



The Role of Risk in Asset Allocation

John Mauldin | November 02, 2012

Diversification of your investments is the only real free lunch, or so we are told. But how do we go about deciding what to diversify into? In this week's short Outside the Box, my friend Jason Hsu of Research Affiliates argues that the real basis for diversification should be risk. And given that risk seems to be rising everywhere we look, thinking about how to deal with risk in our portfolios makes a great deal of sense.

I'm also including in today's OTB a complementary piece by good friend Charles Gave of GaveKal. This is a short piece that is long on common sense and that winds up with a straightforward list of places where we can invest to minimize risk.

I am in Montevideo, Uruguay tonight. I finished my second speech this morning (the first was a few days ago in Sao Paulo) and have tried to talk to local businessmen and other people as much as possible. I will write about what I have learned at a later time, as I have been given much to think about. One thing I can say now is that I need to get down here more often. It really helps me think about crisis to be with people who have experienced the ups and downs of economic and political crises, often more than once. And on Saturday I go to Argentina, where my speech in Buenos Aires later next week has been changed to another day in order to not coincide with what shapes up as a major demonstration. I may get there in time to observe. It has been some time since I have been up close to a major demonstration. I have locals taking care of me, so I am not concerned, but I do admit to being a little curious.

By the way, Uruguay is booming. Full employment, construction everywhere, and everyone seems happy. And so far, everyone in Brazil and Uruguay I have met expects Obama to win in a landslide. I read where large majorities in Europe also think that way. And given what they read and hear, it is no wonder.

That has really got me thinking. I am going to write about the election this weekend, but not in the way you might think. This election offers a teaching opportunity about one of our biggest challenges as investors, and that is the problem with unreliable models that I have been writing about for the past three weeks. How can very smart people look at the same data and come to such different conclusions? Whether it is politics, investments, or the weather, there is a common theme and one that we very much need to be aware of if we hope to succeed with our investments goals.

It is time to hit the send button, as it is late here and Enrique Fynn is picking me up to start what will be a semi-vacation for the next five days. Tomorrow I go visit Punta del Este for a little fishing and touring, then enjoy a BBQ with friends at Enrique's, and then on Saturday I'll take the boat to Buenos Aires and fly out early Sunday morning to Salta and drive to Cafayete for a few days at La Estancia, hosted by my partners in Mauldin Economics. Tuesday night we'll watch the elections, and we'll get to see which polls were right.

Outside the Box is a free weekly economics e-letter by best-selling author and renowned financial expert John Mauldin. You can learn more and get your free subscription by visiting www.mauldineconomics.com

And then it's back to BA on Thursday and home to Dallas on Saturday.

Have a great week!

Your thinking about where in the world to find alpha analyst,

A handwritten signature in blue ink that reads "John Mauldin". The signature is stylized and cursive.

John Mauldin, Editor
Outside the Box

The Role of Risk in Asset Allocation

By Jason Hsu, Ph.D.

A traditional asset allocation framework allocates to various asset classes with the goal of matching important risk exposures. In reality, many asset classes share exposures to common risk factors and thus are highly correlated, particularly with equities. This article explains how investors can achieve more intuitive and perhaps more sensible portfolios with an approach based on risk factors.

The traditional asset allocation framework, unsurprisingly, starts with assets. It is a tradition based on convenience and, perhaps, an implicit assumption that key asset classes match well to the important risk exposures. The more modern asset allocation and analytic framework anchors, instead, on "risks." (The modern approach has grown out of the literature on APT [see Ross, 1976] and the subsequent refinement of the risk factors into meaningful economic risk exposure [see Chen, Roll, and Ross, 1986].) While the two frameworks may lead to similar outcomes, the risk-based approach can often offer greater simplicity and allow for more natural asset allocation intuition. In this article, I explain the benefits of the risk-based approach relative to the asset-based approach. Additionally, I introduce simplifying analogies, which facilitate building intuition on the differences between the two approaches. Toward the end of the article, I also offer three applications of the risk-based framework to demonstrate investment issues, which, otherwise, would not be apparent in an asset-based analytical framework. However, a complete description on how to implement a risk-based approach is outside of the scope of this article.

Asset Classes vs. Risk Exposures

In the asset-based framework, the allocation process involves assigning weights to the various asset classes available to the investor (e.g., equities, bonds, commodities, real estate, etc.). Asset classes are captured by their corresponding market indexes. Each specific major asset category is split across finer asset classes such as U.S., international, and emerging markets for equities, and U.S. Treasuries,

Outside the Box is a free weekly economic e-letter by best-selling author and renowned financial expert, John Mauldin. You can learn more and get your free subscription by visiting www.JohnMauldin.com

sovereigns, and corporates for bonds. In this framework, assets are investment vehicles for “owning” risk exposures; so the “asset-based” approach is, essentially, an “investment product-based” approach.

The more modern analytical framework is a risk-based approach, which makes a strong distinction between investment vehicles and risk exposures. In this framework, the allocation process involves assigning weights to a set of risk exposures rather than assets. The allocation process first determines the “risks” that an investor wants to hold, taking into account how the risks interact with each other and the premia they generate. Then, the investor can construct his preferred combination of “assets” to achieve his desired risk exposures, taking into account the valuation levels attached to assets. Typically, the investor will have a preference for using “attractively priced” assets to access the desired risk exposure. (Note that this “unbundling” of risk and valuation decision allows us to think carefully about what [beta] risks we are willing to take to earn returns and to examine how diversified our sources of “beta” risks are. The valuation question enters next. For many investors, who believe that assets can be mispriced relative to their risk exposures, this offers an opportunity for asset allocation “alpha” through selecting cheaper assets to gain the desired risk exposures.

The standard criticism of the traditional asset-based approach is that it leads to portfolios that are dominated by equity-like risk, even though portfolios appear to be well diversified. (Note that the classic pension portfolio, structured from the 60/40 equity/bond construct, has 90% of its total portfolio variance driven by equity risk. See Bhansali, Davis, Hsu, Li, and Rennison [2012] for a review of the risk concentration issue commonly found in asset-based asset allocation approaches.) This occurs, in part, because very different assets can often contain significant exposure to equity-like risk. Generally, most researchers agree that there are a few primary economic risk exposures: shocks to economic growth, shocks to inflation, and shocks to credit availability, among others. Many assets, if not most, contain multiple risk exposures. For example, corporate bonds are exposed to all three of the above risks. Similarly, high yielding stocks can also have significant exposure to all three risks. Therefore, adding high yield bonds to a portfolio of high yielding stocks wouldn’t necessarily improve the portfolio’s risk diversification, despite the increase in asset class diversification.

Nutrients are to Foods as Risks are to Assets

The risk-based approach, with its associated technical jargon such as “risk factor loadings,” can seem unintuitive to many investors. I find the following food analogy to be very effective at illustrating the risk-based framework. It is often convenient to think of risks as nutrients, assets as foods, and portfolios as meals. (The nutrient vs. food analogy is not original; it has been used previously by Professor John Cochrane at the University of Chicago and Professor Andrew Ang at Columbia University.) People need to consume a mix of nutrients, which vary by individual circumstances. Because nutrients come bundled in various foods—dairy, grains, meats, for example—people must combine foods to create a meal that supplies them with the desired nutrition. However, it is likely that many different meals would provide comparable nutrition. Thus, personal taste and food prices often dictate the preferred meal. (Also important is that some assets provide access to a particular risk without introducing other unwanted risks.

For example, chicken breasts provide protein more effectively than rib-eye steaks, which are both more expensive and contain more artery-clogging saturated fat.)

In asset allocation language, individual asset classes contain different risk exposures. A desired combination of risks can be achieved with different asset allocation portfolios. Ultimately, prices, costs, and investment governance will dictate the preferred portfolio.

The food analogy is also helpful for understanding tactical asset allocation (TAA). For example, when food prices change, we can choose to consume the same nutrients at a lower cost by eating a different meal consisting of different food ingredients. In the risk framework, TAA can be understood as tactically rebalancing toward out-of-favor assets that provide “cheaper” access to a set of underlying economic risks and away from the “expensive” assets offering the same risk exposures.

Applications of the Risk-Based Framework

We illustrate the risk-based framework with the following three applications. These applications are meant to illustrate investment insights, which would not be available through the traditional asset-based analysis.

Application 1: Re-thinking “rebalancing and the strategic portfolio weights”

In the asset-based framework, the stocks (proxied by the S&P 500 Index) and bonds (proxied by the BarCap Agg Index) are viewed as fundamental portfolio building blocks. U.S. investors generally hold large (and often static) strategic allocations tied to the two benchmarks, with a 60% equity/40% bond strategic allocation as the traditional “norm.”

It is dangerous, however, to assume that the S&P 500 or the BarCap Agg are assets with static risk exposures over time. (BarCap Agg is the Barclays Capital Aggregate Bond Index, which is one of the most commonly used bond indices. It contains almost all of the U.S. investment grade bonds, including Treasury, agency, mortgage, and corporate bonds; the weights are based on market capitalization of the bond issues. The index is generally dominated by Treasury bonds due to the issuance size of U.S. Treasuries relative to other bonds.) In 1995, technology stocks comprised 9.4% of the S&P 500. The index had a P/E ratio of 17.4 and a dividend yield of 2.2%. In 2000, technology stocks became 21.2% of the S&P 500, pushing the index volatility from its historical average of 15% to 24%, the P/E ratio to 24.4, and the dividend yield to 1.2%. Similarly, in 2000 the BarCap Agg had a 4.5 year duration, while yielding 6.4%. Today, the BarCap Agg has duration risk of 5 years, while yield fell to an abysmal 1.6%. Clearly, a disciplined rebalance back toward the 60/40 allocation over this period would have produced a portfolio with wildly fluctuating underlying risk exposures!

Using the food analogy again, it is instructive to think of the BarCap Agg as a hamburger. As America demanded more “manly” beef patties, fast food restaurants moved to double patties, often with bacon to boot. The proteins, not to mention the calories and fat, of today’s gourmet burgers are significantly higher than the burgers of the past (333 calories for an average burger 20 years ago vs. 590 calories today). Given

Outside the Box is a free weekly economic e-letter by best-selling author and renowned financial expert, John Mauldin. You can learn more and get your free subscription by visiting www.JohnMauldin.com

the Agg's significant increase in duration risk, not to mention the lower yield—is it wise to still insist on a hamburger combo meal? In fact, would it not be better to change our meal completely and source our proteins and calories from cheaper ingredients?

Application 2: Interpreting hedge fund performances

From the asset-based framework, hedge funds are particularly difficult to examine. Many hedge funds trade exotic and illiquid assets. The hedge funds, which hold conventional securities, would often apply complex strategies involving leverage and shorting. The complexity has sometimes led investors to treat hedge funds as a separate asset class, to which the cynics retort that the only shared characteristics for entrées in the asset class are opacity and high fees.

Much of the black-box complexity can be unraveled in the risk-based space, providing some useful insights into hedge fund strategies. It turns out that many hedge fund strategies can be mimicked using more liquid and traditional assets. This is because many hedge funds, despite their exotic holdings and strategies, actually (probably unintentionally) end up owning fairly commonplace risk exposures. Further, for the average funds, there is often little evidence that accessing standard risks through more exotic assets or using complex trading strategies has led to superior returns. To be fair, some hedge funds may provide exotic risk exposures that are not found in conventional assets or strategies. For example, earning returns from exposures to extreme economic shocks by writing options is an innovation that expands the investment frontier. (See Fung and Hsieh [1997a,b, 2004], Aggrawal and Naik [2000], Ennis and Sebastian [2003], and Hasanhodzic and Lo [2007]. For a comprehensive survey review of the literature on hedge fund performance, see Eling [2008].)

Using our nutrient analogy, hedge fund providers argue that their products provide exclusive nutritional compounds in the form of “alphas” and rare nutrients in the form of “exotic betas.” Hard-to-get nutrients and exclusive health compounds are necessarily expensive. We now know that the average hedge fund actually provides nutrients that can be found, readily, in standard assets; only a small fraction of hedge funds truly provide the hard-to-get “exotic betas” and even fewer provide proprietary “alpha.” In this context, most hedge funds are more like foo-foo health foods, such as bird nest and shark fin, which, at hundreds to thousands of dollars per pound, are advertised to combat aging and cancer, but actually contain nothing more than garden variety vitamins and proteins.

Application 3: Risk parity

Risk parity is an asset allocation portfolio heuristic that attempts to provide a diversified portfolio of risk exposures. Specifically, it seeks to overcome the heavy dependence on equities in the conventional 60/40 allocation portfolio. The implementation of the concept is often in the “asset” space. This means there would be parity in the assets' contribution to the overall portfolio volatility, but no parity in the underlying economic risk exposures.

The popular and standard risk parity solution is based on volatility weighting of “distinct” asset classes. As

with a naïve reliance on the 60/40 allocation, a naïve asset-based approach to risk parity is also sub-optimal, because asset classes can often appear distinct but actually contain similar risks. (See Chaves, Hsu, Li, and Shakernia [2012] and Bhansali, Davis, Hsu, Li, and Rennison [2012].) A seemingly diversified risk parity portfolio, constructed from equities, commodities, high yield credit, real estate, and bonds, is like a mixed grill of beef, pork, lamb, and chicken with a small side salad—i.e., not a balanced meal nutritionally. This risk parity portfolio probably provides no better diversification than a simple 60/40 equity/bond portfolio.

Conclusion

When investors analyze choices in the asset-based framework, the large variety of different yet related assets can make the analysis extremely complex; naïve investors can often mistake the asset diversity in their portfolios for adequate risk diversification. Further, because assets contain both risks and valuation in the same bundle, it would lead to easier analyses if we unbundle the two components. The risk-based approach to asset allocation allows us to separate the two, leading to more intuitive and perhaps more sensible portfolio solutions. Despite the technical jargon and the seemingly more abstract framework, the risk-based approach has a lot to offer investors—particularly in a world where investment options and strategies are becoming exponentially more complex.

References

Agarwal, Vikas, and Narayan Y. Naik. 2000. "Multi-Period Performance Persistence Analysis of Hedge Funds." *Journal of Financial and Quantitative Analysis*, vol. 35, no. 3 (September):327–342.

Bhansali, Vineer, Josh Davis, Graham Rennison, Jason Hsu, and Feifei Li. 2012. "The Risk in Risk Parity: A Factor-Based Analysis of Asset-Based Risk Parity." *Journal of Investing*, vol. 21, no. 3 (Fall):102–110.

Chaves, Denis, Jason Hsu, Feifei Li, and Omid Shakernia. 2012. "Efficient Algorithms for Computing Risk Parity Portfolio Weights." *Journal of Investing*, vol. 21, no. 3 (Fall):150–163.

Chen, Nai-Fu, Richard Roll, and Stephen Ross. 1986. "Economic Forces and the Stock Market." *Journal of Business*, vol. 59, no. 3 (July):383–403

A Simple World

By Charles Gave

Many of our readers seem to believe that the world is getting ever more complex. I disagree. In fact, I have never seen a world whose key drivers were so simple to grasp. Almost everybody, save a few politicians in France, realize that government is the problem. Even the 50% or more of US citizens who receive "bribes" with money borrowed from their grandchildren concede the spending has to slow. As the anti-Obama adverts on TV put it: "Where did the trillions go?"

Outside the Box is a free weekly economic e-letter by best-selling author and renowned financial expert, John Mauldin. You can learn more and get your free subscription by visiting www.JohnMauldin.com

Servicing debt is not a problem when there is growth. However, increased government spending does not lead to higher growth but to lower growth. We won't hear this message from complex souls like Paul Krugman and Joseph Stiglitz, both Nobel Prize winners in economics. But as Hayek said while accepting the prize, there should never have been a Nobel Prize in Economics. Even a cursory look at economic history shows that increased government spending drags down the growth rate, largely because it drives out productive investment (see [How The World Works](#)).

Wealth is not created by artificially cheapening money. When prices are manipulated to the point where they have nothing to do with reality, then the only rational decision is to shift to cash and to wait for prices to send signals again (see [A Measure Of Keynesianism](#)). As a result, the velocity of money goes to zero and the economy moves ex-growth. This is exactly what we are seeing today as the world's idiotic central banks apply a strategy that Japan has spent 20 years proving does not work.

None of this is rocket science. Let's look at the banks – a web of financial complexity we're told. But one does not need the ability to slice a lousy mortgage loan into 37 different risk-rated tranches to know that when a bank has to go bankrupt, the shareholders and the bondholders of the bank should go to zero. The executives should go to jail if needed (always very popular) and the depositors can remain protected though a nationalization of the said banks. Three or four years later, once their balance sheets have been cleaned up and their capital reconstituted through an infusion of public money, the banks can then be reintroduced in the stock market and privatized at five times the amounts spent by the government. This is what happened in Sweden after 1992 but did not happen in Japan over the last twenty years and is certainly not unfolding today in Europe. We all know the results.

Equally, there remains no justification for comingling the casino-like operations of an investment bank and the post-office function of a commercial bank. This is because these institutions are in different businesses; the first one plays with the partners' money and the second one with the depositors' money.

Tampering with prices, or with interest rates, allowing a quasi-monopoly to develop in the banking system, using debt to pay for current expenditures, manipulating exchange rates, killing the saver, etc... all of this does not work, and never did.

So the solution to our current malaise is very simple: we have to stop now. Reduce government spending, stop manipulating money, let market pricing return – or the result will be a vicious cycle of low growth and rising debt, or certain depression.

The choice is just as simple for investors:

- Stick with countries that have avoided the worst of the bad policies, like Canada, Sweden, Denmark, Poland, Switzerland, Australia, New Zealand, Singapore, Hong Kong or even Korea. All of these countries either kept fiscal balances and taxes low (or started reducing them), and/or regulated their financial systems to prevent casino madness.
- Consider certain countries that are improving on the margin. This includes the UK. It also includes

China, which is opening its capital account and liberalizing its financial system. Spain and Italy are distant possibilities.

- Respond quickly and exuberantly if the US elections bring a change of leadership.
- Forget about countries like France – they have never understood and never will.

Copyright 2012 John Mauldin. All Rights Reserved.

Share Your Thoughts on This Article

Post a Comment

Like *Outside the Box*? Then we think you'll love John's premium product, *Over My Shoulder*. Each week John Mauldin sends his *Over My Shoulder* subscribers the most interesting items that he personally cherry picks from the dozens of books, reports, and articles he reads each week as part of his research. [Learn more about Over My Shoulder](#)

Outside the Box is a free weekly economic e-letter by best-selling author and renowned financial expert, John Mauldin. You can learn more and get your free subscription by visiting <http://www.mauldineconomics.com>.

Please write to subscribers@mauldineconomics.com to inform us of any reproductions, including when and where copy will be reproduced. You must keep the letter intact, from introduction to disclaimers. If you would like to quote brief portions only, please reference <http://www.mauldineconomics.com>.

To subscribe to John Mauldin's e-letter, please click here: <http://www.mauldineconomics.com/subscribe/>

To change your email address, please click here: <http://www.mauldineconomics.com/change-address>

If you would ALSO like changes applied to the Mauldin Circle e-letter, please include your old and new email address along with a note requesting the change for both e-letters and send your request to compliance@2000wave.com.

To unsubscribe, please refer to the bottom of the email.

Outside the Box and JohnMauldin.com is not an offering for any investment. It represents only the opinions of John Mauldin and those that he interviews. Any views expressed are provided for information purposes only and should not be construed in any way as an offer, an endorsement, or inducement to invest and is not in any way a testimony of, or associated with, Mauldin's other firms. John Mauldin is the Chairman of Mauldin Economics, LLC. He also is the President of Millennium Wave Advisors, LLC (MWA) which is an investment advisory firm registered with multiple states, President and registered representative of Millennium Wave Securities, LLC, (MWS) member FINRA, SIPC. MWS is also a Commodity Pool Operator (CPO) and a Commodity Trading Advisor (CTA) registered with the CFTC, as well as an Introducing Broker (IB) and NFA Member. Millennium Wave Investments is a dba of MWA LLC and MWS LLC. This message may contain information that is confidential or privileged and is intended only for the individual or entity named above and does not constitute an offer for or advice about any alternative investment

Outside the Box is a free weekly economic e-letter by best-selling author and renowned financial expert, John Mauldin. You can learn more and get your free subscription by visiting www.JohnMauldin.com

product. Such advice can only be made when accompanied by a prospectus or similar offering document. Past performance is not indicative of future performance. Please make sure to review important disclosures at the end of each article. Mauldin companies may have a marketing relationship with products and services mentioned in this letter for a fee.

Note: Joining the Mauldin Circle is not an offering for any investment. It represents only the opinions of John Mauldin and Millennium Wave Investments. It is intended solely for investors who have registered with Millennium Wave Investments and its partners at www.MauldinCircle.com or directly related websites. The Mauldin Circle may send out material that is provided on a confidential basis, and subscribers to the Mauldin Circle are not to send this letter to anyone other than their professional investment counselors. Investors should discuss any investment with their personal investment counsel. John Mauldin is the President of Millennium Wave Advisors, LLC (MWA), which is an investment advisory firm registered with multiple states. John Mauldin is a registered representative of Millennium Wave Securities, LLC, (MWS), an FINRA registered broker-dealer. MWS is also a Commodity Pool Operator (CPO) and a Commodity Trading Advisor (CTA) registered with the CFTC, as well as an Introducing Broker (IB). Millennium Wave Investments is a dba of MWA LLC and MWS LLC. Millennium Wave Investments cooperates in the consulting on and marketing of private and non-private investment offerings with other independent firms such as Altegris Investments; Capital Management Group; Absolute Return Partners, LLP; Fynn Capital; Nicola Wealth Management; and Plexus Asset Management. Investment offerings recommended by Mauldin may pay a portion of their fees to these independent firms, who will share 1/3 of those fees with MWS and thus with Mauldin. Any views expressed herein are provided for information purposes only and should not be construed in any way as an offer, an endorsement, or inducement to invest with any CTA, fund, or program mentioned here or elsewhere. Before seeking any advisor's services or making an investment in a fund, investors must read and examine thoroughly the respective disclosure document or offering memorandum. Since these firms and Mauldin receive fees from the funds they recommend/market, they only recommend/market products with which they have been able to negotiate fee arrangements.

PAST RESULTS ARE NOT INDICATIVE OF FUTURE RESULTS. THERE IS RISK OF LOSS AS WELL AS THE OPPORTUNITY FOR GAIN WHEN INVESTING IN MANAGED FUNDS. WHEN CONSIDERING ALTERNATIVE INVESTMENTS, INCLUDING HEDGE FUNDS, YOU SHOULD CONSIDER VARIOUS RISKS INCLUDING THE FACT THAT SOME PRODUCTS: OFTEN ENGAGE IN LEVERAGING AND OTHER SPECULATIVE INVESTMENT PRACTICES THAT MAY INCREASE THE RISK OF INVESTMENT LOSS, CAN BE ILLIQUID, ARE NOT REQUIRED TO PROVIDE PERIODIC PRICING OR VALUATION INFORMATION TO INVESTORS, MAY INVOLVE COMPLEX TAX STRUCTURES AND DELAYS IN DISTRIBUTING IMPORTANT TAX INFORMATION, ARE NOT SUBJECT TO THE SAME REGULATORY REQUIREMENTS AS MUTUAL FUNDS, OFTEN CHARGE HIGH FEES, AND IN MANY CASES THE UNDERLYING INVESTMENTS ARE NOT TRANSPARENT AND ARE KNOWN ONLY TO THE INVESTMENT MANAGER. Alternative investment performance can be volatile. An investor could lose all or a substantial amount of his or her investment. Often, alternative investment fund and account managers have total trading authority over their funds or accounts; the use of a single advisor applying generally similar trading programs could mean lack of diversification and, consequently, higher risk. There is often no secondary market for an investor's interest in alternative investments, and none is expected to develop.

All material presented herein is believed to be reliable but we cannot attest to its accuracy. Opinions expressed in these reports may change without prior notice. John Mauldin and/or the staffs may or may not have investments in any funds cited above as well as economic interest. John Mauldin can be reached at 800-829-7273.