



# Special Report

## Understanding the Diversification Puzzle

### The Asset Allocation Process



# The Asset Allocation Process

**More than Software in A Box**

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## Many Investors Get This Wrong

Think about it. When was the last time you sat around with any of your friends and heard anyone bring up the topic of reducing portfolio positive correlation to reduce variance in order to achieve optimal risk-adjusted return.

Huh?

People seldom think in terms of risk optimization; they've been taught to think about "hot" stocks, real estate, or the latest trendy topic, i.e., gold, silver, you name it. When people do talk about diversification, it's limited to what tv gurus are telling them: You should be in different industries, sectors, or even asset classes, the subject is pretty much ignored. The result: Most people simply don't know what diversification really means.

The software industry hasn't helped much. Most software is so simplistic, some of the output might prove more damaging than beneficial. More on that soon.

Let's start with simplicity: Every asset falls into one of two classes (we'll get into other assets later):

1. You can own - That's an equity asset: Stocks, real estate, commodities.
2. You can loan - That's a debt instrument. Bonds (government, corporate, etc.), mortgages, and bank CDs all would fit into this category.

So, every *financial* asset is a stock or a bond. You can either purchase shares of ownership in equity assets or you can loan your money out and collect interest.

You can loan your money to the city, your state, the Federal Government, or to corporations. If you loan it to a bank over time, your loan is documented with a certificate of deposit.



### **Key Point to Remember:**

**No liquid investment alternatives with stable guaranteed principal values exist that can provide real returns by consistently beating the combined impact of inflation and income taxes. Any misconceptions about this simple fact that aren't corrected will tend to surface later, often to the detriment of the investor.**

Each type of instrument has its own characteristics.

- Debt instruments provide income and (generally) stability of principal, if held to maturity. But, there's a price, as the box above highlights—it's worth re-reading.
- Equity instruments have historically served well as a long term hedge against inflation on an after tax basis (Source: Ibbotson, Morningstar), but the benefits of equity ownership come with a price: Uncertainty of returns in the form of price volatility.

**One gives you ownership interest without certainty. One gives you relatively stable income but is almost a sure-fire guaranteed loser after taxes and inflation. This trade-off is where risk mitigation begins.**

Consider a 54-year-old widow who puts \$2,500,000 into a guaranteed fixed-income investment yielding 4%. A \$100,000 a year income sounds pretty good and the money is considered safe! But, let's examine the situation in the real world.

### The Impact of Inflation

Widow, age 54, 30-year life expectancy  
4% Interest Rate  
3% Inflation Rate  
\$2,500,000 invested

Year	(A) Capital Purchasing Power	(B) Interest Rate	(C) = A x B Real Yield
Now	\$2,500,000	4%	\$100,000
10	\$1,860,235	4%	\$ 74,409
20	\$1,384,189	4%	\$ 55,368
30	\$1,029,967	4%	\$ 41,199

*Source: Asset Allocation, Roger C. Gibson, McGraw Hill, 4th Edition.*

### Inflation is like glaucoma.

You can't see it on a day-to-day basis, but the erosion of purchasing power is still there. If you're an older baby-boomer, you remember when \$50,000 a year was a lot of money and \$5,000 would buy a luxury car. You probably also remember when gas was under 35-cents a gallon!

My dad retired in 1974 and lived 32 years in retirement! Suppose he had \$800,000 on the day he retired and someone had sold him a guaranteed 5% investment that would pay him \$40,000 annually for the rest of his life. It would have looked good to many people in 1974; but after 20 years of inflation, that \$3,333 per month—BEFORE taxes—wouldn't have looked so good... and he would still live more than another decade!

**Back to our poor widow.** Notice the chart above which shows what really happened. Her 'safe' money was worth less and less - and the same thing happened to the purchasing power of her income from interest. At twenty years, with still a decade ahead of her, her income was worth just over half what it used to purchase and the same was true for her principal. And, we didn't even factor-in taxes. That would be too scary.

**Was this income certain? Yes. Was the outcome certain? Yes, that too.** But, her future was jeopardized.

When it comes to stocks, investors seem to be hurt more by their behavior than their investments. DALBAR, Inc., a Boston-based firm that provides research to the financial industry published an often-cited study entitled, "Quantitative Analysis of Investor Behavior", comparing the track-record of the average investor in equity mutual funds to that of the S&P Index of U.S. large company stocks for the 20-year period between 1986 and 2005. Based on the timing of contributions to and withdrawals from equity mutual funds, the average equity mutual fund investor earned just 3.9% while the S&P Index had an average annual return for the same period of 11.9%. The major reason: Investors chasing performance, which by definition is always past.

So, how does the average investor protect against inflation and taxes while still not exposing her portfolio to an unacceptable level of fluctuation?

The easy answer is diversification, of course. But, like all easy answers, it can be dangerous without understanding what it means. Ask the typical investor about his or her process for managing risk and the diversification answer will come easily. But, when you ask to define their process, the water will get a little deep. And, it doesn't help that most of the consumer tools used to deal with the asset allocation process are also somewhat lacking .



## Asset Allocation

Asset allocation is all about proper diversification, and ample academic research points to the asset allocation stage of the portfolio management process as being the most influential component of a portfolio's return variation over time (*Brinson, Hood, Beebower; 1986*).

Unfortunately, this may be the most misunderstood piece of the puzzle simply because most individual investors will spend 90% of their time on investment selection—a process which, for many professionals, occupies less than 10% of the process. In short, most individual investors are spending the bulk of their time worrying about the wrong things and very little of their time working on the processes that most impact their overall success. That's most likely a function of living in a media-driven culture where entertainment often passes for information, or worse—calling what it does 'education'.

### WHAT are we diversifying?

Investments? Money? No. Actually, we're diversifying *risk*. While there are many types of risk (market, business, economic, legislative, inflation, etc.), many can not be diversified away. Market risk, or what's called "systemic" risk, is not diversifiable. In fact, if you purchased EVERY single stock in an index, you'd only replicate the index... and the index's risk. So, within the equity asset class, you can diversify to reduce business risk—a company's risk of failure—by adding other companies.



But, when there are multiple asset classes, how then do we diversify? That's the asset allocation process.

Earlier I referred to asset classes: Stocks, bonds, commodities, real estate. Many advisors might organize the asset classes this way:

- Domestic large company stocks
- Foreign large company stocks
- Domestic small company stocks
- Domestic bonds—U.S. Government (Treasuries) and corporate
- Commodities (precious metals, energy, etc.)
- Real estate (commercial, industrial, residential)

Each has their own characteristics:

- Historical return characteristics
- Historical volatility characteristics

### Volatility is important—Correlation is everything.

Most all investments go up and down, in either absolute terms or relative to something else, i.e., the cost of living (remember that one?). When investments move in the same direction at the same time, their movements are said to be 'correlated'. If they moved in exactly the opposite direction from each other, they would be termed 'negatively correlated'. Of course, the latter rarely happens and would be impossible to predict. But, here's what you need to understand about volatility: *Whether it's good or bad depends on cash flows.*

Volatility actually can be helpful to someone continuing to contribute to his or her investment portfolio during his or her working years; but, *volatility isn't helpful to the retiree who's living off investment income.* (Source: Asset Allocation, Roger C. Gibson, McGraw Hill 4th Edition)

**Volatility is the engine that drives performance. Remove volatility completely and all you have is a fixed income instrument** (Go back and re-read the Key Point box on page 3).

**Diversification is about reducing positive correlation.**

Think of your investments as pistons in an engine. If they're all going up at the same time, guess what! Yes, they'll likely all go down at the same time, too. Notice in an engine, all the pistons go up and down at *different* times. No matter when the engine shuts down, some are up and some are down. If you're money were divided among those pistons you'd have the same stability of overall value all the time no matter when the engine shut down!

In the real world, we'll never get assets to behave so perfectly; but, you get the concept. You need volatility to drive performance; but, it's a sound portfolio asset allocation strategy that helps reduce the overall portfolio swings.

### How risk is measured

Without getting too deep into the weeds, risk can be measured in relative terms (related to the appropriate index) and in absolute terms (how much variation in value exists without regard to other investments or indexes).

When we're young, we all want to beat the market; but, as we grow older—and hopefully a little smarter—we realize **it's really all about meeting our personal goals**—forget the market. The same is true about our investments: We don't care what other people experience; we want to know how bumpy our own personal ride is going to be and what we can do to minimize it; So, measuring risk in absolute terms makes perfect sense.

Let's take two asset classes based on some data from Morningstar:

- Large company stocks—From 1926 through 2005 large company stocks had a simple average annual return of 12.3% and a standard deviation of 20.2% (I'll cover this in a moment)
- Long term corporate bonds—During the same period, this group had a simple average annual return of 6.2% with a standard deviation of 8.5%.

Note: Standard deviation (actually termed one standard deviation) indicates the degree of movement in an asset or asset class for 2/3 of the observations during the period studied. For example, while the long-term return of the bonds was 6.2%, the actual results deviated from that average within a range of plus or minus 8.5 points in 2/3 of the observations during that period.

- The correlation between these two classes during this period was +0.19%

**What's interesting** is that an optimized portfolio allocation comprised of 80.8% in bonds and 19.2% in stocks during that period would have maintained the same standard deviation (8.5%), but would have achieved a return of 7.4%. That looks like it's 1.2% higher than the 6.2% bonds alone would have achieved, but it's actually a 19.3% increase in performance ( $1.2/6.2 = 0.1935$ ).... And without increasing portfolio volatility. That is what diversification is all about.

It's hindsight, of course, and **it's not wise to assume the future performance will be like the past**. Indeed, the standard deviation, as well as the return, will look different depending on the time period chosen, even for the same investment or asset class.

This was a two class example. When you're dealing with multiple asset classes, it's wise to have a sophisticated portfolio strategy process—and the right tools. After all, anyone can find software that draws nice looking pie charts. And, while today much of the newer software will use Monte Carlo simulation to stress-test portfolio models, even some of those have shortcomings.

For example, while some will use thirty years of data to show the frequency and variation of returns with more than 1,000 outcome scenarios, it pays to look 'under the hood'. Many of these packages will assign the same weighting to an event that's occurred frequently that is assigned to an event that's never occurred in all of human history. In addition, many use 'time-weighted' analysis, which is fine for a few people; but, in the real world, most

people have cash flows going into or coming out of their investments. In cases like that, 'time-weighted' analysis isn't very meaningful. Few investors, however, know whether they're looking at time-weighted or dollar-weighted return numbers.

To be effective, investors need a 'team' of people who are knowledgeable, experienced, are capable of providing world-class service, and are objective. They need a truly independent financial group.

When I worked at a major Wall Street wirehouse firm (you're familiar with all the big names, I'm sure), the research department was in-house. In fact the firm was also the custodian, the researcher department, the product manufacturer, and the portfolio manager. The reps, of course, were employees who were charged with generating revenue in order to keep their desks. For the client, it would have been difficult to replace any piece of the puzzle without disturbing the rest of the mix. But, I digress. Back to our subject of diversification.

## Asset Classes

Experience and research tell us that while the long-term correlations of two asset classes may be low, thus presenting a potentially attractive opportunity to increase the diversification benefits in a portfolio by pairing the two asset classes together, unexpected periods of heightened cross-sectional volatility may lead to a dramatic up-tick in the correlations of the two asset classes. This action would likely reduce the diversification benefits to the aggregate portfolio at a time when the investor needs those diversification benefits the most. Therefore, it's critical to examine the relationships between sub-asset classes during independent time frames, as well as during multiple economic, business, and credit cycles. Critical to the analysis of historical relationships between sub-asset classes is the evaluation of how these relationships may change in response to a change in the fundamental landscape of the capital markets.

The work of Nobel Laureates like Harry Markowitz and William Sharpe has been applied to analytical software utilized by many registered advisors, IFG included. However, many professionals believe that it is critical to combine a layer of human oversight to these quantitative applications to help ensure that causation exists to support the outcomes of the analyses. If an analyst were to look at a series of data inputs long enough, he or she could probably identify a multitude of relationships that *coincidentally* exist without regard to causation.

If the relationship between two asset classes lacks sufficient reasoning to substantiate its existence, it is likely that the connection between the two is either due to an outside factor (interest rates, inflation, earnings growth, etc.), or that the connection is purely by chance and unlikely to persist in the future. In order to help ensure the quality of the quantitative data, human oversight is also critical in monitoring the accuracy of the data inputs and outputs. Quantitative models are often referred to as "input error maximizers." The human oversight element of the process attempts to mitigate the "garbage in, garbage out" scenarios, which are inherent with many purely mathematical models.

In addition to identifying the correlations between sub-asset classes, it's important to use historical analysis as a starting point to identify the relationships between an asset class' risk and return characteristics and several economic and fundamental factors. The goal of this analysis is to understand what cyclical or structural features tend to influence the behavior of different sub-asset classes. For example, by examining how value stocks perform during different stages in the economic cycle, we observe a tendency for value to outperform growth during the recovery phases of the economic cycle. Our observation is then tested through additional analysis and human judgment.

Another example of identifying influential factors in the return patterns of an asset class would be to evaluate the performance of U.S. Treasury bonds with different maturities during periods of time when investors anticipate higher inflation. Quantitative analysis seems to indicate that shorter maturity U.S. Treasuries tend to outperform longer-dated bonds during periods when inflation is expected to increase.

But, it's important to note that market-timing usually proves futile. Just ask all those people who went broke and lost their homes after attending a weekend stock market seminar where they purchased everything they needed to trade their way to riches.

## Why Market Timing Doesn't Work

2009 Market Performance	S&P 500 Appreciation	# of Trading Days
Entire year	27.8%	252 days
Feb 9 – Mar 6	-21.4%	18
Mar 6 – April 24	26.8%	34
July 13 – Aug 7	14.94%	200

- Almost all positive returns occurred during 34 of 252 trading days.
- Almost 96% was attributable to 34-day run-up (Mar 6 –Apr 24)

This phenomenon has been repeated of many years in many markets with the same results.

*Source: Ibbotson SBBI 2010 Classic Yearbook, 28 © Morningstar*

## Is Making the Right Call 51% of the Time Enough?

For the 88-Year Period from 1901-1988	Compound Return
Buy-and-Hold Stock Return	9.4%
Perfect Forecasting of All Bull/Bear Markets	15.8%
Correct Forecasting 50% of the Time	6.6%
Correct Forecasting of Bear Markets, 50% Bull Markets	8.7%
Correct Forecasting of 71% of Bear/Bull Markets	9.4%

*Source: John Bowen, CEG Worldwide*





**Stock-Picking, like timing, is a fool's folly. There's an abundance of academic evidence to support this, and it doesn't take a genius to understand it.**

The Brinson, Singer, & Beebower study cited earlier revealed that market timing could account for only 1.8% of the average return differential— and security selection could account for only 4.6%, while portfolio allocation accounted for 91.5% of average return differential [Source: *Financial Analysts Journal*, May/June 1991]. The remaining 2.1% were all other factors combined.

**In another study of 100 large pension funds, not one had improved its rate of return as a result of its efforts at timing.** In fact, 89 of the 100 lost money as a result of 'timing' - and their losses averaged a daunting 4.5% over the five-year period—and these funds were run by professionals! [Source: *Investment Policy*, Charles D. Ellis, Irwin Professional Publishing, 1985]. Other studies seem to draw the same conclusion for mutual funds and investment newsletters, too.



### Market Timing Odds

According to a Morningstar study conducted in 2010, the odds for 'timers' don't look too good. The study analyzed the cost of market timing using the S&P Index over the 10-year period of 1990-2009 inclusive, which comprised 5,044 trading days.

An investor who stayed invested during the entire period would have experienced an average annual return of 8.2%.

- Missing only the 10 best days reduced that percentage to 4.5% - almost in half!
- Missing only the 20 best days meant realizing only a 2.1% average annual return for the entire ten-year period! Returns were cut in half again... and 75% less than the investor who stayed invested!
- Missing the 30 best days meant an average annual return of only 0.1% - for the entire 10-year period!!! It's worth noting that those 30 best days may not—and probably didn't—run consecutively, which makes it even more problematic. Can YOU guess those 30 days—in advance?
- Missing the 40 best days meant a return of -1.8% as an average annual return for the entire 10-year period; and missing the 50 best days took that percentage down to -3.5%

What were the top performing stock markets in 2009? Norway, Australia, and Singapore. The U.S. market came in 19th. In fact, the U.S. made the top 3 only once in the prior 10 years and finished as high as #8 only twice.

### Important Questions

Asset allocation is about diversifying risk. Risk is diversified by reducing correlation. Optimizing those results is about reducing expenses and taxes. It's simple; but, not simplistic.

This paper was created to shed some hopefully new light on risk mitigation and asset allocation, as well as to dispel many of the myths we see promoted in the media, disguising financial entertainment as education. Hopefully, it will help you as you adopt a more professional approach to the management of your financial future.

## James Lorenzen, CFP®, AIF®

Jim has been providing independent financial consulting specializing in retirement planning and wealth management advisory services since 1991. All financial planning and investment advisory services are provided on a fee-only basis. Jim is also licensed for insurance as an independent agent under California license #0C00742.

Jim founded, built, and sold five successful businesses in the 1970s and has been a headline speaker at more than 500 conventions throughout the United States, Canada, and the U.K. for companies like Hearst, CapCities/ABC, Media General, Foster Grant, Hobie Cat, and scores of others. Articles by or about Jim have appeared in more than twenty-five publications nationally and he's also been interviewed for American Airlines' *Sky Radio*.



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Jim grew up in Chillicothe, Ohio and Alexandria, Virginia, graduated from Emory & Henry College (Virginia) with a degree in economics and served in Vietnam with the U.S. Army before beginning his business career in California. He makes his home in the Mountain Meadows section of Moorpark where he lives with his wife Lourdes.





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