



A Supplement to

The Wall Street Traffic Light's

Chapter 6, User's Guide to Getting Started

(Read this material as if it appeared at the end of the chapter.)

FUNDAMENTALS OF ASSET ALLOCATION

This tutorial should be helpful to the novice investor as well as other investors who want a review of asset allocation. The main points are as follows:

- You will achieve higher returns with lower risk consistently over time with a portfolio that is well diversified across the four main asset classes and is rebalanced periodically.
- To be well diversified across asset classes, you should not have more than 15% of the stock portion of your portfolio in a small number of individual stocks, including the stock of the company you work for.
- Three main factors should guide your asset allocation: (1) your investment goals, (2) your investment time horizon (your season of life) and (3) your tolerance for risk.
- Because of the effects of inflation and income taxes as well as the possibility of having a long life, you should not be too cautious about including stock funds in your portfolio.
- Life-cycle funds, which are a convenient way to achieve suitable asset allocation through your seasons of life, are relatively expensive and not compatible with the WSTL strategy.

Diversification in Your Portfolio

Asset allocation involves deciding on and maintaining a suitable mix of different types of investments in your investment portfolio (the total of your 401(k)s, IRAs and taxable accounts combined). The purpose of asset allocation is to spread your investment risk among various asset classes. **Investment risk** is the combination of *market risk*, *inflation risk*, *longevity risk*, *exchange-rate risk* as well as other types of risk. Chapter 4 of *The Wall Street Traffic Light* focused on measures of market risk for the WSTL strategy and buying-and-holding the S&P 500. Inflation risk, longevity risk and exchange-rate risk are defined in this tutorial. The “other types of risk” are beyond the scope of the fundamentals in this tutorial.

There are four main asset classes: (1) *stocks* (both domestic and foreign), (2) *real estate investment trusts* (REITs), (3) *bonds* and (4) *cash reserves*. Although REITs are stocks of companies in the real estate industry, they are in a

different asset class than stocks. Why? Because there tends to be low to moderate correlation between the annual returns of REITs and the annual returns of the other types of stocks. That means the annual returns of those two assets classes combined are smoothed out over time. Spreading your investment risk among the four main asset classes is the essence of asset allocation.

An integral part of asset allocation is to be well diversified *within each of the asset classes*. Mutual funds are a popular, convenient and effective way to achieve broad diversification. Over 95 million Americans owned mutual funds in 2006; more than 42 million of them had mutual funds in their 401(k)s and IRAs. Broadly diversified index mutual funds (such as an S&P 500 index fund) have become popular since the mid-1990s, primarily due to their low investment costs.

Suppose stocks comprise 60% of Kent's \$100,000 portfolio, or \$60,000. To be well diversified, he might distribute the \$60,000 in index funds as follows: \$45,000 in the S&P 500, \$3,000 in U.S. small company stocks and \$12,000 in international (foreign) stocks.

Many investors include individual stocks in their portfolios. Without a doubt, it's exhilarating to buy an individual stock that soars and then sell it before a severe decline occurs. That's hitting an investment home run! But the odds of consistently doing that are low. Evaluated as a group, individual investors' holdings of individual stocks underperform the S&P 500—that is, their holdings of individual stocks have lower return and higher risk than the S&P 500—for almost any 5-year period selected.

The negative aspects of investing in individual stocks can be formidable. As an extreme example, think about the pain felt by the many Enron employees, who held a large number of shares of the company's stock in their 401(k)s, when the company went bankrupt in 2001. They suffered a total loss.

Recent studies show that it's not uncommon for employees to have over one-half of their retirement assets invested in stock of the company they work for. If the company prospers over time, that strategy will be highly successful—albeit with high risk. However, as in the Enron example, the strategy can be disastrous. As a general guideline to help control risk, you should not hold more than 5%-10% of the stock portion of your portfolio in stock of the company you work for.

If you invest in individual stocks beyond the company you work for, I recommend you use an “investment recreation budget” to control the size of that component of your portfolio. As a guideline, do not allow the total value of a small number of individual stocks to exceed 15% of the stock portion of your portfolio. Staying within that limit means the individual stocks, whether winners or losers, will probably not have a sizable effect on your portfolio's performance (return and risk).

Return, Market Risk and Exchange-Rate Risk

The tradeoff between return and risk is a basic investment concept. In general, the higher the expected return on an investment, the more the risk involved. An investment entails market risk to the extent that its value is subject to fluctuation. The greater the possible fluctuations in value, the greater the market risk. Prudent management of risk is critical to investors' financial well-being.

Table 1 provides return and risk statistics for buying-and-holding five types of investments for 1935-2006. The investments are listed in order according to their market risk, from highest to lowest. Two measures of market risk are indicated in the table: (1) the worst annual return and (2) the standard deviation of annual returns. The more returns fluctuate from year to year in relation to an investment's average annual return over a period of years, the larger the standard deviation and the higher the market risk.

Table 1

Annual Returns in U.S. Financial Markets, 1935-2006

Type of Investment	Annual Return			Standard Deviation
	Mean	Best	Worst	
Small company stocks	18.6%	88.4%	-58.0%	28.5%
Large company stocks (S&P 500 Index)	13.1%	52.6%	-35.0%	18.4%
Long-term corporate and government bonds (50:50 mix, 20-year maturity)	5.9%	41.5%	-8.2%	9.3%
Intermediate-term government bonds (5-year maturity)	5.6%	29.1%	-5.1%	5.9%
Treasury bills (30-day maturity)	4.0%	14.7%	0.0%	3.2%

Source: *Stocks Bonds Bills and Inflation 2007 Yearbook* (Ibbotson Associates).

This history tells us that stocks provide a much higher mean annual return than bonds, and bonds provide a higher mean annual return than 30-day T-bills. (Money market funds, which first became available to individual investors in the late 1970s, have had a mean annual return that was slightly greater than the mean annual return on 30-day T-bills.) Small company stocks provide a much higher mean annual return than the large company stocks comprising the S&P 500. Longer maturity bonds provide a slightly higher mean annual return than shorter maturity bonds.

This history also tells us that stocks entail much greater market risk than bonds, and bonds entail much greater market risk than 30-day T-bills. Small company stocks entail much greater market risk than large company stocks. Longer maturity bonds entail much greater market risk than shorter maturity bonds.

Concerning REITs and foreign stocks, they both have return and market risk characteristics similar to those of the S&P 500 over the span of a decade or more. Nevertheless, your portfolio's overall risk is reduced by including REITs and foreign stocks along with U.S. stocks. That's because there tends to be low to moderate correlation among the annual returns of those market segments.

Be aware that foreign stocks entail exchange-rate risk. From the vantage point of the U.S. investor, **exchange-rate risk** (also called **currency risk**) results from fluctuations in the value of foreign currencies in relation to the value of the U.S. dollar. For example, U.S. investors who hold Japanese stocks benefit from exchange-rate risk when the yen (the Japanese currency) rises against the U.S. dollar and suffer from that risk when the yen falls against the U.S. dollar.

Inflation Risk and Income Taxes

Many investors underestimate the importance of inflation risk and income taxes on their portfolios over the long-term. **Inflation** is the decline in the purchasing power of a monetary unit, such as the U.S. dollar. **Inflation risk** is the possibility that your portfolio's growth will be insufficient to stay ahead of the inflation rate. During 1935-2006, the mean annual inflation rate was 3.9%. At that rate, the purchasing power of an initial amount of \$10,000 would fall to \$6,718—a decline of 32.8%—in just 10 years! Of course, income taxes generally take a sizable bite out of returns too.

In Table 1, the average annual return on long-term corporate and government bonds (a relatively low-risk investment) is 5.9%. That return is called the **nominal return**, which means it has not been adjusted downward to take into account the effect of inflation. To calculate the **real return** on those bonds, deduct the inflation rate from

the nominal return. Then, to calculate the **real return after tax**, deduct income taxes from the real return. In the following example, the investor had *nothing left*:

	Average Per Year
Nominal return on long-term bonds	5.9%
Deduct: Inflation rate	<u>3.9%</u>
Real return	2.0%
Deduct: Income taxes (assume a total rate of 34% for federal and state taxes): 34% × 5.9% =	<u>2.0%</u>
Real return after tax	<u><u>0.0%</u></u>

The message of history over the long term is clear: *when inflation risk and income taxes are considered, only stocks—small company stocks, the S&P 500 and foreign stocks—and REITs have a positive real return after tax. Therefore, you should not be too cautious about including stocks and REITs in your portfolio.*

Your Asset Allocation Decision

Determining your asset allocation is both an art and a science. Three main factors should be the guide:

1. Your investment goals
2. Your investment time horizon (your season of life)
3. Your tolerance for risk

Each factor is unique to your situation. In deciding your asset allocation at any given season of life, the challenge is to balance the conflicting objectives of high return and low risk. Over your lifetime, your asset allocation will need to change from time to time as objectives and circumstances change. I recommend you revisit your asset allocation decision every five years or so.

Your **investment goals**—such as funding a college education or funding retirement—are the basis of your need to take risk. *The Wall Street Traffic Light* emphasizes the goal of successful management of your 401(k)/IRA nest egg so that you (or you and your spouse) will likely have a comfortable income throughout your lifetime. A helpful guideline in planning your retirement income is to know that the probability is greater than 95% that you will not run out of money if you withdraw 4% from your well-diversified portfolio the first year of retirement and, then, adjust that amount upward for inflation each year thereafter.

Your **time horizon** is an estimate of how many years there will be from today through the last year when you (or you and your spouse) withdraw money from your portfolio for living expenses. Your time horizon can last 20 years or more after retirement begins. **Longevity risk** is the possibility of you (or you and your spouse) outliving your portfolio. According to the National Center for Health Statistics, the average 65-year-old male in 2005 could expect to live at least 16 more years, while his same-aged female can expect to live at least 19 more years. To predict your life expectancy, go to the “Learning Center” at nmfn.com and click on “Longevity Game.” That’s the website of Northwest Mutual, a life insurance company with 150 years of experience.

It is of utmost importance to keep in mind that market declines could interfere with your ability to reach short-term investment goals, while inflation risk has relatively little impact over shorter time periods. It is necessary to take risk in order to keep pace with inflation.¹ The longer your time horizon, the greater is your ability to take risk, especially since the stock market has risen over almost any 10-year period.

Your **tolerance for risk**, which tends to be difficult to estimate, comprises (1) *your willingness to take risk* and (2) *your ability to prudently take risk*. A helpful measure of your willingness to take risk is the maximum percentage decline in the market value of your portfolio that you believe you can withstand. That percentage depends on your fear of loss. However, be aware that imagining distress of a large loss can be very different from actually experiencing that loss.

Your ability to prudently take risk depends on your time horizon. In general, the shorter your time horizon, the less risk you should take. For example, if you are near retirement or retired, it's prudent to have a smaller portion of your asset allocation in stocks. That way, the likelihood of having to sell a significant amount of stocks at depressed prices is reduced. But a retiree certainly should not avoid stocks entirely. Since the long-term return on stocks has been more than triple the inflation rate, a retiree having (say) 30% to 40% of his or her portfolio in stocks helps to mitigate longevity risk.

I know intelligent people who will not, under any circumstances, invest in the stock market. I also know intelligent retirees who have almost all of their portfolios in stocks. Neither of these attitudes toward risk is prudent. Because stocks have proven to be the best performing asset class over the decades, investors generally should have a sizable portion of their portfolios invested in the stock market. Of course, irreparable harm can be done to a retiree's financial condition if he or she is too heavily invested in stocks during a severe stock market decline that lasts a couple of years or more.

It is essential to understand that risk comes with the territory in order to meet your investment goals under the conditions of inflation, income taxes and the possibility of having a long life. In other words, stocks—the S&P 500, U.S. small companies and foreign companies—and REITs should account for a significant percentage of your portfolio. But what percentage? The following guidelines may be helpful:

Time Horizon	Portion of the Portfolio Allocated To			
	S&P 500	U.S. Small- Company Stocks	Foreign Stocks	REITs
30 years or more	40% to 60%	5%	20%	15%
20 years	40% to 50%	0%	10%	15%
10 years	20% to 35%	0%	5%	10%

Do those percentages seem high to you? If so, that's because they have a *pronounced stock bias to compensate for inflation risk and longevity risk*—two risks investors often underestimate.

Investors range from “conservative” to “moderate” to “aggressive” in their tolerance for risk. Try to put yourself in one of those categories. If you are a conservative investor, then consider the percentages on the low side of the S&P 500 column—even though your natural temperament keeps you from being completely comfortable at those levels. If you are an aggressive investor, the percentages on the high side probably will be appealing. If you are a moderate investor, choose a percentage near the middle of each bracket.

The reduction in the percentage of stocks from one line in the schedule to the next should be made gradually over several years. That approach prevents you from selling too much stock during a severe or prolonged market decline.

According to a recent study by the Employee Benefit Research Institute and the Investment Company Institute, many participants in their 401(k) plans in 2003 were not even close to following the guidelines in the table. Of all the participants in their twenties, 38% had no investments in stock funds and another 22% had 50% or less of their investments in stock funds. Of all the participants in their sixties, 13% had more than 90% of their investments in stock funds.² Although employees' 401(k)s would not have comprised employees' entire portfolios in the majority of cases, the study's findings likely indicate that poor asset allocations are prevalent among employees.

To decide on your asset allocation, consider the guidelines above along with the assistance available at mutual fund companies' websites. Helpful sites include fidelity.com, troweprice.com and vanguard.com. For a second opinion on your conclusions or for assistance in determining what is right for you, consult a financial adviser.

Rebalancing Your Portfolio

You will see in this section that occasionally rebalancing your portfolio increases the return while decreasing the risk. **Portfolio rebalancing** means to restore your desired asset allocation. To illustrate, suppose you desire 60% stocks, 20% REITs and 20% bonds. (To simplify this example, cash reserves are not included in the asset mix.) A year ago the total market value of your portfolio was \$60,000. Now it is worth \$72,000, primarily due to strong performance of the stock market. The following figures show that your allocation has shifted to 65% stocks, 18% REITs and 17% bonds. To restore your desired allocation, sell \$3,600 worth of stocks, buy \$1,440 worth of REITs and buy \$2,160 worth of bonds:

	Desired Allocation (one year ago)		Now		Change to Restore Desired Allocation	Desired Allocation (now)	
Stocks	\$36,000	60%	\$46,800	65%	Sell \$3,600 worth	\$43,200	60%
REITs	12,000	20%	12,960	18%	Buy \$1,440 worth	14,400	20%
Bonds	12,000	20%	12,240	17%	Buy \$2,160 worth	14,400	20%
	<u>\$60,000</u>	<u>100%</u>	<u>\$72,000</u>	<u>100%</u>		<u>\$72,000</u>	<u>100%</u>

Note that this rebalancing involved selling a small portion of your stocks, because that asset class performed best for the past year. As a result, you sold stocks at prices higher than they were a year ago. On the other hand, had the portion of your portfolio in stocks declined to 55% instead, you would have bought stocks at prices lower than they were a year ago. In either case, portfolio rebalancing—which forces you to buy low and sell high—has been estimated to add 0.3 to 0.4 of a percentage point per year to your portfolio's long-term return, while lowering risk.³ Of course, when rebalancing your portfolio, it is desirable to keep transaction costs and income taxes as low as possible. To do so, try to confine the selling to your 401(k) or IRA.

How often should you rebalance your portfolio? Research from highly regarded Ibbotson Associates and others has found that the benefits of rebalancing are nearly identical whether it is done monthly, quarterly, twice a year, or annually.⁴ An easy way to remember to rebalance once a year is to do it on or near your birthday.

Life-Cycle Funds

One of the best known company slogans of all time is: "Go Greyhound...and leave the driving to us." A paraphrase of that slogan describes a **life-cycle fund**: "Decide on the year you plan to retire...and leave the asset allocation, diversification within asset classes and portfolio rebalancing to your mutual fund company." That is, if you buy a life-cycle fund and hold it over many years, you dispense with the work of managing your portfolio. In particular, the asset allocation is adjusted as the year you plan to retire approaches and is surpassed, to take into account your diminishing tolerance for the risk of stocks. Life-cycle funds (also known by names such as "freedom funds" and "target retirement funds") are the ultimate in one-stop shopping for individuals who lack knowledge about investing, don't think they have time to make good asset allocation and diversification decisions, don't have the inclination to take a hands-on approach or lack self-discipline.

The assets in life-cycle funds soared 61% in 2006, according to the Investment Company Institute. A main reason for the surge is that 401(k) plans increasingly use life-cycle funds as the default investment option.⁵ However, keep in mind that *having a large percentage of your portfolio in a life-cycle fund would not be conducive for using the WSTL strategy*. That's because a life-cycle fund includes several types of assets in addition to S&P 500 stocks.

To gain further insight, let's look at three life-cycle funds for the year 2035 and three for the year 2005. The following information is from morningstar.com. (Morningstar is the leader among organizations that track performance of mutual funds.)

Fund	Approximate Allocation to Stocks (as of 12/06)	Estimated Annual Expenses for 2006 (based on total assets in the investor's account)*
Fidelity Freedom 2035 Fund	83%	0.81%
T. Rowe Price Retirement 2035 Fund	92%	1.09%
Vanguard Target Retirement 2035 Fund	90%	0.21%
Fidelity Freedom 2005 Fund	50%	0.68%
T. Rowe Price Retirement 2005 Fund	55%	0.86%
Vanguard Target Retirement 2005 Fund	48%	0.21%

*This figure includes the underlying expenses for the combination of funds used in the life-cycle fund.

Three important observations can be made about those funds. First, the allocation to stocks varies among both the 2035 and 2005 funds, which indicates asset allocation is not an exact science.⁶ Second, the most aggressive in allocation to stocks was T. Rowe Price. Third, T. Rowe Price's 2035 fund charged \$109 a year per \$10,000 of market value in the investor's account ($0.0109 \times \$10,000 = \109) while Vanguard's 2035 fund charged only \$21 a year per \$10,000.

If you don't want to make asset allocation decisions and do portfolio rebalancing, the annual investment costs of life-cycle funds are reasonable. However, it is simple and requires little time for even novice investors to achieve their desired asset allocation and diversification, with periodic rebalancing, by using index funds and doing the work themselves. For example, the four low-cost S&P 500 index funds recommended in *The Wall Street Traffic Light* (p. 51) charge less than 3½¢ a day for each \$10,000 multiple of market value in the investor's account. A bargain indeed!

Endnotes

1. *T. Rowe Price Investor* (June 2007), p. 22.
2. Tom Lauricella, *The Wall Street Journal* (December 1, 2004), p. A1.
3. Jonathan Clements, *The Wall Street Journal* (December 21, 2005), p. D1.
4. Tom Lauricella, *The Wall Street Journal* (February 14, 2003), p. C13.
5. Jonathan Clements, *The Wall Street Journal* (April 11, 2007), p. D1.
6. Phil DeMuth, *Barron's* (October 17, 2005), p. 45.