

TWO

Faulty Financial Engineering

Taking a Shortcut Through the Numbers

“The two most dangerous words in Wall Street vocabulary are ‘financial engineering,’” said Wilbur Ross, the turnaround specialist.¹ Warren Buffett refers to derivatives as “financial weapons of mass destruction.”²

It wasn't always so. Originally, the term “financial engineering” evoked images of Wall Street math wizards taming the vagaries of risk by conjuring up esoteric financial instruments, in the process creating liquidity and enabling markets to function well. From 1987 through 1996, the average worldwide growth rate in the face value of the major forms of derivatives was 40 percent a year, according to *CFO* magazine. Paul Kasriel, director of economic research at Northern Trust, says profits from the financial sector now account for 31 percent of total U.S. corporate earnings—up from 20 percent in 1990 and 8 percent back in 1950. Profits from this country's financial engineers now far exceed those generated by mechanical engineers.³

As the wizardry spread, however, nasty surprises occurred—even before the subprime mortgage disaster that shook the financial world beginning in 2007 and 2008. Barings Bank, once the oldest merchant bank in London, collapsed in 1995 because of \$1.4 billion in losses by one rogue trader, Nick Leeson. ING, a Dutch rival, bought Baring for one British pound. Long Term Capital Management, a hedge fund founded by legendary bond trader John Meriwether and whose partners included Nobel Prize winners in economics, dazzled with 40 percent-plus annualized returns in its first few years before losing \$4.6 billion in the course of a few months in 1998. (While LTCM claimed the market had become

irrational, it's worth remembering John Maynard Keynes's observation that "the market can stay irrational longer than you can stay solvent."⁴ In general, it only takes a few bad bets in the trading business to lose billions, as happened in 2006 when the Amaranth hedge fund lost almost \$6 billion and was liquidated because it, essentially, lost some highly leveraged bets on the weather.

The wizardry spread from Wall Street into the rest of corporate America, where companies increasingly used financial and accounting techniques to enable broad corporate initiatives, such as restructuring, increasing financing available to customers, funding new ventures, and hedging operational risk.

Problems have shown up in the non-Wall Street crowd, too. Companies get sucked into the idea that they'll indulge in some creative accounting, but only briefly, until the business clears some hurdle and earns its way out of the current difficulties. But the one or two quarters of aggressive accounting can become three or four, then become a way of life—until disaster strikes. That disaster can sometimes mean regulatory censure and fines. In extreme cases, à la Enron Corporation, the aggressive accounting can turn into fraud and jail terms. But even if the accounting stays just this side of the line, once investors learn about it they can still punish a company severely.

Every once in a while, you even see a company that manages to come out the other side after a period of creative accounting. AOL's profits for years came from financial chicanery. The company blanketed the world with free introductory CDs to get people to sign up for its service but didn't absorb the costs as expenses right away. AOL capitalized the expenses, spreading them out over several years. The theory was that AOL was attracting customers who would be with it for years, so it was fair to defer much of the expense of acquiring those customers. The problem was that the average person who signed up because of AOL's free discs didn't stay with the company for even a year. The SEC investigated, eventually fining AOL \$300 million and issuing a stinging rebuke in 2005, but by that point AOL had become a legitimate business.

But there have been enough failures associated with financial engineering that it's worth distinguishing, in Warren Buffett's words, acceptably aggressive accounting from attempts at alchemy. In the end, as

Buffett once wrote his shareholders, alchemy fails. Financial alchemists may become rich, but gullible investors rather than business achievements will usually be the source of their wealth. We're interested in spotting the alchemists and helping both executives and investors head off inherently flawed financial engineering strategies *before* they wreak havoc.

We'll begin with a story that, had it been studied by subprime mortgage lenders, would have warned of how mortgage lending can become so addictive that financial institutions can stop paying much attention to whether borrowers will ever pay off their loans.

Green Tree: Long-Term Loans on Short-Term Assets

Green Tree Financial Corporation was a darling of both Main Street and Wall Street through most of the 1990s. Through a number of financial innovations, it made trailer-home ownership more accessible to low- and middle-income people. This fueled a boom in trailer-home sales, also known as manufactured housing. From 1991 to 1998, annual sales of trailer homes in the United States more than doubled, to 375,000. In 1992, Green Tree lent \$1.2 billion. In 1996, Green Tree lent four times that amount. At its peak, Green Tree financed more than 40 percent of the trailer homes sold.⁵

Green Tree's efforts were rewarded. Between 1991 and 1997, Green Tree's profits jumped sixfold, to \$301 million. Its stock jumped thirtyfold. Lawrence M. Coss, Green Tree's chairman and chief executive, took home \$200 million in pay during the boom. In 1998, Conseco Incorporated agreed to buy Green Tree for \$7.6 billion.

The problem was that Green Tree was a house of cards, built on financial engineering that could not withstand the test of time. Conseco eventually wrote down almost all the profits ever recorded by Green Tree. Conseco then declared bankruptcy in 2002, in large part because of the problems it bought from Green Tree. As of September 2004, Green Tree and Conseco had accounted for 20 percent of all defaults of S&P-rated residential mortgage-backed securities.⁶

Green Tree's first financial innovation was to offer thirty-year mortgages instead of the fifteen-year terms that had been standard, thus making the monthly cost of ownership comparable to renting. Buyers loved the new mortgages. By 1997, the average Green Tree loan had a term of about twenty-five years, up from thirteen years in 1987.⁷ Green Tree was lauded for making ownership an option for so many.

The innovation had a fatal flaw, however—one that should have been obvious to all concerned. Unlike conventional homes, which generally appreciate in value, trailer homes lose their value over time. Trailer homes are more like cars, which start losing value as soon as they leave the showroom floor. Trailer homes have a life span of ten to fifteen years—not thirty.

The value of a trailer home drops rapidly, but on a thirty-year loan, the principal balance shrinks very slowly. On a typical \$50,000 mortgage, after five years the borrower still owes \$49,000 in principal. In other words, after a few years, the owners are “upside down” in their loans; they owe far more than their homes are worth.⁸

Additionally, while a thirty-year loan at 13 percent annual interest requires a monthly payment of just \$553, versus \$633 for a fifteen-year loan, a borrower will pay an extra \$85,000 over the life of the thirty-year loan.⁹ That is something that many buyers of trailer homes could ill afford, making loan defaults even more likely.

“A lot of times, those folks are better off just filing for bankruptcy, so they can just start fresh,” said Mark Tesh, a credit counseling director for a nonprofit family counseling center in Greenville, South Carolina. Tesh said his clients were often financially unsophisticated and focused only on their monthly payment, not the risks of signing a thirty-year note on a wasting asset. “A lot of folks that get into the mobile-home scenario, they get into it initially because it’s more affordable,” he said. “They honestly don’t realize that a mobile home is going to depreciate. Most of them learn the hard way.”¹⁰

Like lenders in the more recent subprime mortgage crisis, Green Tree used securitization to drastically increase the funds available for lending. It bundled thousands of small loans into a pool worth hundreds of millions of dollars. It then divided this pool into a series of bonds and sold them, promising to pay interest on the bonds from the interest it collected

on the loans. Unlike many other lenders, Green Tree didn't sell the loans themselves. Instead, it held on to them to maximize the profit on the spread between the mortgage interest and the bond interest rates. (Green Tree typically charged borrowers 12 percent to 13 percent and promised to pay its bondholders about 9 percent.¹¹) In addition, holding on to the loans allowed Green Tree to reap the processing fees from servicing the loans.

It also meant, of course, that Green Tree held on to the risk associated with the mortgages. But as long as the bonds had ready buyers, Green Tree had ready access to financing for as many loans as it could generate.

Green Tree used the aggressive "gain-on-sale" accounting method to record profits. Most lenders record profits on loans as they are repaid, which means that they book actual profits after defaults, prepayments, and other transaction costs. Green Tree, instead, calculated how much money it expected to make as the loans were paid back in the future and, when it finished each round of securitization, booked that as profit. Profits, therefore, depended on its own forecast of defaults and prepayments rather than actual performance.

Even for the most sophisticated modeler, such forecasts are extremely difficult. They depend on deep understanding of the borrowers' credit risk. They also require accurate forecasts of interest rates and economic conditions during the long life of the loan. A large drop in interest rates would spark refinancing and prepayments. An economic slowdown would affect borrowers' ability to pay, leading to a rise in defaults.

The advantage is that gain-on-sale accounting allowed Green Tree to show explosive growth and to essentially decree its profits. The estimated profits would, of course, have to be reconciled with actual performance at some point. But that might not be for years down the road. In the short term, Green Tree would have almost unlimited wiggle room.

In a different context, Warren Buffett laid out the dangers of this sort of accounting, using his trademark homespun language. Buffett noted that accounting theory says that companies are supposed to "mark to market" their securities, such as those Green Tree issued. In other words, if something is carried on the books as being valued at \$100 million, and it suddenly becomes worth \$50 million, the owner needs to mark down the value of the asset and take a \$50 million charge against earnings. If

the value goes up by \$50 million, then the company records a \$50 million gain. Companies have leeway on when they have to recognize the gains and losses, but the really squishy stuff happens when it isn't clear what the value of the securities are. With sophisticated financial instruments such as those generated by Green Tree—or, more recently, the subprime lenders—companies may “mark to model” their securities. But Buffett said we might as well call the practice “mark to myth,” because companies get to generate the models that determine the value of the securities. He said the difference between the amount of the asset carried on the books and the actual amount that could be realized in a sale, in specialized markets that can freeze almost instantly, is the “difference between what purports to be robust health and insolvency.” He added: “I’m sympathetic to the institutional reluctance to face the music. I’d give a lot to mark my weight to ‘model’ rather than to ‘market.’”¹²

Whatever the dangers down the road, gain-on-sale accounting meant that, as long as Green Tree could find more borrowers, it could record higher profits. “When you’re running a gain-on-sale shop, it’s based on volume,” said Bruce Crittenden, who became president of the business after it was bought by Conseco and renamed Conseco Finance.¹³

When profits are based on loan origination rather than the long-term performance of the loan, the unfortunate consequences are predictable. Investment bankers even have an acronym for it: IBG YBG, which stands for “I’ll be gone, you’ll be gone.” It means that even though there might be long-term problems with a deal, the folks putting it together will have reaped their profits and be long gone.

In the case of trailer homes, IBG YBG motivations applied to everyone except the hapless borrower and the long-term note holder. Dealers stood to make \$10,000 or more on every \$50,000 trailer-home sale. They therefore had every incentive to help even unqualified buyers purchase new trailer homes. “It was easy,” one dealer said. “The lenders were as greedy as hell.” Lenders made loans with as little as 5 percent down, or less. There were reports that if would-be borrowers could not come up with a down payment, the dealer might tell them to bring in a used gun worth \$200 and buy it from them for \$2,000, then let them use that for the down payment.¹⁴

Dealers felt that lenders cared more about quotas than the quality of the loan. That is because they did.

Loan agents, to meet targets, would accept loans that didn't meet the company's credit criteria, especially near the end of each month. "There was pressure," one loan processor said. "The whole office was pushed to the maximum."¹⁵

Meanwhile, company executives were compensated based on profit, so they had extra incentive to keep the pressure on and keep cranking out the loans. Much of the \$200 million of compensation paid to Coss, the CEO, was tied to Green Tree's reported profits.

In 1997, Green Tree's intricate design began to unravel as it became clear that it had overestimated its gain-on-sale profits. Both factors that were key to its rosy calculations turned against it. First, long-term interest rates started dropping, leading to a rash of early loan payoffs as borrowers refinanced. Second, loan defaults started rising. This was predictable as well. Borrower defaults tended to rise in years three to five of the loan, as overstretched borrowers grappled with the fact that their loans were upside down. And huge numbers of loans created by Green Tree's aggressive lending policies were reaching that age. In November 1997, Green Tree took a \$190 million pretax write-off. Two months later, it wrote off a further \$200 million.

Green Tree's stock took a beating. Even more damaging, commercial rating agencies downgraded its short-term commercial paper. Green Tree sold short-term notes to finance mortgage loans until it gathered them into big enough pools to securitize and sell. The write-offs and downgrading scared off the buyers of these notes. Suddenly, with no way to roll over its short-term debt, Green Tree faced default.

Then something strange happened.

A white knight emerged in the form of Conseco, an Indiana-based life and health insurer. Steve Hilbert, Conseco's founding CEO, had built Conseco by absorbing more than forty insurers over the previous seventeen years. He successfully folded his acquisitions into a superefficient consolidated back office. From 1987 to 1997, Conseco finished with a higher return than any other Fortune 500 company, as its stock gained a remarkable 52 percent per year.

Hilbert had already been attracted to Green Tree for several reasons. Green Tree had a 30 percent growth rate, whereas Conseco had well-run insurance businesses with more modest growth. Both companies served

middle-market customers. And Hilbert thought there was a good cultural fit. “I realized not only that their market was our market,” he later recounted, “but that their culture was our culture.”¹⁶ Hilbert thought that acquiring Green Tree would allow the creation of a broader financial-services company—a financial-services Wal-Mart for middle America.

So, as Green Tree’s fortunes sank and most others saw a distressed asset, Hilbert saw the key to his adjacency strategy become available and, in pursuit of that strategy, made just about every mistake that can turn an adjacency move into a disaster. (For more on the potential problems with adjacency strategies, see chapter 5.)

Given their relative bargaining positions, it is all the more amazing that Coss, a former used-car salesman, got the better of Hilbert, a legend in the insurance business and an accomplished acquirer of companies. The two CEOs met to discuss the potential acquisition for the first time on March 30, 1998, just weeks after Green Tree’s second major write-down. Coss had made Hilbert ask three times before he agreed to a meeting. Once in negotiations, Coss convinced Hilbert that there were other suitors; that an imminent bond and stock offering would, in any event, preclude Green Tree from needing any deal; that Coss would not consider any offer that set a stock price that didn’t begin with a “5”; and that Consecoco had just seven days to come to a deal.¹⁷

Never mind that Green Tree’s share price was hovering in the \$20 to \$30 range and had never closed above \$50; that the imminent debt offering was at expensive junk-bond rates; and that there were no other serious suitors.

Eight days after the initial meeting, Consecoco announced that it had agreed to buy Green Tree for \$53 a share, or \$7.6 billion. The stock’s most recent trade had been at \$29.

Many observers had a dim view of the prospects of the combination. The markets drove Consecoco shares down 15 percent on the day of the announcement. The drop in Consecoco shares knocked \$1.1 billion off the deal price.

Consecoco must have done some due diligence since the first meeting, as it announced along with the deal that it was lowering Green Tree’s forecasts and that more write-downs were coming. But Hilbert insisted the market was wrong in taking a negative view of the deal. “Wall Street sometimes takes a day or two to be fully enlightened,” he said.¹⁸

It turned out that the market was actually much too optimistic. Over the next several years, Consecos share price plunged 90 percent. As evidence of how hard it is to change course, Consecos continued to use the Green Tree model and actually increased the number of loans it made after the acquisition. It financed \$6.3 billion in new trailer homes in 1999, 41 percent of the national total. But the quality of these loans was even worse than before the acquisition, and defaults mounted. Consecos ultimately wrote off almost \$3 billion related to Green Tree, which essentially erased all profits earned by the unit between 1994 and 2001.

Hilbert resigned in April 2000, with Consecos shares at \$5.63, down from \$57.74 on the day before it announced the Green Tree deal. (Hilbert received a \$72 million severance package. In sum, his pay from 1993 to 2000 was \$530 million.¹⁹) Consecos filed for bankruptcy in December 2002. Its bankruptcy was the third largest in U.S. history to that point.

RED FLAGS

The rise and fall of Green Tree Financial and its ensnaring of Consecos embody the key shortcomings of financial engineering failures that we found in our research:

- Financial engineering strategies can produce inherently flawed financing products that are attractive to customers in the short term but expose the seller (and often the customer) to an incommensurate risk of failure over time.
- The strategies can produce hopelessly optimistic levels of leverage, leaving the company unable to withstand normal changes in market conditions.
- The strategies can depend on aggressive and unsustainable financial reporting, which draw regulatory scrutiny and ultimately shatter market confidence. (The latter can be more devastating.)
- The strategies can result in positive feedback loops, motivating further engineering to continue the gains and, eventually, causing the system to implode.

Flawed Financing

The seeds of Green Tree's demise were built into the very fabric of its mortgage product. Regular home mortgages, even subprime mortgages, are backed by the home as collateral, and homes usually appreciate over time. Even if they don't, homes tend to keep much of their value. Mortgage holders therefore have every incentive to maintain the mortgage to hold on to their assets. In case of default, much of the loan value can be recouped through resale of the property. By contrast, while Green Tree's borrowers had some incentive to maintain their loan and keep their credit in good standing, any economic hardship tended to tip the balance and make it sensible, even necessary, to walk away from a loan that greatly exceeded the value of the trailer home. When they did so, the underlying collateral did not cover the cost of the loan.

Green Tree, of course, took some of this into account. Its forecasting models predicted a 25 percent default rate. But even this high default assumption was not enough to protect Green Tree from the upside-down economic realities of its lending model. By early 2002, Conesco said it expected a 37.6 percent default rate. Some analysts said the rate could be as high as 50 percent.

The retailer Spiegel Incorporated provides another example of flawed financing.

Spiegel was founded as a furniture store in downtown Chicago in 1865 by German immigrant Joseph Spiegel. The company issued its first catalog in 1905, offering credit services through the mail. Long focused on catalog sales, Spiegel grew into a diversified retailer offering men's and women's apparel through Spiegel, Eddie Bauer, and Newport News brands. By 2000, revenue topped \$3 billion, with sales occurring through catalogs, the Internet, and retail stores.

In the late 1990s and early 2000s, though, the company faced declining market share and low profitability because of sustained pressure from specialty catalogs for decades and, more recently, the appearance of new competitors online. Worse, SG&A expenses (selling, general, and administrative expenses, an income statement item that is a rough estimate of the cost of sales) increased every year from 1996 to 2001 as a percentage

of retailing revenue. The percentage peaked at 52 percent in 2001. In other words, greater levels of advertising, catalog distribution, and other types of marketing were required to achieve the same amount of sales.

Rather than take some fundamental step to, perhaps, change its merchandise to deal with the growing competition, Spiegel boosted sales by aggressively granting credit financing to its customers. In 2001, 75 percent of sales from the Spiegel catalog and Spiegel store locations were made on Spiegel cards. In addition to increasing retailing revenue, a lenient approach to credit generated financing revenue. Without the profit from its financing arm, Spiegel would have had operating losses from 1996 to 2001. In other words, all earnings came from the credit-card operations.

Spiegel was also aggressive about reporting those credit-card earnings. When companies extend credit, they set up a provision for potential bad debts. Visa cards, known to employ strict criteria, expected around 6.7 percent of balances to default during that period. Target maintained a provision of 6.4 percent. But, in 1999, Spiegel's provision was just 2.4 percent; in 2000, the provision was 1.3 percent.

When the true circumstances came to light, analysts estimated that Spiegel had an actual default rate of 17 percent to 20 percent. Spiegel's 2001 financial statements, filed a year late because so much of the accounting had to be revisited, showed \$112 million in losses related to financing.²⁰

An independent court-appointed examiner later found that Spiegel had withheld information about its deteriorating credit situation and may have manipulated its disclosures to keep from going bankrupt. The examiner also criticized KPMG, Spiegel's auditor, for standing by as Spiegel violated securities law.

"They basically jacked up their sales by lending more to people with bad credit," one industry analyst observed. "It's one of those retailing things that just gets repeated and repeated."²¹

Spiegel filed for bankruptcy in 2003. All shareholders, including the majority owner, who had a 90 percent stake in the company, lost their shares to debt holders during the bankruptcy.

A gradual slide toward ever more lenient credit also sank Heilig-Meyers *even though its home-furnishing market was booming at the time.*

Founded in 1913 in Goldsboro, North Carolina, Heilig-Meyers

Company grew to a chain of 1,249 stores with \$2.4 billion in revenue at its peak in 1998. Throughout most of its history, the company followed a consistent, winning strategy. It opened or acquired stores in small towns and rural markets at least twenty-five miles from large cities. Competition in these markets largely came from locally owned stores that generally lacked the financial strength to compete against the much larger Heilig-Meyers. It would then attract customers by granting easy credit through an in-store installment payment plan. “We used to call Heilig-Meyers a bank disguised as a furniture retailer,” one analyst said.

For a long time, Heilig-Meyers’s credit-based model was not only a source of profit but also of company pride. The company saw itself as being part of the fabric of local communities, serving customers who might not otherwise be able to afford the furnishings it sold. Store managers usually came from the community, were extensively trained, and, if they met incentive targets, were often among the highest paid in the community.

Much of those targets revolved around Heilig-Meyers’s installment credit programs, which were administered at the store level. Local managers were responsible for extending credit, and company guidelines gave them latitude to tailor terms according to individual customers’ ability to pay. Collections were also managed at the store level, with many customers coming to the store to make payments once or twice a month.

It was a winning strategy. In its first seventy-two years of existence, as the chain grew to become the largest publicly traded home-furnishings retailer in the United States, Heilig-Meyers never closed a store for non-performance. Almost 90 percent of the company’s three hundred thousand customers were using its credit plans to make purchases, paying annual financing charges of as much as 24 percent. Income from credit came to 16 percent of total revenue.

Problems arose in the early 1990s as Heilig-Meyers mismanaged both opportunities and threats. After an aggressive round of acquisitions and expansion, the chain was reaching a saturation point in its core geographical markets in Mid-Atlantic and Southeast states. At the same time, credit-card companies began aggressively issuing cards to Heilig-Meyers’s traditional customer segments, giving potential customers more financing options beyond the company’s installment plan.

Heilig-Meyers responded in two ways, both of which were disastrous.

Taking advantage of its strong balance sheet and superior access to capital as a public company, Heilig-Meyers expanded further, this time moving into unfamiliar geographies and, despite its long-standing rural focus, into metropolitan markets. Encountering the sorts of problems with an adjacency strategy that we explore in chapter 5, Heilig-Meyers expanded into and retreated from numerous markets, including California, Chicago, and Puerto Rico. It bought and divested several upscale brands. In the process, it piled on a mountain of debt. Having acquired hundreds of home-furnishing stores, it found that many customers didn't like the changes it made to fit the companies into the Heilig-Meyers family. For instance, in 1996, Heilig-Meyers bought Rhodes Furniture, the fourth-largest furniture chain in the country, with \$430 million in annual revenue, and made the Rhodes stores more upscale. Customers hated the changes and deserted. Heilig-Meyers sold Rhodes in 1999. Rhodes went bankrupt in 2004.

Heilig-Meyers also extended financing to more marginal customers, that is, customers who still did not qualify for major credit cards. This was at the same time that personal-bankruptcy laws were being relaxed. Customer-financing defaults surged. The company's president estimated that one out of every nine Americans who went bankrupt in 1997 owed money to Heilig-Meyers. The company reported that losses on credit extended to customers ran at 6.5 percent of the total extended that year, some 45 percent higher than long-standing historical averages.²² In August 2000, facing insurmountable debt payments, the company filed for bankruptcy. It soon took a \$575 million charge, wiping out almost all remaining shareholder equity. Of that amount, \$303 million was attributed to cleaning up and discontinuing the in-house credit program.

Ironically, Heilig-Meyers's demise came at a time when U.S. home sales were booming and homeowners were spending record amounts for repairs and refurbishing. The company should have been thriving. As one industry analyst observed, "The great pity is that they did not know how to take advantage of their advantages."²³ Another commented, "We've seen this kind of thing before, when the sale takes precedence over the credit concerns. It's highly conducive to bad underwriting."

Hopelessly Optimistic Leverage

Leverage, the practice of borrowing to finance further investment, acts as an amplifier. Used properly, it provides working capital that boosts the returns on good strategies. But, of course, leverage cuts both ways. It amplifies weaknesses and, in bad times, limits flexibility and accelerates the onset of failure.

Green Tree's model shows just how vulnerable companies can be when the tide turns. The model was both elegant and preposterous. Elegant because, in good times, Green Tree could borrow funds in the market for short-term commercial paper and pay 3 percent to 5 percent in annual interest, then turn around and lend those funds as mortgages and charge 13 percent annual interest. Green Tree would bundle the mortgages and sell securities based on them, book its profit, then start all over, this time at greater scale. It was a well-oiled moneymaking machine as long as there was confidence in the underlying assets. But the model was also preposterous because the machine seized up almost as soon as the flaws in the underlying mortgage product appeared and Green Tree's write-downs began. Being so highly leveraged almost immediately threatened Green Tree with default, closing off options and shortening the time it had to respond to adversity.

Stripped to its essential elements, whether or not some amount of leverage is appropriate comes down to a straightforward question: Will future cash flows be sufficient to cover the debt schedule, after factoring in reasonable and necessary costs for operating the business? Addressing this question, however, opens up boundless room for creative financial engineering and no lack of opportunity for alchemy and the manifestation of IBG YBG behavior.

The 1989 bankruptcy of Revco Drug Stores Incorporated illustrates the point. Revco was taken private in 1986 in a \$1.4 billion leveraged buyout that was one of the largest LBOs to that point. Even though the company had been on a two-year slide, the price was a 48 percent premium over the average share price of the prior twelve months and a 71 percent premium over the price at which Revco bought out significant inside shareholders just eighteen months earlier. To justify the price, the deal engineers at

Salomon, Revco's adviser, and Wells Fargo, the lead agent, made optimistic assumptions about Revco's future earnings. These advisers—who stood to get paid only if a deal happened—assumed a base case of an 8 percent profit margin, before interest and taxes. That assumption, however, was almost double Revco's average margin of 4.2 percent over the previous two years. It was also a level of earnings that Revco had achieved just once in the previous dozen years and was 35 percent higher than the industry average margin over the previous twelve years. Deal engineers also forecast that Revco would grow 12 percent annually, even though the company had forecast just 9 percent. The “worst-case” scenario used Revco's historical growth rate of 8 percent, thus not allowing for even the remotest chance that there would be a continued decline in company performance or a recession (both of which happened).²⁴ Another investment bank, Goldman Sachs, advised Revco's outside directors that the deal's assumptions were “a bit aggressive” but were “realistically attainable.”²⁵

Grim reality set in almost as soon as the deal closed on December 29, 1986. Revco missed the forecasts for *that* quarter by almost 50 percent. In March, Sidney Dworkin, the Revco CEO who had led the deal, stepped down. Revco met \$132.5 million in scheduled debt payments in that first year, but at the expense of needed working capital. It was unable to stock up for the December 1987 Christmas season. Many items were out of stock, and estimates are that as much as 20 percent of appropriate inventory was not available in stores. In June 1988, Revco missed its first interest payment. It filed for bankruptcy in July 1989, just nineteen months after the LBO.

The failure of the Revco LBO exemplifies the problems with how leverage is typically engineered. The obvious problem is IBG YBG, which means advisers, bankers, and other third parties may be more interested in seeing the deal done than done right.

Another, usually hidden, problem is that the case-based scenario analysis, even if it had contained more realistic assumptions, didn't offer any recognition of the deal's sensitivity to changes in the assumptions. In other words, having best-case, base-case, and worst-case scenarios didn't shed any light on how changes in key variables such as margin, growth, and asset sales would affect the timing, probability, and severity of a default. A similar problem holds true for standard measures of debt

tolerance, such as debt-to-equity ratios. Ratios are point-in-time measures, whereas the real issue is the payment schedule over months and years, as mortgage holders with balloon-payment schedules well know.

Had the deal engineers been more honest about the problems facing Revco, the deal—and the bankruptcy—never would have happened. In a study using historical data and forecasts available for Revco and its peers at the time of the deal, Robert Bruner concluded that Revco had between a 5 percent and a 30 percent chance of meeting its debt schedule. Bruner derived this probability by using Monte Carlo simulation to map the entire range of cash-flow scenarios for Revco. He then measured the probability of its surviving its deal structure for the three years after the LBO. Even when using the deal engineers' optimistic assumptions about growth and earnings, he estimated that Revco's survival probability only approached 50 percent.²⁶

Too-Clever Accounting

At some level, creative accounting is understandable, even if not justifiable. Cutting just a few corners can lead to higher share prices, lower volatility in the stock price, increased value for options, greater bonuses, and higher debt ratings, among other things. Managers are acting rationally by meeting the quarter-by-quarter demands of the markets. Investors can share in the benefits, as well, because stock prices stay high.

Not surprisingly, then, there is evidence that creative accounting is rampant. In one survey of financial professionals, 31 percent admitted observing manipulated timing of operating expenses, 18 percent observed manipulations of revenue recognition, 17 percent observed the use of overly large charges designed to make future earnings look good, and 8 percent observed creative inventory accounting.²⁷ In a survey of 743 U.S., European, and Asian senior financial officers, a third responded that if their companies were going to miss analyst expectations, they would use "discretion" to buff the numbers; 46 percent of the U.S. executives said they could influence earnings by at least 3 percent.²⁸

Creative accounting lies on the slippery slope between aggressive, but legal, management of earnings and outright fraud. It often takes a squad of forensic accountants armed with subpoenas to prove that a company

has crossed from legal to fraudulent. But disaster can strike even when the creativity stops short of fraud.

Green Tree's use of gain-on-sale accounting, where it booked future profits on its securitized mortgages upon sale, was perfectly legal. It was a practice used by some other lenders at the time. But it was a very problematic practice given the business in which Green Tree was operating. Gain-on-sale accounting makes sense when the returns are steady and easy to estimate. But, in Green Tree's business, future earnings would have been enormously difficult to get right even with the best of intentions.

Green Tree was actually praised by some analysts as being conservative in its forecasts. But Green Tree's forecasts were only conservative in a narrow window. It couldn't withstand the modest decline in interest rates that led to higher-than-predicted prepayments (and therefore less profitable loans than predicted). Green Tree also couldn't withstand the deeper flaw in the underlying mortgage product, in which a spike in "upside-down" mortgage holders led to a much larger than predicted number of defaults. This spike in defaults flooded the market with used trailers, which, in turn, depressed sales of new trailers and led to a lower-than-predicted value for repossessed trailers. The inevitable miscalculations led to significant write-downs, which shook investor confidence and quickly led Green Tree into Conseco's unfortunate arms.

Sometimes companies get outside auditors to pass muster on a creative technique, only to find the technique is still too good to be true. Amerco, the holding-company parent of U-Haul, the truck-rental company, found out the hard way that experts may not always catch problems.

Amerco faced numerous strategic struggles in the early 1990s. Competition was rising, and the full-service gas stations that were U-Haul's traditional rental locations were quickly disappearing. In response, the company bought self-storage facilities, correctly seeing them as ideal truck-rental locations and a natural adjacency business. Amerco worried, though, that investors wouldn't like the debt it took on to acquire the self-storage facilities. So, on the advice of its auditor, PricewaterhouseCoopers (PwC), Amerco created off-balance-sheet special-purpose entities, known as SPEs and later made famous by Enron because of their role in its collapse. The SPEs passed PwC's audits sixty times over a number of years. In early February 2002, however, as the collapse of Enron heightened

scrutiny of all special-purpose entities, PwC told Amerco that its SPEs didn't pass key tests. The debt that had been hidden needed to be reported on Amerco's balance sheet. Uh-oh.

Creditors almost immediately cut Amerco's \$400 million line of credit by half and forced much less favorable terms. By October 2002, Amerco had defaulted on more than \$100 million in bond payments. Its stock, which was trading at around \$17 a share before the disclosures, sank by more than 90 percent. In June 2003, Amerco filed for bankruptcy even though, as its CFO pointed out at the time, "our revenue continued to grow at a 5 percent annual rate."

Amerco sued PwC for \$2.5 billion. Amerco claimed that PwC admitted that it had given Amerco the wrong advice seven years earlier when its national partner who specialized in off-balance-sheet entities had reviewed the accounting and said the approach was "fine." The suit said that the partner, a man who had since retired, admitted lacking technical knowledge about SPEs. "I wasn't aware of that component of the rules, and, you're absolutely right, I gave them wrong advice," the suit claimed he told his former partners.²⁹

Amerco also hired Douglas Carmichael, who later became the chief auditor of the U.S. Securities and Exchange Commission's Public Company Accounting Oversight Board, to deliver an expert-opinion analysis of its claims. Carmichael was withering in his findings. PwC made "inexcusable and incomprehensible" errors in its work, he said. It "violated each and every duty owed to Amerco, its lenders, governmental agencies and the public," and it "improperly placed its own interests ahead of its clients' in violation of the industry's ethical and professional principles."³⁰

PwC's response? "We're surprised . . . that the company has decided to bring this action," said Steven Silber, a PwC spokesman. Pointedly noting that primary responsibility for the accuracy of financial statements lies with the company, Silber added that "This action appears to be an attempt by company management to shift the blame away from themselves. We're confident that attempt will fail."³¹

PwC, admitting no wrongdoing, later settled by paying Amerco \$51 million plus an additional undisclosed amount.

(We're not saying that Amerco was not complicit in its own downfall.

The company's history reads like *King Lear*, adapted for the modern corporation. Founded by Leonard S. Shoen in 1945 on a \$5,000 investment, U-Haul grew into the country's largest provider of move-it-yourself rental equipment. By the early 1980s, Shoen had gradually transferred 95 percent of the company's shares outstanding to his seven sons and five daughters. Then, for almost twenty years, the father and various factions of the family fought for control of the company. Soap opera-like episodes included brawls at shareholder meetings, endless litigation, and even allegations of murder. The litigation resulted in almost \$500 million in damages awarded to Shoen and his supporters but left control of the company to an opposing faction of his sons. The debt from the damages judgment loomed large on Amerco's books at the time of the PwC debacle and contributed to Amerco's default and bankruptcy. Shoen, however, did not live to see that outcome. He died in 1999 at the age of eighty-three, apparently from suicide.)³²

For those—whether executives or investors—trying to recognize when too-clever accounting might be in the works, the SEC has identified five common creative accounting practices: taking “big bath” charges, where massive restructuring is done to clean up balance sheets or where one-time charges are overestimated to enable larger subsequent earnings; using acquisitions as a way of fiddling with the numbers; setting up “cookie jar” reserves, which are kept to smooth income; making self-serving decisions about what errors should be reported and what gains or charges are large enough to be made public; and recognizing revenue that smooths earnings. Some of the signs (though not proof) that creativity is being applied: Small reported losses are rare, but small reported profits are common. Small declines in profit are rare, but small increases in profits are common. Consensus forecasts are rarely just missed, but are often just met or exceeded by a small amount.³³

Feedback Loops

When financial engineering is used, a chain reaction usually ensues. Burnish one quarter's results, and that becomes the yardstick by which the markets evaluate the next. The need to deliver the higher targets instigates another round of creative engineering. And so on, until the magnitude of the engineering becomes just too big.

Green Tree's financial engineering gave it the ability to book huge profits and, for a time, show stellar growth. Investors rewarded the stock—then demanded more growth. That translated into the need to deliver more loan volume to meet even higher growth expectations. Delivering more loans required ever more aggressive lending practices, which in turn led to more bad loans. Eventually, the consequences of the bad loans grew too large to ignore, and Green Tree imploded.

Tyco International Limited is another company that was caught up in a positive feedback loop, driven in its case by a dependence on growth by acquisition. Between 1992 and 2001, Tyco spent more than \$60 billion to acquire more than one thousand companies. Sales soared from \$3 billion to \$38.5 billion, which rocketed the share price upward but also required more growth to keep it aloft. Speaking to *Chief Executive* magazine in 2001, Tyco CEO Dennis Kozlowski boasted that acquisitions had evolved into a disciplined and routine activity under his watch. "It's just part of our ingrained culture," Kozlowski said. "All of our senior operating people are geared toward looking for acquisition opportunities."³⁴

For a while, the markets bought the story. Kozlowski was lauded as a cost cutter who was knitting the many acquisitions into a successful conglomerate, much like General Electric. He even landed on the cover of *BusinessWeek* with the title "most aggressive" CEO. True to that image, cost cutting in the form of extensive layoffs, plant closings, and business consolidations was typically announced within weeks of the change in control, and sometimes even before. When Tyco acquired ADT Limited, for instance, it eliminated one thousand of eight thousand jobs; at AMP Incorporated, eight thousand of forty-eight thousand workers were cut. Accounting that pushed the envelope was also the norm. Big restructuring charges, huge write-downs, and aggressive accounting of acquisition charges set the bar as low as possible so newly acquired companies could make quick and profitable turnarounds.

An overview of Tyco's \$9.5 billion acquisition of CIT Group Incorporated, then the largest independent commercial-finance company, gives a sense of the pattern. Tyco's acquisition of CIT closed in June 2001. In the month before the closing, CIT posted \$221.6 million in downward adjustments to earnings. Largely as a result, in the four months after the clos-

ing, CIT earned \$252 million, as compared to \$81.3 million in the five months prior to the closing. “This is one of the most startling examples of financial engineering you can hope to find,” one analyst said.³⁵

CIT proved to be the high-water mark for Tyco. While Tyco was previously very guarded about its acquisition accounting, it had to keep filing separate financial reports for CIT because of its reliance on public debt markets, and Tyco’s accounting was for the first time clear for all to see.

The accounting fueled general concern about Tyco, producing a downward spiral. The doubts drove down Tyco’s share price. This caused downgrades in CIT’s credit rating, which threatened CIT’s core lending business and further deflated its parent. By January 2002, Tyco’s stock price had fallen 90 percent. Later that year, Tyco divested CIT through an IPO and posted a \$6 billion loss. Tyco struggled for years with \$20 billion-plus in debts from its acquisition binge and, in 2007, broke itself up into three independent companies. (For more on how poor a job Tyco did integrating its numerous acquisitions, see chapter 3 on rollup strategies.)

In 2006, the U.S. Securities and Exchange Commission accused Tyco of improper acquisition accounting during the period from 1996 to 2002, including “undervaluing acquired assets, overvaluing acquired liabilities, and misusing accounting rules concerning the establishment and use of purchase accounting reserves.” In accounting parlance, Tyco improperly “spring-loaded” its results. The SEC complaint also asserted that “Tyco improperly established and used various kinds of reserves to make adjustments at the end of reporting periods to enhance and smooth its publicly reported results and to meet earnings forecasts.” In response to the SEC charges, Tyco admitted no wrongdoing but agreed to an injunction and a \$50 million civil penalty.

In either a sad coda to the Tyco story or a further indicator of the company’s management culture at the time, Kozlowski was convicted on June 17, 2005, on twenty-two counts of grand larceny for taking \$150 million in unauthorized bonuses. He was also convicted of fraud against the company’s shareholders for an amount of more than \$400 million. He was sentenced to serve from eight years and four months to twenty-five years in prison. Mark Schwartz, Tyco’s CFO under Kozlowski, was convicted on similar charges and received the same sentence.

Tough Questions

The vagaries of markets, regulators, media, and shareholders make the potential consequences for faulty financial engineering very high. Corporate brands and reputations, built over decades, can be destroyed in a few accounting entries. Entire businesses can crash into the chasms left by a few risky exposures. A slew of corporate officers have received massive fines and even jail time after falling down the slippery slope of creative engineering. These doomsday scenarios should motivate managers, board members, and investors to show great skepticism when dealing with financial engineers bearing ideas that promise high returns for low risk, or that in some other way seem too good to be true.

To avoid getting caught up in excessive financial engineering, you should start with two broad questions: Can the strategy withstand sunshine? Can the strategy withstand storms?

To put the sunshine question a different way: How would others react if the strategy was announced on the front page of your company Web site or was the subject of a front-page article in the *Wall Street Journal*?

Writing in the *Harvard Business Review*, former General Electric general counsel Ben Heineman argued that the key to avoiding integrity land mines is to change the yardstick. He noted that GE, in annual legal and financial compliance reviews, now looks at its own business practices and asks not just whether they are legal but whether they are reasonable and ethical in the light of day. For example, are disclosures of interest rates on loans and credit balances hidden in credit-babble, or expressed in plain English?

As our friend John Perry Barlow has observed, information yearns to be free. In the age of the Internet, bloggers, and twenty-four-hour cable news channels, his observation will probably apply to your strategy as well: Someone will tell the world what you're doing. Could your company survive the resultant challenges?

In asking whether your strategy could survive storms, we're not talking about pleasant afternoon showers. Rather, we're talking about dreaded twenty-, fifty-, or even hundred-year floods.

The autopsies of many financial engineering failures conclude that

designers did not foresee some external circumstance, some occurrence that fell well outside of recent experience and seemingly reasonable expectations. Green Tree Financial, for example, did not foresee that interest rates would decline or that competitors would target Green Tree, the industry leader, by offering aggressive refinancing terms to Green Tree borrowers. Revco's LBO deal designers did not anticipate that competition would erode traditional drugstores' market share, or that recession would help topple Revco off the high tightrope on which its leverage placed it. Yet any solid strategy must be able to withstand adversity, which means that strategists must look into the abyss, assess how their designs would perform under harsh conditions, and explicitly decide whether the risk is worth the return.

Writing on the topic of leverage to his shareholders, Warren Buffett reacted to a hypothetical of a "1% chance that some shock factor, external or internal, would cause a conventional debt ratio to produce a result falling somewhere between temporary anguish and default." "We wouldn't have liked those 99:1 odds," he wrote, "and never will. . . . A small chance of distress or disgrace cannot, in our view, be offset by a large chance of extra returns." He continued: "If your actions are sensible, you are certain to get good results."³⁶

After the broad questions, there are a few specific questions to explore. One set would prompt the sort of analysis we described concerning Revco, to see what the chances are that cash flows would likely allow for required debt payments.

If you're tempted to indulge in creative accounting: Will that accounting generate positive cash flow or just make the profit-and-loss statement look better? If you won't get cash flow, then run.

Another question is even more basic: Does the strategy make any sense? In Green Tree's case, that would mean asking whether it's really appropriate to offer a thirty-year loan on an asset with a ten- to fifteen-year life. For Spiegel, the question would have been: Can I lend to risky customers while expecting a lower rate of default than companies that lend to the highly creditworthy expect?

The final question is the most basic: When does it stop? If you're going to take an aggressive approach to accounting as Green Tree and others did, and you're going to build ever greater expectations among investors, how do you get off the treadmill and get back to some sustainable approach to reporting your finances?