

Enron: Market Failure or Market Discipline?

International Swaps and Derivatives Association
17th Annual General Meeting
Berlin, 17 April 2002

Enron: Market Failure or Market Discipline?

Billions of dollars of market value erased. Thousands of jobs lost. Savings wiped out. A demise as spectacular as Enron's has failure written all over it. And in some quarters, that failure is at least partially attributed to the complex derivatives transactions that Enron entered into – transactions that some believe may have been used to conceal or obscure the company's true financial condition, to hide losses, and to bolster earnings. Yet a close analysis of the Enron situation yields a different story, one that is unfortunately not likely to sell many newspapers or provide much fodder on the floors of Congress. Put simply, the market worked.

This story – which ISDA articulates in the following report – centers on the powerful and protective market forces that ultimately compelled the truth about Enron's financial condition and financial transactions to be exposed, and that enabled the derivatives business to function smoothly in the event of Enron's collapse. As documented in this report (and using supporting material as noted throughout the paper):

- The Enron failure demonstrated a failure of corporate governance, in which internal control mechanisms were short-circuited by conflicts of interest that enriched certain managers at the expense of the shareholders. Although derivatives made appearances in the course of the governance failures, they played no essential role.
- Enron's actions appear to have been undertaken to mislead the market by creating the appearance of greater creditworthiness and financial stability than was in fact the case. The market in the end exercised the ultimate sanction over the firm.

- Even after Enron failed, the market for swaps and other derivatives worked as expected and experienced no apparent disruption. There is no evidence that the market failed to function in the Enron episode. On the contrary, the market did exactly what it is supposed to do, which is to use reputation as a means of monitoring market participants.
- There is no evidence that existing regulation is inadequate to solve the problems that did occur. Had Enron complied with existing market practices, not to mention existing accounting and disclosure requirements, it could not have built the house of cards that eventually led to its downfall.
- Finally, it is likely that additional government regulation, by increasing moral hazard and decreasing legal certainty, could have the unintended consequence of making future failures and market instability more likely along with increasing the cost and decreasing the availability of risk management tools like swaps.

In sum, ISDA articulates in this paper that the market imposes a substantial discipline on swaps activity. ISDA asserts that these powerful forces of market discipline were in play as Enron sought to establish itself as a major participant in energy and energy derivatives trading. As it did so, Enron attempted to evade the discipline of the market and inflate its creditworthiness through its well-documented failures in corporate governance, accounting and disclosure. These attempts at deception, and the ultimate fate of Enron, are themselves confirmation of the relevance and power of the discipline the market imposes on participants in swaps activity.

* * *

Introduction

There is almost universal agreement today about the benefits of swaps and other privately negotiated derivatives. Policy makers routinely acknowledge the role of derivatives in increasing the ability of financial institutions, corporations, and governments to manage risks more precisely, to take risks more prudently, and to fund more cheaply. The policy makers are confirming what market growth has already demonstrated: Since the International Swaps and Derivatives Association began surveying derivatives activity, estimates of notional amounts outstanding have grown from under \$700 billion in 1987 to over \$69 trillion at the end of 2001.¹

Those who were involved with ISDA a decade ago might remember, however, that recognition by policy makers of the benefits of derivatives was a long time in coming. A turning point occurred in 1994, when the United States General Accounting Office issued a report that sounded alarming if one read only the introduction but sounded quite reassuring if one persevered to the end. Commenting on the Report before Congress, Federal Reserve Chairman Alan Greenspan emphasized the Fed's belief that swaps have enhanced economic efficiency by allowing 'financial market risks to be adjusted more precisely and at lower cost than is possible with other financial instruments.' The statement also warned against 'creating a regulatory regime that is itself ineffective and that diminishes the effectiveness of market discipline.'² Even after such experiences as Procter & Gamble, Orange County, and Barings, policy makers have

¹ Source: ISDA (www.isda.org/statistics/index.html)

² Alan Greenspan, Statement before the Subcommittee on Telecommunications and Finance of the of the Committee on Energy and Commerce, U.S. House of Representatives, May 25, 1994.

placed less emphasis on imposing direct controls on derivatives than on ensuring that the institutions they supervise absorb the lessons learned.

Yet, the debate about derivatives regulation resurfaces periodically, most recently in the wake of the Enron failure. A recurrent argument warns that ‘the OTC derivatives markets are largely unregulated’ and warns of firms falling into a ‘regulatory black hole.’³ Such arguments, when stripped to their essentials, seem to say nothing more than that derivatives activity is large, growing, and not regulated in a uniform manner, so additional regulation is therefore needed.

But conspicuously absent is any persuasive argument that the swaps market has failed to function in a safe and orderly manner or that more government regulation would or could work better than the current regime. One might ask why, if the financial system is endangered by inadequate regulation of swaps, the market seems to weather the failures that do occur (including, significantly, that of Enron) with scant evidence of systemic effects. Further, there is little if any evidence of large-scale migration of derivatives activity into ‘unregulated’ firms; if anything, the sale of Enron Online to UBS Warburg will likely mean more activity will take place in explicitly regulated firms. Finally, the continued growth of derivatives activity demonstrates that market participants find swaps useful and are expanding their use.

The objective of this paper is to demonstrate that the central regulatory mechanisms of the privately negotiated derivatives markets, namely corporate governance, market discipline, and legal certainty, were in action in the Enron situation

³ See, for example, Testimony of Frank Partnoy, U.S. Senate Committee on Governmental Affairs, January 24, 2002.

and that they worked effectively. Enron took extreme measures to evade these self-regulatory mechanisms – not to mention corporate disclosure and accounting requirements – and paid a severe price, higher than any regulatory sanction, when the evasions came to light. In the end, Enron suffered a crisis of confidence brought on by revelations regarding its partnership arrangements and the accounting methods used for them. Those who call for additional regulation of swaps pay no heed to the effectiveness of these market mechanisms.

Further, there is no persuasive evidence that swaps activity has experienced market failures that some form of new government regulation could eliminate. On the contrary, government regulation poses the risk of short-circuiting these highly effective regulatory mechanisms, with the potential unintended consequences of making the benefits of derivatives more costly and less widely available. Adequate regulations and standards are already in place to enable regulators to take any actions necessary to safeguard the stability of the financial system: It is reasonable to conclude from the report issued by the Enron Board of Directors that had Enron followed existing accounting rules and existing SEC disclosure policies, particularly for transactions with related parties, Enron would not have been able to overstate its earnings.⁴ The following sections will describe the regulatory mechanisms within which swaps function and Enron's ultimately unsuccessful attempts to circumvent the mechanisms. The paper will conclude with an evaluation of the case for additional regulation of swaps.

⁴ Report of Investigation by the Special Investigative Committee of the Board of Directors of Enron Corp, February 1, 2002 (hereafter cited as Powers Report).

The economics of corporate governance

Modern economic theory analyzes corporate governance by distinguishing between two functions, principal and agent.⁵ Principals are the owners (usually the shareholders) of a firm, and are entitled to the net income (whether positive or negative) of the firm's activities. The principals in turn engage agents to perform some service on the principals' behalf. This relationship – known as agency relationship – exists at many levels: between shareholders and boards of directors, between boards and senior management, between senior and subordinate levels of management, and so on. There is an inherent potential for conflicts within a firm because the economic incentives faced by the agents are often different from those faced by the principals.

All firms face agency problems, and in the process of running a going concern develop measures to control them. Such measures include controls on the actions of agents, monitoring the actions of agents, financial incentives to encourage agents to act in the interests of the principals, and the separation of risk taking functions from control functions. No firm could survive for long without such measures.

Applying this analysis to swaps shows that market participants undertake a variety of internal measures to control the associated risks.⁶ Traders and portfolio managers, for example, are subject to controls on when and with whom they are allowed to deal and to limits on the risks to which they can expose their firms. Second, they are subject to monitoring by various control functions within their firms. Third, financial

⁵For a textbook drawing heavily on the principal-agent model of firm behavior, see J. Brickley, C. Smith, and J. Zimmerman, *Managerial Economics and Organizational Architecture* (2d edition), McGraw-Hill Irwin, 2001.

⁶*Derivatives: Practices and Principals*, Group of Thirty, 1993, provides a comprehensive description of how swap participants manage risks.

incentives attempt to encourage risk taking in the interest of the firm's owners, but managers face continuing challenges in designing compensation structures that induce traders and portfolio managers to control the risks they take on. Finally, and possibly most important, firms impose separation between risk taking and control functions in order to avoid conflicts of interest that might lead to decisions that hurt the shareholders. Both internal and external audit are integral parts of the control structure, and act as agents of the shareholders in testing the adequacy of the control system. The failure of Barings in 1995 has impressed on market participants the importance of adequate controls and of senior management support for and monitoring of the control system.⁷

Enron has proved to be a showcase of incentive problems arising not so much from the absence of controls as from deliberate measures to circumvent the controls that were in place. Further, some Enron officials responsible for monitoring did attempt to bring conflicts of interest and other problems to the attention of senior management, but were apparently rebuffed.⁸ Two examples will demonstrate the problems that resulted from the incentive conflicts inherent in Enron's structure. Both involve transactions with special purpose entities (SPE), which Enron apparently set up 'to enter into transactions that it could not, or would not, do with unrelated commercial entities.'⁹

The first example concerns an SPE known as Chewco, which was originally set up to purchase an outside investor's interest in a joint venture investment partnership known as Joint Energy Development Investment Limited Partner (JEDI). In order to avoid consolidating the partnership with Enron, Enron Chief Financial Officer Andrew

⁷ For a description of the Barings failure and the lessons learned from it, see Lillian Chew, *Managing Derivative Risks*, Wiley, 1996, chap. 10.

⁸ "Enron official gave warnings as early as '99," *Wall Street Journal*, March 18, 2002.

⁹ Powers Report, p. 4.

Fastow designated an employee of his, Michael Kopper, to manage Chewco. Along with keeping JEDI off the balance sheet, the result was an agency conflict between both Kopper's role as an agent of Enron and as a principal of Chewco.¹⁰ The Powers Report cites one example of the conflict: During initial negotiations over the relationship of Chewco with Enron, Fastow pressured Enron's negotiator (who also reported to Fastow) to agree to terms the negotiator thought were unnecessarily favorable to Chewco. By the time Chewco was unwound, Kopper had received an enormous return – \$2 million in management fees, over \$10 million return on a \$125,000 investment, and a tax indemnity payment of \$2.6 million – which the Powers Report described as being out of proportion to any apparent work involved or risk taken.¹¹

The other example involves a transaction structured in 1999 to hedge the price volatility of an investment in Rhythms Net Connections (RNC), an internet service provider that went through an initial public offering that year. Like all its merchant investments, Enron marked its RNC position to market, and Enron was restricted from selling RNC until the end of 1999. Essentially, the RNC 'hedge' involved setting up an SPE known as Swap Sub, capitalizing it with restricted Enron shares, and having it write a put option to Enron on RNC shares. As described in the Appendix, the transaction was not a hedge in the economic sense because it did not transfer risk, but there were other problems with the transaction. Not long after it was formed, Swap Sub was unwound on terms that gave a windfall to LJM1, the SPE that owned the Swap Sub. Specifically, Swap Sub returned the restricted Enron shares to Enron at their unrestricted value, which Enron would not have done had the transaction been done with an unrelated party on an

¹⁰ Kopper apparently also served on the committee responsible for peer reviews of Enron employees. "Enron revealed to be rotten to the core," *Financial Times*, April 9, 2002.

¹¹ Powers Report, pp. 54-55.

arm's length basis. The Powers Report points out that Arthur Andersen, which was Enron's auditor, required that subsequent transactions be unwound using the restricted share value; it is not clear why they allowed the unrestricted price to be used in the RNC unwind.¹²

Enron's control problems are summed up well by the Powers Report in commenting on yet a third set of structures, the 'LJM' partnerships:

The most fundamental management control flaw was the lack of separation between LJM and Enron personnel, and the failure to recognize that the inherent conflict was persistent and unmanageable. Fastow, as CFO, knew what assets Enron's business units wanted to sell, how badly and how soon they wanted to sell them, and whether they had alternative buyers. He was in a position to exert great pressure and influence, directly or indirectly, on Enron personnel who were negotiating with LJM. We have been told of instances in which he used that pressure to try to obtain better terms for LJM, and where people reporting to him instructed business units that LJM would be the buyer of the asset they wished to sell. Pursuant to the Services Agreement between Enron and LJM, Enron employees worked for LJM while still sitting in their Enron offices, side by side with people who were acting on behalf of Enron. Simply put, there was little of the separation and independence required to enable Enron employees to negotiate effectively against LJM2....In many cases, the safeguard requiring that a transaction could be negotiated on behalf of

¹² Powers Report, p. 91.

Enron only by employees who did not report to Fastow was ignored.
(Powers Report, p. 166).

What is striking about Enron's governance failures is their fundamental nature. Each was serious and led to disastrous consequences, but none relates to the nature of derivatives or to the structures and controls that are commonplace among active derivatives market participants, especially in light of the lessons learned from the Barings failure. Like all businesses, derivatives dealers and end-users face potential conflict of interest in the conduct of business, and like all businesses must learn to recognize and manage them. But swap dealers are under particularly strong pressure to effectively manage potential conflicts because of the importance of reputation to survival as a dealer. Reputation, along with other aspects of market discipline that provide incentives for institutions to establish and maintain effective governance, is the subject of the next section.

The concept of market discipline

The second regulatory mechanism of swaps activity is market discipline, which embodies the self-regulatory tendencies of market organization. Swaps are a particularly instructive example of market discipline for two reasons. First, swaps activity has evolved over the past two decades, so its origins and functioning are well documented. Second, swaps did not spring from a particular regulatory regime or a single national economy, but evolved instead in a diverse regulatory environment consisting of a global array of banks, securities firms, and other entities. Market discipline works through three channels: private risk bearing, competition, and reputation.

The first channel, private risk bearing, implies that market participants should bear the risks and rewards of their actions. Distortions can result when decision makers bear the full benefits but not necessarily the full costs of their decisions. A well-known distortion is *moral hazard*, which occurs when an individual engages in riskier behavior as the result of entering into a risk-shifting contract.¹³ Market participants are generally aware of such distortions and take risk-limiting steps – such as imposing loan covenants, deductibles, or collateral requirements – to protect themselves. But to the extent moral hazard persists, it can lead to higher amounts of risk. More important, moral hazard can unwittingly result from regulatory policies that seek to protect market participants from the full consequences of their decisions.

The second channel through which market discipline works is competition, which serves two functions. First, it provides a means of rewarding innovation and the satisfaction of customer demands, so market participants have the incentive to benefit from identifying their clients' problems and needs and then developing solutions. One of the most tangible benefits of competition is the tendency toward higher quality at lower prices. Second, competition provides a means of punishing firms that fail to respond adequately to customer demands because other firms are ready and willing to take their place.

Competition, both between firms and across borders, has been vital to the development of swaps activity. The existence of competing dealers as well as the ability of swaps activity to move across jurisdictions has made it difficult for any one firm to take advantage of market power. This lack of significant market power has manifested

¹³ A person buying burglary insurance, for example, might take fewer precautions to prevent theft and consequently increase expected theft losses.

itself in favorable prices to users and in competition through innovation and credit quality.

The third channel through which market discipline operates is reputation, which is an intangible asset that embodies expectations regarding the quality of future performance. Reputational capital is costly to develop and can take a long time to grow, but it can be destroyed almost instantly if customer (or creditor) expectations are disappointed. Reputation is of great importance in a service industry such as swaps, in which it is impossible to sample or ‘test drive’ the product before choosing a provider. Instead, clients, creditors, and counterparties rely heavily on reputation. Federal Reserve Chairman Alan Greenspan’s remarks regarding Enron highlight the importance of reputation:

As the recent events surrounding Enron have highlighted, a firm is inherently fragile if its value added emanates more from conceptual as distinct from physical assets. A physical asset, whether an office building or an automotive assembly plant, has the capability of producing goods even if the reputation of the managers of such facilities falls under a cloud. The rapidity of Enron's decline is an effective illustration of the vulnerability of a firm whose market value largely rests on capitalized reputation. The physical assets of such a firm comprise a small proportion of its asset base. Trust and reputation can vanish overnight. A factory cannot.¹⁴

¹⁴ Testimony of Chairman Alan Greenspan, Federal Reserve Board’s semiannual monetary policy report to the Congress, Committee on Financial Services, U.S. House of Representatives, February 27, 2002

The same holds true for swap dealers. The classic example in the swaps industry is the experience of Bankers Trust, which survived regulatory sanctions but could not overcome its loss of reputational capital.

Enron's attempts to maintain the appearance of creditworthiness in order to act as a derivatives dealer show the power of market discipline. The importance of credit to derivatives activity makes it necessary in practice to have an investment grade credit rating in order to attract business as a derivatives dealer. But Enron's strategy in the late 1990s made it difficult to remain investment grade. The strategy, which was to buy or develop an asset and to expand it into a wholesale or retail business, involved large outlays up-front and payback only in the long term. To finance this, Enron's alternatives were to issue equity, which would be dilutive, or to issue debt, which would endanger an uncertain investment grade rating by adding to already high debt levels. Enron's solution was to develop a series of special purpose entities, which were supposed to take advantage of outside financing to allow Enron to retain the risks it believed it could manage well while transferring the other risks by means of either asset sales or hedges. In practice, however, the SPEs used to effect the sales or hedges did not actually transfer economic risks and proved only to be attempts to evade the mechanisms of market discipline.

One means by which Enron attempted to evade market discipline was the Chewco structure.¹⁵ Chewco was apparently the first special purpose entity (SPE) used to take an asset and the associated debt financing off Enron's books. In order to present itself as having kept the JEDI joint venture off its balance sheet, Enron created a structure with a

¹⁵ The following examples are discussed in more detail in the Appendix.

convoluted ownership structure that created the appearance of outside ownership and control but, as noted above, did nothing but lead to agency problems. Had market participants, including rating agencies, been given a true picture of Enron's level of debt, it would likely have faced a ratings downgrade and lose its position as a derivatives dealer.

Another example was the Raptor SPEs, which were created as 'accounting hedges' to reduce reported income volatility in the portion of Enron's accounts that were marked to market. As was true of Enron's high debt level, high income volatility would attract the attention of Enron's counterparties and creditors and increase the likelihood of a downgrade. In order to make its income in accounting terms appear more stable than it was in an economic sense, Enron set up structures and transactions that would provide income statement entries that could be used to offset unwanted income fluctuations. In fact the transactions, which are described in the Appendix, bore little resemblance except in name to transactions typically documented as swaps; the terms of a total return swap, for example, typically require an objective source of pricing information, which was not present in the illiquid merchant investments 'hedged' by Enron. Instead, the transactions simply appear to have used the SPE to hold reserves of collateral to be drawn as necessary to create the needed income entries. It was the belated recognition of the losses covered by the Raptors in Fall 2001 that led to the massive restatement of earnings and the market's rapid loss of confidence in Enron.¹⁶

Finally, Enron set up the LJM partnerships, which helped provide the appearance of outside equity investment in the other SPEs but also were used to purchase unwanted

¹⁶ Enron Corp, Form 8-K Current Report, November 8, 2001.

assets for which Enron could not find a willing buyer in the market. When Enron pooled loans into a collateralized loan obligation (CLO) in 1999, for example, it could not find a buyer for the equity (i.e., first loss) tranche of the CLO. LJM2 ended up buying the equity and some of the notes. But even the higher ranked tranches performed badly as the underlying loans continued to deteriorate, so by July 2001 Enron bought back all the CLO notes at par in order to protect its reputation in the capital markets.¹⁷

In normal market practice, transactions are often placed in special purpose entities to provide additional confidence to the market that risks have been transferred as stated; rating agencies, accounting firms, and legal opinions are all part of the process. Had Enron attempted to market the structures and transactions described in the Appendix to unrelated firms, it would certainly have been unsuccessful because (1) no unrelated party would have entered the transactions without sufficient information about how the structures functioned; and (2) once being made aware of the details, no economically rational party would have had any reason to enter into such transactions. The only way the deals could go forward, then, was to undertake the transaction internally, thereby avoiding the usual scrutiny by parties to the transaction with different interests.

But the market learns from experience when participants know they will have to bear the consequences of their decisions: Swaps dealers and end-users paid increased attention to product knowledge after the Procter & Gamble episode, placed added focus on internal controls after the Barings failure, and explored more effective ways to manage counterparty credit risk and liquidity after the 1998 hedge funds crisis, and so on.¹⁸

¹⁷ Powers Report, pp. 138-140.

¹⁸ See, for example, “Principles and practices for wholesale financial market transactions,” August 17, 1995 (www.ny.frb.org/fxc/fx18.html); and “Improving counterparty risk management practices,” Counterparty Risk Management Policy Group, June 1999 (www.crmpolicygroup.org).

Market participants will likely increase their investigation and monitoring of structures and transactions in the future and will upgrade the standards required whenever they transact with a special purpose entity.

Legal certainty and swaps

Legal certainty refers to the expectation that property rights and contracts will be recognized and enforceable within a jurisdiction. Operationally, legal certainty takes two forms in the derivatives world. At the transaction level, legal certainty implies that the terms of a contract are unambiguous so that the rights and obligations of the parties are clear. At the jurisdiction level, legal certainty implies that a contract, as agreed to by the parties, will be enforceable in a court. Lack of certainty in either of these respects undermines the confidence of the parties to the contract. One of the great successes of the swaps industry has been its achievement of a high degree of legal certainty in both forms over a wide and expanding range of jurisdictions.

The importance of legal certainty is best demonstrated by looking at what happens in its absence. When the House of Lords ruled in 1991 that Hammersmith & Fulham, a U.K. local authority, did not have the authority to deal in swaps, all swaps with local authorities were declared unenforceable. The effect was the same as that of an entire class of debtors defaulting.

Another example of the importance of legal certainty concerns jurisdictions where effective netting legislation is not in place. There is typically a risk in such jurisdictions that a trustee in bankruptcy might declare the netting provisions of the ISDA contract unenforceable, thereby permitting the trustee to consider each transaction a separate

contract that it can either accept or reject. Such risks have been of great concern to policy makers, who fear that legal uncertainty could increase systemic risk. They consequently have supported the passage of laws that strengthen the enforceability of close-out netting as a means of ‘reducing the potential size of credit exposures and thus lowering the probability that the inability of one market participant to meet their obligations will cause others to be unable meet their obligation.’¹⁹ ISDA’s activities include ongoing efforts to assist jurisdictions in adopting legislation that increases legal certainty through the adoption of laws that recognize close-out netting.

Finally, commodities law in the United States, with its sweeping definition of commodity along with its exclusivity and exchange-trading requirements, has for a long time cast a cloud over legal certainty for swaps in that country. Certain sectors of U.S. swaps activity, for example, faced the possibility of being declared illegal off-exchange futures and therefore unenforceable. Further, policy makers recognized the undesirability of legal uncertainty both to the conduct of business and in the obstacles it posed to the evolution of electronic trading and clearing mechanisms for derivatives.²⁰ These concerns were addressed in the Commodity Futures Modernization Act passed in 2000, but there is concern that, in the wake of Enron, legislation might be enacted that would reverse some of the legal certainty attained in the CFMA.

Few questions of legal certainty have arisen so far in connection with Enron. Nonetheless, legal certainty is an integral part of the swaps framework, and the legal certainty achieved in the CFMA in fact contributed to the orderly unwinding of swap

¹⁹ “Hedge funds, leverage, and the lessons of Long-Term Capital Management,” Report of the President’s Working Group on Financial Markets (U.S.), April 1999.

²⁰ “Over-the-counter derivatives markets and the Commodity Exchange Act,” Report of the President’s Working Group on Financial Markets, November 1999.

transactions following the Enron collapse. One of the major dangers arising from hastily adopted legislation and regulation is the potential to undermine existing legal certainty.

Do swaps need more regulation?

To be effective, government regulation must either bring about a better result than the unregulated market or improve the efficacy of the self-regulating mechanisms of swaps activity, namely, corporate governance, market discipline, and legal certainty. In order to demonstrate the need for further regulation of swaps activity, it is necessary to establish two things. First, a market failure must exist that regulation might eliminate without introducing offsetting distortions. Second, it must be shown that current laws and regulations are not sufficient to control the problem.

Market failure. Examination of the failures and market crises of the past few years suggest that market mechanisms continue to function well. The self-equilibrating mechanism of the market has consistently absorbed shocks and then allowed business to return rapidly to normal levels. Enron is only the most recent – and possibly the most convincing – example of how market mechanisms work to diffuse shocks. And because market participants have incentives to avoid future losses, each failure or market disruption has provided lessons useful in improving the self-regulatory mechanism.²¹ As mentioned above, Procter & Gamble’s problems led to increased management attention to understanding the risks a firm takes; the Barings failure led to increased attention to controls; and the market disruptions of 1998 helped focus attention on liquidity risk and

²¹ Roy Smith and Ingo Walter, “Capitalism will clean itself up,” *Financial Times*, April 12, 2002.

counterparty credit risk. Yet throughout these difficulties, swaps have continued to grow in volume and are used by an increasing range of institutions.

Further, the market appears to have handled the Enron failure in an orderly manner. For example, approximately 800 credit default swaps involving over \$8 billion in notional were outstanding on Enron, all of which appear to have been settled without disputes, litigation, or mechanical settlement problems. In addition, obligations associated with the close-outs were apparently paid, where required, to Enron by the counterparty, while counterparties that are owed money by Enron will have their claims considered by the bankruptcy trustee. Finally, the disappearance of Enron as a trader appears to have had little market impact as volume moved to other trading firms. It is difficult to see failure in the way the market functioned.

The adequacy of the current environment. Even if one could demonstrate that market failure occurred, one must also show that current laws, regulations, and standards are not sufficient to cope with the problems encountered in the Enron failure. Enron's dealings are in fact replete with examples of failure to meet existing standards. In the Chewco transaction, for example, Enron's plan depended crucially on fulfilling two requirements for not consolidating the Chewco SPE in Enron's books. First, it would be necessary for nonconsolidation that the ownership of the subsidiary consist of at least 3% outside equity; the requirement was not met. Although Chewco attempted to treat a bank loan of the required amount as equity, the bank's insistence on collateralization of the loan caused the 'outside investment' to fall well short of the required 3% outside equity at risk. Second, it would be necessary to show that Enron did not control Chewco. Because Chewco's manager was also an employee of Enron, however, it is unlikely that

this was the case. Despite failing to meet the requirements, Enron excluded Chewco from its consolidated financial statements, which led to errors in its reported income and debt. These were among the errors that finally were corrected in October and November 2001, after which the market lost confidence in Enron. Had Enron followed the rules that were in place, losses in the investments would have been recognized as they occurred and the restatement might not have been necessary and certainly would have been significantly smaller. But it is also true that, had Enron recognized the losses, the market would have seen through Enron's appearance of creditworthiness and consequently curbed if not eliminated its role as a dealer in derivatives.

Another example of violation of standards already in place appears in the Raptor transactions. First, recognizing the value of the appreciation of a company's own stock, even if done by means of forward contracts, is inconsistent with accounting principles. Second, as the value of the investments hedged by the Raptors and the value of Enron shares fell, the Raptors' credit capacity deteriorated. Instead of recognizing the deterioration by setting up reserves, Enron undertook a series of questionable restructurings that delayed loss recognition but were ultimately unsuccessful. Given that the amounts involved were material, it is unlikely that these restructurings were consistent with current standards.

Third, as with Chewco the Raptors did not meet the nonconsolidation requirements. But unlike Chewco, the reason was that LJM2, the SPE that capitalized the Raptors, was able to recoup its initial investment of \$30 million in each by means of put options Enron purchased on its own stock for a \$41 million premium but settled early. In each case, the premium was distributed as income to LJM2. But because the premium

was sufficient to return not only LJM2's invested principal but a 30% return on the investment as well, the original investors had little if any risk left in the subsidiaries. This lack of capital at risk should have disqualified the Raptors from nonconsolidation.

Finally, Enron was obligated to disclose details of the SPE transactions, along with Fastow's interest in them.²² A great deal of information was disclosed in Enron's annual report, yet assertions were made without support and certain key items were missing or misleading. Enron, for example, asserted that the transactions such as those described in the Appendix were undertaken on terms that were 'no less favorable than the terms of similar arrangements with unrelated third parties.'²³ But as mentioned above, an economically rational unrelated party would not have agreed to such transactions, so it was misleading to characterize such transactions as having been at arm's length. In addition, Enron did not disclose the significant initial premium income distributed by each of the Raptor entities to LJM2.

Can regulation improve the current situation? Finally, it must be shown that additional regulation would work better than the swaps framework of strong corporate governance, market discipline, and legal certainty. Strong, effective corporate governance, for example, is essential to the functioning of swaps activity. As the Group of Thirty pointed out in its 1993 report *Derivatives: Practices and Principles*, senior management attention and involvement is the starting point for risk management. Yet regulators face a difficult task in attempting to influence corporate governance because each firm's internal controls must be consistent with its corporate organization, culture,

²² Regulation S-K, Item 404 (U.S. Federal Securities Laws) and Statement of Financial Accounting Standards No. 57.

²³ Powers Report, p. 196.

and management style. Regulators might be in a position to evaluate governance through a supervisory approach, but more prescriptive regulatory approaches that involve detailed ‘one size fits all’ requirements incur the risk of reducing the effectiveness of corporate governance by ignoring the unique characteristics of a firm.

Second, government attempts to enforce market discipline, while well intentioned, should be approached with caution. A major concern among policy makers and industry participants is that regulation can create a moral hazard in a market even in the absence of an explicit government safety net. Individuals and firms might assume, for example, that government regulation creates a safer environment than is in fact the case.²⁴ The result is that they take more risk individually, leading to a higher level of risk in the system.

The same caution applies to attempts to augment market discipline by means of increased disclosure of relevant information to the market. Policy makers have taken steps in the last few years to shore up market discipline through increased information disclosure. An example is the Pillar Three of the New Basel Accord, which outlines disclosure standards and, significantly, carries the title ‘Market Discipline.’ But there appears at times to be a tendency among policy makers to elevate transparency through disclosure to the status of an end in itself rather than a means to an end. Any policies geared toward increased disclosure and transparency should therefore keep three things in mind. First, it is essential to be clear on the objectives of new disclosures and whether the required information will actually help accomplish the objectives. Second, policies should take account of the explicit costs of new disclosure in the form of administrative costs. And finally, transparency policies should take account of the implicit costs of new

²⁴ For problems that persisted in a regulated environment see, for example, “Daiwa Bank's rogue employee allegedly made 30,000 illicit trades. Why didn't anybody notice?” *Time*, October 9, 1995.

disclosure in the form of information overload when new disclosures are added to ones already in place.

Earlier this year, there were repeated predictions in the media of new swaps regulation. The matter has not been laid to rest, but it is now apparent that, even in the wake of Enron, the case for new regulation remains weak. The proponents of new regulation still have not demonstrated a market failure; indeed, the main argument seems to be that regulation is needed because some parts of the industry appear not to be regulated the same as others. Further, there is no convincing evidence that sufficient regulatory authority is not already in place. Finally, the proponents of regulation have failed to demonstrate that additional regulation would improve the effectiveness of, let alone supplement, market mechanisms.

Enron's actions were the result of trying to reconcile two conflicting strategies: One was to invest in energy, telecommunications, and other technology businesses, which required substantial debt; the other was to grow into a major dealer in swaps, which required substantial creditworthiness. Enron executives knew that their firm's credit quality was essential to a counterparty's willingness to do business with Enron. The market would not have it any other way. But rather than adapt the investment strategies to reality as the result of experience, they chose to exploit – or flout – accounting rules as well as the principles of corporate governance to maintain the appearance of creditworthiness. Their unsuccessful effort is not an indictment of market discipline, but confirmation of it. It would be ironic if policy actions designed to correct perceived market failures were to have the unintended consequence of undermining a self-regulatory structure that has proven that it works and works well.

APPENDIX: Enron's Special Purpose Entities²⁵

Background. Enron's strategy in the late 1990s was to buy an asset, usually energy related, and expand it by building a business around the asset. In carrying out the strategy, however, Enron faced the following problem. Each of their investments required a large outlay now, but payback would come only in the long term. Funding the investments consequently involved two choices, each of which had its disadvantages. Enron could fund the investments by issuing new equity, but doing so would dilute the equity of current shareholders. Alternatively, Enron could borrow to finance the investments. But Enron had already borrowed a great deal and more debt might endanger the investment grade credit rating necessary to its energy trading and derivatives business.

Given its choices, Enron developed the following way to implement its strategy. First, it would find outside investors to help finance its investments. Second, it would seek ways to retain the risks it believed it could manage well and profit from doing so. At the same time, it would create a joint venture or a special purpose entity (SPE), to which outside and investors could contribute resources; the entities could also borrow in the credit markets, possibly with guaranties or other credit support from Enron.

In forming a joint venture or SPE, Enron faced the choice between consolidating the entity into its balance sheet or moving it off their balance sheet. Given Enron's indebtedness and its desire to retain its investment grade rating, senior management chose off-balance sheet treatment. In order to avoid consolidating the entities into its balance sheet, however, the entities had to meet two conditions. First, outside owners must make

²⁵ All descriptions and figures are inferred from the Powers Report.

a 'substantial' investment (normally 3% of total capital), and their investment must actually be at risk. Second, the outside owners must have some control over the investment. Both the existence of outside risk capital and of outside control were at issue in the following transactions.

Chewco. Chewco Investments L.P. was formed in 1997 as a limited partnership, and might have been the first use of an SPE to remove a significant investment from Enron's books. The origins of Chewco go back to a 1993 joint venture between Enron and the California Public Employees Retirement System (CalPERS) known as the Joint Energy Development Investment Joint Venture (JEDI). Because JEDI was a joint venture over which both CalPERS and Enron had control, JEDI was not incorporated into Enron's balance sheet.

In 1997, however, Enron wanted to form a new JEDI venture with CalPERS but did not believe CalPERS would do two JEDI at the same time. In order to go ahead with the new JEDI, Enron looked for a way to buy out CalPERS's interest in the original one. The solution was an SPE known as Chewco.

As originally proposed, Enron CFO Andrew Fastow would invest in and manage Chewco; the argument for his doing so was that outside investors would be attracted by his knowledge of the underlying assets. But Fastow's participation would have to be disclosed in the proxy statement because he was a senior officer, so Michael Kopper, an employee of Fastow, was made manager instead.

Chewco did not satisfy either of the two requirements for nonconsolidation with Enron. First, Enron could not control Chewco, but Kopper was an employee of Enron. In order to address the issue, the partnership was subsequently divided between Kopper and another individual, William Dodson. But although control might have appeared to be shared after the change, there were additional questions of control because Kopper and Dodson lived together as domestic partners. It is therefore difficult to understand how Enron could not have been in ultimate control.

Enron also failed to comply with the outside ownership requirement. The original capital structure of Chewco consisted of a bank loan, an advance from JEDI, and sufficient outside equity to satisfy the 3% requirement. But although Kopper had made some investment of his own funds, no other outside investors could be found. Instead, Chewco borrowed the required amount from the same bank that supplied the other loan, but treated the second loan as equity. The bank, however, insisted that the loan be secured, and Chewco finally pledged cash from the sale of some JEDI assets. The result was that the secured second loan could not be considered to be at risk to the outside ‘owner.’ Enron arguably should have consolidated Chewco into its books.

In October 2001, Enron, after consultation with its auditor Arthur Andersen, decided that, because the ‘equity’ lent to Chewco by the bank was mostly secured, Chewco (and JEDI) should have never been carried off balance sheet. Enron restated its financials to reflect the consolidation dating back to 1997 in an 8-K Current Report dated November 8, 2001.

LJM Partnerships. The LJM SPEs were set up in 1999 under Andrew Fastow’s management. Their objective was to engage in two types of transaction. The first was to

purchase assets from Enron that Enron wanted to take off its books. But Enron allegedly agreed in some cases to compensate LJM for any losses, so it is questionable in those cases whether actual transfer of risk and therefore true sales occurred. The Powers Report notes, for example, ‘evidence (1) of a general understanding that LJM2 was available to purchase assets that Enron wished to sell but that no outside buyer wished to purchase; (2) that Enron would offer the financial assistance necessary to enable LJM2 to do this; and (3) that Enron protected LJM2 against suffering any loss in its transactions with Enron.’ (p. 140)

The second type of transaction was so-called ‘hedging’ transactions with Enron, specifically by providing ‘outside’ equity to the SPE actually serving as Enron’s hedge counterparty. LJM’s investment was used to justify the nonconsolidation, even though Enron had provided the bulk of capital at risk.

The following transactions were involved in some capacity with either LJM1 or LJM2.

Rhythms Net Connections. In March 1998, Enron invested \$10 million in the internet service provider Rhythms Net Connections (RNC). For its investment, Enron received 5.4 million RNC shares at a price of \$1.85 per share. RNC went public on April 7, 1999, at an initial public offering price of \$21 per share; the price had risen to \$69 by the close of trading that day.

Enron now had a position worth approximately \$300 million, but could not sell because the shares were subject to a lock-up through the end of 1999. Further, Enron marked to market its merchant investments like RNC, and was presumably concerned that the

resulting income statement volatility could endanger Enron's investment grade rating. Finally, Enron had long forward position in its own shares, put in place to hedge employee stock option awards when Enron's shares were trading at a substantially lower price. Although accounting standards do not allow firms to recognize the appreciation in the value of their own shares (except under very limited conditions), Enron wanted to monetize the increased share value embodied in the forwards. The original risk position is shown in the top half of Figure 1.

The 'hedge' position, shown in the bottom of Figure 1, was constructed as follows. First, Enron restructured the forward contracts used to hedge the options, which released 3.4 million appreciated Enron shares worth \$276 million. Enron transferred the shares to LJM1, subject to the restriction that they not be sold or transferred for four years; Enron received a note in return. The shares received a haircut of approximately 40% as a result of the restriction. Second, LJM1 transferred 1.6 million Enron shares plus cash to Swap Sub. Third, having been capitalized by LJM1, Swap Sub sold Enron a put option on 5.4 million shares of RNC, struck at \$56 per share and exercisable in June 2004. The result was called a hedge, but in fact did not transfer risk like a normal hedge. Instead, the ability of Swap Sub to perform the obligation on the put depended on the value of the Enron shares it had received from LJM1. Additional put and call options were added after internal analysis pointed out the weakness of the hedge structure. The same analysts later suggested that Enron should set aside reserves on the transaction, which would have to go through the income statement, but apparently no reserve was set aside.

Enron decided to liquidate its RNC position early in 2000 after the lock-up had expired and RNC was declining in value. The transaction was unwound in March 2000, which

involved termination of the put on RNC, Swap Sub's returning to Enron the Enron shares it had received as capital, and a cash payment from Enron to Swap Sub.

The result was a windfall to LJM1 and to Swap Sub. LJM1's windfall resulted from not being required to return to Enron the shares that had not been passed on to Swap Sub during the initial capitalization. Swap Sub's windfall resulted from basing the put unwind payment on the unrestricted value of the Enron shares, which for purposes of the original transaction had been discounted by about 40%. Had the unwind been based on the restricted value of the shares, in contrast, Swap Sub would have been required to compensate Enron for the difference between the value of the shares and the (higher) close-out value of the put. Had this transaction occurred between unrelated parties, the unwind payment would have been based on the restricted value of the shares (collateral). The Powers Report emphasizes that Arthur Andersen required that subsequent transactions be unwound using the restricted share value (p. 91).

The Raptors. Enron became concerned in 1999 about its merchant investments, which had to be marked to market, and the volatility they might introduce to the financial statements. In addition, many of the investments had increased in value, but were too large or illiquid to hedge with third parties. Enron developed the Raptors based on the experience with the Rhythms hedge.

The objective of the Raptors was to use the 'embedded' value of Enron's equity appreciation to offset declines in the value of its merchant investments. But the offset was not an economic offset but an accounting offset because there was no true risk transfer from Enron to a third party. In other words, Enron hedged with itself.

The transactions violated a basic accounting principle, namely, that a business may not recognize gains from increases in its share price in the income statement. The effect, however, was dramatic: Enron was able to avoid booking losses of approximately \$1 billion on merchant investments during 2000 and 2001, which had to be reversed in the fall of 2001.

There were two basic types of Raptor transaction, one type capitalized with Enron shares (similar to the RNC transaction) and the other capitalized by shares of the hedged entity. But all were set up to engage in hedging transactions with Enron and all were capitalized by both Enron and LJM2 (as the source of 'outside' equity). Further, all had in common the following initial transaction that served to pay off LJM2's investment early. LJM2 initially would contribute \$30 million to the Raptor SPE. But before the Raptor and Enron could enter into hedges, the Raptor was required to pay LJM2 the value of its principal plus return, which together were equal to \$41 million. In order to realize this, the Raptor would sell a put option to Enron on Enron's shares for \$41 million, but settled the out-of-the-money put early and essentially distributed the premium to LJM2 as income. The result was that (1) LJM2's initial \$30 million remained in the Raptor to satisfy the 3% outside equity requirement; but (2) LJM2 had essentially gotten back its initial investment plus a substantial return so had essentially no remaining economic interest (that is, capital at risk) in the Raptor.

Once this initial return hurdle had been cleared, Enron and the Raptors could engage in hedging transactions. There were four Raptor structures, of which three were capitalized with Enron shares contributed by Enron and with the \$30 million cash contributed by LJM2. Their purpose was to engage in total return swaps with Enron on underlying

merchant investments as shown in Figure 2, using the appreciated value of Enron shares to bear the risk. The diagram shows that Enron's underlying risk exposure came from its merchant investment, which it hedged by entering into a total return swap as total return payer to the Raptor. Although Enron appears to have locked in its return on the merchant investment, the ability of the Raptor to perform on the hedge depended crucially on the performance of the Enron shares. Thus these Raptors were not hedges in the economic sense of transferring risk to a third party, but rather a means of absorbing losses with a reserve of Enron shares contributed by the hedging entity.

The other Raptor, known as Raptor III, was created to hedge a merchant investment in The New Power Company (TNPC). As with the other Raptors, LJM2 contributed cash and received its return in the form of the premium on the put option with Enron. But unlike the other Raptors, Raptor III was capitalized with TNPC shares instead of with Enron shares. The resulting risk position for Raptor III, shown in Figure 3, was equivalent to 'doubling up' rather than offsetting risks. That is, Raptor III received the total TNPC return from Enron, but received the same return from its long TNPC position. The result was to magnify, not transfer, the underlying risks.

All the Raptors suffered from the same deficiency, namely, the lack of an effective risk transfer mechanism. If the performance of the Enron or TNPC shares were to falter, the Raptor would not be able to absorb losses (let alone function as a hedge). Accounting standards require a firm to set aside reserves in anticipation of the failed hedge. But Enron resisted setting aside reserves because it would defeat the purpose of the Raptors, that is, it would put the merchant investment losses back into the financial statements. In order to avoid reserving, Enron took a series of delaying actions, consisting first of a

cross-guarantee, then of a cross-collateralization plus an injection of more Enron shares, and finally by collaring the Enron shares. The capacity of the Raptors nonetheless continued to decline. But the cycle came to a halt when Enron and Andersen discovered another accounting error in the treatment of the Raptors, which had increased reported equity by \$1 billion. The correction of this error, along with a \$544 million charge to earnings to reflect the failure of the Raptor hedges, were reported in Enron's 8-K of November 8, 2001,

Figure 1: The Rhythms Net Connections transaction

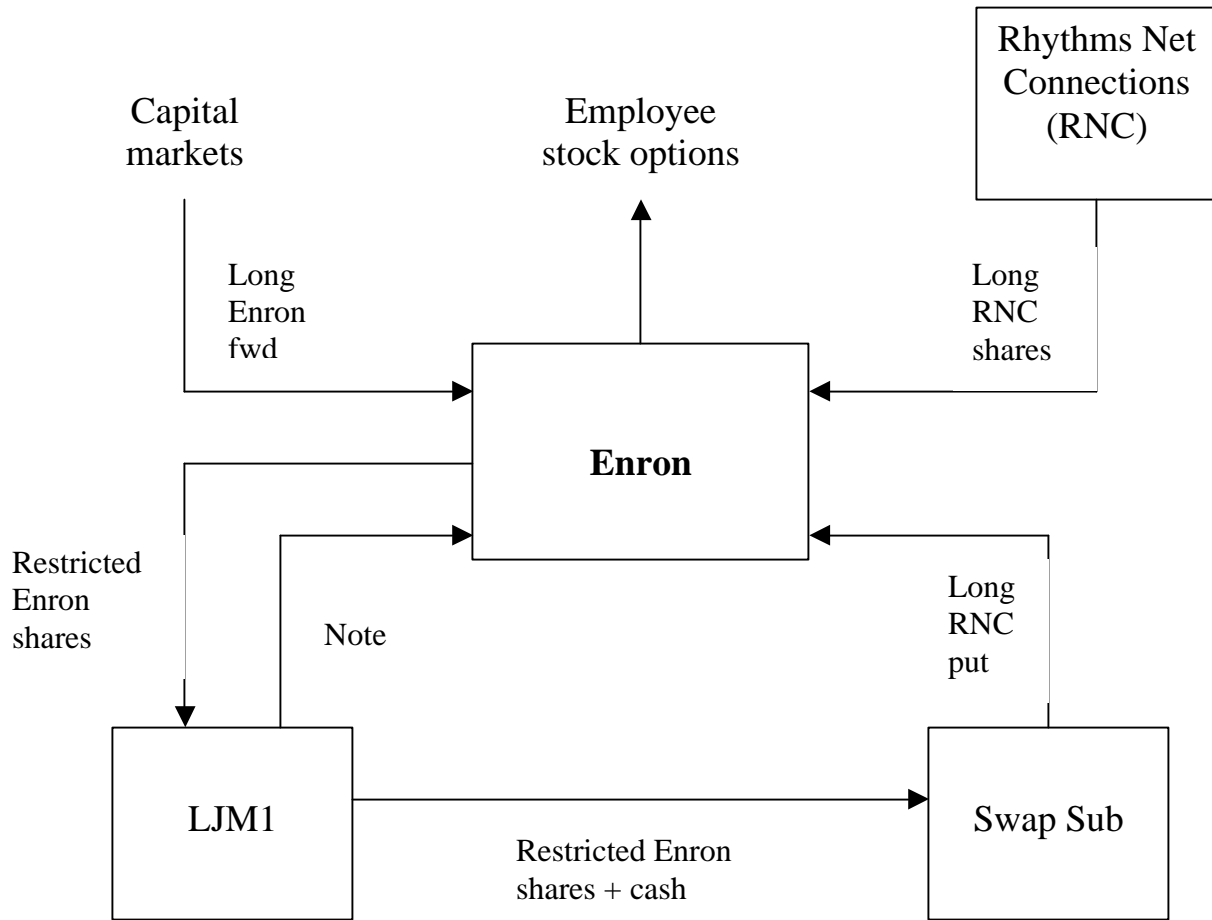


Figure 2: Raptor I, II, IV structure

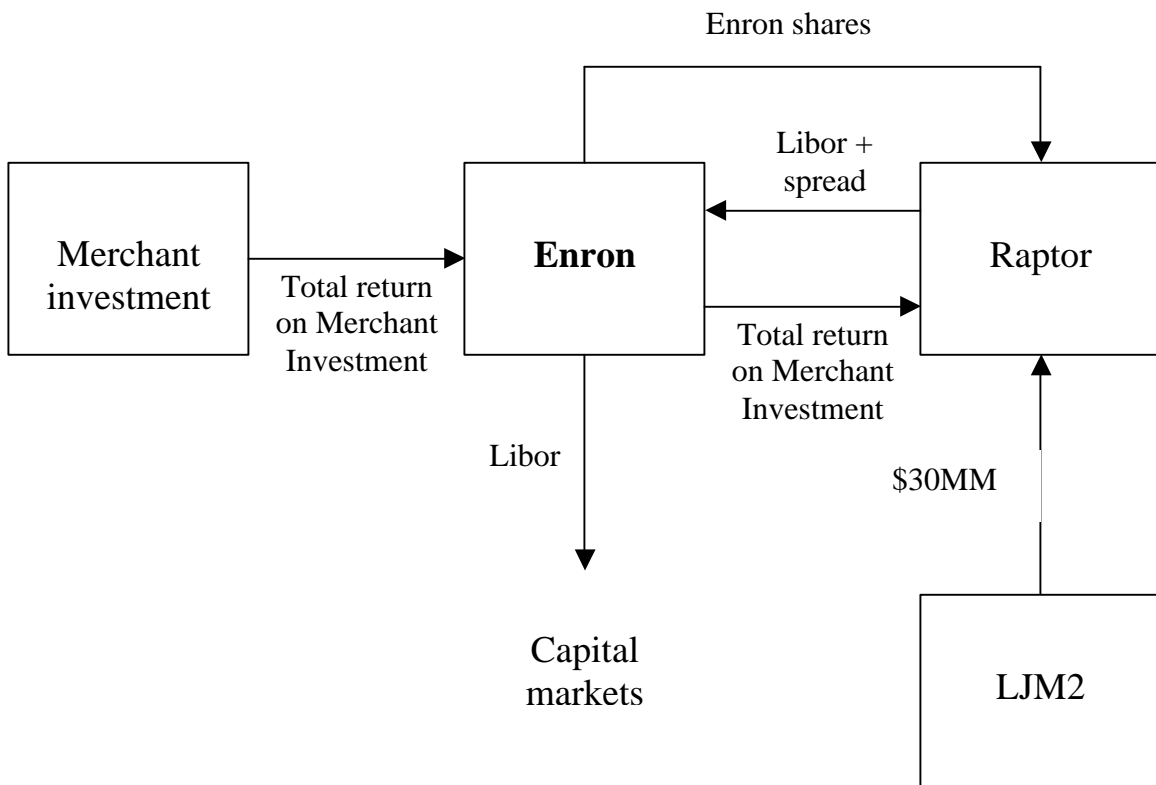


Figure 3: Structure of Raptors III transaction

