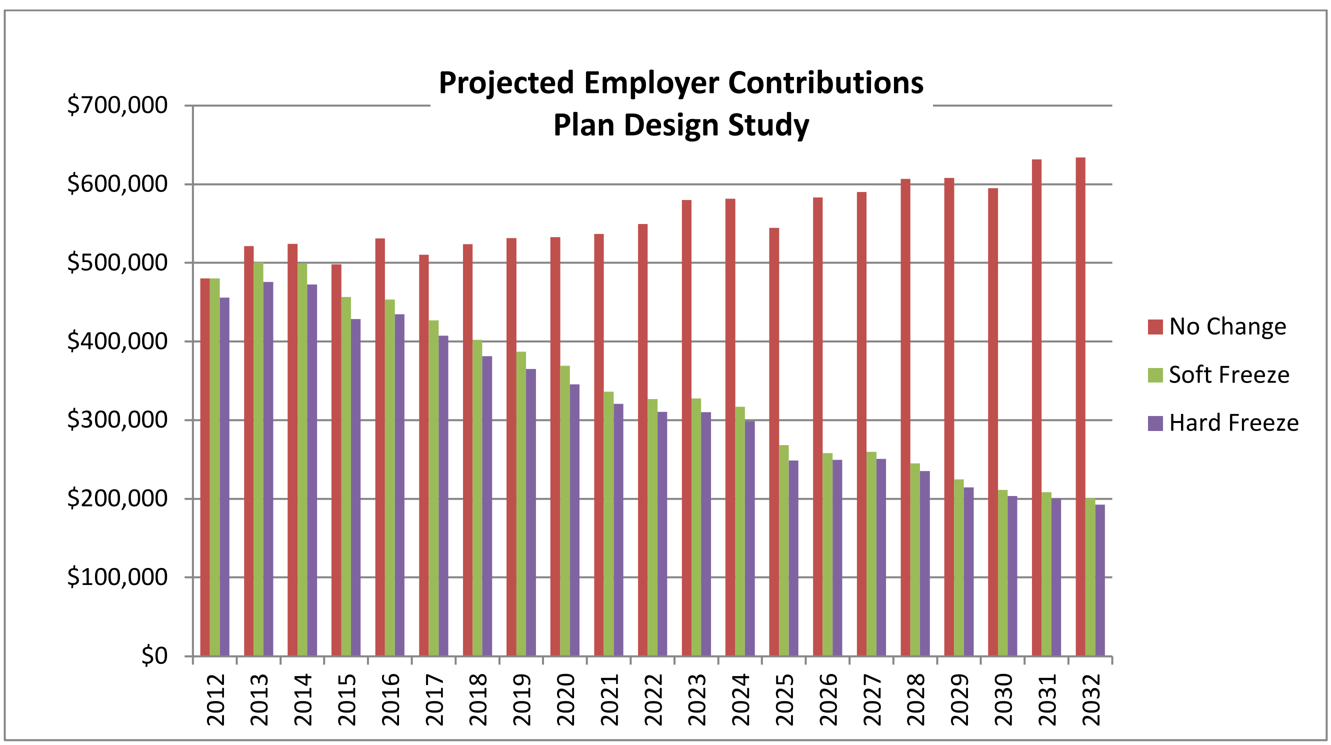
Forecasting Assets and Liabilities

An annual valuation provides snapshot results of a plan's demographics, funded position, and funding and accounting requirements. A multi-year forecast can provide those same results by performing multiple snapshot valuations into the future. Forecasting is a great tool to help plan sponsors understand the key factors affecting the future of a plan.

Salary growth, inflation, interest rates, and equity returns are the primary economic factors impacting employee benefit plans. Actuaries and plan sponsors measure plan obligations using reasonable assumptions about these factors. Most forecasting today is interested in testing those assumptions, alongside employer-controlled inputs like employee growth, asset allocation and contribution levels.

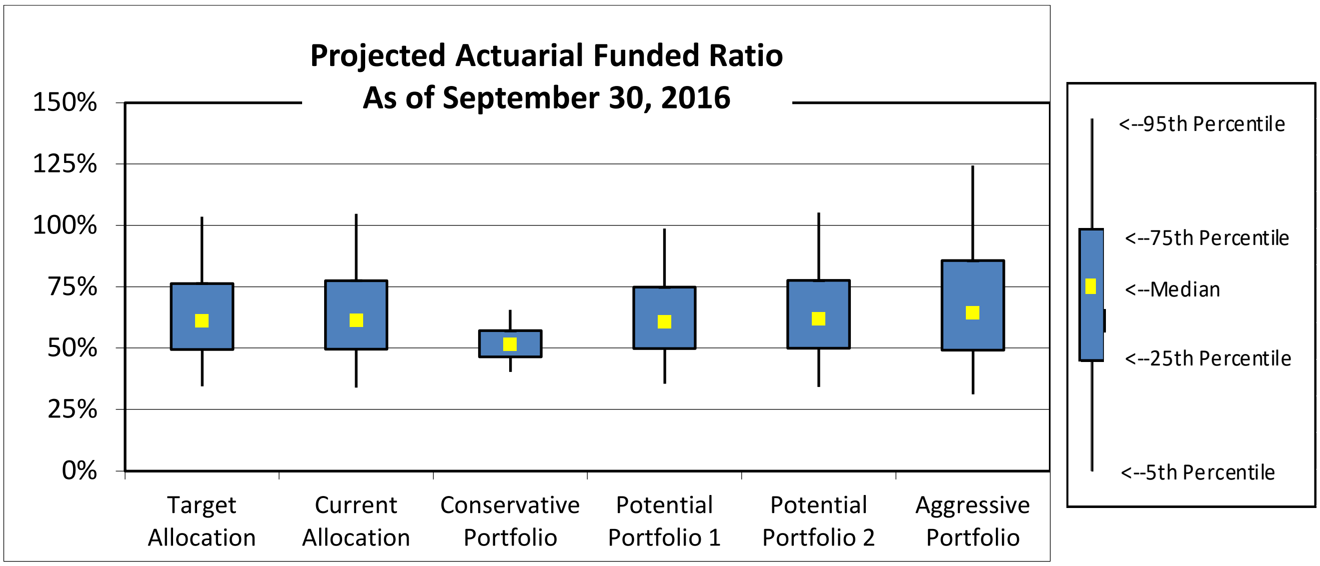
Deterministic Projections

A deterministic forecast is a projection of a plan's assets and/or liabilities based on a fixed set of future demographic and economic experience, as if one knew in advance how the future would unfold. For example, a deterministic forecast might project plan liabilities assuming salaries grow at a 5% annual rate for the first three years, then at the long-term assumed rate of 3% for years four and beyond. Deterministic forecasts are most useful for analyzing long term expectations, low probability or "worst-case" scenarios, and potential plan changes. The following is a sample 20-year projection of a pension plan's required contributions assuming the actuary's valuation assumptions are met every year, and the employer makes minimum required contributions. This projection looks at the impact of a "soft" or "hard" freeze, versus a continuing plan.



Stochastic Projections

A stochastic forecast is a projection of plan results using Monte Carlo simulation techniques. Key economic factors are allowed to vary randomly, linked together by changes in inflation and historical correlations. The results from 2,000 or more trials are tabulated to produce a distribution of potential outcomes. Stochastic forecasts are very helpful for understanding risk, i.e., the best/worst case outcomes and the probability of those outcomes. These types of forecasts are commonly used to analyze alternative asset allocations, including the addition of new asset classes and weighting changes.



Unfunded plans (e.g., SERP's, retiree medical plans) are often interested in the range of potential future cash flows. The following chart shows the distribution of expected premium payments at 5-year intervals for a pre-Medicare medical benefit plan.