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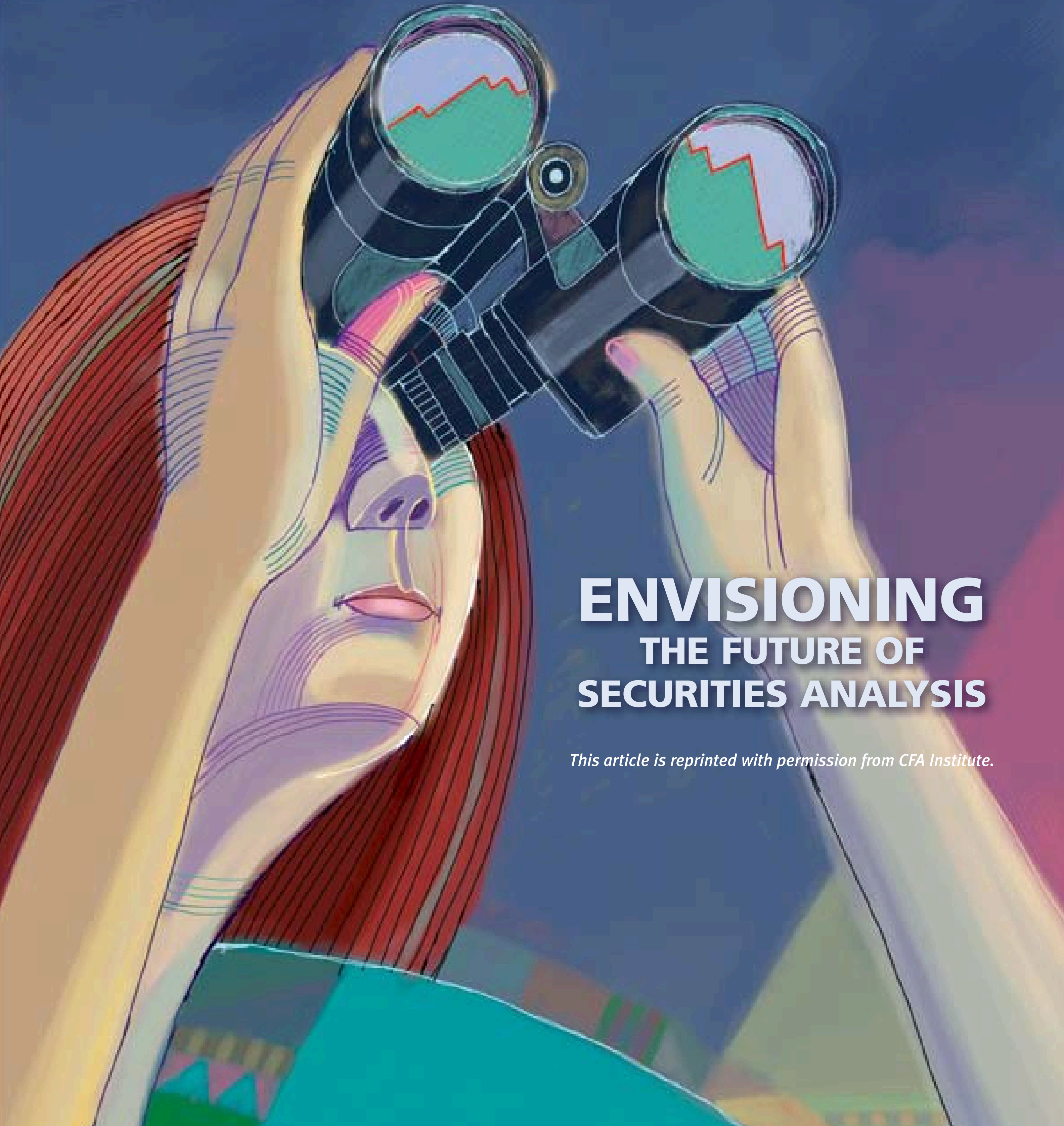

ENVISIONING THE FUTURE OF SECURITIES ANALYSIS

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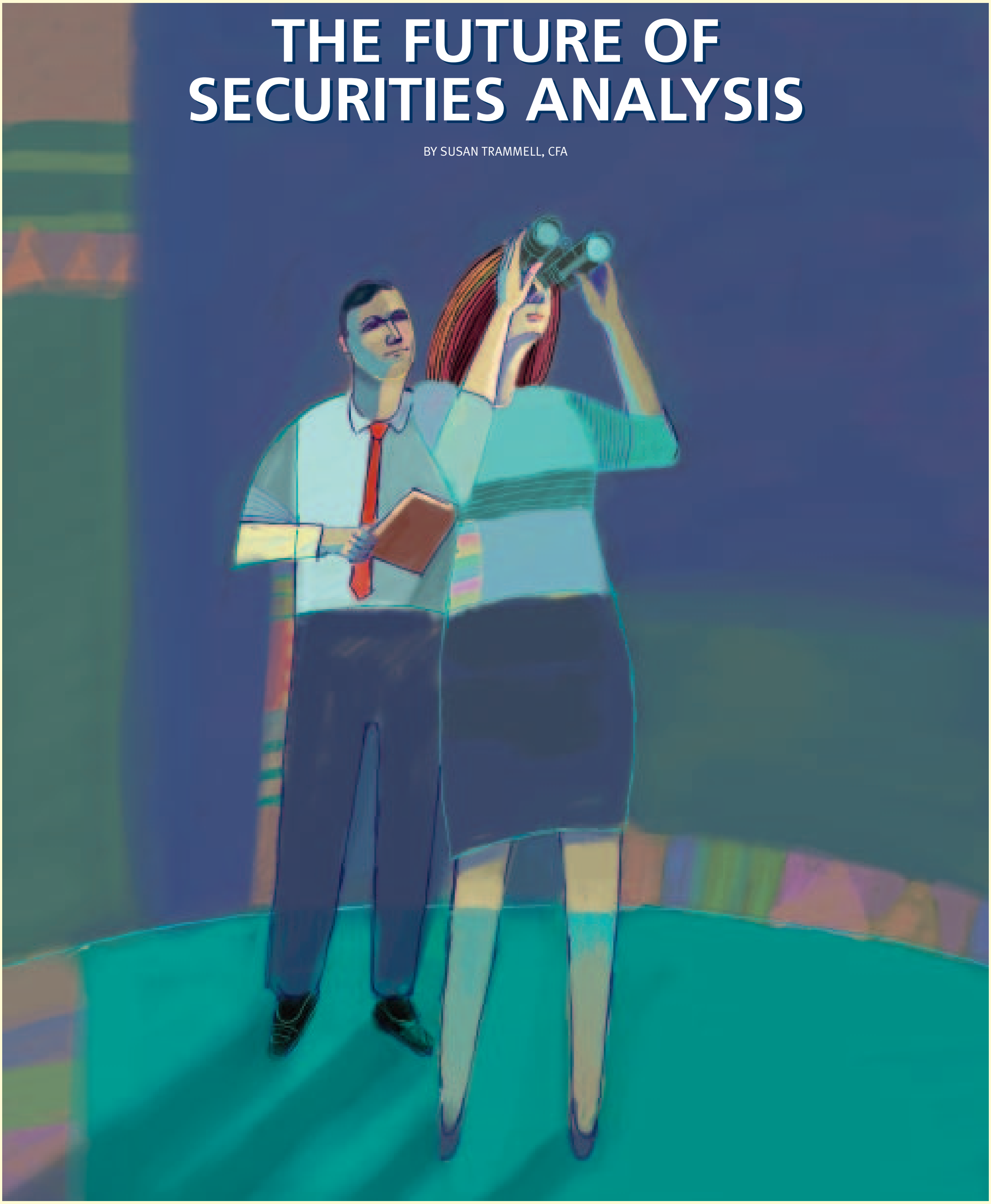
ENVISIONING THE FUTURE OF SECURITIES ANALYSIS

BY SUSAN TRAMMELL, CFA



Illustrations: Robert Meganck

How equity and bond analysts are learning to share information

In the enduringly popular finance novella *The Richest Man in Babylon*, readers are transported back to an ancient civilization where shepherds, bakers, and chariot makers learn valuable lessons in saving, lending, shareholding, and compound interest. There is just one problem with George Clason's 1926 classic: Debt and equity are treated separately, and the markets are evaluated in isolation.

We've come a long way in 3,000 years. Academic research uncovers surprisingly strong links between the two major asset classes. Theoretical models integrate the movement of one to better predict the performance of the other. Equity and fixed-income departments share research on collaborative electronic platforms. Stock and bond analysts collude on trading strategies.

"How do you change the behaviors and the information flows in an organization?" asks Ben Golub, managing director and head of the Portfolio Risk Management Group at BlackRock, Inc. "We've actually architected the company in a way that makes it happen."

THE CARROT, THE STICK, AND GALILEO

BlackRock has created an interactive platform called Galileo, a robust tool used by all the internal credit and equity analysts at the New York-based asset management firm. Galileo aggregates and displays vast amounts of information to facilitate investment manager decision making. The system can present the firm's holdings in a company across all asset classes and parent-child relationships. Galileo also becomes a repository for all BlackRock analysts who follow the company closely, as well as some non-BlackRock research.

"Galileo is designed to create a very interactive environment between the equity portfolio managers, the bond portfolio managers, and their respective credit analysts," Golub says. "We don't pay T&E [travel & entertainment expenses] to an analyst unless they certify that their conference or client meeting report has gone into Galileo. Obviously, we're not trying to deprive people of T&E. We're just trying to make it abundantly clear in the culture that making the information available to a broad circle of users is critical to what we're doing so that there's no 'silo mentality' in how we think about the information," he says.

AN EMPIRICAL LINK

Linking bond analysis with equity analysis (and vice versa) is a natural outgrowth of emerging research on the interrelationship between a company's debt and its equity. One of the most widely used tools is the Merton model and its variants (see sidebars to this article and this issue's featured interview with Robert Merton). In short, the model treats the stock as a call option on the company's asset value, with the debtholder as the writer of the option; the book value of the debt is the option's strike price. Deducting the market value of the equity from the asset value yields the debt's equity-implied spread.

While the Merton model looks at individual companies, other research considers the impact of the broad markets on equity-implied spreads. Using option-adjusted data from nine Merrill Lynch corporate bond indexes, Jing-zhi Huang and Weipeng Kong of Pennsylvania State University looked at five groups of determinants of credit spreads. The selection of equity market variables as the explanatory variables was based on intuition from the Merton model.

They found that interest rate dynamics, equity market volatility and returns, and macroeconomic conditions were largely responsible for aggregate spread changes. In fact, more than 50 percent of credit spread changes in high-yield bond portfolios over the sample period were associated with equity factors. The Russell 2000 served as the market proxy.

"There are other research papers that look at spread changes at the aggregate index level, but the variables used

there cannot explain much of the variation in credit spreads," explains Kong, a doctoral student in finance at the Smeal College of Business at Pennsylvania State University, who was preparing to take the Level III CFA exam in June 2004. "Our findings confirm that credit-spread changes for high-yield indexes are closely related to equity-market factors. There are very few published rigorous analyses of this issue."

HIGH-YIELD BOND ANALYSIS

Kong and Huang's research provides empirical evidence to suppport what high-yield analysts have known all along. "My self-serving view of the world is that high-yield and distressed analysis is very close to equity analysis — except on top of doing everything that the equity analyst has to do, you also have to have a good understanding of cash flow, which historically was not part of equity analysis," says Peter Morris, executive director of Morgan Stanley & Co. International.

A critical point is understanding the value that the stock market puts on a company and then taking a view as to whether it has under- or out-performed companies in its peer group. A handy tool is comparing EBITDA multiples, an income measurement that was invented by the high-yield bond market in the late 1980's, according to Morris. "I've been doing high yield about 15 years now, and again, my self-serving view is that both investment-grade and equity analysis have learned a lot from the high-yield market," he says.

Just like equity analysts, good high-yield analysts (or credit analysts generally) should have their own view on the valuation of a company, Morris argues. When an equity analyst disagrees with the market's valuation of a company, that should lead to a recommendation to overweight or underweight the stock, as appropriate.

Credit analysts, of course, are not paid to make recommendations on stock prices. However, if the credit analyst perceives the equity market's valuation of a company as too high or too low, that is an important point that should form part of his/her view on the valuation of the company's bonds, or the bonds of a comparable company.

"The level of cooperation between credit research and equity research," Morris notes, "is going up all the time."

THE SUBSTITUTION EFFECT

In some sectors, the movement of stocks is so closely aligned with the bond market that one may substitute for another. Australian bank stocks and the Australian long bond are only one example where investment managers can reap superior returns by switching funds into whichever market is cheaper. The correlation between the two is strong enough that when the bond price falls and hence its yield rises, the yield gap between the bond and the equity of Australian banks narrows. This triggers a switch from the banks to the bonds.

MERTON MODEL-STYLE PRODUCTS

Barra Credit (Barra) uses quantitative, market-implied measures of credit risk from the equity, bond, and derivatives markets to give a view of potential defaults sooner and with greater certainty in spite of imperfect information; the equity-implied default probability bridges the strengths of both structural (Merton) and reduced model forms.

CreditGrades (RiskMetrics Group) is a practical implementation of the Merton model that is used to identify trading opportunities and signal adverse credit changes on an individual basis, as well as to aggregate correlated risks across different names and multiple risk categories in a portfolio context.

CUSP (sponsored by Credit Suisse First Boston) offers an interactive Web application that tracks corporate credit spread risk and relative value; the analysis is based on a proprietary structural model calibrated to the capital structure of a firm and various market prices, including credit spreads, equity price, and equity-option implied volatility.

Moody's KMV extends the Merton model by giving users a comprehensive tool set based on 30 years' loss and default data (the world's largest public and private company default and loss database) to measure and manage credit risk, including a pioneering methodology for estimating expected default frequency (EDF).

By being sufficiently grounded in debt and equity markets, managers can also pocket gains from corporate actions that make one part of the balance sheet more attractive than the other. Franki Chung, CFA, an equities fund manager at TAL Global Asset Management Limited (a subsidiary of Canadian Imperial Bank of Commerce, or CIBC), took advantage of such an opportunity in convertible bonds.

"Two years ago, one of the companies we follow went through a difficult time," he says. "Even before it announced a deep discount due to a rights issue, the price of its convertible bonds started to deteriorate. However, given the strong financial background of the parent, we as a team found that the yield and pricing of the convertible was very attractive, especially after the commitment of a major shareholder to the rights issue. In this particular example, we didn't hold the bond to maturity but pocketed some capital gains and got out."

Through the issuance of more shares, equity analysts may find it more rewarding to invest on the convertible side because the discount rate becomes relatively attractive. "Obviously," says Chung, who covers Asia-Pacific (ex-Japan) equities, "we would have missed the opportunity on the debt side if we hadn't followed the stock closely."

CONVERTIBLE-BOND ARBITRAGE

Convertible bonds provide a good starting point to look for opportunities that invoke both stock and bond analysis. Convertible-bond arbitrage funds scour the market for instruments where the attached option is cheap. They buy the convertible and sell the ordinary bond at the same time. The embedded option is sold short, and arbitragers pocket the difference between the embedded and the actual option.

Credit risk is hedged by using a credit default swap. (That is, the bondholder pays what is essentially an insurance premium in the form of periodic payments to a counterparty that agrees to make a contingent payment to the credit holder if the bond defaults.)

TRADING CREDIT SPREADS

When the implied equity spread of a corporate bond is lower than the credit spread of the actual bond, it may be possible to profit from their anticipated convergence. As the gap narrows, the market value of the bond will go up because cash flows are being discounted at a lower rate and the stock price will go down. It may be possible to profit from both ends of the stick by selling the stock short and gaining exposure to the credit risk by selling credit default swaps. When the credit spread narrows, the swap can earn the payments. On the other hand, if the stock goes down, then the short position takes profits.

"Usually, people will not make this bet when there is only a very minute difference between the equity-implied spread and the credit spread of the actual bond," says Raymond Yuen, who was senior economist and finance manager at CLP Holdings Ltd. prior to becoming general manager of Evangel Hospital, Hong Kong. "The spread must be a few standard

MERTON ON THE MERTON MODEL

To understand the Merton Model, *CFA Magazine* went directly to the source to get an explanation:

"The basic idea recognizes Modigliani and Miller's observation that the total of the right side of the balance sheet, liabilities plus equity, is always equal to the total left side of the balance sheet, all the various assets. And that's true both in terms of value but also in terms of risk. In essence, the right-hand side, liabilities plus equity, is really a set of securities or contracts which describe how the total economic benefits of the left side are distributed among them.

"Take the market value of the assets and make some assumptions about the process by which that value will evolve over time, both expectationally and the uncertainty around those expectations. Once you do that, you see that it is very much analogous to a stock in the option-pricing model. Then you ask the question based on the terms of the debt and equity. You could write down what will be the contingent payoffs to each depending on what happens to the value of assets."

deviations because the probability that the gap will narrow will be much higher."

Equity analysts who take the time to track the credit spread of a company's bonds may also gain insight into the stock's performance. "For some companies, the credit spread will change preceding the change in the equity," says Yuen. "The telecom companies are a good example. When the bond prices dropped, the credit spreads increased. This gave us an opportunity to sell short the stock and wait for the corresponding, lagging stock drop."

The research conducted by Weipeng Kong and Jing-zhi Huang into possible determinants of corporate bond credit spreads indicates that, from a risk management perspective, a small-cap equity index fund, such as the Russell 2000, may be used to hedge the equity component of credit spreads for corporate bond portfolios.

A study conducted by Kong, Huang, and Herman Bierens found that the variation in the probability of large credit-spread movements can be captured by the Chicago Board Options Exchange VIX index (a measure of market risk that captures the implied volatility on the S&P 100 option).

When the VIX index trades at a high level in anticipation of, or in response to, turbulent market conditions, there is a high probability that credit spreads will experience large movements. "We found that the two markets are closely correlated," says Kong. "The information in the equity market has a spillover effect on the corporate bond market."

PRIVATE EQUITY WINDOW

The overlap between debt and equity analysis can serve those who invest in private and public companies. Investing in companies that are not quoted on an exchange incurs a certain amount of risk derived specifically from the lack of publicly available information. Sometimes, however, the debt of these private entities will change hands. Since debt stands before equity in the capital structure, the market valuation of a company's bonds provides a window into the value of the equity. If the debt is trading at a steep discount, then the equity may be presumed to be worthless until the bonds recover.

EVER CLOSER

Trading strategies like those discussed in this article are possible only if there is close cooperation between a firm's bond and equity departments. "We believe that the markets are converging and that we will be better bond managers if we link our thoughts and analyses with the equity markets, and vice versa," says BlackRock's Golub. He offers three concrete steps for moving beyond vague promises of collaboration to integrated bond–stock risk models.

First, develop a tight and effective relationship between equity and fixed-income analysts. "Believe it or not, some issuers tell their bond investors different stories than they tell their equity investors. Bond-credit analysts will hear a story of conservatism and stability while the equity analysts will hear growth and acquisitions and ambitious undertakings. Each side at BlackRock needs to know what the other is hearing," Golub says.

"Second, we have totally integrated the information about our holdings for a particular company across the entire capital structure," Golub continues. "By thinking about exposure across the capital structure rather than by type of product, you get a better perspective. Getting access to information about what we own across the capital structure as well as what we *think* about different parts of the capital structure makes it practically possible to take advantage of the fact that you have a bond and an equity department."

The third steps, says Golub, is creating a totally integrated risk model and the development of credit value-at-risk, or VAR, type models — an initiative that BlackRock made a strategic decision to push in 2004. "We're making an investment in larger data sets and professionals with expertise in analyzing those data sets," he explains.

And that may be the biggest factor that leads information in one market to provide useful guidance for another market: the people who use it. "Analyzing companies and developing trading strategies takes hard work," says TAL Global Asset's Chung. "That, and using the tools, such as yield curves and yield-gap charts. Doing a lot of industry and fundamental analysis — the tools are there. You don't have to re-invent the wheel. But if you do your due diligence, pull it all together correctly, and are patient, the rewards are there."

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