrics state that, relative to our category, our return on equity (ROE) is higher (1.90), and that our return on assets (ROA) is higher (2.25) — so our companies are more profitable.

Relatively speaking, growth in book value is higher (2.89); growth in sales is higher (2.24); growth in cash flow is higher (10.40) than the average; and growth in historical earnings is higher (2.24). Folks, you don't get these levels by happenstance. We're there because we want to be.

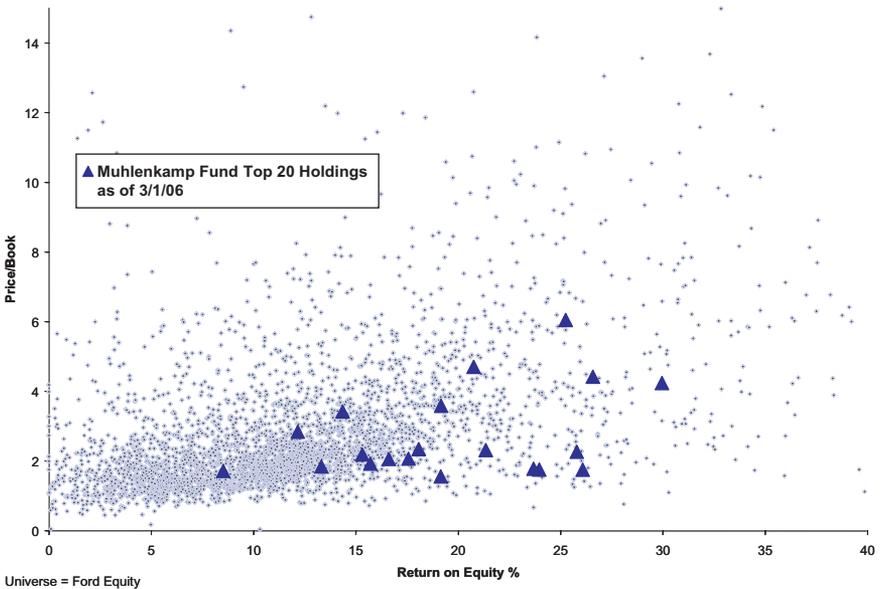
When you look at our relative P/E, it's lower (0.76) and our relative Price/Book is a bit above average (1.06). Just reading these numbers, our companies, relatively speaking, are:

- More profitable;
- faster growing; and
- cheaper.

These are the things that we consider important.

Taking this analysis one step further, using Ford Equity Research and their universe of over 4,000 stocks as a background, we've plotted the Price/Book versus ROE for our top twenty holdings which represent 60% of the holdings in the Fund:

Figure 12 Muhlenkamp Fund Top 20 Holdings (Updated)



On these metrics, we look a little more disciplined. In our portfolio, the average holding has an 18% ROE, even though the corporate average is 13%-14%. Our average P/E is 14, even though the corporate average is 18. So, we own better than average companies at below average prices. That's what we consider important. We are where we want to be.



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