

Building an Effectively Diversified Investment Portfolio

An Educational Resource From
Solid Rock Wealth Management

By Christopher Nolt, LUTCF

Introduction

How you invest your money can mean the difference between living out your dreams or not. That is something to take very seriously. Unfortunately, the amount of information on investing today is overwhelming and confusing, making the decision of how to invest wisely very difficult. With all of the different investment products, strategies and information, one has to wonder; “is there a proven way to invest my money today? A prudent strategy that will give me a good chance of attaining my long-term investment goals?” The answer to that question is YES and in this Wealth Guide we will show you that strategy.

With the Nobel Prize winning concepts of Modern Portfolio Theory as our guide, you will learn a step-by-step process for constructing an effectively diversified investment portfolio using low-cost asset class mutual funds. You will see how over the last forty years this portfolio accumulated more than twice the wealth of a portfolio allocated 60% to the S&P 500 stock index and 40% to the Barclay’s Government Credit bond index.

If you are serious about achieving your long-term financial goals, this Wealth Guide could be one of the more important things you ever read.

Academic Research

It’s important to consider the source of information that your investment strategies are based upon. Unfortunately, many sources have an agenda behind them. The financial media, Wall Street and the investment brokerage industry disseminate information that is often designed to sell advertising and publications, to move money and to generate fees and commissions. Once you understand

that these goals don’t line up with your best interests, you will learn to ignore much of what you hear from the media and Wall Street.

Another source of investment information comes from Academia. Academia refers to the people and institutions dedicated to the activities of teaching and learning, including research and discovery. This would include schools, colleges and universities.

Over the past 60 years, academic research has discovered and established the most effective way to manage money. By following the steps outlined in this Wealth Guide, you can benefit from their research.

Modern Portfolio Theory

In 1990, Harry Markowitz, William Sharpe and the late Merton Miller won the Nobel Prize for economics for their research on creating investment portfolios. They developed a mathematically optimal portfolio. Based on a study of historical investment performance, they re-created the best combination of asset classes in a portfolio. Markowitz called this mathematically correct portfolio an efficient portfolio. His method sought to achieve maximum returns with the least amount of risk/volatility as measured by standard deviation. The scientific system Markowitz pioneered and which won the Nobel Prize came to be known as Modern Portfolio Theory. This investment strategy is now accepted worldwide as an authoritative blueprint for investing.

Standard Deviation

Standard deviation is a very important concept of investing. Standard deviation measures the volatility of an investment’s return over time. An investment with returns that vary greatly will have higher standard deviation. In

other words, the higher the standard deviation, the higher the volatility and hence, the greater the risk.

Asset Allocation

Asset classes are the building blocks of an investment portfolio. Asset classes include small and large cap stocks, value and growth stocks, domestic and international stocks, emerging market stocks, real estate, government bonds and corporate bonds. Asset allocation is the division of a portfolio's investments among asset classes to balance expected risk and expected reward.

Effective Diversification

Everyone has heard the saying "Don't put all of your eggs in one basket". Not everyone, however, understands the difference between effective and ineffective diversification. Effective diversification combines multiple asset classes that have low correlation with each other. Effective diversification

enables investors to potentially reduce the overall risk in their portfolios and increase their long-term potential returns.

The Asset Class Performance Chart below illustrates how all asset classes go through up and down cycles. Each column contains colored boxes representing nine different asset classes plus the CPI (Consumer Price Index), a measure of inflation. The top performing asset class each year is ranked at the top of the chart and the worst performing asset class is at the bottom.

As you can see, there is random movement of each asset class. The best performing asset class in one year is often the worst or close to the worst performing asset class the next year. Many investors tend to pick their investments based upon the recent performance of that investment. This is another reason many investors are frustrated with the results they achieve.

Asset Class Index Performance 1998-2012

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Annualized Returns
Large Growth 36.65%	Emerging Markets 66.49%	REITs 26.37%	Small Value 40.59%	5 Year Gov't 12.95%	Small Value 74.48%	REITs 31.58%	Emerging Markets 34.00%	REITs 35.06%	Emerging Markets 39.42%	5 Year Gov't 13.11%	Emerging Markets 78.51%	Small Value 34.59%	5 Year Gov't 9.46%	Large Value 28.03%	Emerging Markets 8.96%
S&P 500 Index 28.58%	Small Growth 54.06%	5 Year Gov't 12.60%	REITs 13.93%	REITs 3.82%	Emerging Markets 55.82%	Small Value 27.33%	EAFE 13.54%	Emerging Markets 32.14%	Large Growth 15.70%	Inflation (CPI) 0.09%	Small Value 70.19%	Small Growth 31.83%	REITs 8.29%	Small Value 20.32%	Small Value 8.82%
EAFE 20.00%	Large Growth 30.16%	Inflation (CPI) 3.39%	5 Year Gov't 7.61%	Inflation (CPI) 2.38%	Small Growth 54.72%	Emerging Markets 25.55%	REITs 12.16%	EAFE 26.34%	EAFE 11.17%	S&P 500 Index -37.00%	Large Growth 38.09%	REITs 27.96%	Large Growth 6.42%	Emerging Markets 18.22%	REITs 8.78%
Large Value 11.95%	EAFE 26.96%	Small Value -3.08%	Inflation (CPI) 1.55%	Emerging Markets -6.17%	EAFE 38.59%	EAFE 20.25%	Large Value 9.70%	Large Value 21.87%	5 Year Gov't 10.05%	REITs -37.73%	Small Growth 38.09%	Large Value 20.17%	Inflation (CPI) 2.96%	REITs 18.06%	5 Year Gov't 5.79%
5 Year Gov't 10.22%	S&P 500 Index 21.04%	Large Value -6.41%	Emerging Markets -2.62%	Small Value -11.72%	REITs 37.13%	Large Value 17.74%	Small Growth 6.02%	Small Value 21.70%	S&P 500 Index 5.49%	Large Growth -39.12%	Large Value 37.51%	Emerging Markets 18.88%	S&P 500 Index 2.11%	EAFE 17.32%	S&P 500 Index 4.47%
Small Growth 4.08%	Large Value 6.99%	S&P 500 Index -9.10%	Large Value -2.71%	EAFE -15.94%	Large Value 36.43%	Small Growth 11.16%	S&P 500 Index 4.91%	S&P 500 Index 15.79%	Small Growth 4.99%	EAFE -43.38%	EAFE 31.78%	Large Growth 17.64%	Small Growth -4.43%	Large Growth 17.22%	EAFE 4.38%
Inflation (CPI) 1.61%	Small Value 4.37%	EAFE -14.17%	Small Growth -4.13%	Large Growth -21.93%	S&P 500 Index 28.68%	S&P 500 Index 10.88%	Small Value 4.46%	Small Growth 9.26%	Inflation (CPI) 4.08%	Small Growth -43.41%	REITs 27.99%	S&P 500 Index 15.06%	Small Value -10.78%	S&P 500 Index 16.00%	Large Growth 4.08%
Small Value -10.04%	Inflation (CPI) 2.68%	Large Growth -14.33%	S&P 500 Index -11.89%	S&P 500 Index -22.10%	Large Growth 17.77%	Large Growth 5.27%	Inflation (CPI) 3.42%	Large Growth 5.97%	Large Value -12.24%	Small Value -44.50%	S&P 500 Index 26.46%	EAFE 7.75%	EAFE -12.14%	Small Growth 12.59%	Small Growth 3.84%
REITs -17.50%	5 Year Gov't -1.76%	Small Growth -24.50%	Large Growth -21.05%	Large Value -30.28%	5 Year Gov't 2.40%	Inflation (CPI) 3.26%	Large Growth 3.39%	5 Year Gov't 3.15%	REITs -15.69%	Large Value -53.14%	Inflation (CPI) 2.72%	5 Year Gov't 7.12%	Emerging Markets -18.42%	Inflation (CPI) 1.74%	Inflation (CPI) 2.38%
Emerging Markets -25.34%	REITs -4.62%	Emerging Markets -30.83%	EAFE -21.44%	Small Growth -34.63%	Inflation (CPI) 1.88%	5 Year Gov't 2.26%	5 Year Gov't 1.35%	Inflation (CPI) 2.54%	Small Value -18.38%	Emerging Markets -53.33%	5 Year Gov't -2.40%	Inflation (CPI) 1.50%	Large Value -19.90%	5 Year Gov't 0.64%	Large Value 0.87%

Highest Return
↑
↓
Lowest Return

Diversification does not guarantee a profit or protect against a loss.

Data Sources: Center for Research in Security Prices (CRSP), BARRA Inc. and Morgan Stanley Capital International, January 2013. All investments involve risk. Foreign securities involve additional risks, including foreign currency changes, political risks, foreign taxes, and different methods of accounting and financial reporting. Past performance is not indicative of future performance. Treasury bills are guaranteed as to repayment of principal and interest by the U.S. government. This information does not constitute a solicitation for sale of any securities. CRSP ranks all NYSE companies by market capitalization and divides them into 10 equally-populated portfolios. AMEX and NASDAQ National Market stocks are then placed into deciles according to their respective capitalizations, determined by the NYSE breakpoints. CRSP Portfolios 1-5 represent large-cap stocks; Portfolios 6-10 represent small caps; Value is represented by companies with a book-to-market ratio in the top 30% of all companies. Growth is represented by companies with a book-to-market ratio in the bottom 30% of all companies. S&P 500 Index is the Standard & Poor's 500 Index. The S&P 500 Index measures the performance of large-capitalization U.S. stocks. The S&P 500 is an unmanaged market value-weighted index of 500 stocks that are traded on the NYSE, AMEX and NASDAQ. The weightings make each company's influence on the index performance directly proportional to that company's market value. The MSCI EAFE Index (Morgan Stanley Capital International Europe, Australasia, Far East Index) is comprised of over 1,000 companies representing the stock markets of Europe, Australia, New Zealand and the Far East, and is an unmanaged index. EAFE represents non-U.S. large stocks. Foreign securities involve additional risks, including foreign currency changes, political risks, foreign taxes and different methods of accounting and financial reporting. Consumer Price Index (CPI) is a measure of inflation. REITs, represented by the NAREIT Equity REIT Index, is an unmanaged market cap-weighted index comprised of 151 equity REITs. Emerging Markets index represents securities in countries with developing economies and provide potentially high returns. Many Latin American, Eastern European and Asian countries are considered emerging markets. Indexes are unmanaged baskets of securities without the fees and expenses associated with mutual funds and other investments. Investors cannot directly invest in an index.

Active vs. Passive

Two basic investment philosophies exist; active management and passive management. Active money managers attempt to “beat the market” through a variety of techniques such as stock picking and marketing timing. In contrast, passive money managers avoid speculation and subjective forecasting. They take a longer-term view and attempt to deliver market returns using index or index type funds.

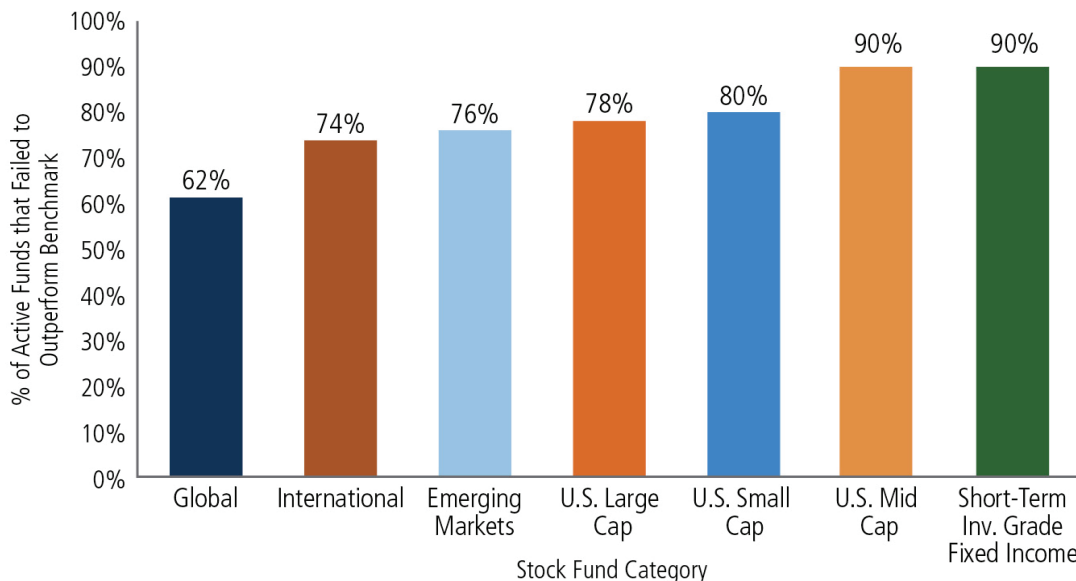
To a large extent, the investment media and brokerage industry would like you to believe that the key to successful investing is picking the right stocks, sectors or asset classes and getting in and out of those stocks, sectors or asset classes at the right times. Wall Street and the brokerage industry try to create the impression that their superior investment insight and ability to pick stocks and time

the market will help you attain better performance. This, however, is not true.

In 1986 and again in 1991, the results of an extensive study were published in the Financial Analysts Journal. The study was performed to answer one basic question: What determines the performance of a portfolio? The study revealed that stock picking and market timing account for less than 10% and asset allocation determines over 90%. ⁽¹⁾ In other words, according to the study, the asset classes that were chosen and the allocation among those asset classes had a greater impact on investment performance than any other investment decision.

Studies are also performed each year to determine the percentage of actively managed mutual funds that fail to outperform their passive index benchmark. In the graph below, you can see that the percentage is high.

Percentage of Active Funds that Failed to Beat Their Index (2008–2012)



Source: Standard & Poor’s Indices Versus Active Funds Scorecard (SPIVA), year end 2012. Index used for comparison: U.S. Large Cap – S&P 500 Index; U.S. Mid Cap – S&P MidCap 400 Index; U.S. Small Cap – S&P SmallCap 600 Index; Global Funds – S&P Global 1200 Index; International – S&P 700 Index; Emerging Markets – S&P/IFCI Composite; Short-Term Inv. Grade Fixed Income – Barclays 1-3 Year Government/Credit Index. Outperformance is based upon equal weight fund counts. For illustrative purposes only. Index returns do not include payment of any sales charges or fees an investor would pay to purchase the securities they represent. Such costs would lower performance. Past performance is not an indication of future results. Standard & Poor’s®, S&P®, S&P 500®, S&P MidCap 400®, S&P SmallCap 600® and SPIVA® are registered trademarks of Standard & Poor’s Financial Services LLC.

Active Management Fails Over the Long Term

As you increase the length of time you invest, outperforming the market becomes even more difficult. In a 2008 research study ⁽²⁾ – perhaps the most comprehensive study ever performed – a team of professors used advanced statistical analysis to evaluate the performance of active mutual funds. They looked at fund performance over a 32-year period, from 1975 – 2006. The study concluded that after expenses, **only 0.6% (1 in 160) of active mutual funds actually outperformed the market through money manager's skill.**

If you manage money yourself using active management strategies or invest in funds that use this type of approach, the results of this study indicate you will likely end up with less money for retirement than if you had used a passive index benchmark.

The Strategy in a Nutshell

Although the strategy used in building the portfolio discussed in this Wealth Guide is highly sophisticated, I will try to explain it in two sentences. In a nutshell, this portfolio uses 13 no-load, low-cost asset class mutual funds to create a portfolio that owns over 12,000 securities in 44 or more different countries. The portfolio represents multiple asset classes and uses strategic asset allocation to overweight security holdings to small and value companies which, over time, have significantly out-performed small and growth companies.

You can come close to creating this strategy using index mutual funds or exchange traded funds. You will not, however, be able to exactly replicate this portfolio using those funds. As I will explain later, there is a difference between index funds and the asset class funds that comprise this portfolio.

A Structured, Long-Term Buy & Hold Approach

This portfolio is not for everyone. If you are someone who believes that you can consistently outperform the market using active management tactics, such as stock picking,

sector rotation and market timing, this is not for you. If you are the type of investor that likes to “test the waters” and dabble with a strategy for short periods of time, don't even bother using this approach. This short-term thinking is what often causes investors to earn inferior long-term investment performance.

The portfolio is not based upon speculation. It is not based on anyone's ability to predict what is going to happen in the future. It does not attempt to identify which stocks, sectors or asset classes will be “hot” in the near future. If that is what you are looking for, you won't find it here. This strategy uses a structured buy & hold approach to produce long-term results which requires patience and discipline.

I am often asked how this portfolio performed over the last year or so. This lets me know the person asking this question doesn't understand the strategy. People typically ask this question because they want to compare the performance of this portfolio to their current portfolio or to an investment they recently heard or read about. Jumping from one strategy to another is a large reason most investors underperform the market over time.

Starting Benchmark

Through a series of five steps, I will illustrate how we build an effectively diversified investment portfolio. Starting with a benchmark portfolio titled “Portfolio One”, we will add asset classes with an attempt to increase returns while maintaining a low standard deviation. You will see the end results of these steps in “Portfolio Six.”

With each successive portfolio, we will look at:

- The annualized return from January 1970 through December 2012.
- The annualized standard deviation from 1970 through December 2012.
- The growth of \$100,000 from January 1, 1970 through December 2012.

To measure the success of our portfolio, we will use a starting benchmark portfolio comprised of 60% Standard & Poor's (S&P) 500 stock Index and 40% Barclay's Gov-

ernment Credit bond index. A 60/40 split between equities and fixed income is the most popular allocation used by individual and institutional investors to balance risk and return and these are two of the most popular indexes representing the U.S. stock and bond market.

To see how this 60/40 benchmark portfolio has performed, we will examine the results of a comprehensive investment study. The chart below reflects research done on the performance of 192 corporate pension plans from 1988 to 2005. The plans were ranked from highest to lowest performer, based on average annual return for the 18-year period. Every tenth plan's performance is graphed.

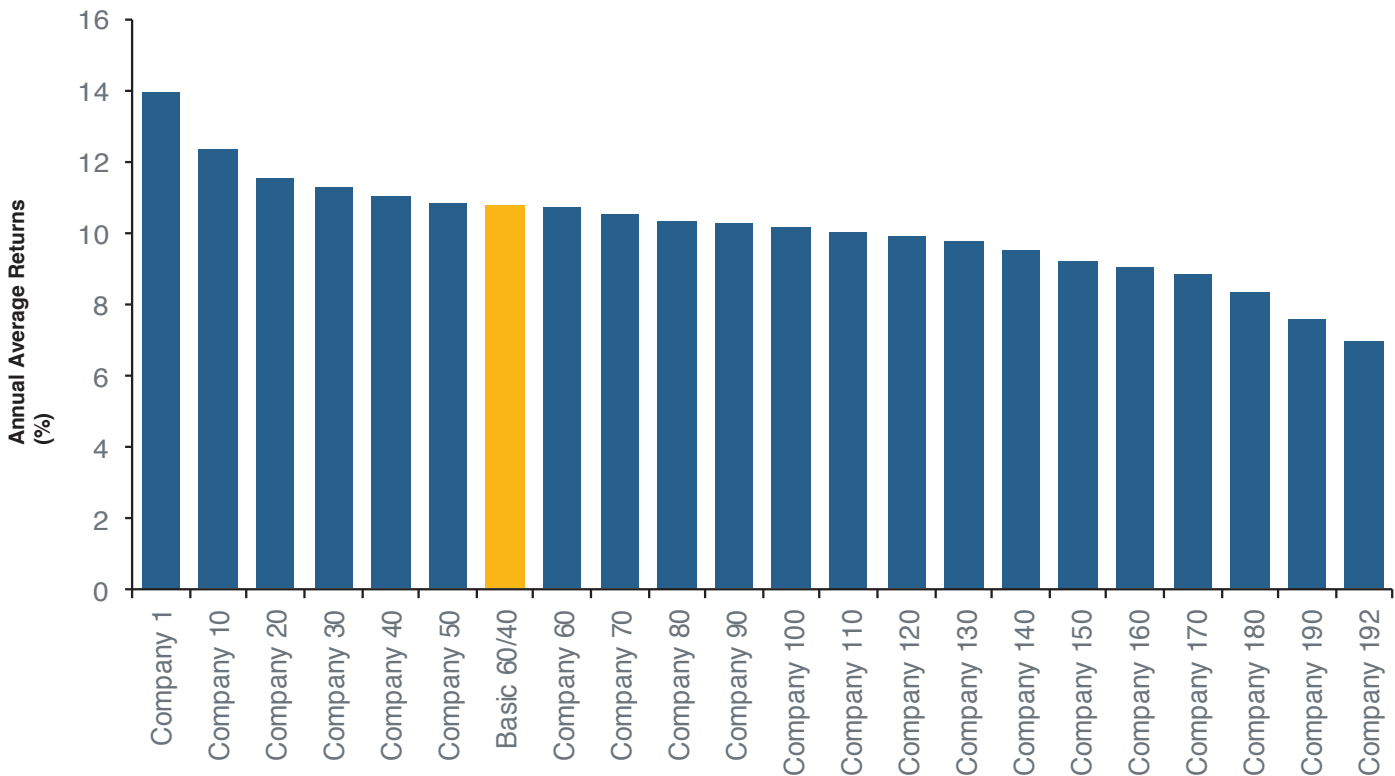
The graph also features the historical performance of our benchmark portfolio during the same time frame. The most revealing observation is that the 60% S&P 500 and

40% Barclay's Government Credit index strategy's return sits in the highest one-third of the performance ranking.

These pension plans represent some of the largest and most prestigious U.S. corporations. Such companies have tended to hire investment managers who are striving to beat the market—and the majority of the managers during this time period followed active strategies, such as security selection and market timing.

Yet, as the graph for this performance period demonstrates, most of the pension plans in the 192-company study could not outperform a basic passive 60/40 indexed strategy. Considering this information, we can conclude that this starting benchmark portfolio is setting the bar pretty high.

Results of 192 Corporate Pension Funds Annual: 1988–2005

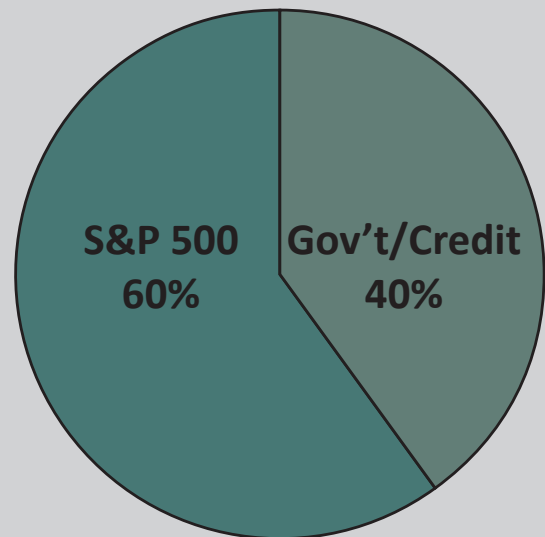


Basic 60/40 is 60% S&P 500 Index, 40% Lehman Brothers US Government/Credit Bond Index Intermediate, rebalanced monthly.
Source: FutureMetrics (December 2006); all companies with fiscal year ending December, with complete return data from 1988–2005.
The S&P data are provided by Standard & Poor's Index Services Group. Barclays Capital data provided by Barclays Bank PLC.

Portfolio One (starting benchmark)

January 1970 - December 2012

	Annualized Return	Annualized Standard Deviation	Growth of \$100,000
Portfolio One	8.5%	11.6%	\$3,281,865



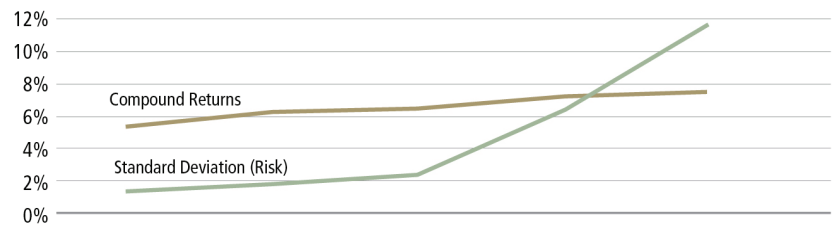
Portfolio Two

(shifting fixed income allocation to short term, high credit quality bonds)

In our portfolio, fixed income (bonds) is used to provide stability in the portfolio. There are two primary risk factors when investing in bonds, credit rating and maturity. Credit rating is a measure of the financial strength and stability of the company or entity issuing the bond. Maturity measures the length of time the bond was issued for.

In general, longer bond maturities have higher returns and higher standard deviation. However, as you can see in the chart to the right, when you extend maturities beyond intermediate term maturities, the added standard deviation (volatility/risk) rises much faster than the additional return you obtain.

The Risk/Return Trade-Off in Long-Term vs. Short-Term Bonds Quarterly: 1964 – 2012



Maturity	One-Month U.S. Treasury Bills	Six-Month U.S. Treasury Bills	One-Year U.S. Treasury Notes	Five-Year U.S. Treasury Notes	Long-Term Government Bonds
Compound Return (%)	5.22	5.95	6.16	7.17	7.68
Standard Deviation (%)	1.49	1.83	2.37	6.14	11.49

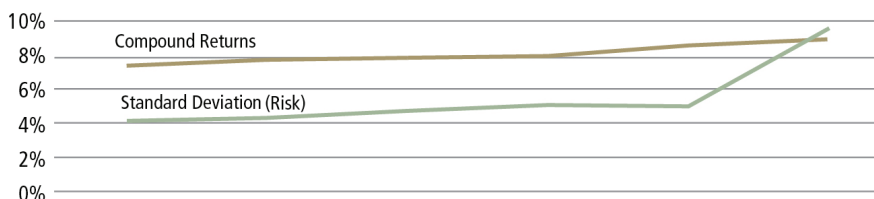
Source: DFA Returns. One-Month U.S. Treasury Bills, Five-Year U.S. Treasury Notes, and Twenty-Year (Long-Term) U.S. Government Bonds provided by Ibbotson Associates. Six-Month U.S. Treasury Bills provided by CRSP (1964-1977) and B of A Merrill Lynch (1978-present). One-Year U.S. Treasury Notes provided by CRSP (1964-May 1991) and B of A Merrill Lynch (June 1991-present). Ibbotson data ©Stocks, Bonds, Bills, and Inflation Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld). CRSP data provided by the Center for Research in Security Prices, University of Chicago. The Merrill Lynch Indices are used with permission; copyright 2012 B of A Merrill Lynch, Pierce, Fenner & Smith Incorporated; all rights reserved. Assumes reinvestment of dividends. Past performance is not indicative of future results. Standard deviation annualized from quarterly data. Standard deviation is a statistical measurement of how far the return of a security (or index) moves above or below its average value. The greater the standard deviation, the riskier an investment is considered to be.

In general, bonds with lower credit quality will offer a higher yield. As you can see in the chart to the right, however, bonds with lower credit ratings (such as BBB and high-yield bonds) do not tend to offer enough extra return potential over higher quality bonds to justify their additional risk.

There are two key lessons to be derived from these charts. One is that short-term, high-quality bonds should do a better job of decreasing the volatility of an overall portfolio than other types of bonds because their prices are more stable. That stability can help reduce a portfolios amount of price fluctuation. The other is that it may not be worth taking the risk of generating higher returns by owning long-term, low-quality bonds.

As you can see in the graph below, changing the bond allocation to that of Portfolio Two, the return stayed about the same while achieving a reduction in standard deviation.

The Risk/Return Trade-Off in High Quality vs. Lower Quality Bonds Quarterly: 1983 – 2012



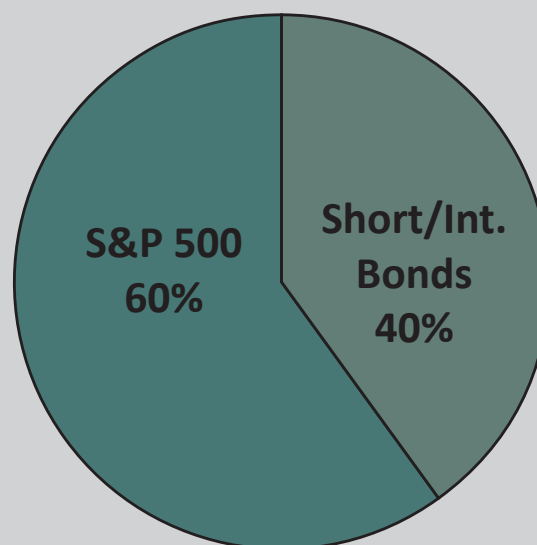
Quality	Government	AAA	AA	A	BBB	High Yield
Compound Return (%)	7.16	7.53	7.73	7.95	8.56	9.12
Standard Deviation (%)	3.42	3.61	4.04	4.54	4.71	8.27

Source: Morningstar Direct. Government rating is BarCapUS Government Intermediate Index, AAA rating is BarCap US Intermediate Credit Aaa Index. AA rating is BarCapUS Intermediate Credit Aa Index. A rating is BarCap US Intermediate Credit A Index. BBB rating is BarCap US Intermediate Credit BBB Index. High Yield rating is BarCap US High Yield Intermediate Index. Indices are not available for direct investment. Assumes reinvestment of dividends. Past performance is not indicative of future results. Standard deviation annualized from quarterly data. Standard deviation is a statistical measurement of how far the return of a security (or index) moves above or below its average value. The greater the standard deviation, the riskier an investment is considered to be.

Portfolio Two

January 1970 - December 2012

	Annualized Return	Annualized Standard Deviation	Growth of \$100,000
Portfolio One	8.5%	11.6%	\$3,281,865
Portfolio Two	8.4%	11.0%	\$3,249,085



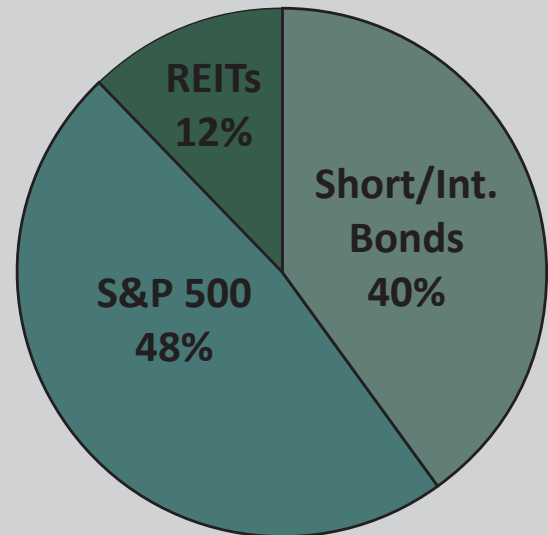
Portfolio Three (adding real estate)

Real estate offers the potential for current income and capital appreciation. Over the long term, real estate has provided a significant hedge against inflation. Adding real estate to the portfolio through professionally managed Real Estate Investment Trusts (REITs) has the potential to increase the annualized return and decreased the annualized standard deviation.

Portfolio Three

January 1970 - December 2012

	Annualized Return	Annualized Standard Deviation	Growth of \$100,000
Portfolio One	8.5%	11.6%	\$3,281,865
Portfolio Two	8.4%	11.0%	\$3,249,085
Portfolio Three	8.7%	10.4%	\$3,678,586

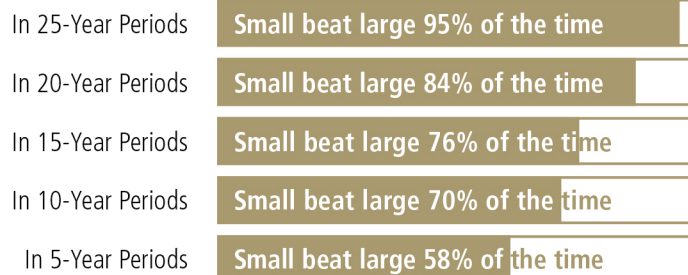


Portfolio Four (adding small companies)

The S&P 500 index is comprised of 500 of the largest U.S. companies. In my experience as an investment advisor, the typical investment portfolio of most people is comprised mainly of large U.S. companies. As you can see in the chart to the right, small companies have outperformed large companies over time.

Although adding small companies to our portfolio slightly increased the standard deviation, it did increase the return and growth of wealth.

U.S. Small Stocks vs. U.S. Large Stocks July 1926 – 2012



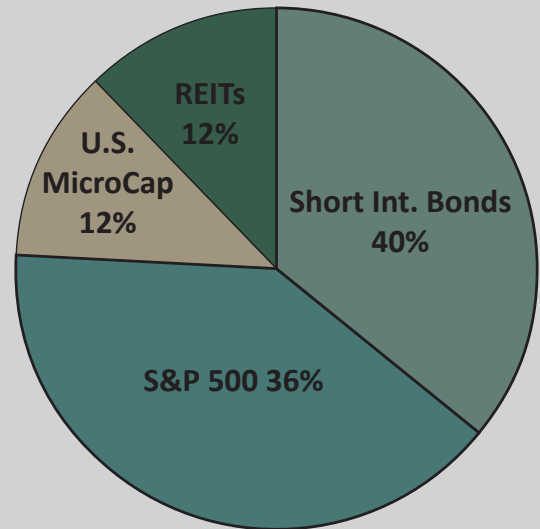
Periods based on rolling annualized returns. 745 total 25-year periods. 805 total 20-year periods. 865 total 15-year periods. 925 total 10-year periods. 985 total 5-year periods.

Source: DFA Returns. The Center for Research in Security Prices (CRSP) ranks all NYSE companies by market capitalization and divides them into 10 equally-populated portfolios. AMEX and NASDAQ National Market stocks are then placed into deciles according to their respective capitalizations, determined by the NYSE breakpoints. CRSP 1-5 Index represents large caps and 6-10 Index represents small caps. Small company stocks may be subject to a higher degree of market risk than the securities of more established companies because they may be more volatile and less liquid. Indexes are unmanaged baskets of securities that investors cannot directly invest in. Past performance is no guarantee of future results. Assumes reinvestment of income and no transaction costs or taxes. This is for illustrative purposes only and not indicative of any investment. An investment cannot be made directly in an index.

Portfolio Four

January 1970 - December 2012

	Annualized Return	Annualized Standard Deviation	Growth of \$100,000
Portfolio One	8.5%	11.6%	\$3,281,865
Portfolio Two	8.4%	11.0%	\$3,249,085
Portfolio Three	8.7%	10.4%	\$3,678,586
Portfolio Four	9.0%	10.8%	\$4,071,094



Portfolio Five (adding value companies)

Besides classifying a stock based upon its size (market capitalization), stocks are also classified as either growth or value companies. Growth stocks are companies whose earnings are expected to grow at an above-average rate relative to the market. A growth stock usually does not pay a dividend, as the company would prefer to reinvest retained earnings in capital projects.

Value stocks are stocks that tend to trade at lower prices relative to their fundamentals (i.e. dividends, earnings, sales, etc.) and thus are considered undervalued. Common characteristics of such stocks include a high dividend yield, low price-to-book ratio and/or low price-to-earnings ratio. Purchasing value stocks has been referred to as purchasing stocks on sale.

In my experience, most people's investment portfolios are weighted more heavily toward growth stocks than value stocks. As you can see in the chart below, value stocks have outperformed growth stocks over time. Adding value stocks to our portfolio provided a significant increase in return and growth of wealth.

U.S. Value vs. U.S. Growth July 1926 – December 2012



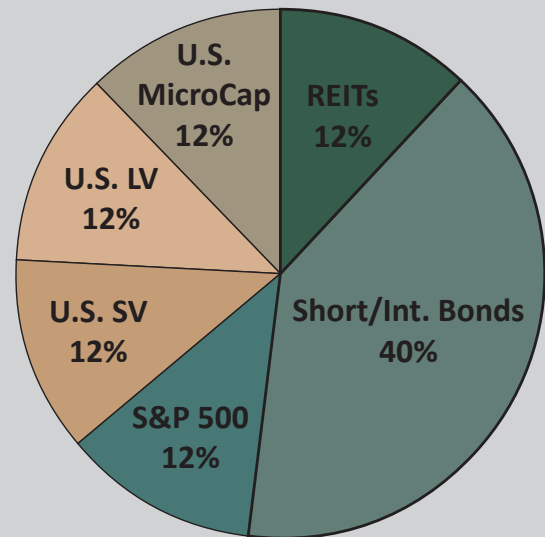
Periods based on rolling annualized returns. 727 total 25-year periods. 787 total 20-year periods. 847 total 15-year periods. 907 total 10-year periods. 967 total 5-year periods.

Source: DFA Returns. CRSP is the Center for Research in Security Prices. CRSP ranks all NYSE companies by market capitalization and divides them into 10 equally-populated portfolios. AMEX and NASDAQ National Market stocks are then placed into deciles according to their respective capitalizations, determined by the NYSE breakpoints. Value is represented by companies with a book-to-market ratio in the top 30% of all companies. Growth is represented by companies with a book-to-market ratio in the bottom 30% of all companies. The CRSP Value and Growth divisions within the CRSP 1-5 Portfolios are employed to formulate the Fama/French U.S. Large Value Index and Fama/French U.S. Large Growth Index. Includes all NYSE securities (plus Amex equivalents since July 1962 and NASDAQ equivalents since 1973), including utilities. Fama/French U.S. Large Growth Index provided by Fama/French from Center for Research in Security Prices (CRSP) data. Includes the upper-half range in market cap and the lower 30% in book-to-market of NYSE securities (plus Amex equivalents since July 1962 and NASDAQ equivalents since 1973), excluding utilities. Fama/French U.S. Large Value Index provided by Fama/French from CRSP data. Includes the upper-half range in market cap and the higher 30% in book-to-market of NYSE securities (plus Amex equivalents since July 1962 and NASDAQ equivalents since 1973), excluding utilities. The risks associated with investing in value stocks potentially include increased volatility (up and down movement in the value of your assets) and loss of principal. Indexes are unmanaged baskets of securities that investors cannot directly invest in. Past performance is no guarantee of future results. Assumes reinvestment of income and no transaction costs or taxes. This is for illustrative purposes only and not indicative of any investment.

Portfolio Five

January 1970 - December 2012

	Annualized Return	Annualized Standard Deviation	Growth of \$100,000
Portfolio One	8.5%	11.6%	\$3,281,865
Portfolio Two	8.4%	11.0%	\$3,249,085
Portfolio Three	8.7%	10.4%	\$3,678,586
Portfolio Four	9.0%	10.8%	\$4,071,094
Portfolio Five	9.9%	11.6%	\$5,681,785



Portfolio Six (adding international and emerging market companies)

Investors often tend to invest in what they know and are comfortable with. Consequently, many investors concentrate their portfolio holdings in the United States. While it may feel more secure to invest in your own country, you are missing out on potential opportunities by limiting your investing to the U.S. Just as we know concentration in one company or industry can be risky, the same applies to investing in just one country.

Our world is changing quickly. In 1970, the United States accounted for 66% of all publicly traded stocks. In 2013, that percentage is around 40%. By the year 2050, it is estimated that the U.S. will account for only 17% of all publicly traded stocks. ⁽³⁾ This is not because the U.S. economy is not growing or will not continue to grow, it is because international markets will be growing faster.

As you can see in the chart to the right titled: Ranking of Markets Around the World. From January 1, 2000 through December 31, 2010. The United States ranked 39th out of 45 countries in terms of annualized returns in U.S. dollars.

Ranking of Markets Around the World

Ten-Year Performance in US Dollars
Annualized Returns Year Ending December 31, 2012

1. Colombia	16. Singapore	31. Austria
2. Peru	17. Sweden	32. Spain
3. Brazil	18. Denmark	33. UK
4. Indonesia	19. Malaysia	34. Taiwan
5. Egypt	20. Australia	35. Hungary
6. Thailand	21. Korea	36. Netherlands
7. Turkey	22. Russia	37. France
8. Philippines	23. Hong Kong	38. Belgium
9. Chile	24. Canada	39. USA
10. Czech Republic	25. Poland	40. Japan
11. Mexico	26. Morocco	41. Portugal
12. China	27. Germany	42. Finland
13. South Africa	28. New Zealand	43. Italy
14. India	29. Switzerland	44. Ireland
15. Norway	30. Israel	45. Greece

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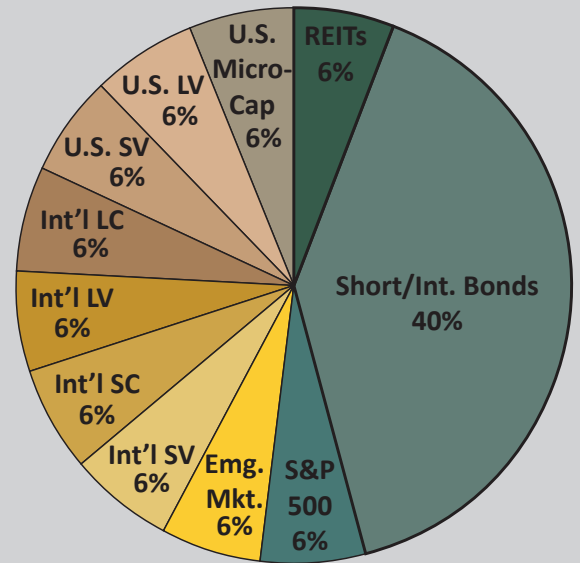
The year-by-year returns of world markets vary widely. To create a portfolio that captures the returns of strong performing countries each year, it is important to diversify among both domestic, and international developed and emerging markets.

As you can see in Portfolio Six, by adding international and emerging markets we have increased our return from 8.5% in Portfolio One to 10.5% while keeping the standard deviation at 11.7%. And, our growth of \$100,000 has dramatically increased.

Portfolio Six

January 1970 - December 2012

	Annualized Return	Annualized Standard Deviation	Growth of \$100,000
Portfolio One	8.5%	11.6%	\$3,281,865
Portfolio Two	8.4%	11.0%	\$3,249,085
Portfolio Three	8.7%	10.4%	\$3,678,586
Portfolio Four	9.0%	10.8%	\$4,071,094
Portfolio Five	9.9%	11.6%	\$5,681,785
Portfolio Six	10.5%	11.7%	\$7,308,479



Summary of Steps One Through Six

This completes the construction of our effectively diversified investment portfolio. The Portfolio Six chart shows that the growth of \$100,000 from 1970 through 2009 went from \$3,827,703 in Portfolio One to \$7,308,479 in Portfolio Six, **an increase of over \$4 million!**

One would tend to think that to provide such a dramatic increase in returns you would have to significantly increase the risk you are taking. However, the standard deviation of Portfolio Six was only .10% higher than Portfolio One. In addition, the number of stocks owned went from 500 in Portfolio One to over 12,000 in Portfolio Six according to Dimensional Fund Advisors. Owning this many additional companies is a sound way to reduce overall risk.

While past performance is not an indicator of future results and while diversification does not guarantee a profit or protection against a loss, this evidence presents a strong case for embracing the investment strategy discussed in this Wealth Guide.

Rebalancing

Another important academic concept with respect to investing is rebalancing. The asset classes in your portfolio will not all move the same. Therefore, the amount of money you have in each asset class will change as markets fluctuate. In other words, your allocation will drift, much like a sailboat without a rudder. To keep your portfolio on track, we periodically rebalance the holdings in your portfolio to the target allocation percentages. This helps to maintain your chosen level of risk and take advantage of price changes by automatically buying low and selling high.

Rebalancing is a simple concept, but realizing the benefits of it is a challenge for most investors because it often involves selling assets that have recently done well and buying assets that have recently done poorly. It is emotionally difficult to sell winners and buy losers. Rebalancing helps you to take advantage of these cycles and, most important, it keeps you at your chosen level of risk. Proper rebalancing forces you to sell stocks when they are up and buy them when they are down. This sounds counterintuitive and requires a strong sense of discipline and emotional detachment. Many individual investors do the opposite of what they should do and it costs them dearly.

Index Funds vs. Asset Class Funds

Until fairly recently, the asset class funds that comprise the investment portfolio have been reserved for large institutions, pensions and endowments. These funds are now available to people like you through select fee-based investment advisors.

You can construct a portfolio similar to this portfolio using index mutual funds or exchange traded funds. Index funds are funds that simply replicate or track market

indexes by holding all of the securities that comprise a particular index. There are many different types of indexes and hence, many different index funds. Index funds now cover everything from major market indexes such as the S&P 500 to particular types of securities such as small cap stocks, value stocks, international and emerging stocks, REITs to sectors such as healthcare and technology and even individual countries.

Although index funds are similar to the asset class funds used in this portfolio, they are not the same. You cannot exactly replicate this portfolio using index funds and you cannot replicate it in a single mutual fund. You can put most of it together using a company such as Vanguard but Vanguard does not offer every part of it.

While index funds can be an excellent investment vehicle, they do have drawbacks that may reduce the effectiveness of delivering pure asset-class returns. Two potential drawbacks with index funds as compared to asset class funds are the method used in weighting the securities within the index and the additional trading costs index funds may incur.

Traditional indexes such as the S&P 500 are Capitalization Weighted. This means that a traditional index fund weights the companies based on their market capitalization. Market capitalization (or market cap) is the total value of the issued shares of a publicly traded company; it is equal to the share price times the number of shares outstanding. Market capitalization weighted indexes are thus weighted more towards large and growth companies. For example, Apple (a large growth company) currently represents approximately 4.5% of the S&P 500 index. As you've seen in the illustrations above, small companies have outperformed large companies over time and value companies have outperformed growth companies over time.

Indexing	Asset Class Investing
Portfolio holdings dictated by target index	Portfolio holdings dictated by academically designed asset class
Attempts to deliver target index rate of return	Attempts to deliver asset class rate of return
Accepts high transactions costs and turnover in favor of tracking	Can help minimize costs and enhance returns through advanced trading and engineering
Manager goal to eliminate tracking error	Manager goal to deliver asset class rate of return

An index fund must sell companies that are no longer to be included in a particular index and buy a company to replace the company leaving the index. This can result in additional trading costs.

Historically, there is a run up in a company's stock price from the date its inclusion in an index is announced to the date it is actually added to the index. After the effective date, when the security officially becomes part of the index, the price of the security tends to decline. Asset class funds are not restricted to buying and selling securities at a certain time so they can avoid drawbacks such as these.

Dimensional Fund Advisors

Dimensional Fund Advisors (DFA) pioneered the concept of indexing and asset class investing. Rex Sinquefeld and David Booth started the first S&P 500 index funds in 1973 – Booth at Wells Fargo and Sinquefeld at American National Bank. In 1981, determined to improve upon some of the problems they'd encountered with indexing, the two men formed DFA. With the help of their former professor at the University of Chicago, Gene Fama, Sr., Sinquefeld and Booth developed what is known today as asset class investing.

Over the last 32 years, DFA has created deep working relationships with some of the world's leading financial economists to bring their latest theories and research to practice. By acting as a conduit between scientists and investors, DFA has created investment strategies to meet the evolving needs of investors.

DFA's investment philosophy is based not on speculation but on the science of capital markets. Their mission is to deliver the performance of capital markets and increase returns through state-of-the-art portfolio design and trading.

Today, Dimensional Fund Advisor's board of directors is comprised of Nobel laureates and some of the world's most respected economic professors. They have become one of the largest and most respected mutual fund companies in the world. As of December 31, 2012, DFA manages over \$261 billion dollars.

Conclusion

Depending on your individual situation, following the steps outlined in this Wealth Guide may increase your chances of achieving superior long-term investment results. While much of the investment media and brokerage industry leads you to believe that stock picking and market timing is the key to attaining superior investment performance, research has shown this is most often not true.

This portfolio is easy to implement and maintain and is based on more than 60 years of academic research. It uses a very sophisticated strategy to create a portfolio of low cost asset class mutual funds. The portfolio represents multiple asset classes with holdings in over 12,000 companies in over 44 different countries. The portfolio tilts the weighting of the portfolio to small and value companies and adheres to a buy & hold approach requiring patience and discipline. The portfolio is rebalanced periodically to the target allocation that is established based upon your risk tolerance.

At Solid Rock Wealth Management we have created twelve model portfolios, six for qualified money (IRA, 401k etc.) and six for non-qualified accounts. In our non-qualified models, we use tax-advantaged mutual funds to help reduce the income tax consequences associated with the funds. Our six models range from conservative to aggressive. These model portfolios are designed to provide optimal returns for your risk tolerance. The weighted average expense ratios for the entire portfolios are very low, ranging from .19% to .42% depending on the model chosen.

For additional information, call Chris Nolt at 406-582-1264 or email him at chris@solidrockwealth.com.

References:

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"Determinants of Portfolio Performance II," Gary P. Brinson, Brian D. Singer, and Gilbert P. Beebower, *Financial Analysts Journal*, May/June 1991.
2. Barras, Laurent, Scallet, Wermers and Russ, "False Discoveries in Mutual Fund Performance: Measuring Luck in Estimated Alphas" (May 2008)"
3. Impact of an Aging Population on the Global Economy. Jeremy J. Siegel CFA Institute Conference Proceedings Quarterly (09/07).

Disclosure

Past performance is no guarantee of future results, and values fluctuate. All investments involve risk, including the loss of principal. The risks associated with stocks potentially include increased volatility (up and down movement in the value of your assets) and loss of principal. Small company stocks may be subject to a higher degree of market risk than the securities of more established companies because they may be more volatile and less liquid. Foreign securities involve additional risks including foreign currency changes, taxes and different accounting and financial reporting methods.

Indexes are unmanaged baskets of securities that are not available for direct investment by investors. Their performance does not reflect the expenses associated with the management of actual portfolios. This document contains hypothetical results. Hypothetical data does not represent actual performance and should not be interpreted as an indication of actual performance. Because some of the funds we now use do not date back to 1970, we use simulated asset class returns from 1970 to the date the fund was established. The returns do not reflect any potential transaction costs, fees or expenses that investors may pay.

Data sources:

Information provided is from resources believed to be reliable, however, we cannot guarantee or represent that it is accurate or complete. Because situations vary, any information provided is not intended to indicate suitability for any particular investor.

The following data sources were used to develop the tables and figures in this article. All performance data are total returns including interest and dividends. Index data subtracts the current expense ratio for the comparable fund.

Stocks

Emerging Markets Fama/French Emerging Markets Index 1989 – 1993, Dimensional Fund Advisors (DFA) Emerging Markets Index 1994, DFEMX 1995 – present. Emerging Market Core DFCEX 2006 – present. Emerging Market Small Cap Fama/French Emerging Markets Small Cap Index 1989 – 1993, DFA Emerging Markets Small Cap Index 1994 – 1998, DEMSX 1999 – present. Emerging Market Value DFA Emerging Markets Value Index 1989 – 1998, DFEVX 1999 – present.

International Large Cap MSCI EAFE (net dividends) 1970 – 1991, DFALX 1992 – present.
International Large Cap Value MSCI EAFE Value Index (net dividends) 1975 - 1994, DFIVX 1995 – present.
International Small Cap DFA International Small Cap Index 1970 – 1996, DFISX 1997 – present.
International Small Value DISVX 1995 – present.
Large Cap S&P 500 1970 – 1990, DFLEX 1/1991 - 4/2010, DFUSX 5/2010 – present.
Large Value DFA Large Value Index 1970 – 1993, DFLVX 1994 – present.
Micro Cap (or Small Cap) DFA US Micro Cap Index 1970 - 1982, DFSCX 1983 – present.
Real Estate Investment Trusts NAREIT 1972-1974, Don Keim REIT Index 1975-1992, DFREX 1993 – present.
S&P 500 S&P 500 Index, provided by Standard & Poor's Index Services Group, through DFA, 1970 – present.
Small Value DFA U.S. Small Cap Value Index 1970 – 1993, DFSVX 1994 – present.

Bonds

Barclays Government Credit Index 50% long-term corp., 50% long-term government for 1970-1972 (from DFA Matrix 2004), Barclays Government/Credit Bond Index from 1973 - present, through DFA.
TIPs Barclays U.S. TIPS 1998 to June 2000, VIPSX from July 2000 to December 2006, DIPSX 2007 – present.
Intermediate Government Bonds 5 year Treasury notes January 1970 – December 1972, Barclay Government Bond Index January 1973 – October 1990, DFIGX November 1990 present.
Short-Term Treasuries One Year U.S. Treasury Note January 1970 – June 1977, Merrill Lynch 1-3 year Treasury July 1977 – December 1987, Vanguard Short-Term Federal VSGBX January 1988 – October 1991, VFISX November 1991 – present.

Portfolios 1-6

- Yearly rebalancing
- U.S. Stock Allocation:
1970 - 1971: 25% each in LC, LCV, SC and SCV.
1972 - present: 20% each in LC, LCV, SC, SCV, and REITs
- International Stock Allocations:
1970 - 1974: 50% Int. LC, 50% Int. SC.
1975 - 1981: 1/3 Int. LC, 1/3 Int. LCV, 1/3 Int. SC
1982 - 1988: 25% Int. LC, 25% Int. LCV, 25% Int. SC, 25% Int. SCV
1989 - 2005: 20% Int. LC, 20% Int. LCV, 10% EM, 5% EMS, 5% EMV, 20% Int. SC, 20% Int. SCV
2006 - present: 20% each in Int. LC, Int. LCV, Int. SC, Int. SCV, and EM Core
- Bond Allocation:
1970 - 1997: 30% Short-Term Treasury, 70% Intermediate-Term Government
1998 – present: 30% Short-Term Treasury, 50% Intermediate-Term Government, 20% TIPs

Chris Nolt is the owner of Solid Rock Wealth Management, Inc. and Solid Rock Realty Advisors, LLC, with offices in Bozeman, Montana and Fountain Hills, Arizona. Solid Rock Wealth Management and Solid Rock Realty Advisors are dedicated to helping people effectively grow and preserve their wealth. We use a comprehensive planning approach with a team of financial professionals, which addresses retirement planning, investment planning, estate planning, tax planning, charitable giving and risk management. Our wealth preservation strategies are designed to help our clients reduce taxes, increase retirement income and maximize the amount of wealth they pass on to their heirs and favorite charitable organizations.

Solid Rock Wealth Management

Solid Rock Wealth Management is an independent, fee-only registered investment adviser. We offer globally diversified portfolios of no-load, low-cost institutional asset class mutual funds and exchange traded funds. All portfolios are diversified among as many as 15 asset classes and market sectors and are comprised of holdings in roughly 12,000 companies in 45 different countries. Our model portfolios range from conservative (100% fixed income) to aggressive (100% equities) and are designed to achieve optimal returns for your level of risk tolerance.

Solid Rock Realty Advisors

Solid Rock Realty Advisors assists investors who are seeking secure income producing real estate investments. We specialize in office buildings leased to the U.S. Federal Government and primarily work with investors who are purchasing properties through a 1031 tax-deferred exchange. These fee-simple real estate properties offer long-term leases guaranteed by the full faith and credit of the U.S. government with competitive cap rates and professional property management.

Chris Nolt, LUTCF

Chris grew up in Lewistown, Montana. He received a Bachelors degree in business from Montana State University in 1987 and entered the financial services industry in 1989. For over 25 years, Chris has been helping people reduce taxes, invest wisely and preserve their wealth. Chris has earned the designations of Certified Retirement Financial Advisor and Life Underwriter Training Council Fellow.

**For more information or to request other Wealth Guides, call
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