

Strategic Financial Planning



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Making Sure Your Operating Asset Allocation Is on Target

by Thomas H. Dodd

As if the financial challenges for healthcare organizations weren't looming large enough, the events of the past year have exacerbated an already precarious situation. A primary question that healthcare system CFOs are asking is whether their allocation of operating assets continues to be appropriate. Have there been fundamental changes in the capital markets that warrant a review of the asset allocation? For that matter, how should you go about establishing an asset allocation, and how can the healthcare system have some assurance that the allocation is compatible with the system's investment objectives?

At a Glance

An asset allocation study involves seven steps:

- > **Obtain financial statement projections.**
- > **Determine capital market assumptions.**
- > **Determine asset classes to include in the study.**
- > **Complete asset allocation scenarios.**
- > **Determine financial metrics to model.**
- > **Run asset allocation model for each scenario.**
- > **Complete report and review results.**

An asset allocation study is fairly straightforward and has seven key steps, which are described below. If properly designed, the asset allocation study can model the impact of adverse market environments on key financial metrics. In addition to giving you guidance with respect to asset allocation, you can use the study:

- > As a budgeting tool
- > To complement debt structure analysis
- > During rating agency review
- > To stress test your organization's ability to withstand adverse investment and operating environments

Obtain Financial Statement Projections

The critical inputs to the asset allocation study are projected healthcare system financial statements, including balance sheet, income statement, and cash flow statement. Many health systems have financial statement projections completed for a three-year to five-year period; as the model involves projections over periods up to 10 years, it is fairly simple to extend the important elements of the statements to cover this longer period.

Determine Capital Market Assumptions

As the study involves modeling the future investment returns of the operating assets probabilistically, expected return, standard deviation, and correlation coefficient assumptions are needed for each asset class included in the model. These assumptions are determined by first calculating the historical returns, standard deviations, and correlations and then rationalizing these results with a forward-looking view of capital market expectations.

Determine Asset Classes to Include

The asset classes that would be included in the study are currently used asset classes and additional asset classes that the hospital system is considering adding to the mix. Many systems have allocations to large-cap equities, small-cap equities, international equities, and investment-grade fixed income. So-called alternative asset classes are gaining currency and include hedge funds, private equity, commodities, and real estate. Also, it is common for the fixed income allocation to be broken into several tranches based on maturity, including a short maturity tranche, an intermediate maturity tranche, and a longer or market-duration tranche. Each would be treated as a separate allocation with its own set of capital market assumptions.

The decision as to which asset classes to include is based on your hospital system's comfort with the risk, reward, and liquidity characteristics of each class. For classes that the system has little experience with, an in-depth review may be useful to determine compatibility with investment objectives.

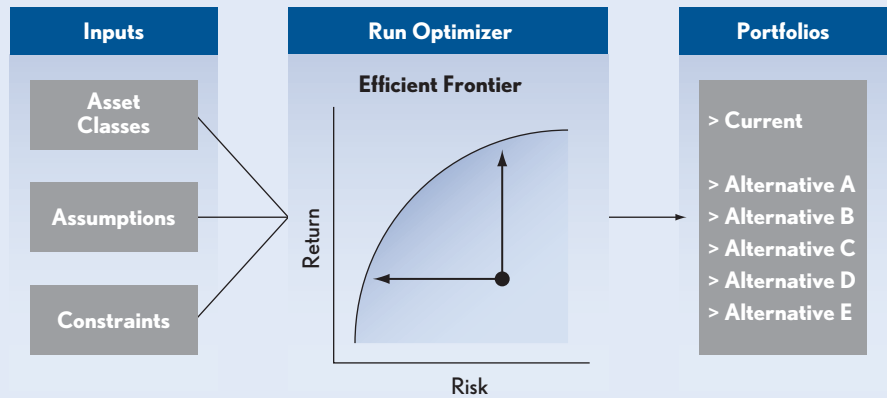
Complete Asset Allocation Scenarios

Using a technique known as mean variance optimization, designed to develop efficient investment frontiers, healthcare systems then develop several asset allocation scenarios. Each scenario maximizes return for a given level of risk, or expressed differently, minimizes risk for a given level of return. Given that there are an infinite number of asset allocation scenarios, those chosen to be modeled should meet your healthcare system's return and risk objectives.

The result is that anywhere from three to 10 scenarios, in addition to the current allocation, will be modeled. See the top exhibit at the right.

Mean Variance Optimization

The purpose of mean variance optimization is to determine the asset allocations that will be modeled stochastically (or probabilistically).

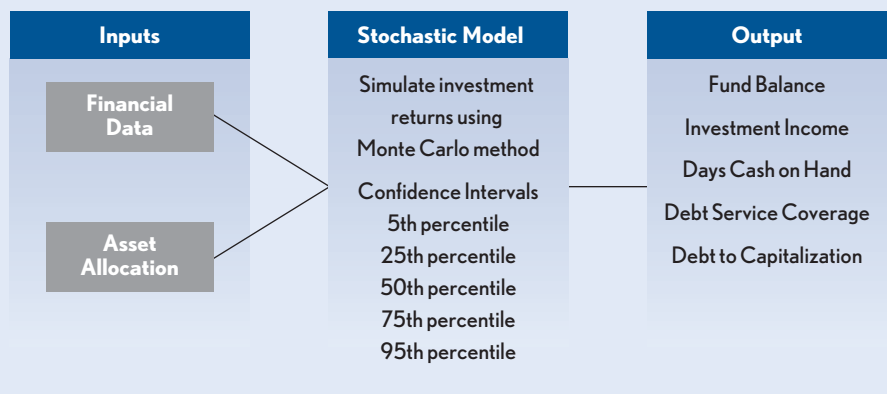


Asset Classes	Current	A	B	C	D	E
Large-Cap Equities	45.0%	45.0%	35.0%	35.0%	35.0%	30.0%
Small-Cap Equities	10.0	10.0	10.0	10.0	10.0	10.0
International Equities	15.0	25.0	25.0	25.0	25.0	20.0
Private Real Estate	-	-	-	-	10.0	10.0
Hedge Fund of Funds	-	-	-	10.0	-	10.0
Market Duration Bonds	30.0	20.0	30.0	20.0	20.0	20.0
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Compound Expected Return	8.2%	8.6%	8.3%	8.6%	8.5%	8.5%
Standard Deviation	13.2%	14.6%	13.1%	13.2%	12.9%	11.5%

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Asset Allocation Model

The allocation model, which uses a Monte Carlo method, simulates portfolio investment returns for each year during the projection period.



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Determine Financial Metrics to Model

Almost any financial metric can be modeled, but these five are the most commonly used:

- > Operating fund balance
- > Total investment return
- > Days cash on hand
- > Debt service coverage
- > Debt to capitalization

Run Asset Allocation Model

At this point, all of the inputs are available to actually run the model for each asset allocation scenario. (See the bottom exhibit on page II). The model is stochastic (or probabilistic) and simulates portfolio investment returns for each year during the projection period, typically around 10 years. The simulation uses a Monte Carlo analysis, and the results are expressed in confidence intervals. Take these examples:

- > Days cash on hand in 2014 have a 25 percent probability of exceeding 150 days.
- > The fund balance in 2010 has a 50 percent probability of exceeding \$820 million.

The nomenclature used is that percentiles less than 50 percent signify favorable investment environments while percentiles greater than 50 percent signify unfavorable environments.

Report and Review Findings

A report is usually prepared that summarizes the results of the study and presents observations and recommendations. It is not uncommon that, after an initial review, further asset allocation scenarios are modeled. It is an iterative process as the system seeks the optimal asset allocation.

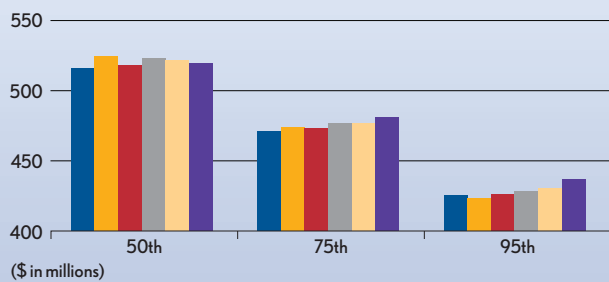
The following are some points to consider as you sift through the data and make a decision:

- > Are you comfortable with the asset classes included in the allocation? This is a “gut-check” decision, not something that can be quantified.
- > Focus on the unfavorable investment percentiles—75th and 95th. The good times will take care of themselves; the real purpose of the study is to see you through the bad times.
- > Look for allocations that not only improve returns at the 50th percentile, but also improve returns at the 95th percentile. Adding equities to improve return will look great at the 25th and 50th percentiles, but will not look good

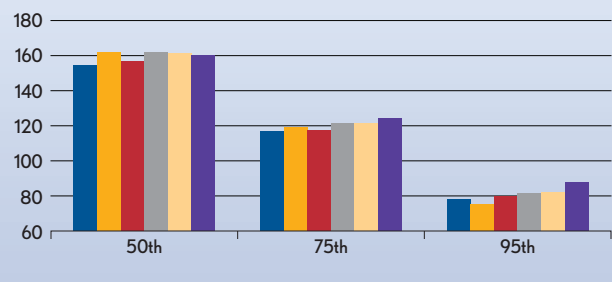
Modeling Additional Allocation Scenarios

Management should stress-test asset allocations in a number of ways to ensure the allocation is appropriate during both good times and bad, fits within the risk parameters of the system, and complements the organization’s overall mission.

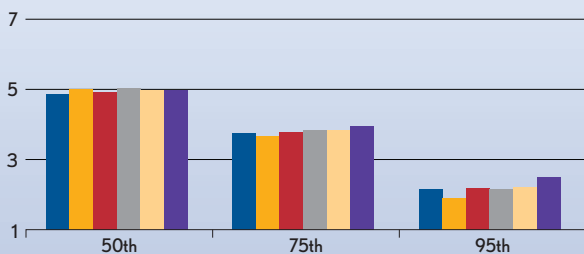
Total Fund Balance, Year 2014



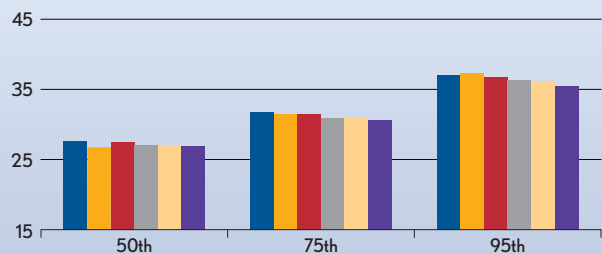
Days Cash on Hand, Year 2014



Debt Service Coverage, Year 2014



Debt to Capitalization, Year 2014



■ Current ■ A ■ B ■ C ■ D ■ E

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at the 95th. Adding asset classes with low correlations to equities and bonds will improve returns at the 75th and 95th percentiles.

- > Shift from a probabilistic to a deterministic approach, using a predetermined set of return assumptions during the projection period. You might use the actual market returns during the last 10 years, or perhaps, during the 1970s bear market. This sort of stress testing adds a real-world element to your decision.

- > Rerun the model using negative operating results. If the projected operating margin used in the study was 3 percent, rerun the model using 1 percent or 2 percent. Or scale the margins down to 0 percent during the projection period and then scale back to the baseline.
- > Rerun the model using different capital expenditure or bond issuance/repayment schedules.

Choosing the Optimal Allocation

Any asset allocation can be stress-tested in any number of ways. (See the exhibits on page III.) In the end, the allocation needs to:

- > Be appropriate during both good times and bad, with more emphasis on the bad
- > Fit within the risk parameters of the system
- > Complement the mission of the system

By using this systematic process in arriving at the asset allocation, management should gain the confidence to stay the course during market downturns. ☞

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