DOWNLOAD PDF RISK AND ASSET ALLOCATION

Chapter 1 : Risk and asset allocation - PDF Free Download

Meucci's Risk and Asset Allocation is one of those rare books that takes a completely fresh look at a well-studied problem, optimal financial portfolio allocation based on statistically estimated models of risk and expected return. Designed for graduate students or quantitatively oriented asset managers, Meucci provides a sophisticated and.

Our century of experience has taught us that investment fads are just thatâ€”fads. They distract investors from their long-term objectives. Our independent status means that we full range of asset classes and investment types, rather than the controlled list of proprietary funds and single-investment strategies that banks, mutual funds, and insurance companies typically provide. You will find comfort in our history of performance and our choices of both equity and fixed income institutional share class mutual funds all featuring no-load and very low expense ratios , index funds, and exchange-traded funds. These sub-asset classes tend to offer investors higher yields with lower sensitivity to changes in interest rates. Expectations of positive economic growth, as well as investors search for yields, are tailwinds for credit sensitive strategies. We will work with you to define your unique goals and needs, evaluate your investment options, and determine with you the best path to success. How is an investment idea originated, vetted, and approved at Trust Point? We employ a rigorous screening process to ensure that the investment options fill specific needs for our clients. While many investors focus on historical period-specific investment returns, this analysis paints only part of the investment returns picture and is prone to significant end-point bias. We specifically look for consistency and discipline in key metrics such as firm ownership, culture, resources, people, process and strategy. Central to our manager selection philosophy is an understanding of how the manager has achieved his or her long-term track record of outperformance and if the manager has the ability to replicate this success. While the selection process begins with investment returns, Trust Point also focuses significant attention on risk characteristics. We believe that risk control is central to long-term investment success. Trust Point pays close attention to relative portfolio volatility, benchmark tracking error and downside portfolio protection. In certain segments of the equity or bond markets, fewer active managers consistently find success relative to the market. At the same time, the number of passive investment options available continues to grow. We believe that passive investments can provide competitive low cost options and should be considered as a component of a well-diversified portfolio. We employ a rigorous process to ensure that the investment options fill specific needs for our clients. Manager Selection Process Step 1 â€” Screening: The first step involves ranking each fund in its respective category based on factors that Trust Point has determined to effect long term outperformance. Each factor is given a score and then a weighted average is calculated. Step 2 â€” Due Diligence: Once we have identified viable funds for selection in each investment category, the fund management companies identified are asked to complete a 20 page, question questionnaire. The questionnaire is separated into three sections: The responses to the questionnaire are reviewed and summarized on a report prepared by the analyst. After all the data is analyzed, a recommendation is prepared and presented to the Investment Committee appointed by our Independent Board of Directors. Step 4 â€” Ongoing Monitoring: Investment performance is monitored on at least a monthly basis. For underperforming managers, it may be as frequent as daily. Underperforming managers are analyzed further to determine the source of negative performance.

DOWNLOAD PDF RISK AND ASSET ALLOCATION

Chapter 2 : Asset allocation | Vanguard

Previously, he was a consultant in the Milan office of Bain & Co., where he designed tools of personal financial planning, credit-and market-risk management, portfolio insurance, tactical and strategic asset allocation.

Chart is for illustrative purposes only and is not indicative of any investment. Past performance is no guarantee of future results. Why is it so important to have a risk level you can live with? As the example above illustrates, the value of a diversified portfolio usually manifests itself over time. Unfortunately, many investors struggle to fully realize the benefits of their investment strategy because in buoyant markets, people tend to chase performance and purchase higher-risk investments; and in a market downturn, they tend to flock to lower-risk investment options; behaviors which can lead to missed opportunities. The degree of underperformance by individual investors has often been the worst during bear markets. A Morningstar study shows that decisions about when to buy and sell funds have caused the average performance of an investor to trail the average performance of a buy-and-hold strategy for similar mutual funds. The "do nothing" portfolio looks at what would have happened if investors had not made any changes to their portfolios during the review period. The analysis includes both active and passive funds. For more details on the study methodology and results, visit Morningstar. The sample asset mixes below combine various amounts of stock, bond, and short-term investments to illustrate different levels of risk and return potential. Choose the amount of risk you are comfortable with Data source: Returns include the reinvestment of dividends and other earnings. This chart is for illustrative purposes only and does not represent actual or implied performance of any investment option. See footnote 2 below for detailed information. You should choose your own investments based on your particular objectives and situation. Remember, you may change how your account is invested. Be sure to review your decisions periodically to make sure they are still consistent with your goals. Diversification is not a one-time task Once you have a target mix, you need to keep it on track with periodic checkups and rebalancing. The stock allocation would have grown dramatically see chart. The resulting increased weight in stocks meant the portfolio had more potential risk at the end of Because while past performance does not guarantee future results, stocks have historically had larger price swings than bonds or cash. This means that when a portfolio skews toward stocks, it has the potential for bigger ups and downs. See footnote 3 for details. Rebalancing is not just a risk-reducing exercise. The goal is to reset your asset mix to bring it back to an appropriate risk level for you. Sometimes that means reducing risk by increasing the portion of a portfolio in more conservative options, but other times it means adding more risk to get back to your target mix. A 3-step approach Investing is an ongoing process that requires regular attention and adjustment. Here are 3 steps you can take to keep your investments working for you: Invest at an appropriate level of risk Choose a mix of stocks, bonds, and short-term investments that you consider appropriate for your investing goals. Stocks have historically had higher potential for growth, but more volatility. So if you have time to ride out the ups and downs of the market, you may want to consider investing a larger proportion of your portfolio in equities. Once you have chosen an asset mix, research and select appropriate investments. Manage your plan We suggest youâ€”on your own or in partnership with an investment professionalâ€”do regular maintenance for your portfolio. Monitor â€" Evaluate your investments periodically for changes in strategy, relative performance, and risk. There are many different ways to rebalance; for example, you may want to consider rebalancing if any part of your asset mix moves away from your target by more than 10 percentage points. The bottom line Achieving your long-term goals requires balancing risk and reward. Choosing the right mix of investments and then periodically rebalancing and monitoring your choices can make a big difference in your outcome. Next steps to consider.

Chapter 3 : Asset Allocation

Python and MATLAB code for advanced risk and portfolio management, see here. Employers Hundreds of financial institutions worldwide have trusted ARPM with the education and the growth of their talent pool.

How did you learn them? Through ordinary, real-life experiences that have nothing to do with the stock market. For example, have you ever noticed that street vendors often sell seemingly unrelated products - such as umbrellas and sunglasses? Initially, that may seem odd. After all, when would a person buy both items at the same time? By selling both items- in other words, by diversifying the product line - the vendor can reduce the risk of losing money on any given day. This publication will cover those topics more fully and will also discuss the importance of rebalancing from time to time. Asset Allocation Asset allocation involves dividing an investment portfolio among different asset categories, such as stocks, bonds, and cash. The process of determining which mix of assets to hold in your portfolio is a very personal one. The asset allocation that works best for you at any given point in your life will depend largely on your time horizon and your ability to tolerate risk. Time Horizon - Your time horizon is the expected number of months, years, or decades you will be investing to achieve a particular financial goal. An investor with a longer time horizon may feel more comfortable taking on a riskier, or more volatile, investment because he or she can wait out slow economic cycles and the inevitable ups and downs of our markets. Risk Tolerance - Risk tolerance is your ability and willingness to lose some or all of your original investment in exchange for greater potential returns. An aggressive investor, or one with a high-risk tolerance, is more likely to risk losing money in order to get better results. A conservative investor, or one with a low-risk tolerance, tends to favor investments that will preserve his or her original investment. In the words of the famous saying, conservative investors keep a "bird in the hand," while aggressive investors seek "two in the bush. All investments involve some degree of risk. The reward for taking on risk is the potential for a greater investment return. If you have a financial goal with a long time horizon, you are likely to make more money by carefully investing in asset categories with greater risk, like stocks or bonds, rather than restricting your investments to assets with less risk, like cash equivalents. On the other hand, investing solely in cash investments may be appropriate for short-term financial goals. Investment Choices While the SEC cannot recommend any particular investment product, you should know that a vast array of investment products exists - including stocks and stock mutual funds, corporate and municipal bonds, bond mutual funds, lifecycle funds, exchange-traded funds , money market funds, and U. For many financial goals, investing in a mix of stocks, bonds, and cash can be a good strategy. Stocks - Stocks have historically had the greatest risk and highest returns among the three major asset categories. Stocks hit home runs, but also strike out. The volatility of stocks makes them a very risky investment in the short term. Large company stocks as a group, for example, have lost money on average about one out of every three years. And sometimes the losses have been quite dramatic. But investors that have been willing to ride out the volatile returns of stocks over long periods of time generally have been rewarded with strong positive returns. Bonds - Bonds are generally less volatile than stocks but offer more modest returns. As a result, an investor approaching a financial goal might increase his or her bond holdings relative to his or her stock holdings because the reduced risk of holding more bonds would be attractive to the investor despite their lower potential for growth. You should keep in mind that certain categories of bonds offer high returns similar to stocks. But these bonds, known as high-yield or junk bonds, also carry higher risk. Cash - Cash and cash equivalents - such as savings deposits, certificates of deposit, treasury bills, money market deposit accounts, and money market funds - are the safest investments, but offer the lowest return of the three major asset categories. The chances of losing money on an investment in this asset category are generally extremely low. The federal government guarantees many investments in cash equivalents. Investment losses in non-guaranteed cash equivalents do occur, but infrequently. The principal concern for investors investing in cash equivalents is inflation risk. This is the risk that inflation will outpace and erode investment returns over time. Stocks, bonds, and cash are the most common asset categories. These are the asset categories you would likely choose from when investing in a retirement savings program or a college savings plan. But other asset categories - including real estate, precious metals and other commodities, and private equity - also exist, and some investors may include these asset categories within a portfolio. Investments in these asset categories typically have category-specific risks. Before you make any investment, you should understand the risks of the investment and make sure the risks are appropriate for you. Why Asset Allocation Is So Important By including asset categories with investment returns that move up and down under different market conditions within a portfolio, an investor can protect against significant losses. Historically, the returns of the three major asset categories have not moved up and down at the same time. Market conditions that cause one asset category to do well often cause another asset category to have average or poor returns. The Magic of Diversification. The practice of spreading money among different investments to reduce risk is known as diversification. By picking the right group of investments, you may be able to limit your losses and reduce the fluctuations of investment returns without sacrificing too much potential gain. In addition, asset allocation is important because it has major impact on whether you will meet your financial goal. For example, if you are saving for a long-term goal, such as retirement or college, most financial experts agree that you will likely need to include at least some stock or stock mutual funds in your portfolio. On the other hand, if you include too much risk in your portfolio, the money for your goal may not be there when you need it. How to Get Started Determining the appropriate asset allocation model for a financial goal is a complicated task. If you understand your time horizon and risk tolerance - and have some investing experience - you may feel comfortable creating your own asset allocation model. For example, although the SEC cannot endorse any particular formula or methodology, the Iowa Public Employees Retirement System offers an online asset allocation calculator. There is no single asset allocation model that is right for every financial goal. With that in mind, you may want to consider asking a financial professional to help you determine your initial asset allocation and suggest adjustments for the future. But before you hire anyone to help you with these enormously important decisions, be sure to do a thorough check of his or her credentials and disciplinary history. Many investors use asset allocation as a way to diversify their investments among asset categories. But other investors deliberately do not. For example, investing entirely in stock, in the case of a twenty-five year-old investing for retirement, or investing entirely in cash equivalents, in the case of a family saving for the down payment on a house, might be reasonable asset allocation strategies under certain circumstances. But neither strategy attempts to reduce risk by holding different types of asset categories. Whether your portfolio is diversified will depend on how you spread the money in your portfolio among different types of investments. Diversification A diversified portfolio should be diversified at two levels: The key is to identify investments in segments of each asset category that may perform differently under different market conditions. One of way of diversifying your investments within an asset category is to identify and invest in a wide range of companies and industry sectors. Because achieving diversification can be so challenging, some investors may find it easier to diversify within each asset category through the ownership of mutual funds rather than through individual investments from each asset category. A mutual fund is a company that pools money from many investors and invests the money in stocks, bonds, and other financial instruments. Mutual funds make it easy for investors to own a small portion of many investments. A total stock market index fund, for example, owns stock in thousands of companies. If you invest in narrowly focused mutual funds, you may need to invest in more than one mutual fund to get the diversification you seek. Within asset categories, that may mean considering, for instance, large company stock funds as well as some small company and international stock funds. Between asset categories, that may mean considering stock funds, bond funds, and money market funds. Options for One-Stop Shopping - Lifecycle Funds To accommodate investors who prefer to use one investment to save for a particular investment goal, such as retirement, some mutual fund companies have begun offering a product known as a "lifecycle fund. The managers of the fund then make all decisions about asset allocation, diversification, and rebalancing. For example, you might see lifecycle funds with names like "Portfolio ," "Retirement Fund ," or "Target For example, most people investing for retirement hold less stock and more bonds and cash equivalents as they get closer to retirement age. You may also need to change your asset allocation if there is a change in your risk tolerance, financial situation, or the financial goal itself. Rebalancing Rebalancing is bringing your portfolio back to your original asset allocation mix. This is necessary because over time some of your investments may become out of alignment with your investment goals. There are basically three different ways you can rebalance your portfolio: You can sell off investments from over-weighted asset categories and use the proceeds to purchase investments for under-weighted asset categories. You can purchase new investments for under-weighted asset categories. If you are making continuous contributions to the portfolio, you can alter your contributions so that more investments go to under-weighted asset categories until your portfolio is back into balance. Before you rebalance your portfolio, you should consider whether the method of rebalancing you decide to use will trigger transaction fees or tax consequences. Your financial professional or tax adviser can help you identify ways that you can minimize these potential costs. Stick with Your Plan: Buy Low, Sell High - Shifting money away from an asset category when it is doing well in favor an asset category that is doing poorly may not be easy, but it can be a wise move. By cutting back on the current "winners" and adding more of the current so-called "losers," rebalancing forces you to buy low and sell high. When to Consider Rebalancing You can rebalance your portfolio based either on the calendar or on your investments. Many financial experts recommend that investors rebalance their portfolios on a regular time interval, such as every six or twelve months. The advantage of this method is that the calendar is a reminder of when you should consider rebalancing. The advantage of this method is that your investments tell you when to rebalance. In either case, rebalancing tends to work best when done on a relatively infrequent basis. You can find out more about your risk tolerance by completing free online questionnaires available on numerous websites maintained by investment publications, mutual fund companies, and other financial professionals. Some of the websites will even estimate asset allocations based on responses to the questionnaires. While the suggested asset allocations may be a useful starting point for determining an appropriate allocation for a particular goal, investors should keep in mind that the results may be biased towards financial products or services sold by companies or individuals maintaining the websites. The websites of many mutual fund companies, for example, give customers the ability to run a "portfolio analysis" of their investments. The results of a portfolio analysis can help you analyze your asset allocation, determine whether your investments are diversified, and decide whether you need to rebalance your portfolio.

Chapter 4 : Asset Allocation | calendrierdelascience.com

Our asset allocation tool shows you suggested portfolio breakdowns based on the risk profile that you choose. We use historical returns and standard deviations of stocks, bonds and cash to simulate what your return may be over time.

Ammann, Credit Risk Valuation: Methods, Models, and Application K. Back, A Course in Derivative Securities: Introduction to Theory and Computation E. Barucci, Financial Markets Theory. Modeling, Valuation and Hedging N. Pricing and Hedging of Financial Derivatives , 2nd ed. Mercurio, Interest Rate Models: Theory and Practice R. Kopp, Mathematics of Financial Markets , 2nd ed. Kellerhals, Asset Pricing Y. Meucci, Risk and Asset Allocation A. Zagst, Interest-Rate Management Y. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilm or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, , in its current version, and permission for use must always be obtained from Springer-Verlag. Violations are liable to prosecution under the German Copyright Law. The MathWorks does not warrant the accuracy of the text or exercises in this book. The use of general descriptive names, registered names, trademarks, etc. XV Audience and style. XVII Structure of the work. In order to determine the optimum allocation, the investor needs to model, estimate, assess and manage uncertainty. Under a few assumptions it is possible to estimate the market parameters that feed the model and then solve the ensuing optimization problem. Therefore, they are better suited to handle asset allocation in modern, highly asymmetrical markets. All of the above approaches are highly intuitive. Paradoxically, this can be a drawback, in that one is tempted to rush to conclusions or implementations, without pondering the underlying assumptions. Sample estimates make sense only if the quantities to estimate are market invariants, i. In equitylike securities the returns are approximately market invariants: Consider instead an investment in a zero-coupon bond that expires, say, in one month. The time series of the past monthly returns of this bond is not useful in estimating the expected value and the variance after one month, which are known with certainty: To summarize, in order to solve a generic asset allocation problem we need to go through the following steps. Detecting invariance In this phase we detect the market invariants, namely those quantities that display the same behavior through time, allowing us to learn from the past. For equities the invariants are the returns; for bonds the invariants are the changes in yield to maturity; for vanilla derivatives the invariants are changes in at-the-money-forward implied volatility; etc. Estimating the market In this step we estimate the distribution of the market invariants from a time series of observations by means of nonparametric estimators, parametric estimators, shrinkage estimators, robust estimators, etc. Modeling the market In this phase we map the distribution of the invariants into the distribution of the market at a generic time in the future, i. This is achieved by suitable generalizations of the "square-root-rule" of volatility propagation. Accounting for estimation risk It is not clear from the above that an allocation based on one month of data is less reliable than an allocation based on two years of data. Therefore we need to account for estimation risk in the optimization process. Including experience The most valuable tool for a successful investor is experience, or a-priori knowledge of the market. Purpose of this book is to provide a comprehensive treatment of all the above steps. While teaching, I felt the need to provide the students with an accessible, yet detailed and self-contained, reference for the theory behind the above applications. I have tried wherever possible to support intuition with geometrical arguments and practical examples. Heuristic arguments are favored over mathematical rigor. The mathematical formalism is used only up to and not beyond the point where it eases the comprehension of the subject. The R applications downloadable from symmys. A reader with basic notions of probability and univariate statistics could learn faster from the book, although this is not a prerequisite. Simple concepts of functional analysis are used heuristically throughout the text, but the reader is introduced to them from scratch and absolutely no previous knowledge of the subject is assumed. Nevertheless the reader must be familiar with multivariate calculus and linear algebra. For the practitioners, this is a comprehensive reference for the theory and the principles underlying the recipes they implement on a daily basis. Any feedback on the book is greatly appreciated. Please refer to the website symmys. Structure of the work This work consists of the printed text and of complementary online resources. In Chapter 3 we discuss how to detect the market invariants and how to map their distribution into the distribution of the market prices at the investment horizon. Part II In the second part we discuss the classical approach to asset allocation. In Chapter 4 we show how to estimate the distribution of the market invariants. In Chapter 6 we set and solve allocation problems, by maximizing the advantages of an allocation given the investment constraints. In Chapter 7 we introduce the Bayesian approach to parameter estimation. In Chapter 8 we update the optimality criteria to assess the advantages and disadvantages of an allocation when the distribution of the market is only known with some approximation. Part IV The fourth part consists of two mathematical appendices. In Appendix A we review some results from linear algebra, geometry and matrix calculus. Preface XIX In Appendix B we hinge on the analogies with linear algebra to introduce heuristically the simple tools of functional analysis that recur throughout the main text. They can be downloaded freely from the website symmys. Technical appendices In order to make the book self-contained, the proofs to almost all the technical results that appear in the printed text are collected in the form of end-of-chapter appendices. These appendices are not essential to follow the discussion. However, they are fundamental to a true understanding of the subjects to which they refer. Nevertheless, if included in the printed text, these appendices would have made the size of the book unmanageable. The notation in the printed text, say, "Appendix www. On the other hand the notation, say, "Appendix B. Part I A portfolio at a given future horizon is modeled as a random variable and is represented by a univariate distribution: We introduce the representations of the distribution of a generic random variable X, i. We present a graphical interpretation of the location and dispersion properties of a univariate distribution and we discuss a few parametric distributions useful in applications. For example, we learn what it means that a variable X is normally distributed: The market consists of securities, whose prices at a given future horizon can be modeled as a multivariate random variable: We introduce the representations of the distribution of a multivariate random variable X, namely the joint probability density function, the cumulative distribution function and the characteristic function. We discuss expected value, mode and other multivariate parameters of location; and covariance, modal dispersion and other multivariate parameters of dispersion. We present a graphical interpretation of location and dispersion in terms of ellipsoids and the link between this interpretation and principal component analysis. We discuss parameters that summarize the co-movements of one entry of X with another: We analyze the multivariate generalization of the distributions presented in Chapter 1, including the Wishart and the matrixvariate Student t distributions, useful in Bayesian analysis, as well as very general log-distributions, useful to model prices. Finally we discuss special classes of distributions that play special roles in applications. As it turns out, the normal distribution 0. In Chapter 3 we model the market. The market is represented by a set of securities that at time t trade at the price Pt. Modeling the market consists of three steps. First we need to identify the invariants hidden behind the market data, i. For example suppose that we detect as invariants the changes in price: Secondly, we have to associate a meaningful parametric distribution to these invariants For example suppose that the normal distribution 0. Finally, we have to work out the distribution of the market, i. For example, suppose that the current market prices of all the securities are normalized to one unit of currency, i. We conclude with a detailed case study, which covers all the steps involved in modeling the swap market: In the second part we discuss the classical approach to solve these problems, which consists of three steps: An estimator is a function that associates a number, the estimate, with the information iT that is available when the investment decision in made. This information is typically represented by the time series of the past observations of the market invariants. We discuss general rules to evaluate the quality of an estimator. The most important feature of an estimator is its replicability, which guarantees that a successful estimation does not occur by chance. Throughout the analysis we provide the geometrical interpretation of the above estimators. We conclude with practical tips to deal, among other problems, with outliers detection and missing values in the time series. In Chapter 5 we show how to evaluate an allocation. The investor can allocate his money in the market to form a portfolio of securities. The investor focuses on his primary objective, a random variable whose distribution depends on the allocation and the market parameters: If the market is distributed as in 0.

Chapter 5 : Asset allocation - Bogleheads

Asset allocationâ€"informed by rigorous valuation analysisâ€"and manager selection remain important parts of the Risk Allocation Framework, so there is some family resemblance. In fact, this is by design, as we preserved the best practices of traditional portfolio construction (often referred to as "the endowment model" because endowments.

Allocation strategy[edit] There are several types of asset allocation strategies based on investment goals, risk tolerance, time frames and diversification. The most common forms of asset allocation are: Strategic asset allocation[edit] The primary goal of a strategic asset allocation is to create an asset mix that seeks to provide the optimal balance between expected risk and return for a long-term investment horizon. Dynamic asset allocation[edit] Dynamic asset allocation is similar to strategic asset allocation in that portfolios are built by allocating to an asset mix that seeks to provide the optimal balance between expected risk and return for a long-term investment horizon. Tactical asset allocation[edit] Tactical asset allocation is a strategy in which an investor takes a more active approach that tries to position a portfolio into those assets, sectors, or individual stocks that show the most potential for perceived gains. This includes many types such as "balanced fund" and so on. Beebower BHB published a study about asset allocation of 91 large pension funds measured from to A follow-up study by Brinson , Singer, and Beebower measured a variance of Also, a small number of asset classes was sufficient for financial planning. Financial advisors often pointed to this study to support the idea that asset allocation is more important than all other concerns, which the BHB study lumped together as " market timing ". However, in response to a letter to the editor, Hood noted that the returns series were gross of management fees. However, the difference is still 15 basis points hundredths of a percent per quarter; the difference is one of perception, not fact. Ibbotson and Kaplan examined the year return of 94 US balanced mutual funds versus the corresponding indexed returns. This time, after properly adjusting for the cost of running index funds, the actual returns again failed to beat index returns. The linear correlation between monthly index return series and the actual monthly actual return series was measured at Gary Brinson has expressed his general agreement with the Ibbotson-Kaplan conclusions. In both studies, it is misleading to make statements such as "asset allocation explains Statman says that strategic asset allocation is movement along the efficient frontier , whereas tactical asset allocation involves movement of the efficient frontier. Hood notes in his review of the material over 20 years, however, that explaining performance over time is possible with the BHB approach but was not the focus of the original paper. The results suggest that real estate, commodities, and high yield add most value to the traditional asset mix of stocks, bonds, and cash. A study with such a broad coverage of asset classes has not been conducted before, not in the context of determining capital market expectations and performing a mean-variance analysis , neither in assessing the global market portfolio. This portfolio shows the relative value of all assets according to the market crowd, which one could interpret as a benchmark or the optimal portfolio for the average investor. The authors determine the market values of equities, private equity, real estate, high yield bonds, emerging debt, non-government bonds, government bonds, inflation linked bonds, commodities, and hedge funds. For this range of assets, they estimate the invested global market portfolio for the period For the main asset categories equities, real estate, non-government bonds and government bonds they extend the period to Doeswijk, Lam and Swinkels [19] show that the market portfolio realizes a compounded real return of 4. In the inflationary period from to , the compounded real return of the GMP is 2. The reward for the average investor is a compounded return of 3. Performance indicators[edit] McGuigan described an examination of funds that were in the top quartile of performance during to The rest of the funds dropped to the third or fourth quartile. In fact, low cost was a more reliable indicator of performance. Bogle noted that an examination of five-year performance data of large-cap blend funds revealed that the lowest cost quartile funds had the best performance, and the highest cost quartile funds had the worst performance. Simply buying stocks without regard of a possible bear market can result in panic selling later. Finding the proper balance is key.

Chapter 6 : calendrierdelascience.com | Beginners' Guide to Asset Allocation, Diversification, and Rebalan

Asset allocation is an investment strategy that aims to balance risk and reward by apportioning a portfolio's assets according to an individual's goals, risk tolerance and investment horizon.

Asset Allocation Asset Allocation Asset allocation involves dividing your investments among different assets, such as stocks, bonds, and cash. The asset allocation decision is a personal one. The allocation that works best for you changes at different times in your life, depending on how long you have to invest and your ability to tolerate risk. Factors to consider include your: Your time horizon is the number of months, years, or decades you need to invest to achieve your financial goal. Investors with a longer time horizon may feel comfortable taking on riskier or more volatile investments. Those with a shorter time horizon may prefer to take on less risk. Risk tolerance is your ability and willingness to lose some or all of your original investment in exchange for potentially greater returns. The practice of spreading money among different investments to reduce risk is known as diversification. Historically, stocks, bonds, and cash have not moved up and down at the same time. Factors that may cause one asset class to perform poorly may improve returns for another asset class. People invest in various asset classes in the hope that if one is losing money, the others make up for those losses. That means holding a number of different stocks or bonds, and investing in different industry sectors, such as consumer goods, health care, and technology. That way, if one sector is doing poorly, you may offset it with other holdings in sectors that are doing well. Some investors find it easier to diversify by owning mutual funds. A mutual fund is a company that pools money from many investors and invests the money in stocks, bonds, and other financial products. Mutual funds make it easy for investors to own a small portion of many investments. A total stock market index fund, for example, owns stock in thousands of companies, providing a lot of diversification for one investment. If you invest in narrowly focused mutual funds, you may need to invest in several to be diversified. Rebalancing is what investors do to bring their portfolio back to its original asset allocation mix. Rebalancing is needed because over time, some investments will grow faster than others. This may push your holdings out of alignment with your investment goals. There are three ways you can rebalance your portfolio: You can sell investments where your holdings are over weighted and use the proceeds to buy investments for underweighted asset categories. You can buy new investments for underweighted asset categories. If you are continuing to add to your investments, you can alter your contributions so that more goes to underweighted asset categories until your portfolio is back into balance. Before you rebalance your portfolio, you should consider whether the method of rebalancing you decide to use would entail transaction fees or tax consequences. Your financial professional or tax adviser can help you identify ways that you can minimize these potential costs. Some financial experts advise rebalancing at regular intervals, such as every six or 12 months. Others recommend rebalancing when your holdings of an asset class increase or decrease more than a certain pre-set percentage. In either case, rebalancing tends to work best when done on a relatively infrequent basis. Shifting money away from an asset class when it is doing well in favor of an asset category that is doing poorly may not be easy. But it can be a wise move.

Chapter 7 : Risk and Asset Allocation - File Exchange - MATLAB Central

Asset allocation is the rigorous implementation of an investment strategy that attempts to balance risk versus reward by adjusting the percentage of each asset in an investment portfolio according to the investor's risk tolerance, goals and investment time frame.

This Bulletin provides a general overview on asset allocation and diversification in an investment portfolio, with a focus on the role of municipal bonds. Asset Allocation and Diversification Generally Asset allocation and diversification are investment techniques that can help investors reduce risk and volatility in their portfolio. Asset allocation involves dividing your investment portfolio among different asset categories, such as stocks, bonds, and cash. For example, within the bond category, you may decide to hold different bonds with differing characteristics, such as in U. Municipal bonds are one specific type of bond investors might consider. Municipal bonds are debt securities issued by states, cities, towns, counties, U. Virgin Islands, Guam, and Puerto Rico , and other governmental entities to finance capital projects such as building schools, highways or sewer systems and to fund day-to-day government needs as well. Generally, the interest investors receive on municipal bonds is exempt from federal income tax. The interest may also be exempt from state and local taxes if you reside in the state where the bond is issued or if the bond is issued by a U. Given the tax benefits, the interest rate for municipal bonds is usually lower than on taxable fixed-income securities such as corporate bonds with similar maturities, credit qualities and other terms. Municipal Bonds â€" An Overview. Understanding Risk Investors interested in including municipal bonds in their portfolio should understand that all investments, including bonds, have risk. Just as equity investments such as stock involve different levels of risk, the same is true of bonds. Investments in some bonds may involve more risk than equity investments. While municipal bonds generally may involve less risk than other bonds, the characteristics and related risks of municipal bonds vary widely. For additional information about the diversity of municipal issuers, please read our Investor Bulletin: The Municipal Securities Market. Diversifying your municipal bond investments may help reduce the risk associated with these investments. Investors should take the time to research the particular municipal bond issuer they are considering, and understand the risks involved. Some of those risks include: Credit or Default risk. Municipal bond defaults are generally rare. However, a handful of municipal issuers have defaulted on their municipal bonds. In , a federal oversight board commenced a bankruptcy-like process for the U. For additional information on how credit risk may impact a municipal bond investment, please read our Investor Bulletin: Municipal Bonds â€" Understanding Credit Risk. This bulletin also discusses credit ratings and factors investors should consider when using these ratings to evaluate municipal bond investments. Call risk refers to the potential for a municipal bond issuer to retire a bond before its maturity date, something that an issuer may do if interest rates decline â€" much as a homeowner might refinance a mortgage loan to benefit from lower interest rates. Investors who purchased the bond on the secondary market may receive more or less than they paid for the bond. Bond calls are less likely when interest rates are stable or moving higher. Inflation is a general upward movement in prices. Inflation reduces purchasing power, which is a risk for investors receiving a fixed rate of interest. It also can lead to higher interest rates and lower bond prices. If bonds are held to maturity, the investor will receive the face value amount back, plus interest that may be set at a fixed or variable rate. If interest rates move higher, investors who hold a fixed-rate municipal bond and try to sell it before it matures could lose money. Rising interest rates will make newly issued bonds more appealing to investors because the newer bonds will pay a higher rate of interest than the older ones. For additional information on how interest rate risk may impact a municipal bond investment, please read our Investor Bulletin: This refers to the risk that investors will not find an active market for the municipal bond, potentially preventing them from buying or selling when they want and making pricing more difficult. Many investors buy municipal bonds to hold them rather than to trade them, so the market for a particular bond may not be especially liquid and quoted prices for the same bond may differ. Recent price information may not be available for bonds that do not trade frequently.

Chapter 8 : calendrierdelascience.com | Investor Bulletin: Municipal Bonds â€“ Asset Allocation, Diversifica

Asset allocation involves dividing an investment portfolio among different asset categories, such as stocks, bonds, and cash. The process of determining which mix of assets to hold in your portfolio is a very personal one.

Share Allocating your investments among different asset classes is a key strategy to help minimize risk and potentially increase gains. Consider it the opposite of "putting all your eggs in one basket. We will then take a closer look at how allocation can benefit you and determine the right asset mix to achieve it. What Is Asset Allocation? Asset allocation is the strategy of dividing your investment portfolio across various asset classes like stocks, bonds and money market securities. Essentially, asset allocation is an organized and effective method of diversification. Your options typically fall within three classes: Within these three classes are subclasses or alternatives that can include: These equities tend to have the highest risk due to lower liquidity. Assets that are issued by foreign companies and listed on a foreign exchange. International securities allow an investor to diversify outside of his or her country, but they also have exposure to country risk, which is the risk that a country will not be able to honor its financial commitments. Securities from the financial markets of a developing country. Although investments in emerging markets offer a higher potential return, there is also higher risk, often due to political instability, country risk and lower liquidity. The fixed-income asset class comprises debt securities that pay the holder a set amount of interest, periodically or at maturity, as well as the return of principal when the security matures. These securities tend to have lower volatility than equities and lower risk because of the steady income they provide. Note that though the issuer promises income payment, there is a risk of default. Fixed-income securities include corporate and government bonds. Money market securities are debt securities that are extremely liquid investments with maturities of less than one year. Treasury bills T-bills make up the majority of these types of securities. Real estate investment trusts REITs: Real estate investment trusts REITs trade similarly to equities, except the underlying asset is a share of a pool of mortgages or properties, rather than ownership of a company. Of course to maximize return and minimize risk, you need to know the risk-return characteristics of the various asset classes. Figure 1 compares the risk and potential return of some popular choices: Figure 1 Equities have the highest potential return, but also the highest risk. On the other hand, Treasury bills have the lowest risk because they are backed by the government, but they also provide the lowest potential return. This is the risk-return tradeoff. Keep in mind that high-risk choices are better suited for investors who have a high risk tolerance can accept wide fluctuations in value and who have a longer time horizon to recover from losses. Since different assets have different risks and market fluctuations, proper asset allocation insulates your entire portfolio from the ups and downs of one single class of securities. Because of the protection it offers, asset allocation is the key to maximizing returns while minimizing risk. Investors with a long time horizon and larger sums to invest may feel more comfortable with high-risk, high-return options. In contrast, investors with smaller sums and shorter time spans may feel more comfortable with low-risk, low-return allocations. To make the asset allocation process easier for clients, many investment companies create a series of model portfolios, each comprising different proportions of asset classes. These portfolios of different proportions satisfy a particular level of investor risk tolerance. In general, these model portfolios range from conservative to very aggressive: Conservative Portfolios Conservative model portfolios generally allocate a large percent of the total portfolio to lower-risk securities such as fixed-income and money market securities. The main goal of a conservative portfolio is to protect the principal value of your portfolio the money you originally invested. A common strategy within this risk level is called " current income. Moderately Aggressive Portfolios Moderately aggressive model portfolios are often referred to as balanced portfolios as the asset composition is divided almost equally between fixed-income securities and equities in order to provide a balance of growth and income. Since moderately aggressive portfolios have a higher level of risk than conservative portfolios, this strategy is best for investors with a longer time horizon generally more than five years and a medium level of risk tolerance. Aggressive Portfolios Aggressive portfolios mainly consist of equities, so their value tends to fluctuate widely. If you have an aggressive portfolio, your main goal is to obtain long-term growth of capital.

As such, the strategy of an aggressive portfolio is often called a " capital growth " strategy. To provide some diversification, investors with aggressive portfolios usually add some fixed-income securities. Very Aggressive Portfolios Very aggressive portfolios consist almost entirely of equities. As such, with a very aggressive portfolio, your main goal is aggressive capital growth over a long time horizon. Since these portfolios carry a considerable amount of risk, the value of the portfolio will vary widely in the short term. Tailor Your Allocations to Your Needs Note that the above outline of model portfolios and the associated strategies offer only a loose guideline. You can modify the proportions to suit your own individual investment needs. How you fine-tune the models above can depend on your future needs for capital and what kind of investor you are. For instance, if you like to research your own companies and devote time to stock picking , you will likely further divide the equities portion of your portfolio into subclasses of stocks. By doing so, you can achieve a specialized risk-return potential within one portion of your portfolio. Also, the amount of cash and equivalents or money market instruments you place in your portfolio will depend on the amount of liquidity and safety you need. If you need investments that can be liquidated quickly or you would like to maintain the current value of your portfolio, you might consider putting a larger portion of your investment portfolio in money market or short-term fixed-income securities. Those investors who do not have liquidity concerns and have a higher risk tolerance will have a small portion of their portfolio within these instruments. The most common strategies include strategic, tactical, constant weighting and systemic asset allocation. This affects the weighting of each asset class, meaning over time a portfolio can grow from containing primarily one type of asset class to another. For example, if you start with a moderately conservative portfolio, the value of the equity portion may increase significantly during the year, suddenly giving you an equity heavy portfolio. This makes the portfolio more like that of an investor practicing a balanced portfolio strategy, which is higher risk. In order to reset your portfolio back to its original state, you need to rebalance it. Rebalancing is the process of selling portions of your portfolio that have increased significantly and using those funds to purchase additional units of assets that have declined slightly or increased at a lesser rate. This process is also important if your investment strategy or tolerance for risk has changed. The Bottom Line Asset allocation is a fundamental investing principle because it helps investors maximize profits while minimizing risk. Trading Center Want to learn how to invest? Get a free 10 week email series that will teach you how to start investing. Delivered twice a week, straight to your inbox.

Chapter 9 : Vanguard - Determine your asset allocation

The investor questionnaire suggests an asset allocation based on your answers to questions about your investment objectives and experience, time horizon, risk tolerance, and financial situation. As your financial circumstances or goals change, it may be helpful to complete the questionnaire again and reallocate the investments in your portfolio.

The most important asset allocation decision is the split between risky and non-risky assets. There is an implication here that the standard division should be an equal one, or , between the two major investment mediums. Bogle also suggests that, during the retirement distribution phase, investors include as a bond-like component of wealth and asset allocation the value of any future pension and Social Security payment expected to be received. Individuals with different retirement ages earlier or later , asset levels those who have saved enough to fund their retirement fully with TIPS , or needs for the money e. Ability, willingness, and need Main articles: Risk tolerance and Risk and return: To know whether an asset allocation is right for your risk tolerance, you need to be brutally honest with yourself as you try to answer the question, "Will I sell during the next bear market? This is very hard to accurately assess before you have already gone through a bear market. Author Larry Swedroe has written a multi-part guide for selecting your asset allocation; how much to invest in stocks versus bonds. Stability of your earned income The need for liquidity - if you need the money in a hurry Options that can be exercised should your existing plan fail to meet your objectives Define your willingness to take risk. The need to take risk is determined by the rate of return required to achieve financial objectives. A critical part of the process is differentiating between real needs and desires. Any investor deciding to take more risk because of perceived "need" should do so keeping in mind that taking extra risk could well backfire and lead to lower returns. How you should handle difficult choices among ability, willingness, and need to take risk. Rebalancing is the act of bringing the asset allocation in line with current investment policy. A typical recommendation is that an investor should review the portfolio asset allocation once a year, and if necessary, rebalance as specified in the investment policy. Rebalancing is often the most difficult part because it is counterintuitive, it requires one to sell a portion of an investment that went up, and buy more of what went down. Lazy portfolios Strategic asset allocation strategies range from simple to complex. Lazy portfolios are designed to perform well in most market conditions. Most contain a small number of low-cost funds that are easy to rebalance. They are "lazy" in that the investor can maintain the same asset allocation for an extended period of time, suitable for most pre-retirement investors. John Bogle is a proponent of simple asset allocation portfolios. He frequently advises that most investors should allocate investment portfolios using two asset class index funds: Total market stock market portfolio; a Total International stock market portfolio, and a U. S Total bond market portfolio. This portfolio is frequently expanded to include a fourth asset class, U. Some strategic asset allocation funds add additional asset classes or sub-asset classes to the asset mix. For equity investments these additions can include value stock funds, real estate funds U. Fixed income additions to the asset class palette include U. S high yield bond funds, international developed market bond funds, and emerging market bond funds. S treasury bonds or investment grade municipal bonds. Sample strategic asset allocation portfolios Three fund portfolio.