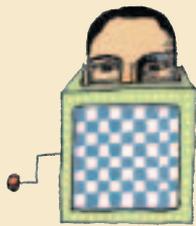


*If you don't understand the differences
between competing valuation models,
you could be in for a surprise*

BY SUSAN TRAMMELL, CFA

BLACK IN THE BOX



ADDING AN ECONOMIC valuation framework to complement traditional fundamental analysis can give analysts more confidence in their forecasts. Applied on an organization-wide basis, a valuation platform can provide the decision-making team with a common “language” for evaluating companies. While some of the models are tailored to specific industries or have remained proprietary to the firms that created them, several have been widely commercialized and are marketed as industry and client neutral. When choosing among them, understanding the essential differences between major competing models is critical to making the right choice.

Firms that sponsor these models typically do a certain amount of grunt work for their clients by purchasing data feeds that grab income statement and balance sheet information from public filings and then using the firm’s valuation methodology to disaggregate the components of financial performance.

There are two main components to such systems: (1) the calculation of a company’s intrinsic value as it is run through the firm’s “black box” and (2) a forecasting tool to help users evaluate whether the security is likely to remain over- or undervalued relative to its stock price. While the details of the valuation frameworks may differ, they share an emphasis on economic measures (as opposed to accounting measures) of corporate performance.

“An economic model states that economic profits derive from the difference between return on invested capital (ROIC) relative to weighted average cost of capital (WACC) and growth,” explains Josephine Wei-ki Chu, a former money manager and now consultant to the hedge fund industry. “Both WACC and growth are estimates from various underlying factors. In short, ROIC, WACC, and growth are the fundamental drivers of a company’s value.”

Different firms have different ways to calculate a company’s intrinsic value, Chu points out, but it is mostly a combination of what the company has earned (in terms of economic profits) and what it is expected to earn in the future.

EYES WIDE OPEN

If there is one unifying element among the major economic valuation models, it’s that they try to adjust for generally accepted accounting principles (GAAP) by reinterpreting income statement and balance sheet items. Some common areas of concern are asset depreciation and depletion, goodwill amortization, expensed research and development

costs, and the treatment of operating leases. But what’s wrong with GAAP anyway?

For one thing, some argue that GAAP is better suited to determining taxable profit than it is to measuring the creation of shareholder wealth. For another, GAAP allows for discretion and interpretation, which can make comparisons among companies difficult.

“Accounting is not a science; it’s an art,” acknowledges Kim Shannon, CFA, president and chief investment officer of Sionna Investment Managers. “GAAP is an accounting approach that gives a company the flexibility to say, ‘For our kind of firm in our kind of industry, we should be able to use the policy that’s further to one side than the other side because it will more accurately represent the truth of what’s going on inside the company.’”

Accordingly, analysts will base their choice of valuation model on its perceived suitability to a specific industry. If analysts think an approach is particularly robust, they will give it significant weight in their decision-making mosaic. If the pieces of the mosaic converge fairly tightly around a target price for a company, then an analyst will have greater confidence in the expected movement of a stock.

Portfolio managers could use a model’s raw output to make buy and sell decisions, but they are likely to overlay it with more in-depth analysis. After all, observes Shannon, “Why would you pay a fund manager a hefty salary if they could just close their eyes, run the screen, make a lot of money, and go home?”

The rest of this article focuses on three asset valuation approaches that have been adopted by many buy-side analysts as the foundation of their valuation methodology: CSFB HOLT’s

CFROI (Cash Flow Return on Investment) methodology, Stern Stewart's EVA (Economic Value Added) model, and Applied Finance Group's Economic Margin Framework. Each approach disaggregates the components of corporate performance to help managers decide where to focus their research efforts.

CFROI

The fundamental premise of economic valuation models based on a company's cash flow is that the stock market recognizes the shortcomings of traditional accounting metrics of corporate performance and instead sets prices according to cash flows. Arriving at an accurate measure of those flows is therefore critical to gaining a true perspective of a company's intrinsic value.

The CFROI (Cash Flow Return on Investment) model offered by CSFB HOLT, based in Chicago, Ill., USA, is an approximation of the average real internal rate of return earned by a firm on all its operating assets. This inflation-adjusted metric is calculated from a recurring stream of after-tax cash flows generated by a company's growing base of depreciating and nondepreciating assets. Over time, CFROI fades, or regresses, to the long-term corporate average. By applying the ROI to the

total assets, a net cash receipt forecast can be calculated. This forecast is discounted back to the present to arrive at a current value for a company.

"There's nothing that an individual practitioner couldn't come pretty darn close to duplicating for one company for one year," says Timothy Bixler, co-head of CSFB HOLT. "The benefit is that we have 18,000 companies, 20 years' worth of historical data for US companies, and more than 10 years of data for non-US companies in our database. We've done a lot of the 'heavy lifting' for our clients."

Once the HOLT system arrives at a warranted value for a company, that value is compared with the market's current pricing of the stock. A wide gap between the two may cause clients to do further analysis. The platform presents several scenario options and gives clients the flexibility to change almost any variable in the model. For example, a market-implied forward-looking discount rate is automatically calibrated on a weekly basis, but if users think that the economy is heading for a hard landing, they can increase the discount rate by 100 basis points at a company-specific level or across the board. The CSFB HOLT platform also provides alternative models to the discounted cash flow (DCF) approach, such as modeling based on a company's free cash flow.

HOLT Value Associates was established in 1985, and the firm was acquired by Credit Suisse First Boston in January 2002. All CSFB clients have access to the CFROI database and the HOLT system at different levels of service. HOLT can also customize the analysis or "private label" its system for clients. For the last four years, *Aviation Week & Space Technology*, a trade magazine for the airline, aerospace, and defense industry, has used the CSFB HOLT system to rank the financial performance of aerospace defense contractors annually.

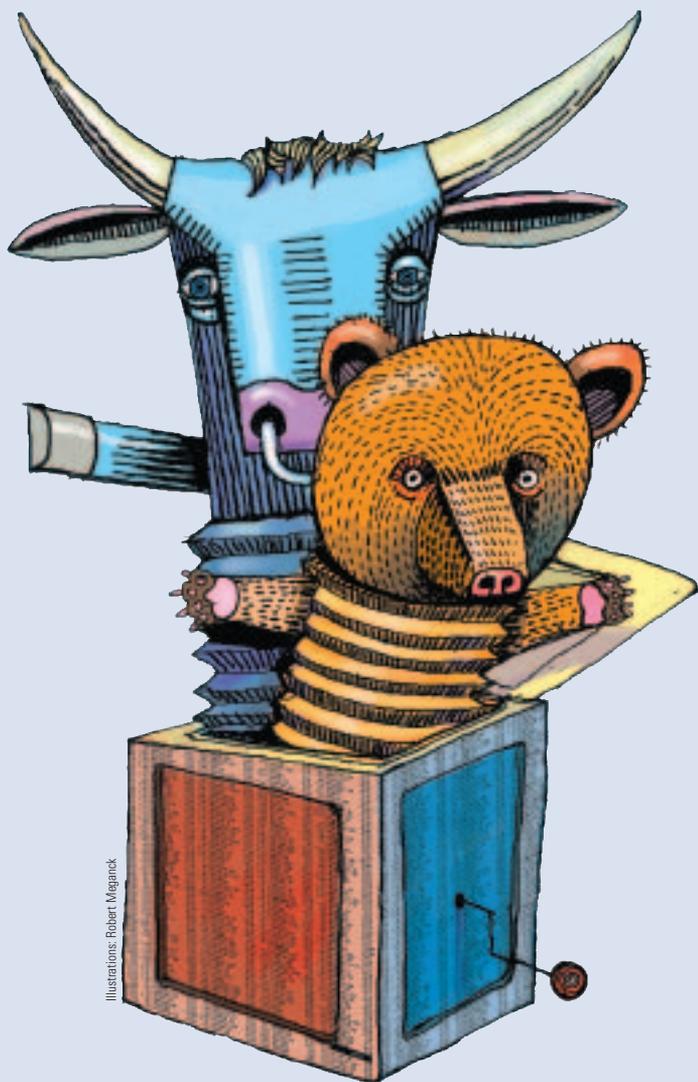
The model has been continually refined over the years. For example, default variables in the model reflect the latest academic findings on the useful life of industry-specific research and development investment. Practitioners also contribute to the robustness of the system.

"We have over 500 institutional investment organizations utilizing our process, and they are not shy about giving us feedback," Bixler says. "It's this give-and-take that allows us all to get smarter about a particular company or industry and make improvements to the system. The notion of continuous improvement is something we pride ourselves on."

EVA

Economic value added measures a company's economic profit by deducting a charge for using capital in order to determine whether the company increased or reduced investors' wealth. The concept is not new, but Stern Stewart & Co. is credited with pioneering EVA's widespread application. What began as a tool used by the global management consulting firm to help clients set corporate goals, evaluate investment in new projects, and calculate executive compensation has become a practical framework for analyzing equity securities.

The breakthrough has been to link EVA with a sister concept called market value added (MVA), which is the spread between a firm's market value and the book value of its capital.



Illustrations: Robert Megawick

The MVA for a company at any point in time, if it is fairly valued, should equal the sum of the future EVA profits it can generate, discounted to a present value.

Stern Stewart, which was established in 1982 and is based in New York, New York, USA, has long produced an MVA-based ranking of Russell 3000 companies that is published in leading financial publications. Now, after three years of development and a year of beta testing, the company has introduced PRVit, a performance-risk valuation investment tool that rates companies according to how closely their MVA reflects their underlying EVA performance trends, adjusted for risk. Stocks with high PRVit ratings trade for prices that heavily discount their EVA and thus should outperform the market. Backtesting from 1995 to 2003 shows that sector-neutral portfolios perform in order of their PRVit ratings.

"This is an exciting new market for EVA," notes Bennett Stewart, senior partner of Stern Stewart. "Over the last two decades, over 350 global companies — firms such as Briggs & Stratton, Coca-Cola, Eli Lilly, Herman Miller, Siemens, and Sony — have successfully adopted EVA for their management. Investors, however, did not have a similar tool to gauge the economic value of their investments. Now, with the development of PRVit, we have been able to integrate EVA into a sophisticated and comprehensive stock-rating system. We believe this new system will render earnings per share obsolete as a stock valuation metric."



The PRVit system is being introduced through Matrix Investment Research, an arm of Matrix USA. "It's interesting to speculate whether PRVit could have stifled the Internet bubble," says Dan Scalzi, chief executive of Matrix Investment Research, "because it forces an investor to stay grounded in economic reality and fundamental value."

"We've searched far and wide for a better research system that could provide meaningful insights to our investors," notes Scalzi. "PRVit exceeds our expectations with its simplicity, intellectual rigor, and most importantly, investment results."

PRVit also penetrates accounting appearances to get closer to the unvarnished truth about corporate performance. It draws on proprietary algorithms and footnote information to apply more than 15 adjustments to book numbers and arrive at more accurate and value-relevant measures of profit, capital, returns, and investment value. The adjusted information for the Russell 3000 companies resides in a proprietary database called EVAntage, which Stern Stewart maintains expressly to support the PRVit system.

EVA's mettle was tested publicly in early 2000 when Geoff Colvin, *Fortune* editor and current host of the popular television program *Wall Street Week*, asked Stern Stewart to help him understand the justification for AOL's market capitalization, which was \$200 billion at the time. Stern Stewart was able to show that AOL would have to increase its EVA profit so dramatically and within such a short period of time that it would dwarf the greatest EVA profit ever produced by the world's largest and most successful companies.

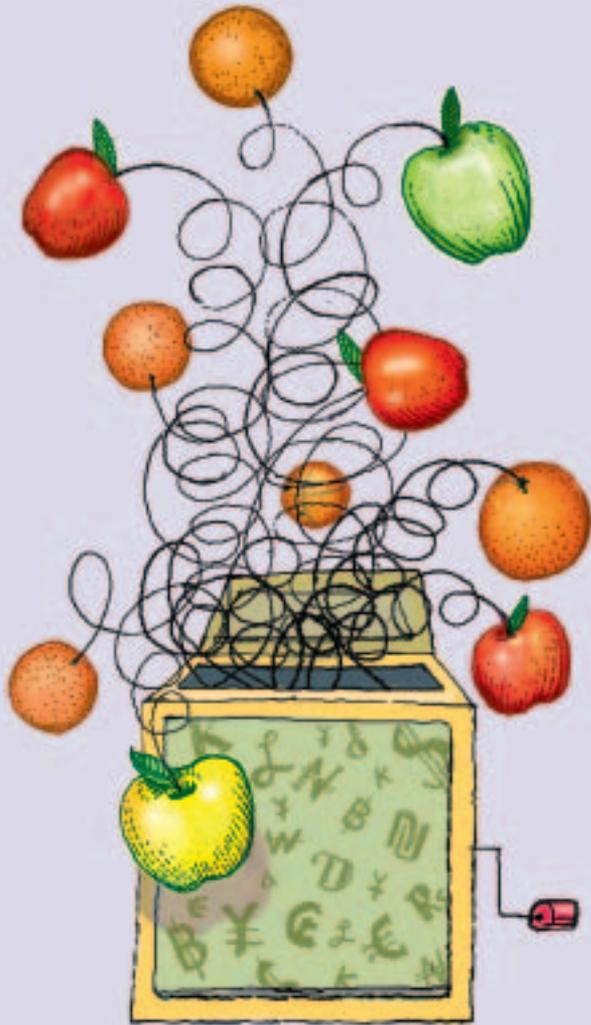
Using the PRVit analytic and scoring system, fund managers will be able to access reports on more than 3,000 US companies, along with related screening and interactive tools. They will also be able to license the EVAntage database in order to develop their own stock-analysis systems based on the EVA measures.

"PRVit is not a substitute for judgment," notes Stewart. "But it gives you an anchor that you can tie your own judgments to."

Economic Margin Framework

When a company generates investment returns in excess of its cost of capital, it is only a matter of time before competition will erode excess returns. The Economic Margin Framework from Applied Finance Group (AFG), based in Fresno, Calif., USA, and Chicago, Ill., USA, measures how well a company uses its capital to deliver returns to its investors. AFG then links this economic margin (EM) with the effects of competition, risk, and growth to a discounted cash flow model to derive a firm's intrinsic value and to help analysts better understand the market demands of their investment decisions.

At its most basic, the calculation of EM, or what AFG calls a company's "true" profitability, begins by taking net income and adjusting it for perceived distortions to arrive at an operations-based cash flow. An opportunity cost of capital is then deducted using a market-derived discount rate with an arbitrage pricing theory approach. The difference is divided by invested capital adjusted for inflation. The excess of the cash-on-cash return that a company generates above or below its cost of capital is its EM.



AFG's quantitative screens favor companies with improving EMs and reasonable valuations. AFG expects those companies whose margins are declining and trading at unsustainable expectations to be punished by the market. According to AFG, in a universe of between 4,000 and 5,500 firms tracked by the model between 1996 and 2003, reasonably valued companies for which EM was expected to improve outperformed — by more than 20 percent annually — excessively valued companies with excessive expectations for which EM was expected to decline.

Since 1996, AFG has used the Economic Margin Framework to issue buy and sell recommendations to the investment community. Rafael Resendes, president of AFG, founded the firm with Dan Obrycki. According to Resendes, they built their framework “on the principle that in order to understand how well a company is truly performing and what it is worth, it's necessary to avoid the often unrealistic and unreasonable assumptions imposed by GAAP and traditional valuation models.” For example, Resendes points out, “unless an analyst explicitly models the relationship between a firm's return and its cost of capital, his or her valuation is likely to make very unrealistic assumptions about how the firm will perform in the terminal-value portion of the model — when cash flows are hardest to predict.”

According to Resendes, the system's valuation-expectation tools are optimized to capture a company's decaying franchise value. That is, on average given a set of characteristics for a company, how long can it be expected to generate returns above or below an economic margin of zero? Competition forces companies to improve, but it also eliminates excess returns. By applying a pro forma forecast with the concept of decay over a number of years, the model arrives at a company's intrinsic value.

“We think we found a way to identify which companies are likely to decay faster or slower from where they are at a given point in time and to assign a company-specific decay rate,” says Resendes.

AFG provides access to the Economic Framework Model on a subscription basis. Analysts and portfolio managers are able to customize each company's valuation to account for their unique company insights. AFG is currently developing its international system. While there are different adjustments to GAAP for each country, the firm claims that the Economic Margin Framework and valuation methodology are applicable to all countries.

In early 2004, AFG was asked by the *Wall Street Journal* to model different scenarios that would justify the rumored high-flying IPO valuation for Internet search engine Google. AFG's analysis showed that it was virtually impossible for Google's projected growth rate to support its proposed IPO market capitalization. Google later went public at a much lower price.

“We view AFG's approach as a very sophisticated set of tools that could be the entire perspective used in an analysis,” Resendes says. “But it could also be a beginning point and an end point — a beginning point to generate ideas or an end point to check over ideas generated from another source.”

Resisting Temptation

In an ideal world, an asset valuation model would yield a true representation of what is going on in a company. But no matter how expertly fine tuned, extensively backtested, and heavily stress-tested a model may be, it is bound to disappoint at one time or another.

“A very solid, consistent, and robust valuation model will work over time, but investors, who often stress long-term performance, become impatient with managers' short-term underperformance,” consultant Chu says. “There is a discrepancy between what one thinks and how one acts, leading to the temptation to abandon the model. As a result, people flip-flop. One day, they're sold on a valuation model, but if it doesn't work another day, they change. The trick is to avoid the temptation of the newest and the fanciest.”

She adds, “I don't think there's any consensus right now on what is the best model, and I don't think there should be. After all, if everyone had the same view, then why would the market move?”

Susan Trammell, CFA, provides business plan writing and market research services through her New York, NY, USA, consulting firm.