Dist.
GENERAL

UNCTAD/ITCD/COM/39
3 March 2003

ENGLISH ONLY

A PRIMER ON NEW TECHNIQUES USED BY THE SOPHISTICATED FINANCIAL FRAUDSTER

WITH SPECIAL REFERENCE TO COMMODITY MARKET INSTRUMENTS

Report prepared by the UNCTAD secretariat

Executive summary

Financial instruments such as documentary credit, structured finance and derivatives have proved their value in commodity trade. However, the sophistication of these instruments can also make them a tool for financial fraud. This report discusses how, using commodity market instruments such as letters of credit, warehouse receipts, Special Purpose Vehicles, futures and swaps, the sophisticated financial fraudster may try to trick bankers, commercial counterparties, Government regulatory or tax offices, and shareholders. Various techniques that have been used in the past are described, and illustrated with case studies (e.g. the salad oil swindle, Solo Industries and Enron). Ways in which Governments, banks and commodity firms can reduce the potential for such frauds are summarized in the report's conclusion.

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This report was drafted by Lamon Rutten of the UNCTAD secretariat. The author thanks Anthony Belchambers (Futures and Options Association), Bogdan Rascanu (Caterpillar World Trading), Julian Roche, Jan de Sterke (Steinweg), Amos Taporaie (UNCTAD), and Jan Willem Termijtelen (Control Union World Group) for their useful comments, suggestions and contributions.

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Introduction

1. Financial instruments are mere tools, and can be used for whatever purpose one wants to use them for. The year 2002 has seen a spate of major corporate meltdowns, and in several cases financial instruments appear to have been part of the tools used by corporate executives to boost their firms' recorded earnings; in the case of Enron, this included the use of commodity-related financial instruments, the topic of this paper. The potential for abuse of financial instruments is fairly well known by now to regulators, bankers, company managers and investors alike. With improper controls on the use of financial instruments (which may be partly the result of the absence of stringent corporate governance standards, procedures and effective enforcement regimes), abuse and fraud are likely to occur at one time or another – and relying just on the personal integrity of individuals could be costly. Criminal minds are often at the forefront of innovation and, if involved in finance, will find a wealth of raw material to work with. The character traits of many a successful criminal – ruthlessness, clear focus, intelligence and a lack of interest in the consequences of one's actions – are also traits that can secure a rapid rise up the corporate ladder.[1] As long as enough easy money can be made by means that are not explicitly forbidden by law, such a rise may not be a problem. But if this is no longer enough, the combination of financial intelligence and the blind pursuit of wealth may be a deadly one particularly for the company rather than for the perpetrator, who may get away with a small fortune before the fraud is discovered.

2. This report focuses on the wrongful use of financial instruments for commodity trade; it does not cover other frauds perpetrated by commodity firms, such as the Bre-X scandal,[2] nor scams targeted at individual investors such as bucket shops (scams under which phoney brokers pretend to undertake, for example, futures trades for customers).[3] The focus here is on commodity-related cases, and similar cases in currency or stock markets (e.g. Barings[4]) are not covered in this paper. Many of the frauds and abuses of the past cannot fail to elicit some

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[1] As noted in a recent *Washington Post* article, "Much of America's awesome industrial colossus was built on financial scams. The 19th-century railroad barons considered stock fraud an indispensable business tool." (Peter Larson, "Crooked high and mighty - Enron is merely the latest chapter in the history of American scams", *Washington Post,* 10 February 2002). A study reported in the February 1996 *Journal of Business Ethics* found that 47 per cent of senior executives, 41 per cent of corporate controllers, and 76 per cent of graduate business students were willing to commit securities fraud by failing to disclose write-offs that reduced corporate profits (quoted in Fred Huebner, "Fifty ways to scam your brother: a field guide to fraud", *Washington State Bar News*, March 1998).

[2] Bre-X was a Canadian company involved in a massive gold mining fraud in 1993-1997. Company insiders doctored drilling samples to claim a massive gold discovery in East Kalimantan (Indonesia), which drove up the company's share prices and gave these insiders large stock gains. For a good description of the case, see the Forensic Investigative Associate Inc.'s 1997 430-page *Report to Bre-X Minerals* (a report to the Bre-X bankruptcy trustee, Deloitte&Touche) available on http://www.baystreet.com/deloitte/brex-toc.html.

[3] See for some examples of these scams the customer protection section of the website of the United States' Commodity Futures Trading Commission, http://www.cftc.gov/cftc/cftccustomer.htm.

[4] For those interested, the Barings case has been extensively examined. Among the more comprehensive sources are the Bank of England's *Report of the Board of Banking Supervision Inquiry into the Circumstances of the Collapse of Barings,* 18 July 1995 (http://www.numa.com/ref/barings/bar00.htm); the *Report of the Inspectors of Baring Futures (Singapore) Pte Ltd*, commissioned by the Government of Singapore (the executive summary is available at http://www.sgrm.com/art41.htm); and a case study by the Swiss International Futures and Commodities Institute, IFCI, "Not just one man – Barings" (http://newrisk.ifci.ch/137550.htm). The root cause of the Barings debacle was aptly, albeit without doubt self-servingly, described by Nick Leeson himself: "A couple of the people who were in the core places within Barings that should have been administering a high level of control ...had what I would describe as almost no understanding of the fundamentals of the business" (in an interview with David Frost, British Broadcasting Corporation, 11 September 1995). Leeson did understand the fundamentals of the business, but his private objectives unfortunately were not aligned with those of his company.

amusement – "how could anyone have fallen for this trick?"[5] But this should not distract from the fact that the frauds and abuses described in this report are a serious matter, and have caused serious harm to many. This report describes some of the main forms of fraud using commodity risk management and financing instruments, as seen in the past, and as in all likelihood are still being perpetrated to this day – it is hoped that this report could help to reduce such practices of fraud. Risk management and financing instruments serve legitimate and highly useful functions and it is by no means suggested that all such instruments are used for fraudulent purposes nor that fraud and abuse are somehow more important in this area than in other areas of finance. Indeed, as one observer notes, "many bankers associate commodities with high-risk volatile markets, fraud and losing money. This is rather disingenuous considering that most banks have demonstrated very effectively over recent years that they have absolutely no requirement to be involved in commodities in order to get exposure to high-risk volatile markets, rogue traders, fraud and/or the possibility of losing money."[6]

3. This brief guide describes ways in which, using modern financial instruments, individuals may try to defraud their company, and companies may try to defraud financiers, shareholders and the Government. In the conclusion, the main defences that Governments, banks and commodity firms have at their disposal are described. This paper has no pretence to completeness – doubtlessly, the prospective fraudster will find his creative glands stimulated by the dream of great pecuniary awards, and may come up with another imaginative way to defraud his company, the Government, investors, or whoever else will be left to hold the stick. The methods described here are all based on real cases, but descriptions may be generalized.

1. How can fraud and abuse occur?

4. Evidently, if an organization is badly managed, the potential for fraud and abuse increases. Proper Government regulations can prompt organizations to put basic controls in place, and can force them, to some extent, to be transparent about their dealings, but not even a perfect regulatory framework can replace proper company-level control systems for the use of financial instruments. A lack of checks and balances, unclear reporting lines and an unclear division of responsibilities all contribute to an environment in which staff may feel that they can commit fraud and get away with it. The remedies for this are well known, although they are not necessarily applied even in large organizations. The division of responsibilities needs to be spelt out and measures taken to ensure that responsibilities are met. Reports on transactions from outside parties (e.g. brokers, collateral managers) should not go to the person that initiated the transaction. Multiple checks and balances need to be built into the system – for example, to separate the responsibility for entering into financial transactions from cash flow management responsibilities, and the two individuals or departments controlled by yet another person/department – and all should report to a specific member of senior management.

[5] One of the more amusing examples is a rather ambitious effort by a group of fraudsters to create their own country, named Melchizedek (claiming a number of Pacific "islands", one of whose highest point is nine metres below sea level, and a part of Antarctica). The "country" has its own embassies, trade centres, banks, insurance companies and stock exchange (with on-line quotes of the current stock prices of the non-existent companies traded on the non-existing exchange), providing a large array of instruments to attract the gullible investor (and with some success). The "country's" website is http://www.melchizedek.com. For a series of articles describing the frauds committed using this vehicle, see http://www.quatloos.com/groups/melchiz.htm.

[6] John MacNamara, *Structured Trade and Commodity Finance in Emerging Markets; What Can Go Wrong and How to Avoid It"*, Woodhead Publishing Ltd., Cambridge, 2001. To quote a regulator, in a similar vein: "Don't focus on derivatives. One of the most dangerous activities of banking is lending" (Ernest Patrikis, Federal Reserve Bank of New York, *Futures*, March 1996).

Managers should be aware of possible signs of trouble – for example, traders who regularly come in over the weekend, and who may use the time to tamper with computer systems or records, or who do not take any holidays for fear that their temporary replacement could discover fraud.

5. An absence of necessary structures and measures is not the only reason for fraud and abuse. At times the incentive system of the company effectively encourages such behaviour. For example, when staff salaries, stock options or bonuses are explicitly linked to stock prices, or the performance of a department, it can be expected that some staff will be encouraged to drive up stock prices in whatever way that is available to them, or inflate reported earnings.[7] Also, certain companies may encourage their staff to behave improperly or even illegally for the benefit of the company – for example, to give kickbacks to other companies' managers in return for their business (this reportedly happens at times in the warehousing business), or to assist their clients to the extent possible even if it means issuing false receipts and declarations.[8] In such an environment, it is not surprising that staff behave illegally not just for the company's sake, but also for their own profit.

2. Is there anyone out there you can trust?

6. While paranoia is generally not an advisable attitude for those wishing to develop a successful business, some measure of scepticism towards "respectable names" is advisable. Just because a large well-known bank advises on a transaction, or a 100-year old firm guarantees collateral, one should not shrink from one's due diligence duties. Nor should it be believed that risks could simply be outsourced through insurance since insurance contracts themselves may well be written in such a way that all the real risks are excluded.

7. Bank managers have been heard to comment in unprintable language on deals with long standing and faithful clients, signifying that the clients got rather bad deals – for example, regulations in the United States require banks and other financial intermediaries to tape telephone conversations of bank staff, which rather embarrassingly can come into the open when some of the clients realize (a bit late) what the bankers knew from the beginning and bring their cases to court.[9] Non-United States clients, particularly if passing through non-United States intermediaries, are unfortunately often unable to benefit from such legal protection, but there is no reason to believe they are treated any better (and in the area of modern instruments for commodity trade and finance, there have been cases of scandalously poor financial advice given by major Western banks to developing country companies[10]).

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[7] "Bankers who hire money hungry geniuses should not always express surprise and amazement when some of them turn around with brilliant, creative, and illegal means of making money" (Linda Davies, "Psychology of risk, speculation and fraud", speech at the Financial Panel 1997, European Research Center, Amsterdam, June 1997).

[8] The best way to deal with this, apart from regular outside inspections, is to ensure that the warehouse company understands that in reality, it is working for the bank, to safeguard commodities that will belong to the bank if a trader defaults on his payment obligations.

[9] See for an example Kelley Holland and Linda Himelstein, "The Bankers Trust tapes", *Business Week,* 16 October 1995, http://www.businessweek.com/1995/42/b34461.htm.

[10] Ashanti Goldfields is a case in kind. This Ghanaian company was advised to hedge the value of its gold reserves – in itself good advice, in that it enabled Ashanti to lock in considerable profits (the price at which it could hedge was much above its production costs). Unfortunately, the strategy that was set up had cash flow risks that were not properly considered – when gold prices unexpectedly increased, a cash outlay would have to be paid to maintain the hedge positions, but as Ashanti's wealth was mostly in the ground, in the form of gold ore, it was unable to raise the needed funds except by selling a major part of its shares at rock-bottom prices. Understanding and managing the cash flow implications of a risk management strategy is not rocket science, but apparently the major American investment bank advising Ashanti felt no need to deal with the issue (and much of the literature is harshly critical of

8. Collateral managers control commodities, normally in a warehouse, with a value several times higher than the payment they receive for this collateral management function. Should something go wrong with the collateral, say, for e.g., that it disappears mysteriously, they will attempt to avoid liability. [In these instances, it will be immaterial to them that their name may suffer, as this decision is based on the idea that this loss of name is less important than the actual value of the goods lost, especially as they cannot claim on their own insurance (more on this in section 5)]. The employees who are actually responsible for guarding this collateral earn a salary that is generally a mere fraction of the value of the goods that they guard. Moreover they may only be temporarily employed by the collateral management company. Thus, temptations can arise, and problems will occur from time to time.

9. Relying on an insurance contract or a guarantee as the main risk mitigant in a loan is quite popular with bank credit committees (or the equivalent bodies in trading companies). The bankers (or traders) who put the deal together are more sanguine about the true value of insurance, but do whatever it takes to get a "good deal" approved by the credit committee.

10. The conclusion to be drawn from all these examples is that reliance on one's own due diligence is essential and that it is necessary to understand what the outside party's involvement really means. Is the outside party really independent, and what commitment does it have to deal with problems? If something goes wrong, what procedures are employed to process claims, and what are the factors that will influence reimbursement? The expertise, risk management and other services provided by third parties can be valuable, but can never be enough to justify a transaction.

3. Paper values – The problem with letters of credit

11. When financing international trade, more often than not the banks only deal with paper such as the letter of credit (L/C), which banks use as payment mechanism by which they ensure that the buyer has the means to pay. They also ensure that payment takes place only if goods mentioned in the underlying contract have been delivered. Bank managers do not actually verify whether the goods exist. Rather, they rely on documents such as bills of lading (evidencing the loading of goods onto a ship), weight certificates and inspection certificates.

12. L/C procedures are commonly used for transactions in international trade, except when both parties know each other well or have a high credit rating; or if affordable export credit insurance is available. To simplify somewhat, a L/C is issued after a contract between buyer and seller has been drawn up (with this contract becoming effective once the buyer has opened a L/C), and is made to conform to the contract. Payment is then made once the bank receives the series of documents spelt out in the L/C, which should correspond to the documents that the seller has to provide in order to fulfil the terms of the contract.[11]

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this investment bank and its possible motives). See for an analysis of Ashanti's problems C.L. Gilbert, "Has the Ashanti Goldfields loss discredited collar hedges?", Vrije Universiteit, Amsterdam, November 1999, http://staff.feweb.vu.nl/cgilbert/Ashanti_r2.PDF.

[11] For a detailed description, and an identification of what can go wrong and how to avoid this, see UNCTAD, in cooperation with SGS Société Générale de Surveillance S.A., *Documentary Risks in Commodity Trade,* UNCTAD/ITCD/COM/Misc. 31, New York and Geneva 1998. This 130-page paper can be downloaded from http://www.unctad.org/infocomm/comm_docs/docs/official/poitcdcommisc31.pdf.

13. L/C fraud is a recurrent problem for banks. Often, they cannot check whether the documents that a seller provides correspond to reality. In effect, according to the rules governing L/Cs, they have to authorize payment once the proper documents have been delivered, unless they have real grounds to suspect fraud.

14. As noted in an earlier UNCTAD paper[12], "The frauds range from receiving money for non-existent cargoes to the scuttling of an old vessel in order to claim insurance, from the chartering of 'phantom ships' to the substitution of valuable cargoes by worthless ones. The law generally favours honouring the L/C unless the fraud is clear and proven beyond a reasonable doubt."

15. The International Chamber of Commerce lists four types of frauds in L/Cs:

1. Falsified documents, the cargo being non-existent;
2. Cargo is of inferior quality or quantity;
3. Same cargo is sold to two or more parties;
4. Double bills of lading are issued for the same cargo. [13]

16. These types of fraud most commonly used by fraudsters and ways to deal with the risks are well described in the UNCTAD paper just mentioned, and will not be discussed here at any length; box 1 contains a case study illustrating the mechanics of this kind of fraud. However, in recent years, a new kind of particularly nefarious fraud has emerged. Rather than going for a quick profit, fraudsters can invest years and reasonably large sums of money in creating a carefully constructed pattern of international activity that in reality is nothing more than a chimera, built out of paper to defraud paper-obsessed bankers.

17. Two massive cases have come to light in recent years – the Solo Industries case in 1999, and the Allied Deals case in 2002. The Solo case will be discussed here in some detail;[14] the Allied Deals case is one of *déjà vu* but with different banks as victims. In both instances, it cost the banks hundreds of millions of United States dollars in losses.

18. Solo Industries Ltd. was a metals processing company in Dubai taken over by Mr. Madev Patel in the early 1990s. His father owned the Indian Hamco group, an import/export trader of minerals and metals between India and the Middle East. Madev Patel used Solo to set up an elaborate network for metal trade. Much of Solo's business was supposed to be that of a metals trader and broker. The company presumably bought and sold metals and minerals and also refined aluminium and some other metals in its refinery in Dubai. A large portion of its sales was on a deferred L/C basis to clients around the world.

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[12] UNCTAD, *op. cit*., p. 56.

[13] ICC International Maritime Bureau, *A Profile on Maritime Fraud*, August 1982.

[14] Based on various sources, with the numbers coming from a number of newspaper articles; the most comprehensive press coverage being a series of three articles entitled "The great Patel bank robbery" in http://www.tehelka.com, and an article by Mark Honigsbaum and Paul Farrelly, "Global trade in phantom cargoes swindles banks of £500 million", *The Observer*, 31 October 1999. A good background and much detail about some of the transactions are also given in the court records of the case of Standard Bank London Ltd. versus Canara Bank (a guarantor to one of Solo's medium-term finance transactions), Royal Courts of Justice, 22 May 2002, available on the Internet at http://www2.bailii.org/~jury/cases/EW/EWHC_Commercial_2002_1032.html.

Box 1

What is the value of documents when the physicals melt away? *

This example of a rather ingenious fraud dates from the early 1990s. A company based in Taiwan Province of China entered a CIF contract to purchase heavy-melt scrap from a Singapore company. The contract was for 50,000 tonnes, to be loaded from a Black Sea port and discharged in the Republic of Korea. In order to avoid import duties, it was agreed between the parties that two L/Cs were to be opened:

- The first L/C for 60 per cent of contract value, payable upon presentation of bills of lading and other documents as per documentary instructions;
- The second L/C for the balance of 40 per cent ─ required for freight purposes under a “freight collect” clause in the Charter Party ─ upon discharge of the merchandise.

The Singapore company informed the buyers that more than half the merchandise was available at the port of loading. The rest – said the sellers – was on its way. Moreover, the sellers announced that a vessel had been chartered. The buyers sent a representative to the port, but he was unable to stay for the full length of the loading of the vessel, which took five weeks. The buyers were not excessively alarmed about the abnormal loading time: they were CIF buyers, and as such not liable for demurrage costs at the port of loading.

Only about 37,000 tons were loaded, but documents were presented by the sellers for the full 50,000 tons (in fact, the ship owner’s representative as well as the supervision company issued documents conforming to the real quantities. But before being presented to the bank, the documents went for a ride in sellers’ premises, where a few numbers were then easy to change). The first L/C was then cashed. There followed a pro-longed waiting period. After testing all limits of patience (and under the pressure of their own delivery-period constraint), the buyers inquired about the fate of their cargo. The response was that the vessel had arrived at the port in the Republic of Korea, but was waiting to be discharged. The sellers then said that they were going through a momentary cash crisis, which could be promptly solved if the buyers would release the funds under the second L/C. Reluctantly – and impatient to get their cargo ─ the buyers acceded to the request.

Meanwhile, the vessel was waiting loaded off the discharge port. The vessel’s owners were getting nervous, since they had already found local cargo for their tonnage for the next voyage. Their Singaporean charterers told them about the cash crisis, but that the buyers were unwilling to pay the balance of funds under the second L/C. Therefore, in order to solve the cash crisis they had to sell the cargo to another company. The vessel owners were on the one hand reluctant to release the cargo without presentation of the proper documents, but on the other hand could not afford to keep the vessel waiting much longer. Thus, in the end, they accepted a letter of indemnity from the Singapore company against any claim, and released the goods.

The cargo was sold, and the sellers cashed in … a second time! The Singapore company disappeared, much richer than before.

Proactive awareness on the part of the buyer and the L/C opening bank could have made a difference. Firstly, the bank should have refused to open two distinct L/Cs, one for the merchandise and one for the freight. It should have asked for one payment, and imposed a “freight prepaid” clause on the bill of lading instead of the lax “freight collect”.

Secondly, the buyers should have nominated themselves (and paid for) a reputable supervision company at the port of loading to report directly to them about the status of the loading operations. This would have made it impossible for the seller to forge the loading documents.

Thirdly, even though there is no formal link between CIF buyers and vessel owners, a phone call to the owners could have been beneficial for determining the status of the shipment. This would have been easy had the buyers used the services of a maritime agent at the port of arrival.

Instead, everybody was relying on documents, with the exception of the fraudulent sellers, who cashed in twice, notably because they knew how to turn to their own criminal advantage the disconnection between physicals and paper.

** Text kindly contributed by Bogdan Rascanu, Senior Trading Representative, Caterpillar World Trading.*

19. Solo claimed an annual turnover worth hundreds of millions of dollars, and had the documents to prove it. It became a popular client for a number of major banks, which provided finance through two mechanisms:

- Short-term finance in the form of forfeiting of the deferred L/Cs. Solo's buyers opened letters of credit with prime banks (this is a small groups of major banks with a large international presence and a high reputation). Under these L/Cs, payment was to be made by the buyers several months after the documents evidencing delivery of the goods had been accepted by the bank. Solo discounted these future payments against ready cash.
- Medium-term finance on the basis of Solo's future business. For example, in one $ 20 million pre-finance arranged in late 1997 by Standard Bank, Solo was supposed to pay advances to an Indian tin producer, who would then deliver to it 7,200 tons of tin over 36 months. Solo would then deliver the tin to a Belgian trading company, Sogem, a major player in the market. Sogem reimbursed the banks as soon it obtained the metal.[15]

20. These financing mechanisms were by no means exceptional for a metals trading company, and in themselves were well structured. Unfortunately, they were built on paper that was mostly pure invention – and in this sense, the banks financing Solo made serious mistakes in their due diligence, as they made little effort to check the validity of Solo's declared business.

21. It should be said that Solo's owner, Madev Patel, used every trick in the book, and even invented some new ones. In Dubai he made visitors believe that Solo was a major enterprise by showing them a factory and offices that did not belong to him. The company's smelting plant in Dubai was only fired when a bank manager's visit was expected. Arrangements were then made to ensure that the fax machine would start churning out London metal exchange prices in the banker's presence. Most of the companies from which Solo bought and to which it sold were in effect part of Patel's network, which stretched from India and the Middle East to Britain, France, Switzerland and the Netherlands Antilles – and in many cases, they were mere postbox addresses. The necessary bills of lading were sometimes falsified – for example, scrap rather than alloys was loaded. In other cases goods were loaded onto ships for customs purposes only to be surreptitiously removed before the ships left port. Shipments were booked on slow ships that stopped in different ports and bills of lading for the same goods were issued separately for each port and each was then presented to a different bank for encashment. In yet another variation, genuine cargoes were loaded only to be diverted to destinations other than those on the export declaration. Some cargoes were shipped repeatedly between Solo in Dubai and Hamco (which was part of the scam) in India to inflate turnover numbers. All of this was facilitated by the fact that Solo had its own "captive" shipping agency, owned by a brother-in-law of Madev Patel. When the International Maritime Bureau checked a sample of 432 bills of lading, it found that only 12 related to genuine transactions.

22. The Solo case was carefully built up over the years. The fraud was discovered in late 1998, when the Indian customs and excise authorities spotted discrepancies between shipping documents and actual shipments and raided Hamco's premises. Patel had a 15-year track record with banks and had never had any problems. Since most buyers were part of Patel's empire, they accepted the documents sent by Solo without suspicion; and on the basis of the L/C, they paid using funds that Solo had received from other banks. This ensured that banks were willing to increase their exposure steadily (and even made them push aggressively in order to lend more to

[15] MacNamara, op.cit.

Solo), while simultaneously reducing the financing conditionalities. In the end the total loss for some 25 banks was in the range of $ 500 million with respect to Solo, and over $ 250 million with respect to Patel Sr.'s Hamco Industries (which mostly acted as an importer).

23. The recent case of the Rastogi brothers and their various companies, particularly Allied Deals, was mostly a repeat of the Solo case. This metals trading company reported a monthly turnover of $ 20 million, which was almost entirely fake. Again, there was a wide network of so-called buyers and sellers, which in effect were controlled by the Rastogis. As in the case of Solo Industries, Allied Deals used the receivables from these transactions as collateral for loans from banks – thus obtaining over $ 600 million in credit before the fraud imploded.[16]

24. One important remedy for this kind of fraud is for the trade finance departments of banks that handle documentary credits to undertake random "due diligence" checks of bills of lading. The section of the International Chamber of Commerce's Commercial Crime Services bureau that specializes in combating trading and shipping fraud, the International Maritime Bureau, routinely carries out such checks as a service to its members.[17]

4. The financial magic of the disappearing buyer

25. It is not uncommon for sellers to disappear after they have received some finance from their prospective buyers. In international commodity trade, trade houses often rely on local traders to procure commodities upcountry and move them to the port. They generally have to pre-finance their operations and therefore run the risk that the seller will disappear instead of delivering the goods. Furthermore, there is also some risk that the seller will try to extract additional funds from them by claiming, with the support of falsified documents, that the goods are stored upcountry and that extra cash is necessary for transporting them to the port warehouse. Traders are fully aware of these risks and try to keep them under control to the extent possible.

26. Buyers too can profit by defaulting on their obligations. One fairly popular fraud committed by some buyers, used not only in commodity trade but also for manufactured goods, can be observed in countries where regulations stipulate that goods can stay in custom-bonded areas for a limited period, say up to three months, and will thereafter be auctioned off locally.

27. The nature of the fraud is simple once one realizes the implications of such a regulation. A buyer signs a contract for the import of certain goods, jute bags for example, which should have a ready but not an overly large market in the country. The buyer may make a 5 to 10 per cent down payment with the balance to be paid on delivery. The goods arrive in the country and are stored in the custom-bonded warehouse awaiting clearance. The buyer then simply finds excuses to postpone the collection and does not pick up the goods. Alternatively, he enters into

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[16] Several dozen articles about the Rastogis' fraud were written by *American Metals Market*, which has put them together on its website, http://www.amm.com/ref/hot/scandal.htm.

[17] "Even relatively simple checks can bring fraud to light. For example, in July 1991, a Bulgarian buyer was defrauded of $ 3.8 million, which was supposed to be for 13,100 tons of Brazilian sugar to be paid by a letter of credit. "The payment was released by international banks on the basis of the bill of lading which proved that the sugar was loaded on 17th July in the port of Santos on the m.v. Giovanna bound for Varna, Bulgaria. It would have been simple to establish with Lloyds Register of Shipping that the m.v. Giovanna was nowhere near the Brazilian port of Santos in July 1991. It had been renamed the m.v. Styliani in 1983 and broken up for scrap in Pakistan in 1984." (From a warning on sugar frauds by the International Chamber of Commerce, reported in http://www.almac.co.uk/personal/roberts/fraud.html).

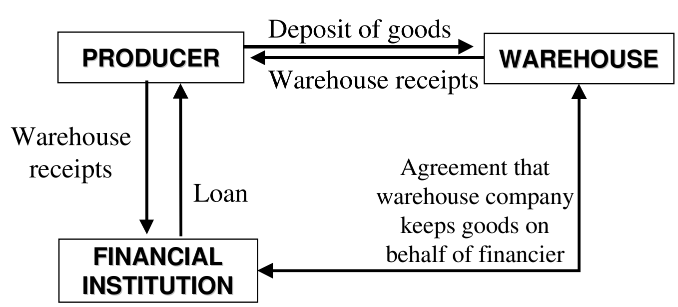
an arrangement with a key customs official who ensures that the goods never meet the requirements for clearance. It will soon become too late or too cumbersome for the seller to re-export the goods and they will be auctioned off for a fraction of their real value, with the proceeds going to the seller. Unofficial arrangements would have then to be made to ensure that the original buyer is the highest or the only bidder, picking up the goods at this low price. Due diligence about prospective buyers remains the only way to reduce the risks of such fraudulent practices.

5. Collateral conundrums

28. In commodity trade banks may provide finance against the collateral of physical stocks. In principle, this provides more security but in practice banks should avoid becoming complacent only because they have collateral.[18] If banks are largely ignorant about commodity finance (a not uncommon occurrence), they may be willing simply to receive warehouse receipts issued by an independent warehouse (with the risk that the receipts are falsified), or by a warehouse controlled by the borrower (hence with no real guarantee that the commodities pledged are indeed in the warehouse, or that they will remain there), or even from a non-existent warehouse (in other words, the borrower just invents a warehousing company).[19]

29. In its simplest form, warehouse receipt finance is structured as in chart 1. The bank (or any financier) agrees with an independent warehouse operator that he stores and controls the goods on the bank's behalf and will only release the goods after receiving the bank's explicit permission. Banks can estimate the value of the commodities, and provide the depositor (e.g. a trading company) with credit up to a certain percentage of the value of the goods. For example, a trader brings cocoa into port warehouses in order to build up a sufficiently large volume for an export transaction. The warehouse manager issues receipts for each deposit and on the basis of this the bank provides funds allowing the trader to continue buying. When an export contract is signed, the exporter pays directly to the bank, which on receiving the payment (or an acceptable letter of credit) authorizes the cocoa to leave the warehouse. The bank keeps what is necessary for reimbursement of its loans, with the remaining funds credited to the trader.

Chart 1
The principle of
warehouse receipt finance



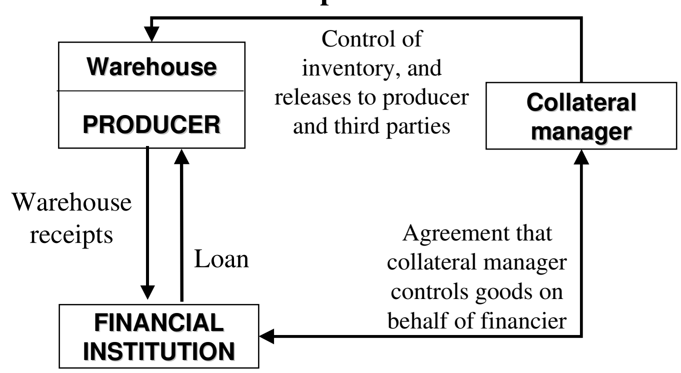
[18] As noted by Peter Larr, "Two sides of collateral: Security and danger", Journal *of Lending & Credit Risk Management,* May 1996, "Many a banker has crashed on the rocks of credit loss after listening to the siren song of collateral".

[19] This was apparently the case for the recent Rastogi scandal, where a non-existent warehouse, supposed to be based in the United Arab Emirates, was supposed to hold millions of dollars worth of metals. Apparently, no bank had considered it useful to inspect the goods or even to check whether the warehousing company really existed.

30. Some companies may wish to overstate the value of their inventory or remove the inventory that has been pledged as collateral against a loan from the control of the financiers.[20] There are several ways of doing this. The borrower may find ways to distort the volume of the goods in the warehouse: including bags which contain worthless products[21]; building a big empty box in the middle of the warehouse where the piles of bags or bulk commodities should be and depositing the commodities around this box; or, as was done in one of the highest profile cases of fraud in warehouse receipt finance, the 1960s salad oil swindle in the United States, adding water to tanks that are supposed to contain vegetable oils (see box 2). He may also exaggerate their quality (for example, by using low-quality coffee beans while declaring high-quality ones).[22] It is also possible that a buyer colludes with a seller, with the seller providing invoices with inflated values for goods. If the bank then uses these invoices as the basis for establishing the size of loans it can get into financial problems. To protect themselves, banks could follow the market value of the goods that they finance against the security of warehouse receipts.

31. Borrowers can also cause the goods to exit from the warehouse without the financier's permission or they may use the same warehouse receipts as collateral for several loans. Frauds like this are possible when warehouse used is not an independent one, but owned by the borrower and temporarily put under control of the bank, see chart 2. The financier hires a collateral manager to control the flow of goods into and out of a warehouse owned by the beneficiary – a producer, trader or processor. The collateral

Chart 2
Warehouse receipt finance - in practice



[20] This problem is not unique to commodity firms. In the United States, a special commission found in 1999 that mis-stated asset valuations accounted for nearly half the cases of fraudulent financial statements, and that inventory overstatements made up the majority of asset valuation frauds (Joseph T. Wells: "Ghost goods: How to spot phantom inventory", *Journal of Accountancy*, June 2001).

[21] For example, in August 2000, Nicaragua's third largest bank, Interbank, collapsed following the discovery that its managers had colluded with a major client, Consagro, the country's largest coffee exporter, to arrange multi-million dollar loans against non-existent coffee stocks. Over 22,000 tons was supposed to be in bonded warehouses, but the warehouse staff were paid by the exporter and did not verify the bags brought for storage – they simply issued the warehouse receipts which were then used to obtain credit. When the stocks were finally checked by the Government's supervisory agency for the warehouse (because the quantity of coffee stocked according to the warehouse receipts was much greater than the capacity of some of the warehouses concerned), it was found that only the bags in the front rows of the piles of "coffee" bags contained coffee, the rest were filled with rice chaff. On a smaller scale, in a parallel fraudulent scheme false warehouse receipts were also issued for sugar. Total losses were over $ 20 million. This was part of a large scheme under which Consagro used various illicit methods to obtain funds from Interbank (several of whose managers were colluding with the exporter) and other banks. (source: various articles in Nicaraguan newspapers *La Prensa Digital,* http://www-ni.laprensa.com.ni/; and *El Nuevo Diario*, http://www.elnuevodiario.com.ni/).

[22] This is particularly serious as banks often finance against fixed export contracts. For example, a local trader has a contract with a foreign buyer to deliver a certain volume of coffee of a certain quality. If the coffee does not meet the quality requirements of the coffee, the buyer will refuse to take delivery, and the bank will be left with the problem of finding an alternative buyer. The volumes involved can be large and can procure considerable profits – for example, in a case in Vietnam in 2001, the director of a State coffee export company colluded with warehouse managers to replace almost 12,500 tons of coffee with coffee of a lower grade, and sold the good-quality coffee beans on the market.

Box 2
The great salad oil swindle

Tino de Angelis was a man with a mission. Starting his career in 1931 in the meat packing industry at the age of 16, he struck it rich three years later when he realized it was more cost-effective to move frozen meat than to transport live animals. A decade later, he found black market trading even more profitable, and after the Second World War, he made a business out of selling inferior meat to overseas Governments and the United States school feeding programme. After he was fined a third time, he decided to look for another rent-earning venture, and found it in the "Food for Peace" programme, which included a facility to subsidize the export of surplus vegetable oil. In 1953, De Angelis created the Allied Crude Vegetable Oil Co., which bought crude vegetable oil on credit and then exported it.

By the late 1950s, Allied held 75 per cent of the export market for vegetable oils, and had an order book of $ 200 million (although it was not a licensed exporter). There were soon complaints about its operations – for example, the Government of Pakistan objected when it received drums of water instead of vegetable oil. The United States Government became suspicious and in 1960 charged the company with tax evasion and issuing false shipping documents. Allied promptly paid the resulting fines, and continued its operations unabated. Its share in United States vegetable oil exports increased further, to over 80 per cent.

Lack of access to finance was a major problem for Allied: the reputation of De Angelis discouraged banks from lending to the company. A loss-making warehousing subsidiary of American Express (Amex) became involved in Allied in 1957, seeing an opportunity to take over the warehousing of Allied's vegetable oil. Under Amex management, it became possible to issue warehouse receipts against which Allied was able to borrow money (primarily from exporters, although a number of banks also provided finance). This was a field warehousing operation: a major part of Allied's tank farm was nominally managed by the Amex subsidiary, but in practice Amex used Allied personnel for the management of the tanks.

From 1960 onwards, American Express had been receiving continuous information on discrepancies in Allied's records, and especially its handling of inventories. But it had been particularly ineffective in investigating these matters – and even unwilling to follow up on specific reports (as is often the case in situations of this kind, managers are afraid of killing the goose that lays the golden egg). The fact that Allied reported vegetable oil stocks equal to twice the entire production of the United States did not rouse any suspicion. Oil samples were sent to Allied's own laboratory, and when the Amex auditors saw water in the samples, they just accepted the explanation that it was due to broken steam pipes.

In fact, Allied kept just enough oil in the tanks to meet current orders; most of the tanks were filled with seawater with a thin layer of oil on top. Each Friday, Amex auditors came to do stocktaking, but they were easy to trick. In some of the tanks, a metal cylinder welded below the sampling opening was filled with oil and the rest of the tank contained water. At other times, Allied's staff were allowed to suggest which tanks to check. The tanks were connected through a complicated network of valves and pipes, making it easy to move oil around.

These practices could have gone on for a long time had it not been for the fact that De Angelis had also been manipulating the futures market. Anticipating export orders from a number of countries, he had been buying soyabean oil futures through a number of brokers in late 1961. The expected orders did not materialize, and De Angelis was forced to either take the loss or try to drive up futures prices. He did the latter, but in November 1963 regulatory authorities discovered that 90 per cent of open positions in the Chicago Board of Trade were ultimately held by Allied. The Commodity Exchange Authority (the predecessor of the Commodity Futures Trading Commission) sent its inspectors to examine Allied's books, and within a few days a bankruptcy trustee was appointed. It did not take long to realize that the content of Allied's oil tanks was mostly worthless.

The true extent of the fraud – over $ 200 million – soon became visible. Amex's subsidiary went bankrupt, and the Chief Executive Officer of the parent company felt morally obliged to make up for part of the losses of the lenders. De Angelis was sentenced to ten years in jail; in the end he served seven years, which he later described as the best years of his life.

manager leases the warehouse temporarily from the owner places his staff in charge, and even locks the warehouse using his own key. This will ensure that the owner no longer has access to the warehouse.

32. In practice, this can be difficult to do, since this warehouse will normally be on the premises of the producer, processor or trader. In some cases, part of the actual warehouse is actually controlled by the collateral manager, while another part stays under the control of the owner. In many cases, the collateral manager recruits the normal staff of the warehouse – warehouse clerks, workers and guards – who may be more loyal to the owner than to their new employer.

33. Collateral managers have a difficult job, as they often have to work in hostile surroundings where the warehouse and its access routes can be controlled by the borrower, who can effectively prevent the collateral manager from reaching the premises. This has happened regularly where the borrower may be well connected with local politicians, policemen and judges. Furthermore, staff in the field may take it upon themselves to redefine their responsibilities to make their job easier or more lucrative. Some of the more common sources of problems are even defended as just being a case of the collateral manager trying to please everyone at the same time. This is particularly the case when a collateral manager decides to issue a warehouse receipt (evidencing that commodities of a certain description have been delivered at warehouse A, and that they are being kept in the name of B), even though in reality no commodities have been delivered at all. In the past warehouse operators argued that this was necessary, as it was the only way to oblige the bank to provide the trader with the finance that he required to start buying commodities – falsifying documents was just a way to optimize their service.

34. Borrowers may go to further lengths to avoid reimbursement. In one Central American case, a bank financed a coffee exporter against coffee stored in a warehouse. When the coffee was sold the buyer was to pay the bank, which would then authorize the warehouse manager (an ex-employee of the exporter, who was temporarily recruited by the bank) to deliver the coffee to the buyer. As things happened, no buyer was announced, and after some time the bank called in its loan. The exporter claimed that he was unable to pay, and when the bank then decided to take possession of the coffee to sell it, the warehouse burned down. The exporter refused any liability and referred the bank to his insurance agent. The insurance agent undertook an estimation of the site, took samples of the ashes, and after some careful calculations, decided unequivocally that the amount of coffee in the warehouse was considerably lower than had been reported. There was a clear fraud and the bank had a legal claim against the exporter. Fires in warehouses are by no means common, but they happen frequently when the warehouse is full and the commodities are pledged to a financier.

35. If goods in the custody of a collateral manager disappear, he has to make up for the resulting losses. Financiers should, however, understand that in general the collateral manager will have insured against such losses, and that if the insurance does not pay out, it is likely that the collateral manager will also attempt to avoid making payments. It is thus in the financier's interest to understand exactly how the collateral manager is insured. In general, he should have three types of insurance. First, he has to be insured against fires, floods and other "external"

damage to the goods in the warehouse.[23] Second, he should have insurance against frauds by individuals working for him (e.g. security guards), normally with a limit of a few million dollars for losses caused by each person. And third, he should have global coverage for worldwide losses, normally with a deductible. Problems occur in particular with respect to the insurance for fraud by staff – normal policies do not cover fraud perpetrated by the manager of a warehouse, but only fraud by more junior staff. It is possible to get a "rider" in the insurance contract that would specifically include fraud of this kind, and given that this is a serious risk, it is advisable for banks to insist on such a rider.[24]

6. The phantom menace

36. With financial instruments, phantom profits can be created in a way that goes beyond the simple fraudulent misclassification of earnings and expenditures. Banks may be all too willing to assist in this process. The Enron saga illustrated some of the possibilities in this regard. In the investigations of the United States senate into banks' cooperation with Enron, "when David Bushnell [a Citigroup executive] was asked whether he agreed that it is the responsibility of a financial institution like Citigroup not to participate in a deception, Mr. Bushnell said, "it depends upon what the definition of a deception is."[25]

37. Although it received less attention than its use of Special Purpose Vehicles (SPVs, also called Special Purpose Entities, SPEs) to hide its losses in various investments or to manipulate accounting statements, Enron also made a particularly interesting use of a certain kind of forward contracts (called "prepays"). Prepaid forward contracts are normally a legitimate and very useful mechanism to finance new ventures. For example, a company identifies a gas field that is worth exploiting. Investment costs are, say, $ 100 million. Should the company's credit rating not be optimal, obtaining this sum of money is very difficult. So what the company can do is isolate the assets of the new gas field into a SPV, which hence becomes the owner of the gas field and all future production. This SPV can then sell the gas forward to sufficiently creditworthy buyers, with delivery starting when the work on the gas field has been completed. Using SPVs to raise finance can be an extremely valuable tool to enable companies to raise funds for new projects or for investments in an expansion of productive capacity, and it may be hoped that the few cases of abuse will not lead to new regulations hindering the legitimate use of these instruments.

38. There are few ways to structure financing on the basis of using SPVs as a pass-through. One possibility is for a bank to finance the buyers who make these forward purchases. The credit terms will be more favourable than what the company could have received if it had lent directly, on the one hand because the bank can rely on the presumably more creditworthy (and more diversified group of) buyers, and on the other hand because it ultimately has recourse to the underlying contracts and can thus always resort to selling the gas itself should the need arise. The bank is not dependent on the liabilities of the "borrowing" company itself, and indeed is not obliged to conduct an exhaustive due diligence of the company – instead, it can focus on the project that is to be financed.

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[23] Large trading houses may ask the collateral manager not to put an insurance cover of this kind in place, because they have their own global policy.

[24] A rider, also known as an endorsement, is an amendment to the insurance contract. A rider may add coverage that the contract did not initially offer, or restrict coverage that the contract would otherwise have had.

[25] Quoted by senator Carl Levin, Chairman of the Permanent Subcommittee on Investigations, at a hearing on the role of financial institutions in Enron's collapse, July 30, 2002, http://www.senate.gov/~gov_affairs/073002levin.htm

39. The bank may also decide to be the buyer of the gas itself. It will have to conduct a considerable due diligence to ensure that the gas indeed exists, and can be exploited economically. It will generally also want to back up its forward purchases with a fall-back position with normal gas buyers – the bank will either sign forward contracts with the gas buyers, or sign contracts with them under which they commit to act as buyers of last resort. Compared with a normal corporate loan, the bank is able to offer better conditions because of its recourse to actual and identifiable gas reserves, and because it does not need to provide for multiple corporate risks.

40. Most companies have to use "mark-to-market" accounting for their trading activities. Under mark-to-market accounting, a company that makes a long-term forward sale, whether it is prepaid or not, is required immediately to record as revenue the present value of the forward sale, even if it will only receive the actual cash flow related to such revenue at a later date. If the contract is not prepaid, the company's financial statements will show revenue without corresponding cash flow; but if it is prepaid, then there is a corresponding cash flow, which the company might book as "revenue from operations" (even if these operations will only take place in the future).

41. The SPVs for arrangements such as these are normally registered in low-tax constituencies such as the Cayman Islands. In itself, there is nothing wrong with this practice, or for that matter, with the use of prepaid forward contracts. The SPV is a mere pass-through, and it is normal to avoid unnecessary costs for this financing structure (e.g. value-added taxes on the forward sales, or registration taxes). But if regulators and/or auditors are inattentive or lax, it can help to make abuses of the system of prepaid forward sales possible.

42. This was the case of Enron. What Enron effectively did was sell to banks natural gas and crude oil that it did not possess but which it hoped to procure in the future. The banks then sold these commodities back to Enron on deferred payment terms (see box 3).[26] Thus, no delivery of the commodity was expected. This is the economic equivalent of a loan, but both parts of the transaction were registered as outright sales. It is unclear why there would have been any benefits in terms of risk mitigation for the banks – there were no specific, identified underlying gas reserves, and no external buyers – so the main purpose of the transactions seemed, on the one hand, to avoid internal credit ceilings on lending to Enron, and on the other hand, to hide loans from the public eye. The SPVs that Enron used were, in the end, only phantom vehicles, used to make underlying circular transactions appear legitimate.[27]

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[26] See on this, for example, the testimony of Bala Dharan, Rice University, to the United States House Energy and Commerce Committee's Hearings on Enron Accounting, 6 February 2002, http://energycommerce.house.gov/107/action/107-83.pdf.

[27] The debate on what regulators should do to prevent such things from happening again is in full swing. In general terms, it is clear that something is wrong with accounting and reporting standards, and with the ethics standards of too many corporate officials. In any case, it is hard to imagine how better disclosure would have a negative effect on the legitimate use of SPVs, when they make it possible to raise funds on the strength of the underlying project rather than on the basis of the credit rating of the company that happens to be undertaking the project.

Box 3
Enron's use of Special Purpose Vehicles to disguise loans as commodity transactions

In addition to using Special Purpose Vehicles (SPVs) to hide investment losses or manipulate its accountancy statements, Enron also used them in at least two cases to dress up loans as commodity transactions. At least two banks, JP Morgan Chase and Citigroup, were involved. These banks had insured themselves against the risk that Enron would not "deliver" by taking out close to $ 1 billion of surety bonds with a number of insurance companies. When Enron collapsed, these insurance companies refused to pay, arguing that the banks had not entered into insurable forward and gas contracts with Enron, but had made disguised loans (and under the relevant law, that of New York, it is illegal for insurers to cover the risks on loans).

While this conflict has now been settled (with the insurance companies paying around 60% of the insurance coverage, probably at least partly because it was not clear whether or not they knew, from the beginning, that they were insuring a disguised loan), in first instance, the court agreed with the insurance companies' findings. One particular reason for this judgement was the nature of the underlying transactions. Enron had signed six natural gas and crude oil contracts with Mahonia, a SPV controlled by JP Morgan Chase, from 1998 to 2000. But "Enron was buying nearly the same amounts of gas at nearly the same price from another entity called Stoneville Aegean at around the same time that it was selling gas to Mahonia. Stoneville and Mahonia, it appears, were set up by the same company, have the same director and the same shareholders" (as noted by the judge in the first court case, quoted in "J.P. Morgan loses round one", *Forbes*, 3 June 2002).

"For example, the records show that on Dec. 28, 2000, Enron sold a contract to Mahonia agreeing to deliver gas with a total value of $394 million from April 2001 to November 2005. Mahonia paid up front, rather than through a series of monthly payments, and apparently received a discount, making the total amount due to Enron $330 million. That day, Enron entered into another transaction, this time with Stoneville Aegean, to purchase the same amount of gas, at the exact same price, for delivery at the exact same time. Unlike in the Mahonia transaction, however, Enron did not prepay, and thus received no discount. The result is that it owed $394 million to Stoneville Aegean, with the total amount due in 2005. Through the two deals, Enron took in $330 million from one entity at the end of 2000, and agreed to pay out $394 million to another entity by the end of 2005 ─ transactions with the same financial effect as a loan at about 7 percent interest." (Kurt Eichenwald, "Records raise questions over some Enron gas trades", *New York Times,* 18 February 2002.) But contrary to what would have happened with a loan, this structure conveniently led to Enron reporting an extra $ 330 million of sales.

As the Forbes article concludes: "It seemed, therefore, that J.P. Morgan was passing cash to Enron through Mahonia. Enron was supposed to be supplying oil and gas in return, but never was. J.P. Morgan was, rather, buying that energy from itself ─ and using the ruse as an excuse to make apparent loans to Enron."

In the case of the forward contracts with Citigroup, which were passed through a SPV called Delta Energy Corporation domiciled in the Cayman Islands, Enron was allowed to pay cash instead of delivering natural gas or oil – delivery was clearly never intended. (See Richard A. Opple and Kurt Eichenwald, "Citigroup said to mold deal to help Enron skirt rules", *New York Times*, 23 July 2002) In the case of Delta, like that of Mahonia, "all 'independent' legs of the prepay transactions were contemplated and executed simultaneously." (Testimony of Lynn Turner, Colorado State University, to the Governmental Affairs Permanent Subcommittee on Investigations, 23 July 2002, http://www.senate.gov/~gov_affairs/072302turner.htm).

Further descriptions of the JP Morgan and Citigroup "circular" transactions with Enron, using the Mahonia and Delta vehicles, can be found in http://govt-aff.senate.gov/072302roach_c.pdf and http://govt-aff.senate.gov/072302roach_d.pdf.

7. The unbearable benefits of lateness

43. The fraud cases discussed above occur in trade finance. The cases in this section and the next can occur in the management of commodity price risks.

44. In commodity risk management, it can be highly beneficial for individuals and highly disadvantageous for the collective (the company, the tax authorities) to fudge the time at which risk management transactions are entered into. Traders, brokers and others turned this into a much-honed skill, until companies, and later (in the late 1980s) regulatory authorities, got wind of the possibilities opened up by a lack of accurate recording of the timing of transactions.

45. The frauds that can result from allowing a trader (or another individual) to be late in reporting on risk management transactions are basically of two kinds:

(a) Misallocating trades

Through an informal arrangement with a broker, a trader is able, at the end of the day, to allocate trades either to his company account or to his private account. Naturally, the deals that end up in his private account will be profitable. Companies have generally dealt with this problem by, first, banning their staff from taking private positions in the markets where they are supposed to be active for the company's account, and second, by working only with reputable brokers (which implies that senior management has to approve brokers with whom to work).

(b) Simultaneous purchase and sale of identical contracts

If one simultaneously purchases and sells the same futures contract, invariably, one of the positions will result in a profit and the other in a parallel loss. The only costs are commission costs. The trick is to allocate the positions to particular accounts after one knows which one is profitable. This can be useful for different reasons, for example:

- To avoid taxes, profit-making positions can be allocated to an offshore account. This technique has been used both by individuals (e.g. by the late 1980s, the United States Internal Revenue Service had detected and recuperated a total of $ 3.5 billion in delinquent taxes that were directly related to the use of this technique), and by companies (e.g. the bankruptcy trustee of a major Italian commodity trading firm found, in the early 1990s, over $ 200 million in a Swiss bank account, moved out of Italy using this technique);
- To launder illegal earnings, profit-making positions can be allocated to one's "public" account, the loss-making ones to the account where the illegal earnings are collected. This permits a ready explanation of the source of one's wealth – one was "lucky" on the futures market;
- To bribe persons in a way that allows them to legitimize their earnings, a profit-making position can be allocated to their account. For tax purposes, they have then just shown exceptionally good foresight.

46. The simultaneous purchase and sale of identical contracts was once a rather common practice, but tax authorities started cracking down on it in the late 1970s and early 1980s in the United States, and somewhat later in Europe. The key focus of regulatory concerns in this area

has to be on brokerage practices. Brokers need to register the time at which the transaction is entered into and identify the account holder. Regulators generally insist on a number of measures which ensure that such "time-stamping" is correct, including the obligatory use of "tamper-proof" time-stamping machines, numbered order pads, multiple copies of order forms (which have to be sent to and time-stamped by different departments in the brokerage), and the taping of the brokers' telephone conversations. The regulatory agency should then regularly audit effective adherence to such prescribed practices. Many countries have regulations governing the use of overseas brokerages, which effectively allow their companies only to use brokers that are properly regulated and controlled by overseas authorities (e.g. brokers that are members of exchange clearing houses specifically recognized by the Government's regulatory authorities).

8. Creative accounting

47. While "creative accounting" should be considered a contradiction in terms, many companies have resorted to it to inflate their reported results.[28] The situation has not been helped by the fact that tax regulations do not always keep up to date with modern financial practices, and may treat economically identical transactions differently for tax purposes; this leads to the imposition of economically irrational tax regimes or registration charges for certain financing structures. The purpose of "creative accounting" is thus at times ambiguous – is it to correct for outdated tax regulations, or is it to defraud the investors and/or the tax authorities?

48. One form of accounting that has been regularly abused to hide losses from supervisors or investors is that of ***rolling positions forward at historic prices.*** In Japan, several cases have come to light in which the losses that were finally reported exceeded $ 1 billion. If only realized positions are reported in a company's accountancy system and open positions are not marked-to-market (revalued according to the market's current prices), an unscrupulous trader could easily convert a loss-making transaction which is about to expire (that is, the treasury department would be forced to settle the losses) into a new open position, carrying the losses forward to the next year. Company treasurers could also decide to resort to this measure to hide losses from the public eye. This practice has now been outlawed in many countries (forcing companies to adopt proper marked-to-market accountancy) and severely constrained in others (e.g. banks and other financial intermediaries can only agree to roll positions forward if the senior management of the client company has given its explicit approval).

49. Accountancy systems may make it possible to ***misstate option values.*** Particularly for exotic options, it is difficult to have a fair valuation – different software systems give different values, which in turn may differ from the actual value in the market. The best way to reduce the risk of a deliberate mispricing of option values is to separate the responsibilities of those trading these options from those valuing them. But this is not easy; banks and others still discover with regularity that staff have tried, with or without success, to manipulate valuation systems, either directly (by changing the parameters of the models) or indirectly (by providing wrong information to the system, e.g. wrong prices or incorrect price volatilities).

50. Related to this is the problem of ***selling options to boost earnings or reduce losses, without reporting the risks.*** Traders have used this quite frequently to avoid end-of-year losses.

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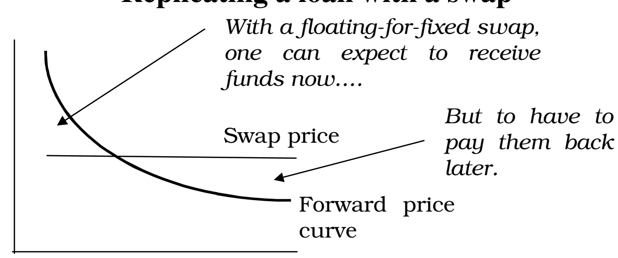
[28] For an overview of the problem, see Rami Elitpur, *Manipulation of Accounting Discloser: A Backgrounder*, Rotman School of Management, March 2002, http://www.rotman.utoronto.ca/ccbe/enron.ppt.

For example, two weeks before closure of the books, the department shows a $ 10 million loss. To avoid missing out on Christmas bonuses, staff can decide to sell options for, say, $ 75 million, and book the premiums earned as profits. If they are lucky, the options will never be exercised, and if they are, it will be only the following year. Proper marked-to-market accountancy would prevent this from happening, as would a master arrangement with the brokers which specifies that the brokers be only allowed to accept orders to sell options if they unwind existing positions, or with specific authority from senior management.

51. Another problem is the ***different treatment of loans and financial derivatives*** in a company's accountancy system, even if the two have the same economic effect. In particular, swaps can be structured in such a way that they have the same expected payment flow as a loan. That is, funds are coming in now, and it is expected that funds will flow out in the future.

52. It is not complicated to structure, for example, a four-year swap in such a way that the expected income streams for the company in the first year are positive, and negative in the other three years. A trader who enters into swaps like this may appear successful, at least in the first year, and this may result in promotion, recruitment to a higher paying position in another company, or a large bonus. If prices move as projected, the losses on these swaps will only appear from the second year onward – which could then be blamed on price developments, and anyway, it will be too late to recoup the rewards previously awarded. Making the swap "prepaid" can further facilitate the intended effect – that is to say, the bank pays a large part of the swap's nominal value upfront, and then gets reimbursed over time, with instalments dependent on commodity prices.

Chart 3
Replicating a loan with a swap



53. This technique has been used to avoid corporate controls on lending. For example, in the case of Sumitomo, its copper trader had been unsuccessfully trying to manipulate copper markets for some years. He was pressured by his commercial counterparties to pay for some of the losses. He wanted to avoid senior management detecting his problems (which would have happened if he had requested permission to borrow money). He therefore entered into swaps with two large United States investment banks, which effectively provided him with a few hundred million dollars in cash, enough to postpone his problems for some time.[29] Unfortunately for him, his luck did not improve, and the situation became clear to his management and market regulators soon after.

[29] In April 2002, JP Morgan Chase agreed to pay $125 million to settle a suit filed by Sumitomo charging that the bank had entered into a series of derivatives contracts that created an off-balance sheet loan to its copper trader, Yasuo Hamanaka, in order to help him finance his trading losses. This was only one of the ways in which Hamanaka hid losses from management. He also sold options, avoided inputting certain transactions in the company computers, and obtained unauthorized credit lines (at times by falsifying his supervisor's signature). In the end, Sumitomo's $ 2.6 billion loss in the copper affair was the result of years of insufficient supervision. The first copper trading losses came in 1985, and since then, Hamanaka had been trying to recoup his losses through speculative trading. But losses did not stop increasing – to $ 65 million in August 1987, then to $ 682 million in March 1993. He had to make steadily larger bets. After March 1993 and until May 1996, when the losses became clear to Sumitomo management, he lost on average some $ 2 million for his company each day he went to work – making one wonder how he defined "a good day in the office".

54. Enron used this technique as a tool to hide loans from the public eye.[30] Banks in some countries have made creative use of swaps to avoid Government controls on foreign lending. For example, a Government may wish to absorb liquidity in the financial system by issuing treasury bills at a high interest rate; and to prevent funds from then simply being brought in from abroad, the Central Bank may ban banks from new foreign lending. But this is easy for banks to circumvent if swaps are not properly monitored (as is often the case).

55. Finally, in certain cases, if a company uses an outdated accounting system, it may suffer from ***not counting the cost of capital.*** If its system for reporting departmental profits and losses does not recognize the cost of capital used by that department, an unscrupulous trader could, by turning over a massive volume of derivatives (thus constantly realizing a certain time value for the funds involved), appear to make large profits.

9. Conclusion

56. Complex commodity price risk management or finance structures are generally used for completely legitimate purposes. But at the current stage of human evolution, they are also likely to be abused. The proper regulatory and public response is to reduce the possibilities for abuse, while leaving companies (and Governments) room to benefit from the many value-added aspects of price risk management and structured commodity finance.

57. One of the major means of reducing the risk of frauds such as those described in this report is to set up a system of proper controls within the company. Proper checks and balances are essential – power should not be concentrated with one person or even in one department. Reporting lines should be clear and staff needs to understand their respective roles. Incentives to staff should be designed to align staff interest with the long-term interest of the company.[31]

58. Companies should also implement proper checks on the companies with which they work. They should be aware of the risk that one of these companies may be a front of one of their own staff, or cooperate with their staff. Banks need to understand the companies to which they provide finance, and the transactions for which their funds are loaned. They cannot afford to rely only on paper, but have to verify the reality of the reported business operations, including through random surprise checks. The International Chamber of Commerce can provide valuable support in this regard.

59. Government policy makers can put in place a proper framework of accountancy and reporting rules,[32] and rules on the use of derivatives (including rules that spell out which intermediaries can be used by the country's companies, and how and when derivatives transactions need to be reported). This framework should give strong incentives to companies

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[30] In the case of Enron, Citibank organized a series of "prepaid swaps", worth $ 2.4 billion, through a Caymans Islands Special Purpose Vehicle called Delta Energy. Enron also conducted similar smaller transactions with other banks.

[31] See for an extensive set of guidelines the Futures and Options Association, *Managing Derivatives Risk: Guidelines for End-users of Derivatives*, London, 2002 (http://www.foa.co.uk/publications/index.jsp); or UNCTAD's manual, *Company Control and Management Structures; The Basic Requirements for a Sound Use of Market-based Risk Management Instruments*, UNCTAD/ITCD/COM/MISC.1, 1996.

[32] See on this UNCTAD, *Transparency and disclosure requirements for corporate governance: Report by the Ad Hoc Consultative Group of Experts on Corporate Governance Disclosures*, TD/B/COM.2/ISAR/15, 1 August 2002.

and to financiers to put proper control systems in place, and should give expert, well-staffed Government bodies proper investigative powers as well as the power to impose sanctions.

60. The principles are well known, and there is sufficient information and support available for companies interested in controlling properly the use they make of commodity price risk management and collateralized finance. While abuses of financial instruments can be destructive for the companies involved, this report should provide important lessons on how these instruments can be best used to create significant value.