Bad Guesses

Rocky Markets Foil Firms' Bets Based On 'Risk Models'

Historically Unlikely Patterns In Stocks or Bonds Waylay EDS, Cigna, Fannie Mae

Double Trouble for Insurers

By Paul Beckett
And Henny Sender

The treasurer of Electronic Data Systems Corp., Scott Krenz, came up with a plan last year to lock in how much EDS would spend to buy shares for an employee stock-option program. Because the plan hinged on the fate of EDS's own stock price, Mr. Krenz factored in a range of possible movements of EDS stock, from a big swing up to a 50% decline. He told directors he saw the chance of reaching either extreme at 5% or less.

Last week, the 5% chance materialized, showing a harsh new side-effect of the weakest U.S. stock market in a generation. As stocks slide, more and more companies are finding that the slim chance of their worst-case scenarios coming true is now a real possibility.

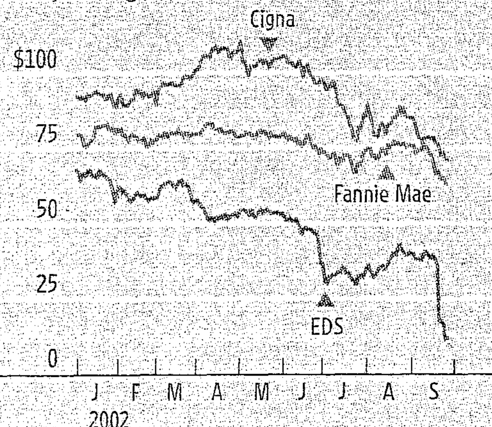
EDS Has Company

- **Potential EDS clients say they're moving forward on big projects, B6**
- **Many companies struck similar deals effectively betting on their stock rising, C1**

Sophisticated computer models used by big companies are supposed to help them plan for all sorts of financial risks. Until lately, these mostly worked well. But models typically use history as the starting point for their predictions. That can give executives false comfort, leaving them unprepared and their companies under pressure when the markets tear up the history books.

For instance, an unprecedented boom in mortgage refinancings due to historically low interest rates—themselves related to weak stock prices—has some investors concerned that Fannie Mae is being tested. The refinancings have created a bigger gap than Fannie Mae would like between the expected lifespan of mortgages on its books and of the borrowing it has done to finance them. Fannie Mae's stock is down about 11% since it announced the news.

And insurer Cigna Corp. recently took a $720 million charge against earnings, which stemmed from its failure to take into account the chance of a long, steep stock-market decline. The decline left Cigna on the hook for insurance it provided to sellers of variable annuities, a hugely popular investment product in the 1990s.



Wrong Bets

Corporate bets have gone wrong at some companies when stock, bond or interest-rate movements tripped up their planning. Among them:

Source: Tradeline.com

Shares in EDS, already battered by a third-quarter profit warning, have fallen further in the past week as news of Mr. Krenz's share-purchase program rippled through the market.

"We're just seeing the beginning unless this economy can pick up," predicts Mike Thompson, market strategist at RiskMetrics Group, a New York firm that analyzes risk. "If this economy persists,

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Rocky Markets Trip Up Corporate Bets Based on 'Risk Models'

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more and more companies' weaknesses are going to be exposed."

Since the 2000 bull-market peak, the Nasdaq Composite Index is down 76%, the steepest, quickest slide in any major market index in history. The Dow Jones Industrial Average is off by more than 32% from its high, its worst percentage decline since the 1970s. Many bonds, in contrast, have soared.

Haunting some investors are memories of the 1998 near-collapse of Long-Term Capital Management. The supposedly savvy hedge fund took huge leveraged positions in a number of markets it believed to be unrelated, so that it wasn't hedged against their all going bad at once. But a default by Russia on the heels of troubles in Asia led to a global flight from all kinds of risk. Many of LTCM's bets soured at once, it couldn't unwind them fast enough, and it survived only through a Federal Reserve-orchestrated bailout by banks and securities firms.

Now, analysts are scouring company reports for clues to who might face the next scrape. Several companies implemented programs similar to EDS's to hedge against their own stock-price movements, prompting concerns some of them could take a hit, too. Both Dell Computer Corp. and Eli Lilly & Co., for instance, have sizeable potential liabilities from similar arrangements. Both say they have plenty of cash should they need it to cover their market positions.

Others on the hot seat include some insurance companies, which are heavily exposed to financial markets. They need investment income from their portfolios of stocks and bonds to pay claims. When both markets are sliding, that is painful enough. Recently, though, many insurers compounded their exposure to the two markets. They've dabbled in the derivatives market that is supposed to provide protection against market drops and corporate-bond defaults.

At General Motors Corp., the stock market's fall has hurt the pension fund. GM's fund, the largest corporate pension fund in the U.S., is suddenly so underfunded that officials recently said it could need up to $12 billion on a pretax basis in contributions through 2007.

Former Surplus

When stocks were strong in 1999 and 2000, the fund had a big surplus over its obligations to retirees. But at the start of this year, those obligations exceeded fund assets by $9.1 billion. After spending billions on stock buybacks in the 1990s, GM is scrambling to come up with cash for the pension fund. It has contributed $2.2 billion to the fund this year and analysts are concerned it may have to inject more if stocks continue to swoon. GM terms the pension situation a "significant but manageable challenge."

As it happens, today's widespread underestimation of risk stems from a big drive in the past decade to get a better handle on risk. In the early 1990s, J.P. Morgan & Co. derived a model called "value at risk" that allowed it to see, on a given day, how much the bank stood to lose if the markets' behavior was consistent with their recent performance. It even gave a specific degree of certainty to executives: 95%.

Soon, banks, financial firms and other companies were using the value-at-risk model, or versions of it, to reassure themselves that they were taking quantifiable and sensible risks. When the economy boomed, all went well. Companies came to use models as justification for building up large concentrations in products and services that were both profitable and supposedly low-risk.

But because many models make predictions based on markets' past behavior, they can be caught off guard by unusual market moves. "A lot of the value-at-risk stuff was invented by mathematicians who don't know anything about the markets," says former Fed Chairman Paul Volcker.

At RiskMetrics—a 1998 spinoff from J.P. Morgan—Mr. Thompson says the models weren't meant to be used as crystal balls but only as a first step in a company's risk-management process. "You still need people to sit there and come up with scenarios for events that haven't happened, could happen—and could become a shock event that could completely change the market environment," he says.

Risk models have been especially poor at predicting events in the credit market. To gauge chances a corporate bond will default, many investors use their own computer models, adapted from models designed by credit-raters such as Moody's Investors Service. The rating-agency models typically have used historical data to get a handle on the future. But history hasn't been much of a guide of late. Some models, for instance, show a historical default rate of about 1.6% for all corporate bonds.

The corporate-bond default rate now has hit twice that. Many defaults have even come at companies that had been rated investment-grade. In the second quarter alone, 60 U.S. and foreign companies defaulted on $52.6 billion of rated debt, easily surpassing the $38 billion in the first quarter, which was itself a record, according to data from Standard & Poor's Ratings Service.

Defaults also are happening in record time. In 2000, bonds of a host of investment-grade companies that faced asbestos-related liability, including Owens Corning, went into default in a matter of months. This year, WorldCom Inc. was rated as investment grade three months before its collapse. Calpine Corp. went from investment grade to a "D" rating, the lowest possible, in just four months.

"The [ratings agencies'] models have performed extremely poorly," says Boaz Weinstein, head of credit derivatives trading at Deutsche Bank Securities in New York. "They have underestimated both the frequency of default and the severity of defaults."

David Hamilton, who runs Moody's bond-default research group, defends the agency's model, saying, "While defaults have been higher than average, if you look at 30 years' history, there is always a range of default rates, and current rates are not beyond the statistical norm."

Anomalies can be especially problematic for the insurance companies that sell bond investors protection against defaults. To make money in that business, the insurers must price the protection correctly. But many didn't count on this level of defaults.

The companies that provide such protection—including MBIA Inc., Ambac Assurance Corp. and Financial Security Assurance Holdings—once insured investors against defaults in stodgy investments such as municipal securities and money-market funds. But they expanded into providing protection on more sophisticated and much riskier securities, such as bonds that are issued based on pools of corporate debt and derivatives. So far, the companies have provided insurance on $155 billion of these so-called collateralized debt obligations.

"As an industry, everyone has been too optimistic," says Gary Dunton, president of MBIA. "We look at the worst probable risk, not the worst possible risk."

He adds that MBIA, which has seen its stock slide recently, has learned its lesson and is now very comfortable with its ability to assess risk. It no longer offers protection against bonds issued by a single company, because "the model was not built to withstand" the high level of corporate defaults, he says. Now, he says, only a "depression scenario" would cause losses.

> 'If this economy persists,' says a market strategist at one risk-model firm, 'more and more companies' weaknesses are going to be exposed.'

Shares in Cigna, meanwhile, have lost about 11% in the past three weeks, since the insurer said it would take a $720 million charge to finally hedge its exposure against the falling market.

Between 1995 and 1998, Cigna, by selling reinsurance, promised to cover losses incurred by life-insurance companies that were selling variable annuities. The annuities work like mutual funds with the added feature that if the holder dies, beneficiaries receive at least the original investment.

Cigna guaranteed that death benefit and didn't take out protection against its exposure because, like many, it didn't foresee stocks' steep declines. When the market fell, so did the value of the mutual-fund portion of the annuity, leaving Cigna responsible for making up at least the difference between the original investment and its value when the policyholder died. Cigna has since stopped providing such reinsurance. A Cigna spokesman said no officials were available to comment yesterday.

At EDS, meantime, a third-quarter profit warning a couple of weeks ago triggered a plunge in the Plano, Texas, company's stock. It fell again a few days later on news of the ill-fated plan by EDS to lock in the price of shares it expected to buy to give employees who exercised stock options.

The company uses the value-at-risk model, as well as several others, for financial planning. Last year, before putting in place its plan to lock in a stock price, EDS ran through se[illegible]al scenarios under which the move [illegible] look either very smart or very [illegible]rassing. Then, over six months beginning last December, EDS arranged financial instruments called "puts" and "capped collars" that locked in the price it would pay for the shares at around $62, regardless of what happened to EDS's stock price.

Stock Slide

It's not surprising that EDS executives felt confident that their risk assessment was sound: EDS's share price had been rising for years. But the stock began to slide in the late spring as corporate buying of information technology slowed. When it fell further on the earnings warning, it hit a trigger point in the financial instruments that forced EDS to pay out $225 million. The company's shares now stand at just under $13.

Fannie Mae has seen its share price drop for different reasons. Fannie Mae is highly regarded as a manager of risk. But some investors fret that Fannie was caught off guard by the size of the boom in mortgage refinancings, as home buyers in droves took advantage of falling interest rates.

Fannie Mae's most lucrative business is purchasing mortgages issued by other banks: Its mortgage portfolio stands at around $750 billion. The relationship between its assets (the money it receives from mortgage payments) and its liabilities (the money it owes on the debt it has issued) is finely tuned and key [illegible] company's success. So the co[illegible] seeks to keep the difference between the average length of its assets and liabilities—the so-called "duration gap"—to a minimum. The gap is usually no more than six months. But in August, it widened to the point where Fannie's average liabilities outlasted its assets by 14 months.

The reason: Mortgage refinancings tend to shorten the average life of Fannie Mae's assets because mortgages it holds are effectively paid off early, and the new mortgages don't replace them immediately but lag by a couple of months.

A Fannie Mae spokeswoman says those refinanced mortgages will help close the gap when Fannie gets hold of them. But some analysts say the company has been, and may still be, too reliant on a bet that interest rates will go up, a move that would slow the refinancing frenzy. Investors' concerns were heightened after an analyst at Merrill Lynch & Co. downgraded the stock to "neutral" from "buy," a blow for a company whose stock had previously enjoyed almost universal Wall Street endorsement.

"They have become a giant bet on interest rates," says James Bianco, president of Bianco Research, a research firm in Chicago. "So much for their superior diversification."

Peter Niculescu, Fannie Mae's senior vice president of portfolio strategy, rejects this analysis. "We're not in th[illegible] tion of taking bets of any type," h[illegible] "We are a very conservative risk-management organization."