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The Uses and Abuses of Structured Finance

by Barbara T. Kavanagh

Executive Summary

The discovery that Enron Corporation created many special purpose entities to hide assets and debt from the general investing public has created a distorted view of the uses and legitimacy of structured finance and special purpose entities (SPEs). The general perception is that structured finance and SPEs serve no real economic purpose but are used to mislead and deceive the investing public. Lost in public and political discussions of structured finance has been the role of structured finance as a sound risk management tool, dating back to the early 1970s and widely used by many U.S. corporations and financial institutions today.

Enron made perverse use of structured financing vehicles that hardly conformed to prevailing industry standards or convention. Indeed, many of Enron's vehicles were contrived to hide or delay the impact of poor investment decisions, hide debt, and manipulate revenue streams on certain derivatives transactions. Because of the simultaneous failure of a number of the usual safeguards surrounding the use of those structures, Enron was able to create structured financing partnerships that bore virtually no resemblance to those soundly constructed by most corporations today.

In contrast, most structured finance transactions today are designed in such a way as to create an arm's-length distance between the originator of the SPE and the investors in the SPE to achieve corporate separateness. Furthermore, the legitimate purposes of structured finance transactions—risk management, liability management, accessing alternative funding sources, and maximally leveraging internal expertise—have little in common with the purposes for which Enron created many of its SPEs.

Current efforts to revamp fundamental aspects of structured finance because of Enron's perverse application of a useful concept amount to "shooting the messenger" and will likely have the effect of turning worthwhile projects into economically unviable ventures if regulatory and capital compliance costs are raised considerably, as they have been.

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Structured finance is a sound business management tool when appropriately used.

Introduction

Media coverage of the landmark Enron bankruptcy has been rife with references to the large number of partnerships in which Enron was apparently hiding assets and debt from the general investing public. As a consequence, many observers now believe that legitimate corporate finance should not involve special purpose entities (SPEs)[1] or, alternatively, that current industry standards and practices surrounding the use of such entities must be drastically altered. Some people have suggested that structured finance needs additional and perhaps even special regulation, and others even seem to believe that U.S. businesses and investors would be better off if structured financing methods were abandoned or prohibited altogether.

In fact, during the congressional hearings that led to the passage of the Sarbanes-Oxley Act of 2002, Sen. Carl Levin (D-Mich.) suggested the possibility of considering legislation that would exclusively target SPEs.[2] Sec. 401 of the Sarbanes-Oxley Act instructed the Securities and Exchange Commission to amend and tighten the disclosure requirements of off-balance-sheet transactions of the Securities Exchange Act of 1934, to produce a report on the activities and regulations of SPEs, and to offer recommendations for the improvement of their transparency. Sec. 705 of the Sarbanes-Oxley Act directed the General Accounting Office to study investment banks' involvement with Enron and Global Crossing and to study the banks' role in setting up some of the SPEs that those companies had. And in January 2003 the Financial Accounting Standards Board, the private-sector organization designated by the Securities and Exchange Commission to set generally accepted accounting principles, changed the accounting rules that govern SPEs.

The underlying assumption in all those actions is that SPEs are obscure financial vehicles that often serve no useful or legitimate purposes. The reality is quite different. Structured finance—that part of corporate finance that makes use of SPEs—is a sound business management tool when appropriately used. Further, the development and growth of that market have contributed substantially to both consumer and corporate prosperity in the United States over the last 20 years.

As will be explained, Enron's perverse use of structured financing vehicles hardly conformed to prevailing industry standards or convention. On the contrary, many of Enron's vehicles were contrived to hide or delay the impact of poor investment decisions,[3] hide debt, and manipulate revenue streams on certain derivatives transactions.[4] Because of the simultaneous failure of a number of the usual safeguards surrounding the use of those structures, Enron was able to create structured financing partnerships that bore virtually no resemblance to those soundly constructed by most corporations today.

The concept of structured finance must be explained before the anomalous nature of Enron's activities and the inappropriateness of recent calls for tighter regulation can be fully appreciated. To that end, the next section begins by defining structured finance in broad terms and explaining the customary reasons for the existence and use of SPEs. The following section then provides readers with background on the evolution of structured finance and its economic benefits to corporations, investors, consumers, and the economy. Having set forth the sound economic function of this branch of finance, I then turn to Enron's abuses of this financing technique, why those abuses occurred, and why caution should be used in extrapolating the need for greater regulation from Enron's behavior.[5]

The Evolution of Structured Finance

Structured finance is a term widely used but rarely defined. For the purposes of this paper, a simple and broadly accepted definition will be used. A structured financial transaction is any transaction that makes use

of an SPE. Unlike many other forms of financing, structured financing generally requires the participation *from inception* of more than one entity—for example, the ultimate buyer, selling party, and financial engineer, the latter of which is often an investment or commercial bank. This definition and the roles of each party in structured transactions will become clearer in the examples given below.

Structured financing as we know it today has its origins in two different phenomena dating back to the 1970s: securitization and the use of special purpose subsidiaries. After discussing those two seminal vehicles, I present several more recent and popular structured financing innovations.

Securitization

Securitization is the process by which the cash flows on one or more assets or claims are bundled and conveyed to an SPE that in turn issues debt or equity securities that represent claims on those underlying assets or the cash flows. In most cases, the original assets or claims are conveyed by the originator to a separate legal entity—the SPE—that then issues securities to investors. Interest and principal paid on the new securities are financed by cash flows emanating from the underlying asset pool.

Asset Divestiture. The origins of securitization can be traced to the U.S. residential housing markets. Government-sponsored enterprises (GSEs) such as the Government National Mortgage Association (Ginnie Mae), the Federal National Mortgage Association (Fannie Mae), and the Federal Home Loan Mortgage Corporation (Freddie Mac) built the first structured transactions, aided by Wall Street financial engineers attempting to satisfy investors that were looking for specific attributes in their securities or investments.[6] Indeed, the heavy involvement of Wall Street early on attests to the oft-neglected importance of investor demand in the design of securitization programs. Investors that wanted short-dated securities were sold claims on the first cash flows (both interest and principal) emanating from the pools of underlying mortgages the GSEs were seeking to "sell." Insurance companies, which preferred longer-dated securities, ended up with claims on later cash payments in the mortgage pool, often payments that became available only after the short-term claims had been fully paid off.

Whereas the early securities were direct obligations of Ginnie Mae or Fannie Mae, later deals were constructed using SPEs. In those cases, the securities issued against the underlying assets represented obligations of the SPE rather than of Ginnie Mae or Fannie Mae.[7]

In March 1987 Sperry Corporation undertook what is widely regarded as the first major securitization involving nonmortgage assets—an engineered security whose cash flows were backed by the receivables on Sperry's computer leasing program. Shortly thereafter, General Motors Acceptance Corporation indirectly issued securities supported by a pool of its car loans. GMAC created an SPE to which it sold (i.e., "conveyed") a portfolio of its auto loans, and the SPE in turn issued securities representing claims on the interest and principal payments received on those loans. Since then, the population of assets underlying those structured transactions has diversified dramatically and now includes credit card receivables, corporate trade receivables, aircraft leases, stranded utility costs, plant projects, patents, and more. The securitization process, regardless of whether the underlying assets are mortgages, auto loans, or credit card receivables, is summarized in Figure 1.

Investment Demand. Who buys these securities and why? In particular, why would an investor buy, for example, GMAC's auto-backed security rather than stock in General Motors itself?

Institutional investors such as pension funds and insurance companies often buy securitized products for portfolio diversification. In the GM example, structured products allow investors to own a particular *piece* of GMAC's risk profile rather than GM's *entire* risk profile, as reflected in GM's stock.

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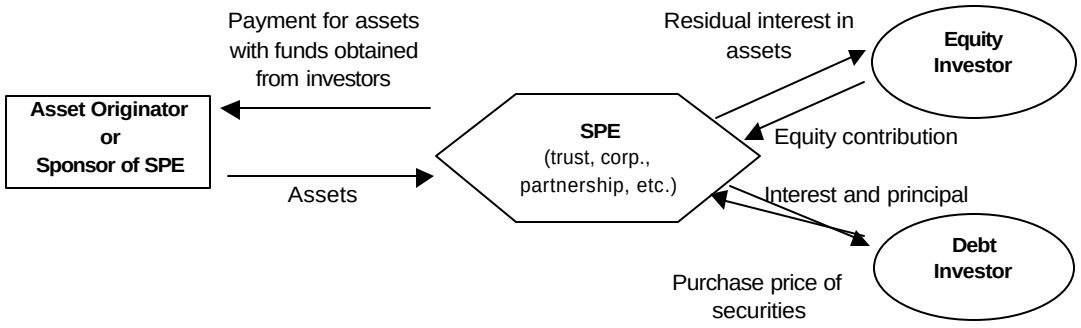
Figure 1
Securitization Process



The population of assets underlying structured transactions has diversified dramatically and now includes credit card receivables, corporate trade receivables, aircraft leases, stranded utility costs, plant projects, patents, and more.

That is important because the behavior of a structured security is generally different from the behavior of the common or preferred stock of the originator. GM's stock performance will be affected not only by the behavior of consumers whose car purchases are financed by its subsidiary GMAC but also by overall economic and stock market trends, steel prices, labor union costs, relative foreign exchange rates in overseas markets where GM might sell many units, and many other variables. In contrast, the security representing an interest in a defined pool of consumer car payments owed to GMAC will largely contain only the risk relating to credit quality and performance of the underlying car purchasers and the usual risk of relative interest rates (i.e., the yield on this security versus the yield on other securities available in the marketplace).

The Decision to "Structure." To continue the example of GMAC's consumer car loans: GMAC's treasurer has two general alternatives available for obtaining the money to lend to car purchasers: "on-balance-sheet" and "off-balance-sheet" finance. The distinction is really only one of accounting. The former must go on GMAC's published financial statements, along with the assets themselves (i.e., the actual car loans made to car buyers). Off-balance-sheet finance, however, enables the firm to take the pool of car loans and the related securities financing them off GMAC's financial statements, provided the firm meets certain legal, accounting, and regulatory requirements.

GMAC's on-balance-sheet financing alternatives are several. It can issue a bond that is a direct obligation of GMAC itself and collateralize or secure the bond by the specifically identified pool of consumer auto receivables, borrow from a bank and pledge the specified pool of assets as collateral to the bank, or issue new stock. In the off-balance-sheet approach, GMAC creates a separate legal entity (e.g., a trust or partnership) and isolates the assets being financed in that SPE.[8] The later approach insulates those holding the asset-backed securities from the potential bankruptcy of the originator—GM, in this example. Remember also that the investor does not want the risk exposure of GM stock, so the SPE helps ensure that the investor takes on only the risks it desires—in this case, those of a diversified population of car loans.

The SPE's primary purpose in this case is to achieve what is often described as "corporate separateness." Simply incorporating a separate legal entity with legal title to the underlying assets in question does not alone constitute "separateness." Legal, accounting, and regulatory standards dictate that the SPE must also generally meet the following requirements in order to avoid consolidation with the originator or sponsor:

- The SPE's equity base is not subject to control by the originator. Historically, that meant that the equity base had to be at least 3 percent of the value of all assets conveyed to the trust. In the wake of Enron, the Financial Accounting Standards Board increased that requirement to 10 percent.[9]
- The SPE cannot be controlled by the originator or its management.
- The risks and economic rewards associated with the underlying assets must be effectively conveyed and transferred to the SPE in order for the originator to remove the assets in question from its financial statements.

As will be become apparent, several of Enron's well-publicized vehicles failed to meet those criteria.

The originator obviously cannot build structured transactions in isolation. Coordination is required with firms attesting to its financial statements; specialized legal counsel; and, if the SPE intends to issue rated securities, rating agencies. Each of those third parties usually acts as a check and balance on the structuring process and tends to ensure its integrity. The Enron transactions discussed later thus are aberrant not only in terms of their structural characteristics but, more notably, in that those three external checks simultaneously failed.

Special Purpose Subsidiaries

Parallel with the evolution of securitization, the concept of special purpose subsidiaries was born and refined. Unlike securitizations, in which SPEs are set up for the purpose of allowing firms to sell or divest themselves of particular assets and to raise funds, special purpose subsidiaries rarely involve asset disposition or fundraising as a primary goal. In consequence, and in notable contrast to the SPEs that are set up to facilitate off-balance-sheet finance and asset divestiture, special purpose subsidiaries *usually are owned and controlled* by the firms that conceive of establishing them.

Dating back to the 1970s, certain corporations believed that their exposure to and capacity to manage particular types of risk were much better than the rising insurance and reinsurance premiums of the era dictated. Those firms set up separate special purpose subsidiaries, wholly owned by their parent firms, separately capitalized *and* licensed to sell insurance. In their purest form, those "captives" then sold insurance back to the parent corporation at a much better rate than was available in the market. Self-insurance predated the use of special captive subsidiaries, of course, but those captive structures had two advantages over straight self-insurance (e.g., insurance provided through the use of earmarked reserves). As a separate entity, the company had "prefunded" its losses—there could be no temptation to spend the money on something else. At the same time, the premiums collected on writing insurance back to the parent firm gave captives an independent capacity to *service* claims arising against those policies, not to mention the investment income on the premium.

Once a separate subsidiary specializing in managing a specific risk dimension had been created, the logical next evolutionary step was for that same subsidiary to begin offering its services to third parties. That was particularly effective in industry sectors where individual insurers lacked sufficient size individually to justify the start-up cost of a captive. Thus was born the concept of *multiparent* captives.

By the late 1980s the specialty subsidiary concept had spread from the insurance sector to wider applications. Banks such as Goldman Sachs, Merrill Lynch, and NationsBank isolated certain financial trades in separately capitalized subsidiaries, in part to give trading counterparties greater confidence in credit quality. Creating subsidiaries—often more highly rated than their parent companies because of protective mechanisms built into the structures—segregated a piece of the capital base of the parent explicitly and exclusively to support specific trades with counterparties.

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Finally, special purpose entities became more prolific in the 1990s as a mechanism for "ringfencing" specific business lines or risks for specialized management and capital allocation purposes.[10] This has been particularly true in the energy sector, where Enron's competitors frequently isolate their trading operations and related financing needs in single-purpose subsidiaries.[11] In those cases, the operations of the subsidiaries are fully reflected in the consolidated financial statements of the parent—the SPE has not been established to hide transactions, assets, or debt from the public.

Liability Management

By the mid-1990s structured finance was being applied to a much wider population of assets, limited only by investor appetite or Wall Street creativity. In addition, SPEs began to play an important role in helping firms manage their *liabilities*.

The best examples of this are found in the catastrophe bonds (Cat bonds) now routinely used by reinsurers. Assume a reinsurer underwrites directly or reinsures catastrophic risks such as property damage arising from California or Japanese earthquakes or U.S. East Coast hurricanes. Suppose a company retains and reinsures the first $150 million layer of liability for claims it might receive, but, above that amount, classical reinsurance is not available and the firm's shareholders do not want to retain the risk. Despite its limited capacity to continue providing insurance, the firm may still have strong demand to keep underwriting. The firm can increase its underwriting capacity by buying reinsurance in excess of $150 million—say, up to $250 million—*from the capital market at large*.

Specifically, the reinsurer sponsors (but does not own) an SPE the primary purpose of which is to write reinsurance back to the sponsor in return for a premium. The SPE takes the premium and proceeds from issuing Cat bonds and invests that money in low-risk securities that can be liquidated to fund future catastrophic insurance claims. In turn, investors in the Cat bond earn a very high interest rate but run the risk of losing all or part of their interest or principal, or both, in the event of significant catastrophic claims on the SPE. The unusual nature of the risk (typically uncorrelated with other major asset classes) helps investors diversify their portfolios and achieve a relatively substantial expected return in exchange for a low-probability event—catastrophic losses in excess of $150 million.

Project Finance

The subsection of structured financing known as project finance is generally associated with large, fixed assets such as power plants.[12] Many of the supposed 1,200 SPEs set up or controlled by Enron appear to have been for project financing purposes. A broad understanding of project finance thus is critical to understanding some of Enron's structured financing activities.

Project financing has historically been undertaken by commercial banks in two phases: a relatively short-run construction/completion phase and a "permanent" financing phase with maturities ranging between 10 and 15 to 20 years. Because of their generally short-dated liabilities, banks usually prefer not to write long-dated loans. Accordingly, the second phase of project financing is typically supplied by banks with step-up interest rates designed to encourage the borrower to repay funds early. Notably, however, the expected lives of the underlying assets often extend well beyond the 15- or 20-year loan maturity date. The emerging trend for dealing with that dilemma is structured finance—the creation of an SPE that issues debt to be serviced by cash flows stemming from the underlying project.

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Project finance securitizations are generally undertaken by either the bank writing the long-term loan or the sponsor of the project itself as an alternative means of securing funds for the project. In a typical structure, the SPE issues senior and subordinated debt to be serviced by cash flows emanating from the underlying project or projects. For example, a power generation plant generally has a con-

tract to sell its prospective energy production before construction of the plant even begins. Commonly, the bank provides direct financing through the construction phase, given the lack in that period of cash flows on which a structured transaction could be built.[13]

Once the plant is capable of generating a cash flow, the contract representing purchase of the plant's future power production can be conveyed to the SPE and act as the source of return for debt and equity investors. From the plant sponsors' perspective, structured finance can provide much preferred fixed-rate financing rather than the floating, step-up interest rate associated with classic commercial bank finance. From the bank's perspective, the mismatch between its short-dated liabilities and the long-term nature of the loan has been eliminated by the SPE prematurely retiring its debt.

The use of SPEs for project finance was important for Enron.[14] A company regularly expanding in overseas markets, Enron sometimes bought a shared interest with other parties in fixed plant infrastructure in the host country and other times chose to build. Being able to remove those fixed assets from its balance sheet as well as obtain financing for those projects from capital markets rather than banks became increasingly important for Enron over time.

Enron's Perverse Application of the SPE Concept

Structured transactions are no longer a small piece of global capital markets. In fact, securities backed by mortgages and other pooled assets have assumed increasing importance over the last 15 years, aiding consumers, originating corporations, and investors.

Consider the residential mortgage market. By virtue of being able to sell mortgages in a securitization, the originator is able to accommodate a much larger number of borrowers seeking home ownership than would otherwise be the case. At the same time, the originator maximally leverages its own internal expertise in mortgage originations, thereby benefiting its shareholders. And end investors—often insurance companies, pension plans, or other financial institutions—enjoy residential mortgage market exposure and returns without the start-up cost of internally building, developing, and maintaining human capital and related support infrastructure. In no small part, the cost effectiveness of that process has led to reduced financing costs for the mortgage borrower and greater ease in acquiring home ownership financing.

Those same benefits also apply to non-mortgage assets, including credit card financing, auto loans, manufactured housing, and project financing. In the GM example, GMAC can provide a greater amount of financing to potential car purchasers than would be the case if it held all loans it originated on its balance sheet to final maturity. As a consequence, GM can produce and sell a larger number of automobiles.

Those and other examples of legitimate uses of SPEs—corporations isolating specific pools of assets for securitization or self-insurance or creating separate specialized subsidiaries for risk management, capital allocation, or other strategic reasons—are in sharp contrast with some of Enron's most widely discussed uses.

In general, and in absolute contravention of usual industry objectives, Enron built structured financing vehicles for the following reasons: to hide debt, to hide suspect investments and their deleterious financial statement implications, and to manipulate revenue streams by marking trade contracts to market. As is now coming to light, moreover, a number of Enron insiders also reaped extraordinary personal gains, largely by being equity shareholders or appointed executives, or both, of the SPEs in question. That feature of the Enron SPEs is the exact opposite of most other SPEs in the industry: most executives go to great lengths to avoid anything that might be construed as associating them or their corporations with the SPE in question.

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Chewco

Chewco is a good example of an SPE whose sole reason for existence seemingly was to hide debt. In 1997 Enron and the California's Public Employee Retirement System's were each 50 percent owners in an SPE called Joint Energy Development Investments. Enron executives sought CalPERS as a partner in other ventures but did not believe CalPERS would invest in more than one Enron-related SPE at a time. Enron staff thus began looking for a third party to buy out CalPERS' stake in JEDI, then valued at $383 million.[15]

Unable to find a third-party buyer, Enron's finance staff incorporated Chewco in November 1997 and named Michael J. Kopper, a midlevel Enron finance employee, as its sole managing partner and investing member.[16] Two banks then lent Chewco the necessary $383 million (unsecured) to fund the buyout of CalPERS' interest in JEDI. Although Enron staff supposedly intended to find an independent third party to step into Chewco and take an $11 million capital stake, they never succeeded. As a consequence, Chewco was formed with a nominal capital contribution from one Enron employee, and that same individual was the sole managing partner. By late 2001 Kopper and his domestic partner had received personally more than $10 million from Chewco as a return on their $125,000 equity investment.[17]

Enron could, of course, have simply borrowed funds directly and bought out its partner's interest in JEDI. But the consequences in terms of its financial statements would have been quite negative. If it had had to reflect an additional $383 million in bank debt, Enron would have appeared to be more leveraged (negative from a rating agency perspective), and the limited amount of bank lines available to fund further expansion by the company would have been used disadvantageously. In addition, Enron would then have controlled 100 percent of JEDI's equity. Accounting convention would unquestionably have required line-by-line consolidation of JEDI's assets and liabilities onto Enron's financial statements. That, ironically, would have defeated the original purpose of forming JEDI.

In 2001 Arthur Andersen required Enron to restate its financials and consolidate Chewco because of the company's inability to demonstrate that Chewco met the "corporate separateness" standards discussed earlier. No independent party managed Chewco, no equity owner could be identified, and there was no equity base of at least 3 percent of capital. It is unclear why Chewco was originally treated as a separate entity and not consolidated in Enron's financial statements from inception.

The Chewco transaction demonstrates flaws on several fronts. First and most obviously, despite certain attempts at "restructuring" Chewco after inception, the *de minimus* 3 percent equity requirement was never met by this vehicle, either as initially incorporated or later in its life.

In addition, whereas most originating organizations go to great lengths to avoid controlling an SPE (or even *appearing* to control the SPE) through managerial decision-making, Enron made no such efforts. By appointing one of its own finance staff members as the sole executive managing the SPE, Enron went to the opposite extreme. Even if an outside investor had contributed the necessary 3 percent of equity in this transaction, the issue of Enron "controlling" Chewco would still broach the possibility of consolidation of the vehicle.

Furthermore, no assets, claims, or financial instruments were housed in Chewco. Chewco existed simply for purposes of housing bank debt used to purchase CalPERS' interest in JEDI. That creates the appearance that Chewco was designed to help Enron avoid borrowing such debt directly and then reflecting both the debt and JEDI's underlying merchant investment on its own financial statements. The most one could hope for is that Chewco actually took legal title to CalPERS' 50 percent equity in JEDI, but that is unknown.

Chewco raised corporate governance ques-

tions as well. The Powers report, commissioned by the Enron board of directors to investigate the activities of Enron's former chief financial officer Andrew Fastow, notes that Enron's board of directors approved the formation of Chewco, but only after representations from senior Enron officials to the Enron board that Chewco would (a) have $11 million in equity supplied from an undisclosed source, (b) obtain a $250 million bank loan that Enron would have to guarantee, and (c) obtain an additional $132 million in debt from JEDI.[18] The board was thus clearly misled with regard to Chewco's equity.

Finally, the convention in structured financing and accounting is to deem a "guarantee arrangement" of that type inappropriate. In effect, Enron was not truly transferring the risks to the SPE as required but was instead assuming them indirectly. For that reason, corporations almost never use a guarantee arrangement of the type seen here, as it typically results in consolidation of the SPE's assets and debt into that of the originator/guarantor and defeats the initial purpose of forming the SPE. In attempting to "reengineer" Chewco after its initial closure, Enron reportedly provided a guarantee supporting Chewco's bank borrowings, thus contributing substantially to the restatement of Enron's financial accounts in 2001.

LJM1, LJM2, and the Raptors

The LJM1 and LJM2 partnerships entered into more than 20 transactions with Enron. Both of those partnerships were formed at least in part to minimize the deleterious effects of certain investments on Enron's published financial accounts. Specifically, the accounting requirements regarding "marking investments to market" were causing Enron's income statement to change dramatically from period to period as the value of several underlying investments moved dramatically up or down from one quarter to the next.

Consider, for example, Enron's 1998 purchase of stock of a company called Rhythms NetConnections (Rhythms). In 1998 Enron purchased $10 million of stock in Rhythms at $1.85 per share. Its ability to resell those shares was restricted until the year 2000.[19] Rhythms was subsequently taken public and, by May 1999, Enron's initial $10 million investment was worth approximately $300 million.[20]

Accounting standards required that at the end of each quarter Enron reflect in its income statement the increase or decrease in value of this investment from the preceding quarter. As can be seen from the change in Rhythms' stock price, Enron would have to have reported a considerable increase in value of its investment, but that value was unrealized in the sense that Enron received no cash flow from the increase and likely would not until the stock was actually sold. Further, the stock price of Rhythms could go down from one reporting period to the next, resulting in a decline of reported investment values for Enron from one quarter to the next. It was precisely this volatility in quarterly marks to market of Rhythms that led Enron executives to create the LJM structures.

Enron executives also chose to address another issue at the same time in these two structured transactions. Enron's stock had realized greater and greater increases in value during the time frame in question here, and in connection with that, Enron's treasury group had entered into a hedge contract with a major investment bank that had appreciated considerably in value[21]—similar to the increase in stock value of Rhythms. In an apparent moment of greed, Enron executives decided to use LJM1 and LJM2 also as vehicles for realizing those increases in value.

LJM1. LJM1 was formed in June 1999 with Enron's chief financial officer Andrew Fastow assuming the role of general partner in the SPE in exchange for a supposed $1 million capital contribution. Two unaffiliated corporations indirectly became limited partners in that SPE and jointly contributed $15 million at formation.[22] According to representations made to Enron's board of directors in requesting its approval for this transaction, LJM1 was being formed for essentially three reasons: to hedge the *volatility* of Enron's Rhythms NetConnections invest-

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ment, to purchase a piece of Enron's interest in a Brazilian power company subsidiary, and to buy the certificates of yet another Enron SPE known as the Osprey Trust.

What assets did LJM1 own, and what value did they have? LJM1 held shares of Enron stock resale of which was restricted for four years. Those shares had been "gifted" to LJM1 at its inception, with LJM1 issuing a note to Enron in exchange representing a related debt obligation. And in September 1999 LJM1 purchased an interest in a Brazilian subsidiary from Enron for $11.3 million—a transaction that will be discussed later.[23]

Enron's finance team made the strategic decision to create LJM1 in June 1999 and to have LJM1 enter into a derivatives contract with Enron that would supposedly act as an "earnings hedge" for Rhythms.[24] By creating gains and losses based on the value of Rhythms' stock from one period to the next, the hedge was intended to offset the impact of actual Rhythms' stock price changes and reduce Enron's earnings volatility.

At the deal's inception LJM1 created a subsidiary that issued a derivatives contract known as a "put option" to Enron on its shares of Rhythms' stock.[25] Under such a contract, Enron could require LJM1's subsidiary to purchase the Rhythms' shares at $56 a share in June 2004. In other words, a put option acts as an insurance policy for the buyer, essentially guaranteeing for Enron a floor below which the value of Rhythms' stock would not fall. If in public markets Rhythms' stock traded below $56 a share, Enron could simply "put" the shares to the LJM1 for $56 a share. The real question, however, is how the SPE would have paid Enron $56 per share for Rhythms' stock if Enron's stock—the SPE's sole quasi-liquid asset—moved down in price at the same time that the value of Rhythms' stock declined.

Subsequent to the initial implementation of LJM1 and the Rhythms hedge, Enron finance personnel realized the hedge was in fact incomplete. Whereas Enron had purchased insurance against Rhythms' stock price falling below $56, volatility in Rhythms' stock price *above* that level continued to translate into earnings volatility for Enron because of the accounting mark-to-market convention. Enron thus quickly entered into four more derivatives with LJM1 and its subsidiary—all option-based products like the one described above. The terms of those contracts are not disclosed.[26]

Despite its hedging efforts, Enron's finance team chose to terminate the Rhythms hedge toward the end of the first quarter of 2000. In November 2001, apparently as a result of Arthur Andersen's review of a number of these vehicles, Enron announced it would restate its financials to reflect, among other things, consolidation of LJM1's hedging subsidiary because it failed to meet the required 3 percent outside equity test.

The Financial Accounting Standards Board recently increased the *de minimus* equity standard to 10 percent for SPEs not subject to consolidation. Ironically, even if this subsidiary had had 10 percent equity at inception, it still would have lacked the capacity to perform on its obligations because of the extraordinary price volatility in Rhythms' stock during this time frame.

LJM1's Rhythms hedge illustrates an additional abuse endemic to Enron's use of SPEs—namely, its marking to market of trades with SPEs in a suspect fashion, apparently to manipulate its stated financial performance. Just as accounting convention required Enron to mark its merchant investments to current market prices, an analogous standard required that trading contracts such as the Rhythms put option also be marked to market as of the date of each published financial statement. Marking trading contracts to market, however, can be an art form, particularly when dealing with such unique, nonstandard, illiquid contracts as the Rhythms hedge.

Whereas many types of put options are publicly traded on exchanges with price quotes readily available, privately negotiated derivatives such as the Rhythms hedge require use of sometimes complex valuation

models that often call for subjective decision-making in choosing inputs that affect mark-to-market values. For example, a standard input to virtually any common model for valuing a put option is the price of the underlying stock. However, the publicly quoted price of Rhythms would have to be subjectively adjusted to reflect the restricted nature of the underlying shares, or the fact that resale of the stock shares was restricted for a period of time. That price adjustment would change each quarter as the expiry of the resale restriction got closer.

If Enron had hedged with a major Wall Street counterparty, as is market convention, then Enron could have gone back to that dealer on each financial statement date to obtain an independent third-party valuation of the "mark-to-market value" of its hedge. Instead, Enron simply "decided" each quarter what the Rhythms hedges were worth and adjusted its unrealized gains or losses accordingly. The extraordinarily unique nature of the hedges allowed for tremendous latitude in valuation and made this an obvious target for abuse by executives bent on manipulating financial statements for personal gain.

Increasing amounts of information are becoming public about the extraordinarily large sums of personal money extracted by Enron executives from the company through SPEs. The source for at least some of those funds seems to have been the transfer or "sale" of assets at less than market value, with subsequent resale (in some cases, back to Enron) at considerably higher prices. The price difference appears to have often been pocketed by Enron executives as personal gain. Enron's Cuiaba Brazilian investment falls into this category.

Enron owned a 65 percent interest in and controlled appointment of three of four directors of a Brazilian company that, among other things, was building a power plant in Cuiaba, Brazil. That level of equity ownership and control undoubtedly required line-by-line consolidation of this subsidiary into Enron's financial statements. Enron had been searching for a third-party buyer for at least part of its interest in this project but had been unsuccessful.

In September 1999 Enron sold LJM1 a 13 percent stake in the company and relinquished control of one director appointment for $11.3 million.[27] Subsequent to that sale, Enron took the position that it no longer controlled the company and, therefore, did not need to consolidate it in Enron's financial statements.

Enron subsequently repurchased the 13 percent interest in August 2001 for $14.4 million,[28] despite the fact that in the intervening time the Brazilian corporation likely lost value because of operating difficulties. The Powers report makes no note of any independent appraisals having been obtained relative to either the sale or repurchase of this interest, as would typically be the case in a transaction with a truly independent third party. Since Enron insiders were often shareholder beneficiaries of the SPE, their personal interests called for sale or transfer of assets to the SPE from Enron at a loss to Enron in exchange for high personal profits. The Brazilian transaction in LJM1 is a straightforward example of this.

Enron also had a significant natural gas forward contract in place with the Brazilian company. When that company was a subsidiary and subject to accounting consolidation, the forward contract would have undergone intercompany elimination and would not have been reflected in the consolidated Enron financials. However, the "sale" of the 13 percent interest and resulting nonconsolidation meant that Enron now had a privately negotiated forward gas contract with an unaffiliated third party subject to mark-to-market gains and losses. Enron realized a $65 million gain in the second half of 1999 on the forward gas contract with the Brazilian affiliate.[29]

In March 2000 Fastow chose to terminate LJM1, apparently for two principal reasons: the restriction on Enron's ability to sell the shares of Rhythms stock expired, and the Rhythms "hedge" between Enron and LJM1 was not performing. The corporate record surrounding the

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transactional life of LJM1 is, according to the Powers report, incomplete. However, several conclusions can be unequivocally drawn in connection with that structured transaction.

First, as did the Chewco structure, LJM1 resulted in a tremendous financial windfall to Enron insiders. In March 2000 other Enron employees had become shareholders in LJM1 and its subsidiary, seemingly without taking risk yet realizing phenomenal returns. Those financial returns seem to have been at the expense of Enron Corporation—corporate records are unable to validate what economic return Enron enjoyed in exchange for costs incurred. Second, Enron's use of a "phantom" SPE as a counterparty for a hedge can only be described as the antithesis of market practice. LJM1 is here described as a "phantom" because it had no real assets to rely on should it ever have had to make payments to Enron as part of its "option-based insurance policy." LJM1's only assets were stock in Enron Corporation, sale of which was actually restricted, and an interest in the Brazilian project that was anything but liquid. That aspect of LJM1 contravenes existing standards in a number of respects.

Existing accounting standards and interpretations restrict dramatically the circumstances in which a corporation can make use of its own stock for anything other than direct issuance to the public or employees. Over-the-counter derivatives markets, moreover, are extraordinarily credit sensitive. Enron's corporate peers enter into derivatives to hedge earnings volatility only with the most highly rated, major global financial institutions and after careful analysis ensuring that the derivative contract provides considerable economic protection. The LJM1 structure was tantamount to a corporation attempting to hedge its own exposure with a contract with itself, which is, of course, not a hedge at all. By the time LJM1 was terminated, Enron's own risk management staff had reportedly calculated the probability of LJM1 defaulting on its hedge with Enron as 68 percent.

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Finally, just as in the case of Chewco, the "corporate separateness" of LJM1 is suspect. Although the limited partners in LJM1 reportedly had some management control despite Fastow being sole general partner managing the structure, the amount of true equity in this SPE is subject to substantial question. Although Enron chose to unwind the vehicle in 2001, Arthur Andersen's November 2001 restatements of the company's financials covering the 1999 and 2000 income statements did include downward adjustments to Enron's net income of $95 million and $8 million, respectively.[30] Those adjustments reportedly represent a "re-consolidation" of the subsidiary of LJM1 housing the Rhythms hedge, in part because its ability to meet the 3 percent *de minimus* equity test was suspect. In the end, then, even Arthur Andersen employees questioned the use of Enron stock as a hedge.

LMJ2 and the Raptors. LJM2 was formed in October 1999. According to Fastow's representations to Enron's board, it was intended to be a large equity fund that could invest in strategic assets that Enron might want to syndicate quickly. LJM2 thus should have been a source of quick funding for continued expansion. From what is known of LJM2, however, it was used as a mechanism for smoothing volatility in mark-to-market prices of investments made by Enron over a number of preceding years.

Fastow was again designated general partner in this structure, but this structure took on as many as 50 limited partners. Limited partners in LJM2 were, like those in LJM1 at inception, reportedly major corporate investors such as JP Morgan, Citicorp, Merrill Lynch, and a number of well-known pension and retirement plans. Contributions from all partners to LJM2 reportedly totaled $394 million.[31]

LJM2 ultimately became a façade for "equity" contributions to a number of Enron's famous "Raptor" transactions. In each case, LJM2 would inject what appeared to be the necessary equity to capitalize a Raptor SPE, but in many or most cases LJM2 would receive a phenomenal return of both principal and interest *before* the SPE in question would become truly activated. Once active, the

Raptors were intended to engage in additional incestuous hedging transactions with Enron designed to insulate Enron's earnings volatility. Hedging activities would generally commence only *after* the purported equity was returned to LJM2, making it anything but equity-like (true equity would remain at risk throughout the life of the SPE).

LJM2 itself had a complex, multilevel partnership structure, and oftentimes the SPEs in which it would invest would in turn hold ownership interests in other SPEs. Two common themes underlie several of the SPEs, making them in substance similar to the Rhythms transaction described earlier. First, the SPEs were endowed with Enron stock (or its economic equivalent) in an effort to provide the SPEs with some "economic value" and requisite capital to enter into hedges with Enron. Second, the SPEs' hedges were often designed to mask the volatility associated with existing Enron investments. Contrary to apparent representations to equity investors in LJM2 and to Enron's own board, those SPEs and LJM2's funds were not used to fund new investment opportunities identified by Enron; instead they seem to have been used to prop up an increasingly fragile collection of existing investments. The Raptor vehicles in which LJM2 invested allowed Enron to avoid reflecting nearly $1 billion in losses on merchant investments from the third quarter of 2000 through the third quarter of 2001.[27]

What exactly were the Raptors? For illustrative purposes, consider Raptor III. The New Power Company was a power delivery company in which Enron held a 75 percent interest. Enron intended to take TNPC public in the fall of 2000 and supposedly wanted to insulate itself from potential interim volatility in TNPC's value. To that end, Raptor III was designed with an SPE named "Porcupine." Similar to the other Raptor transactions, LJM2 contributed $30 million to Porcupine, supposedly representing "equity." At the end of the same week it made its initial equity contribution, LJM2 received back $39.5 million in a single distribution from Porcupine for a calculated internal rate of return of 2,500 percent.[33]

The other three Raptor vehicles were endowed with Enron stock, but the Porcupine SPE was endowed instead with warrants on TNPC—exactly what the structure was supposed to be hedging.[34] Simultaneously, it had entered into a derivatives contract obligating it to compensate Enron when the price of TNPC fell. In effect, then, this "hedge" was really a *doubling* of Enron's exposure to price movement in TNPC stock. Porcupine's sole asset was warrants representing TNPC stock, and the warrants declined in value just when Porcupine would be most obligated to provide money to Enron—when TNPC stock was declining. As a consequence of this painfully flawed structure, Raptor III began disintegrating almost immediately after construction.

Conclusion

Unfortunately, media coverage surrounding Enron has led the general public to believe structured finance is nothing more than an act of deception on the part of institutional management—a mechanism to defraud the investing public. In reality, it is a legitimate financial management tool with well-established roots in capital optimization and risk management dating back to the 1970s.

Structured finance generally has its own inherent checks and balances protecting the interest of all parties involved, from seller to investor. In the Enron case, however, a group of senior executives seems to have successfully bastardized the process in pursuit of personal wealth and power.

Current efforts to revamp materially fundamental aspects of structured finance, especially through new political restrictions on those activities, are, however, tantamount to "shooting the messenger." Fraud can, has, and will be perpetrated by insiders through any means at their disposal if they decide the criminal path is the one they want to take. Draconian constraints we might arbitrarily place on certain asset or income categories

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will not change that. If executives wish to lie and falsify corporate records, or both, for personal gain, they will do so with complete indifference to the category of balance sheet or income statement affected.

No doubt, greater transparency would be beneficial in the form of more disclosure by executive management of the nature and extent to which structured finance is used as a means of financing a company or altering its balance sheet. However, disclosure itself is a *competitive tool* that firms can use to their advantage. Those with nothing to hide will now have a strong incentive to be even more transparent with their structured finance activities. The early use of captive special purpose subsidiaries illustrates that firms are more than capable of disclosing all the details of SPEs when they desire. In some cases, firms considered publicizing a captive to be a "signal" of strength—why would they self-insure with a captive unless they thought their loss record was better than insurance premiums reflected?

Capital levels should be commensurate with risk inherent in any structured transaction and thus determined on a case-by-case basis.

Regulatory changes designed to force more disclosure in a particular fashion thus may not be necessary and could even discourage firms from using their own disclosure techniques as a means of *attracting* investors and customers. Apart from disclosure, changes such as the increase in required capital levels of SPEs from 3 percent to 10 percent will simply render uneconomic otherwise sound business transactions. Capital levels should be commensurate with risk inherent in any structured transaction and thus determined on a case-by-case basis. Arbitrarily tripling required capital levels will simply render lower-risk transactions economically unfeasible, to the detriment of both seller and investor.

Notes

1. The terms SPE and special purpose vehicle (SPV) are essentially synonymous. Because of its use in connection with Enron, I use only the term SPE, although the term SPV is probably more widely used by practitioners. An SPE can be defined as an independent entity—often a limited liability corporation or a limited partnership—created for specific transactions or businesses.

2. See Michelle Heller, "Levin May Seek Special-Purpose Entity Legislation," *American Banker*, July 31, 2002, p. 1.

3. Enron's demise was a function, not of its structured transactions themselves, but of other fundamentally flawed aspects of its business decisions, as well as executive pursuits of personal wealth rather than shareholder wealth. See Christopher L. Culp and Steve H. Hanke, "Empire of the Sun: A Neo-Austrian Interpretation of Enron's Energy Business," in *Corporate Aftershock The Public Policy Lessons from the Collapse of Enron and Other Major Corporations*, ed. Christopher L. Culp and William A. Niskanen (New York: John Wiley & Sons, 2003).

4. Not all of Enron's SPEs appear to have been used for these illegitimate purposes. Even for the more "obvious" and egregious cases discussed here, all the facts are not in, so any conclusions in this paper should be interpreted in the context of the author's admittedly limited information, all of which is in the public domain.

5. See Keith A. Bockus, W. Dana Northcut, and Mark E. Zmijewski, "Accounting and Disclosure Issues in Structured Finance," in *Corporate Aftershock*, for a discussion of accounting, disclosure, and regulation of structured finance.

6. Some people contend that securitization often *requires* the government to subsidize the initial creation of the market, as occurred with mortgages. Evidence for that claim is lacking, however. Indeed, numerous counterexamples can be found of markets being created and assets securitized without any government assistance.

7. I will return to this very important "separate entity" concept later.

8. Often, the sole purpose of this legal entity is to house the transaction in question.

9. It is doubtful, however, that a 10 percent equity level would have fixed the problem with Enron's structures because those discussed in the Powers report were fundamentally flawed in dimensions other than capital adequacy. See William C. Powers Jr., Raymond S. Troubh, and Herbert S. Winokur Jr., "Report of Investigation by the Special Investigation Committee of the Board of Directors of Enron Corp.," February 1, 2002.

10. Ringfencing refers to the separation of business lines and their resources from the general resources of an organization.

11. The Public Utility Holding Company Act

essentially requires investor-owned municipal and state utilities to ringfence their power-marketing operations in this manner.

12. This section draws heavily on Barbara T. Kavanagh, "Securitization and Structured Finance: Legitimate Business Management Tools," *FMA Online,* Summer 2002.

13. The nebulous time frame for completion of construction also makes it hard to issue bonds and predict when a completed plant can begin servicing related debt.

14. This is discussed in greater detail below and in Christopher L. Culp and Barbara T. Kavanagh, "Structured Commodity Finance after Enron: Uses and Abuses of Pre-Paid Forwards and Swaps," in *Corporate Aftershock.*

15. See Powers, Troubh, and Winokur, p. 44.

16. One of the reasons for making Kopper the managing partner is that that information would not have to be disclosed to the SEC in the proxy statements that publicly traded corporations are required to file. Had the managing partner been a senior executive, Enron would have had to file that information with the SEC.

17 See Powers, Troubh, and Winokur, p. 64.

18 Ibid., p. 46.

19. Because Enron was a cash-starved company always looking for funds to fuel its continued growth and expansion into new markets, its investments such as Rhythms are hard to understand. The investment generated no cash—the resale restriction meant that Enron could not realize any gains on the stock if they did occur.

20. Powers, Troubh, and Winokur, p. 77.

21. Enron had certain obligations to issue stock to employees as they exercised stock options that were part of Enron's employee compensation plans. The cost to Enron of issuing that stock increased as the price of its stock increased. To minimize that cost, Enron had entered into a type of derivative known as a forward contract that "locked in" the cost to Enron of issuing those shares. As the price of its stock shares rose, the value of this "insurance policy" it had purchased from a major investment bank increased.

22. Powers, Troubh, and Winokur, p. 69.

23. Ibid., p. 85.

24. A hedge is a financial instrument or portfolio of instruments purchased to insure against wealth fluctuations.

25. A put option is a security that gives its holder the right but not the obligation to sell an asset at a specified price on or before a specified date.

26. See Powers, Troubh, and Winokur.

27. Ibid., p. 135.

28. Ibid.

29. Ibid., p. 137.

30. Ibid., p. 16.

31. Ibid., p. 73.

32. Ibid., p. 99.

33. Ibid., p. 118.

34. A warrant is an option issued by a company or a financial institution. Call warrants are usually issued by companies on their own stock, often in conjunction with a bond issue to make investment more attractive.

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