HOW MUCH SHOULD I ALLOCATE TO ALTERNATIVES?

Institutions Allocate Heavily to Alternatives

Many individual investors have little or nothing allocated to "alternative investments," generally considered to include real estate, hedge funds, private equity, and commodities. On the other hand, sophisticated institutional investors tend to have large allocations to alternative assets. For example, a 2012 survey of college and university endowments found that the average alternatives allocation was 54%, with larger institutions typically having larger allocations. Their allocations span from an average of 11% for endowments under $25 million to an average of 61% for those over $1 billion.[1] Most famous among these is the Yale Endowment, managed by David Swensen, with a whopping 80% alternatives allocation as of 2012.[2] Over the 10 years ending in 2012, Yale's endowment achieved a return of 10.6%, surpassing U.S. stocks (6.2%), U.S. bonds (5.6%) and the average college endowment (6.8%). Over the past 20 years, Yale's 13.7% average return outdistanced the average college endowment return of 8.7% by an even more impressive margin. Swensen's phenomenal investment success has spawned many would-be imitators of the "Yale model."

The boards of endowments tend to include financially sophisticated individuals who often have extensive personal experience with investments, including alternative investments. The boards of pension plans, on the other hand, typically have a lower level of expertise, which is reflected in their reluctance to allocate to alternatives. A recent survey indicates that for the 2008-2011 period, the average pension plan allocated only 17.3% to alternatives, though with an increasing trend.[3]

The "Market" Allocation Starts at 17%

Modern portfolio theory asserts that in the absence of an informational advantage, an investor with an average risk tolerance should hold an average portfolio, which is a representative slice of the entire capital market. A recent article[4] attempts to size the components of the global capital market—not an easy task. The authors find that the assets typically included in the alternatives category sum to 16.9% of the total as shown in the nearby table and pie chart.

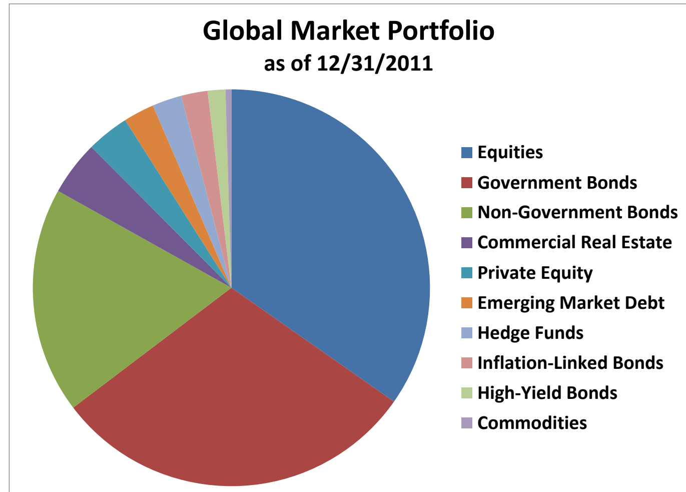
Global Market Portfolio as of 12/31/2011

Asset Class	Category	$Trillion	% of Total
Equities	Equity	29.0	34.7
Government Bonds	Debt	25.0	30.0
Non-Government Bonds	Debt	15.4	18.4
Commercial Real Estate	Alternative	3.7	4.4
Private Equity	Alternative	2.9	3.5
Emerging Market Debt	Alternative	2.1	2.6
Hedge Funds	Alternative	2.0	2.4
Inflation-Linked Bonds	Alternative	1.8	2.2
High-Yield Bonds	Alternative	1.2	1.4
Commodities	Alternative	0.4	0.5
Total Equity		29.0	34.7
Total Debt		40.4	48.4
Total Alternative		14.1	16.9
Grand Total		83.5	100.0

Source: Doeswijik, Lam, and Swinkels; *Strategic Asset Allocation: The Global Multi-Asset Market Porfolio 1959-2011;* November 2012 (http://ssrn.com/abstract=2170275)

Arguably the allocation to alternatives should be even higher because the allocation to government bonds is artificially inflated due to political rather than economic considerations. Governments are able to

issue bonds more-or-less at will, often with their central banks purchasing large amounts at favorable rates. Just because a government issues a bond does not mean that it is in your best interest to buy it! If the government bond category were eliminated, alternatives would rise to 24% of the total.

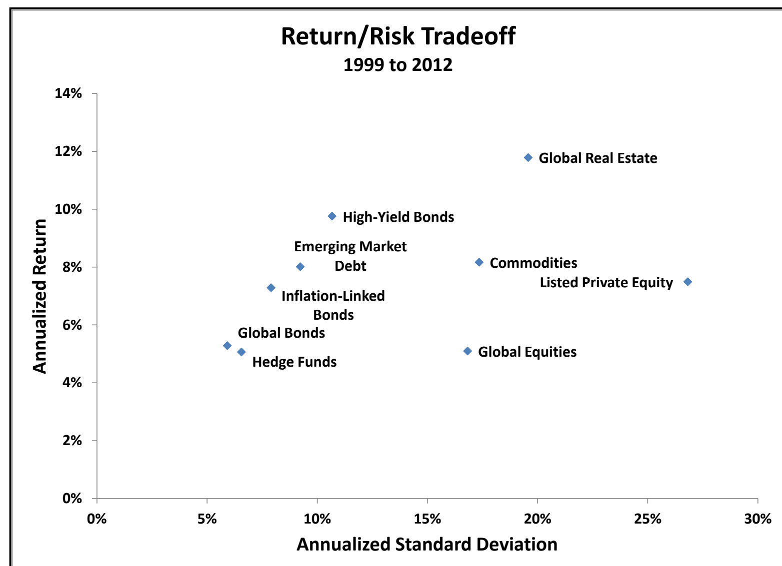


Historical Data Supports Higher Allocations

In the nearby table labeled "Global Market Portfolio Returns" we list a widely-recognized, tradable index for each of the asset classes cited above. The monthly returns of these indexes will allow us to measure the portfolio impact of increasing allocations to alternatives. (For simplicity we used one global bond index that included both government and non-government bonds.)

Global Market Portfolio Returns
1999 to 2012

Asset Class	Category	Bloomberg Index Name	B'berg Index Ticker	Return	Std. Dev.	Return/Risk
Global Equities	Equity	MSCI AC World Daily TR Net USD	NDUEACWF Index	5.1%	16.8%	0.30
Global Bonds	Debt	Barclays GlobalAgg Total Retur	LEGATRUU Index	5.3%	5.9%	0.89
Global Real Estate	Alternative	EPRA/NAREIT Dev TR USD	RUGL Index	11.8%	19.6%	0.60
Listed Private Equity	Alternative	S&P Listed Private Equity Inde	SPLPEQTR Index	9.1%	28.6%	0.32
Emerging Market Debt	Alternative	S&P/Citigroup International Tr	SPBDXUTR Index	8.0%	9.2%	0.87
Hedge Funds	Alternative	HFRX Global Hedge Fund Index	HFRXGL Index	5.1%	6.6%	0.77
Inflation-Linked Bonds	Alternative	Barclays Global Inflation-Link	LF94TRUU Index	7.3%	7.9%	0.92
High-Yield Bonds	Alternative	Barclays Global High Yield Tot	LG30TRUU Index	9.8%	10.7%	0.91
Commodities	Alternative	DJUBS Commodity TR	DJUBSTR Index	8.2%	17.4%	0.47



We begin our analysis in 1999 when most of the index returns were available. As can be seen in both the nearby table and the return/risk scatter diagram below it, nearly all alternative asset classes achieved average returns that were well above the 5.1% and 5.3% returns for global equities and global bonds, respectively. Clearly, allocating some assets to alternatives would have increased overall portfolio returns during this time period. Also, the return/risk tradeoff for the alternative asset classes was generally quite attractive, especially relative to global equities, indicating that increasing alternative allocations would have improved the return/risk tradeoff (moving upward and to the left in the "Return/Risk Tradeoff" scatter diagram).

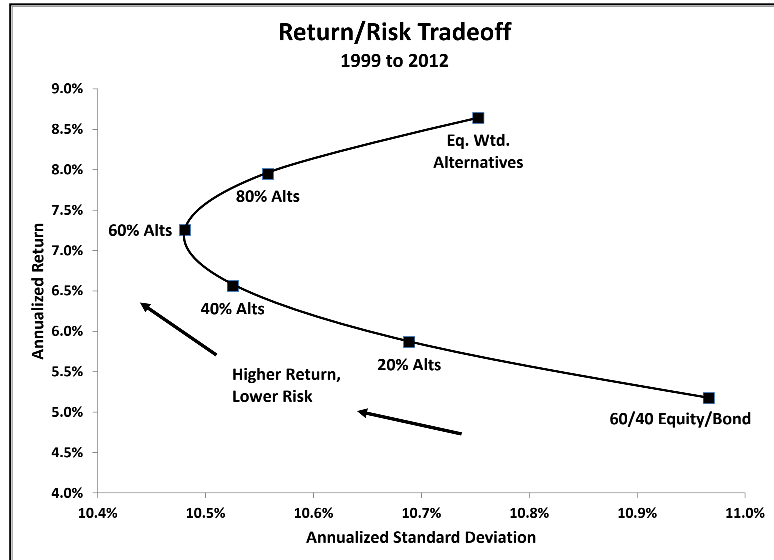
For illustrative purposes, we constructed an equal-weighted portfolio of the seven alternative asset class indexes listed above, labeled "Eq. Wtd. Alternatives" in the table and diagrams nearby. As shown at the

table labeled "Return/Risk of Increasing Alternative Allocations", this equal-weighted alternatives portfolio had an average return of 8.4% and a standard deviation of 10.6%, for a return/risk of .79. By comparison, a portfolio comprised of 60% global equities and 40% global bonds had an average return of 5.2% and a standard deviation of 11.0%, for a return/risk of .47. Allocations to alternatives of up to 60% both increased overall return and reduced overall risk (standard deviation).

Return/Risk of Increasing Alternative Allocations
1999 to 2012

60/40 Equity/Bond Allocation	Eq. Wtd. Alternatives Allocation	Return	Std. Dev.	Return/Risk
100%	0%	5.2%	11.0%	0.47
80%	20%	5.8%	10.7%	0.54
60%	40%	6.5%	10.5%	0.61
40%	60%	7.1%	10.5%	0.68
20%	80%	7.7%	10.5%	0.74
0%	100%	8.4%	10.6%	0.79

The performance results from any historical time period may be somewhat sensitive to the beginning point and end point, as well as to unique circumstances that may have occurred within the time period studied. Even though we used as long a time period as the data would allow (13 years) and a very simple method of allocating within the various alternative asset classes (simple equal weighting), history can only be a rough guide to the future.



Conclusion

We have examined three approaches to answer the question of how much to allocate to alternatives:

1. Institutional investor behavior – 54% on average for endowments (80% at Yale), 17% on average for pension plans.
2. The global market portfolio—17%. (24% if government bonds are eliminated.)
3. Historical data—60% was optimal during the 13 years from 1999 to 2012.

The range of 17% to 80% is very broad, but provides a reasonable pair of "bookends" to start with.

There are several reasons why the market allocation to alternatives of 17% may be too low (in addition to the government bond anomaly already mentioned). The market's allocation to alternatives is appropriate for the average investor only if the assumptions of the Efficient Market Hypothesis are applicable for asset allocation decisions. Those assumptions include the following:

- Investors are motivated only by economics, seeking to increase their return/risk tradeoff
- Investors, and markets, are rational and not emotional
- There are no regulatory, informational, or cultural barriers to impede the free flow of capital

In fact, many financial institutions have regulatory constraints that prevent them from investing in some alternative asset classes. Other institutions may have boards that are emotionally uncomfortable with the perceived risks of alternatives. Many investors, both institutional and individual, wish to avoid

"maverick risk," or the risk of being different than what they believe to be the norm. To these investors, alternatives may be unfamiliar, and they may have an unwarranted aversion to alternatives because they "sound risky" even though the empirical evidence indicates otherwise.

If the market's allocation of 17% is probably too low, then Yale's allocation of 80% is probably too high, at least for most investors who lack the expertise of Yale's endowment staff.

Where along this continuum should an investor land? Perhaps the most important consideration is the outlook for global equity and bond returns and risks. During the past 30 years, "plain vanilla" stock and bond investments provided very attractive returns, and there was little reason to diversify into alternatives. However, with interest rates at historic lows and stock markets near all-time highs with valuations that some believe are stretched, now seems to be a good time to consider a meaningful allocation to alternatives.

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February 22, 2013

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[1]http://www.nacubo.org/Documents/research/2012NCSEFinalPressReleaseJanuary292013.pdf

[2]http://investments.yale.edu/images/documents/Yale_Endowment_12.pdf

[3]http://www.pionline.com/gallery/20121129/SLIDESHOW/112909999/3

[4]Doeswijik, Lam, and Swinkels; *Strategic Asset Allocation: The Global Multi-Asset Market Portfolio 1959-2011;* November 2012 (http://ssrn.com/abstract=2170275)

[5]Jung and Shiller; *Samuelson's Dictum and the Stock Market*; Cowles Foundation Paper No. 1183; 2006 (http://cowles.econ.yale.edu/)

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