



*Insight on Portfolio Planning from
Yale's David Swensen*

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From The Horse's Mouth

If you don't know who David Swensen is, you should. He is the Chief Investment Officer of Yale's endowment and is widely considered one of the top institutional managers in the world. He has also written two well-received books on portfolio management and investing. An article about him from Summer of 2007 is very enlightening:

http://registeredrep.com/investing/altinvestments/finance_illiquidity_beautiful/

Yale has done very well with Mr. Swensen at the helm:

On his 22-year watch, Yale's endowment has grown tenfold and has spun off enough cash to fund about a third of the university's annual operating budget. Swensen has cranked out an average annual return of 16.1 percent — the best performance of any college endowment in the land; by comparison, the S&P 500 posted an average annual gain of 12.3 percent during that period.

(from interview linked above)

Mr. Swensen is well known partly for his strategy of taking on asset classes that achieve maximum diversification benefits relative to equities--like timber. This concept is at the core of portfolio theory, but many investors do not really understand what it means at a deep level. Assets with low correlations to equities (like commodities and other asset classes) can increase the return of a portfolio without increasing risk. The remarkable performance of Yale's endowment is undoubtedly substantially due to the expert exploitation of diversification benefits between asset classes. When I read this interview, what really jumped out at me was the following statement:

Oddly enough, Swensen actually strives to produce equity market-like results for the Yale endowment. The expected return of his target portfolio is presently 10.1 percent per year with a standard deviation of 11.8 percent. While Swensen aims for the broad

market's return, he diversifies the portfolio's other assets to provide insulation from the equity market's potential for outsized losses in any given year.

(from interview linked above)

Make sure that you understand this statement. Mr. Swensen believes that the most return that he can achieve for this risk level (annualized standard deviation in return of 11.8%) is 10.1% per year. We must conclude that even with all of the range of assets available to him, Mr. Swensen believes that this is the best that he can plan on. This projected return level at this level of risk will be familiar to those who have read my articles. I have consistently found (using our own forward-looking portfolio analysis tool, QPP) that the best that investors in well-diversified portfolios can reasonably plan for is a 1-to-1 relation between expected return and standard deviation in return (i.e. 10.1% in return and 11.8% in standard deviation)--and here we have David Swensen at Yale telling us that this is about what he is aiming for! What is even more interesting is that a range of other well-respected institutional investors and analysts have concluded the same thing:

<http://www.quantext.com/RiskReturn2.pdf>

The Retail Investor's Portfolio

In the interview with Mr. Swensen, he discusses what he thinks individual investors should be doing. Notably, he does not suggest that retail investors take on non-equity assets like timber that have made Yale's performance so strong. Instead, he proposes a plain vanilla portfolio that did not look all that great to my eye (below).

Name	Ticker	Allocation
Vanguard Total Stock Market Index	VTSMX	30%
Vanguard Total International Stock Index	VGTSX	15%
Vanguard REIT Index	VGSIX	20%
Vanguard Ultrashort Bond Index	VFISX	15%
Vanguard Inflation Protected Bond Fund	VIPSX	15%
Vanguard Emerging Markets Index	VEIEX	5%

Swensen's model retail investor portfolio

Mr. Swensen's suggested retail portfolio looks like just about every other pie chart portfolio you will ever see. This portfolio has stocks, bonds, and real estate and the stocks include global indices. When I ran this portfolio through our forward-looking portfolio management software, *Quantext Portfolio Planner* (QPP), the results were essentially what I expected. QPP projects that this portfolio will match the expected return the S&P500 on a going forward basis (8.2% per year), with less risk (the projected SD is 11.8% vs. 15% for the S&P500). This is okay, but far from spectacular—and, notably, far below the 1-to-1 ratio between expected return and standard deviation that Mr. Swensen is planning for with the Yale endowment.

Mr. Swensen is famous for seeking out asset classes with low correlation to broad equity indices, such as a range of commodities, timberland and other real assets. Where are these in the retail portfolio? Mr. Swensen only has 12% of Yale's portfolio in domestic equities but he is proposing that retail investors put 30% of their assets in domestic equities. While it is true that Mr. Swensen has access to private equity and other assets that the average retail investor cannot easily include in his/her portfolio, but it is certainly possible to get a lot closer to the Yale model.

To broadly replicate the kind of performance that Mr. Swensen has engineered for Yale in a retail portfolio, I replaced all of the Vanguard funds with ETF's and then added commodities (via DJP), a timber REIT (PCL), a very large electrical utility (EXC) and a large oil company (COP). The idea here is to provide a significant exposure to commodities and real assets. I have also ditched the short-term bond fund. Our new model portfolio looks like this:

Name	Ticker	Allocation
SPDR Dow Jones Wilshire Total Market	TMW	20%
iShares EAFE Index	EFA	10%
Cohen and Steers REIT Index	ICF	10%
Vanguard Ultrashort Bond	VFISX	5%
iShares TIPS	TIP	25%
iShares Emerging Markets Index	EEM	5%
Excelon	EXC	5%
Conoco-Phillips	COP	5%
iPath Dow Jones AIG Commodity Index	^DJC / DJP	10%
Plum Creek Timber REIT	PCL	5%

Modified retail investor portfolio

I used the commodity index (^DJC) which DJP tracks for the analysis because DJP has a very short history. The modified retail portfolio contains only 5% in very short term bonds, and moves most of the bond allocation to TIPS. This portfolio also has only 10% in the broad REIT index, but has another 5% in the timber REIT, PCL. ICF and PCL have very little correlation to one another (28%), however, because of the very different nature of their businesses. The addition of COP and EXC gives the portfolio more exposure to real assets. ***Quantext Portfolio Planner*** projects that this portfolio has an expected return of 10.1% per year, with a standard deviation of 11.6% per year---almost exactly what Mr. Swensen says that he has targeted for the Yale portfolio.

There is no magic in these results. Commodities and real assets provide powerful diversification benefits that will boost portfolio returns without increasing risk—which is exactly what we have shown here. The use of forward-looking models to come up with a portfolio which effectively exploits diversification benefits in this way is discussed in depth in this article (the same one referenced earlier):

<http://www.quantext.com/RiskReturn2.pdf>

This conceptual model of building a core out of index funds or ETF's and then spiking the portfolio with individual stocks is explained in less technical terms in ***Yes, You Can Supercharge Your Portfolio*** by Ben Stein and Phil DeMuth, and they use QPP to do it!

Bringing It All Together

If you ask most retail investors how much risk they have in their portfolios and how much return they expect to receive for bearing this risk, they will simply have no idea. If you asked an advisor the expected return he/she is targeting for a specific client portfolio and the expected risk level, you would often not get much more information—at least not quantitative information. By contrast, David Swensen has a very firm idea of the expected return (i.e. going forward) in Yale's portfolio, the expected volatility (i.e. the standard deviation), and the most return he can realistically plan for at a given level of risk. These are crucially important pieces of information.

When David Swensen says that he is targeting about 10% in return with a standard deviation of about 12%, this should get your attention. There is actually remarkable consistency among forward-looking estimates of the best that anyone can do among institutional investors and analysis and Mr. Swensen's targeted risk and return is right in line with these estimates. I have analyzed a wide range of portfolios and have consistently found that the a rough 1-to-1 ratio between annual expected return and annualized standard deviation in return is the best that can be planned for on a forward-looking basis. Forward-looking models (like *Quantext Portfolio Planner*) are the standard of practice in institutional money management, and the technology is gradually making its presence known among retail investors and their advisors (as shown by the Stein-DeMuth book). What would your portfolio look like in one of these forward-looking models?

Note: all projections in this analysis used default settings in QPP and used three years of historical data (through 12/31/2007) as inputs.

Quantext Portfolio Planner is a portfolio management tool. Extensive case studies, as well as access to a free extended trial, are available at <http://www.quantext.com>

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