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FEATURE ARTICLE

Signals

The Basics of Scenario-based Forecasting and Planning

by David Franklin

Forecasting is becoming an increasingly important issue for private and public sector decision makers. As economies become more productive and efficient, there is increasing recognition of the very real costs associated with being unprepared. Intense competition makes even small missteps costly in most industries.

We all want to know what the world will look like next year, in five years, or in 25 years. Good examples of rich forecasting dilemmas can be found in any daily newspaper:

- What will the U.S. federal deficit be next year?
- How much oil will we have in 2020?
- What will be the impact of global warming?
- Will Social Security be around when I retire?
- Will Company X hit their earnings number next quarter?

Some of these questions seem almost unanswerable due to their complexity and the many unknowns they pose. Each of the questions involves dozens of factors that can change the ultimate outcome. Yet there are good analytical approaches to addressing the unknowns and breaking down the complexity posed by such tough forecasting questions.

The most basic forecasting device is the assumption. Everyone uses them, right? Assumptions help us break down complexity and uncertainty.

A fancier term for assumption is "scenario". Scenario implies a series of assumptions that are being considered to create a forecast. In the messy world of people and behavior, there can be no forecast without a scenario. The only question is whether to make your assumptions explicit (viewable, known) or implicit (buried, hidden, etc.). All things being equal, (big assumption!) the more your assumptions are known the better your ability to forecast with accuracy.

Use care when creating scenarios. In the 1980s, the U.S. Administration was famously accused of unrealistic budget forecasts due to the use of favorable scenarios, dubbed the Rosy Scenario. These scenarios used optimistic assumptions about economic growth, consumer income, productivity, etc. to generate forecasts that were politically palatable. A "blackbox" forecast might have hidden the scope of this optimism, but people are now sophisticated about forecasting. They know it's all about the scenario.

Once a scenario for the future has been prepared, we then must decide what impact those future conditions will have, e.g., the forecast. There are many different ways to

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Application of Scenario-based Forecasting to Retail Loan Portfolio Analysis

The graphic at right illustrates how a scenario-based forecasting process may be leveraged to build, manage, and maintain a profitable portfolio.

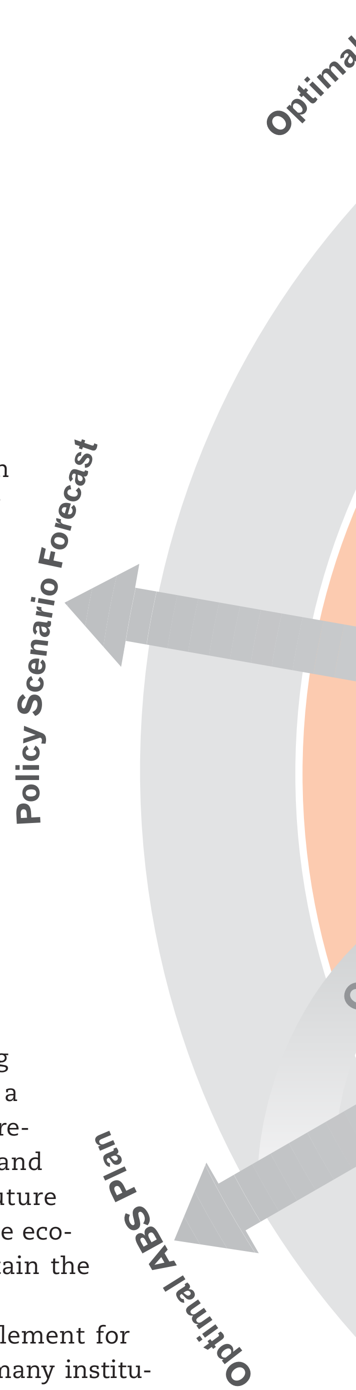
Around the outside of the circle are listed nine forecasting efforts that all lending institutions pursue. It is standard practice for these efforts to be handled in different departments, with different forecast methodologies and/or with different data sets. It is often difficult to reconcile any of these forecasting outcomes with any other, or change the assumptions made for one forecast outcome and see the results in another outcome. This situation obviously limits the usefulness of any individual forecast since it's difficult to know the impact on other areas.

> **. . . many institutions miss the chance to make better strategic decisions because their portfolio forecasting process is not well integrated.**

The circle graphic, however, illustrates a different approach. Think of the whole circle as a series of concentric wheels that can be dialed around the central axis. At the center of the wheel are core components drawn from analyzing historical results. These core drivers, once refined, do not normally change. By following each arrow out from the center, you may note the required elements for each forecasting effort, with the final processing step noted in the outer circle. The return arrows indicate where an optimization step may be usefully employed to feed forecast results back into scenario design.

Each of the boxes that make up each wheel represent various scenarios that may be shared across forecast efforts. Once you solve for one forecast outcome, the scenario inputs may be shared to obtain useful combinations. For example, by combining the scenario elements of the optimal marketing plan (1 o'clock on the wheel) with those of the economic scenario forecast (5 o'clock), you may obtain the optimal marketing inputs for the portfolio under a forecast for the economy—e.g., "precisely what kinds of accounts (and amounts) should I book in a future economy described by my favorite economic forecaster in order to obtain the desired portfolio performance?"

Keen forecasting is a crucial element for sustained portfolio success. Yet many institutions miss the chance to make better strategic decisions because their portfolio forecasting process is not well integrated. A well-organized scenario-based forecasting process can generate all these outcomes and manipulate them interdependently. The result is better consistency, transparency, and decision quality. ❍



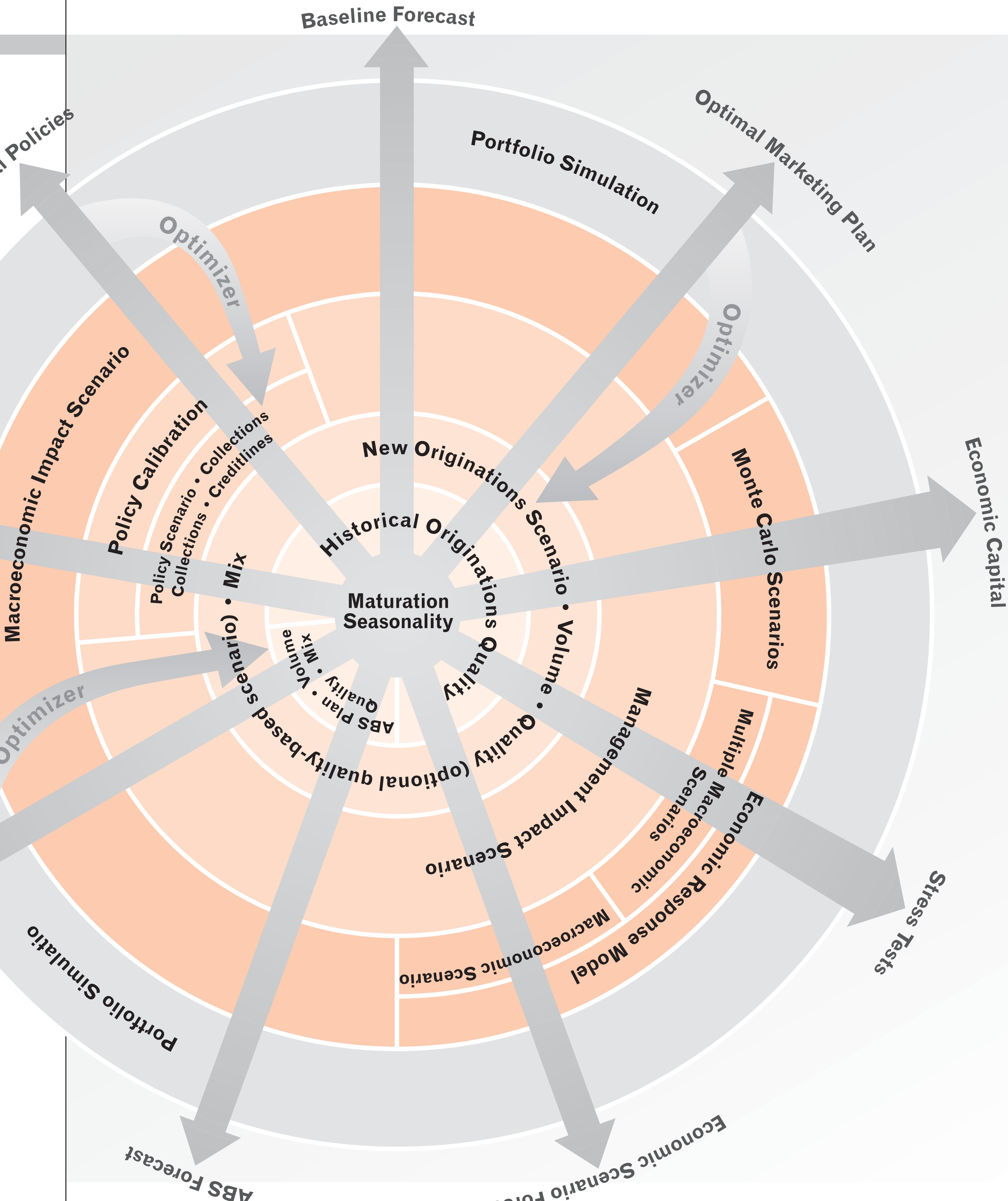


Illustration © 2004
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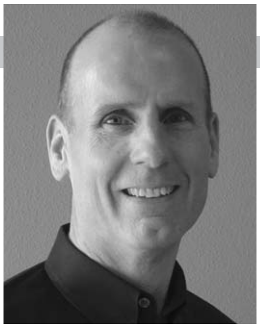
Charles Hoy



It is hard to argue with a tried and true philo-ophy that works across all aspects of your life. Spend any time with Charles Hoy and you will not only understand his attitude and philosophy about life, but you might also find yourself taking a page from his plan book. Charles' approach to life revolves around respect for others, yourself, and the world around you. It is one thing to profess belief in this philosophy, yet quite another to consistently implement these principles in your daily life.

As SA's Director of Business Development, Charles' true regard for our clients and potential clients helps to build the valued long-term relationships essential to our success. When you add Charles' calm persistent nature to his philosophy of respect toward others you will begin to see why he is truly well suited to the task of developing and maintaining SA's client relationships.

Role at SA: Business Development: Reaches out and creates relationships with clients; follows up with materials and connections within SA to assist potential clients; evaluates clients' needs to chart the right course for our continued relationship.

Marketing and Public Relations: Researches conferences, publications for articles, and speaking engagements that will best utilize SA's marketable assets.

Background: Charles spent 20 years at the San Francisco Zen Center and the Tibetan Buddhist Center in Boulder studying meditation. His keen interest in meditation and its role in the business world led him to create and develop Diamond Lake Systems, a programming and project management company. There he developed a method for efficiently and effectively gaining access to the decision makers within a company. Later, Charles led the business development arm of an international knowledge management company, Collectively Sharper, where he further honed this business development strategy. Along with these endeavors, Charles has been an avid student of the personal and business development strategies of Earl Nightingale, Wayne Dyer, and Tony Robbins.

Business Development Philosophy: Respect and regard for everyone coupled with patience and persistence are keys to Charles' positive approach to business development. His "big picture" view with SA's clients is one of "long-term relationships" built with mutual appreciation and understanding. This long-term relationship is achieved by listening to the client to determine SA's role in their portfolio management strategy. Says Charles, "If we relax a little and listen closer to what our clients are saying, we will be able to better serve their needs."

Hobbies: The word "hobby" does not do justice to the meditation and yoga that are essential parts of Charles' life. Recently he mentioned his achievement in yoga of "reaching for the ceiling." While this might be symbolic for some people, Charles actually did reach the ceiling (he is 6'4" tall). His other hobbies include activities with his wife and son who are also avid bicyclers, developing skiers, and occasional bowlers. ❍

New Features in LookAhead for 2004

With most products, you get what you see. With LookAheadTM software by Strategic Analytics, you keep getting more. Strategic Analytics is introducing important new analytical capabilities in 2004.

Stress Testing: Basel II mandates portfolio stress testing. LookAhead now delivers statistically sophisticated multi-scenario analysis that addresses these requirements.

Automated Contribution Analysis: A powerful analysis and reporting feature that evaluates portfolio performance in a bottom-line, business-friendly way. Quantify the impact of policies, environment and lifecycle in accounts and balances.

Economic Response Model Builders: With the new interactive economic response modeling tools, it's now even easier to explore correlations and use macroeconomic variables to predict future portfolio performance.

LookAhead New Features

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Beyond analytics, SA will also introduce significant improvements in the LookAhead user interface. Advances include dynamic table controls to define and control table layouts and improved printing, plotting, and data analysis controls. These upgrades will bring added flexibility and automation to our power users.

These substantive new features are made available to existing and new licensees as part of SA's innovative license structure. New features and improvements flow through to users on a regular basis. Clients benefit from this programmed upgrade path that emphasizes consistency in application and training.

Michael Smith, SA's chief software architect, puts it this way: "Within institutions, portfolio analysis is typically done using a variety of analytical techniques. The result is a disjoint set of analyses that need to be reconciled with human intuition. LookAhead standardizes the analytical paradigm across different groups and facilitates the clear encoding of intuition into the forecasting process. The new features in LookAhead deliver greater power to users and enable them to work at higher levels when analyzing and forecasting their portfolios."

To learn more about the latest version of LookAhead please call Charles Hoy at (505) 438-9501, ext. 104, or info@strategicanalytics.com. ❍

Forecasting and Planning

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express the impact of a scenario into a forecast, ranging from purely intuitive to more rigorous quantitative methods.

Most modeling approaches found in business forecasting are cumbersome to use with many different scenarios. They tend to be geared toward one set of assumptions or require a lot of work to recalibrate to a new scenario. Moreover, most models tend to be trend-following: e.g., they slavishly extrapolate the trend most recently experienced (an implicit assumption that the future will look like the past). This is a problematic feature when experience tells you that the future environment is likely to be highly dynamic. To handle scenarios well, a modeling technique should make all assumptions explicit and thereby under user control and inspection.

Every business forecast contains assumptions. Despite increasing sophistication about forecasting, it is human nature to focus more on the result instead of the assumptions that drive the forecast. For example, it's a well-known secret that most organizations' planning & budgeting processes start with the number they want, and then build backwards to a plan that justifies that outcome.

Why? First, it's more work to do it the other way. Ideally, core drivers should be identified and understood, data collected, and benchmarks set. The effort becomes a built-in, year-round process instead of an ad hoc checklist item. A modeling technique must be adopted that can tie together events and their impacts with statistical rigor. Organizations that make this effort get a far more accurate and valuable planning process—better visibility on results and the factors contributing to them—and a competitive advantage over those reacting to change as it hits them.

The firm that has internalized scenario-based planning can easily test its operational plan monthly or weekly instead of once or twice a year. A sensitivity analysis of the business (e.g., a stress-test) can be stated in terms such as "what is the impact of a 1-point decline in GDP?" or "impact on profit from increased capital requirements stemming from a two-year decline in consumer incomes."

Scenario-based planning reinforces the concept of risk management over risk avoidance. Without the ability to plan quickly across all contingencies, firms don't know when they are taking too little risk, or conversely, too much. Being able to forecast the full range of outcomes is the only way to know if you've reached an optimal point.

The next time someone hands you a forecast, optimistic or gloomy, remember to ask: "under what scenario did you make this forecast?" ❍

SA and Household International Co-Presenters at NCCR Conference

Joseph Breeden, President and COO of Strategic Analytics, and Gary Harman, Director of Credit Policy at Household International, will present "Coordinating Credit Risk Management Across Business Units" at the National Collections & Credit Risk Conference. The Conference will be held in New Orleans March 17, 18, & 19.

This three-day Conference features industry leaders addressing topics such as: Risk Management and Credit Quality; Federal and Legislature Updates; Collections & Recovery Tools; and Economic Impacts on Recovery, Lending & Risk Management.

Joe and Gary's presentation will focus on coordinating strategy, historical analysis, and scenario-based forecasting across business units with different product types and business focus. They will describe the approach deployed at Household and facilitated by new technology from Strategic Analytics.

Strategic Analytics and RMA to Host Retail Lending Analytics Course Series

Sparked by interest in Joe Breeden's talk (Portfolio Forecasting Tools: What You Need to Know) at the RMA Retail Risk Management Conference in Chicago last June, SA and the RMA will host a one-day course in Retail Lending Analytics. The course will be held in Chicago on May 4th.

The course is designed for Risk Managers and modelers to assist them in understanding the role of modeling within the retail lending organization. The participants will study how to best integrate the many different modeling applications within a bank, and survey current techniques in model building.

This one-day course is the first in a series being produced by RMA, with coursework developed exclusively by Strategic Analytics. A comprehensive three-day course covering retail lending models will be held June 29, 30 and July 1 this year. For more information or to sign up for the courses, see www.rmahq.com, or follow the link at SA's website: www.strategicanalytics.com.

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