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Insurance Companies' Highly Controlled Use of Derivatives Has Also Resulted in Protection from the Rogue Trader Problem

In recent discussions on financial stability in insurance, the issue of insurers' use of derivatives has become the object of some considerable focus. In the following article, the NAIC examines why "rogue trading" has not been an issue at an insurer to date and in doing so, highlights the role that derivatives play in core insurance activities.

Introduction

Unauthorized trading scandals — commonly referred to as “rogue trading” — have been occurring periodically in financial markets in recent years. While the institutions that have been the victims of these schemes claim to have devoted considerable resources in an attempt to avoid this problem, these schemes have continued to occur with a disturbing regularity. The most recent scandal, involving Kweku Adoboli at UBS, cost UBS US\$2.3 billion in losses that were incurred on unauthorized trades. There is a line of similar scandals that have occurred over the years, at least one of which resulted in the failure of a major financial firm.

The question of why these scandals keep occurring despite the efforts to avoid them remains an interesting one. Firms have primarily attempted to limit these occurrences by improving compliance controls through better systems and staff. Examples of improvements that can be made are post-trade functions of valuations and collateral management, which can benefit from operational and technological improvements. One of the most important improvements is a robust and transparent valuation process, especially for over-the-counter derivatives that are hard to value since there are no published daily exchange prices. The valuation of derivatives is always a challenge, especially for those that are out of the mainstream or have unusual or complex terms. Banking rules recommend that trading and other bank staff take a consecutive two-week mandatory vacation. The idea is that, over that time period, other individuals in the organization will have an opportunity to come across any unauthorized trades in the normal course of business.

We believe that the absence of this issue in the insurance industry is not merely a lucky coincidence. The absence of the rogue trading problem with insurers is, instead, the result of specific insurance

company characteristics and the state-based insurance regulatory framework in the U.S. While the continuing future absence of such scandals in the insurance industry is in no way preordained, we believe that rogue trading is unlikely to become a meaningful problem in the insurance industry. In this article, we first describe the nature and types of trading; and then the reasons why those problems are unlikely to occur at insurance companies.

What is a Rogue Trader and Why Do We Care?

Every few years, if not more often, a new story surfaces of a rogue trader who has caused large and unexpected losses for a financial institution or corporation. The media becomes full of stories describing methods used by the trader in accomplishing the fraud. Typically, the trader's aggrieved employer says that, despite its best efforts and controls, somehow the trader outwitted all of these combined efforts. The trader instead entered into unauthorized trades that eventually led to a substantial loss for the employer.

Typically, the trader is employed by a bank or securities dealer. As detailed in the following table listing the 10 largest rogue trading losses, only two of these cases did not occur at a financial institution where the rogue trader was in a primarily trading position. In such a heavy trading position, the rogue trader has the opportunity to engage in numerous trades, and, therefore, has a considerable ability to hide improper trades in the midst of many authorized trades. In the two remaining cases, the traders worked for firms heavily involved in physical commodity supplies (copper and jet fuel).

Table of Largest Rogue Trader Losses				
Institution	Date(s)	Loss	Primary Behaviors Exhibited	Market activity
Barings Bank	1995	£827 million leading to bank failure	Hidden Transactions; lack of segregation of duties	Nikkei Index Futures
Resona Holdings	1995	\$1.1 billion	Misappropriation of funds; lack of segregation of duties	U.S. Treasury Bonds
Sumitomo Corporation	1996	\$2.6 billion	Fraud; forgery; market manipulations; inadequate controls	Copper
Allied Irish Banks	2002	\$691 million	Poor systems; inadequate controls; unclear management responsibilities	Foreign Exchange Options
National Australia Bank	2003 Oct - 2004 Jan	AU\$360 million	Inadequate controls; hidden transactions; system manipulations	Foreign Exchange Options
China Aviation Oil	2005	\$550 million	Wrote unauthorized call options contracts on jet fuel; inadequate controls; fraudulent assets	Jet Fuel Futures
Société Générale	2006–2008	€4.9 billion	Hidden transactions; inadequate controls; fraudulent documents; system manipulation	European Stock Index Futures
Groupe Caisse d'Epargne	2008 Oct	€751 million	Unauthorized positions; inadequate controls; warnings disregarded	Equity Derivatives
UBS	2011	\$2.3 billion	Inadequate controls; no confirmations for trades; had extensive back office experience and knowledge	S&P 500, DAX, and EuroStoxx Index futures

Types of Rogue Trades

Each rogue trading situation is unique, given its circumstances and the proclivities of the perpetrator. Nonetheless, we can still discuss some common themes that can be found in the development and operation of such a scheme.

(1) *Hiding trades*: Probably the simplest of all approaches, when viable, is to hide trades as long as possible from the victim. To hide a trade, the trader must be able to keep the trade from being recorded in the institution's financial processing system for a period of time. This can be successfully accomplished only when the institution is not required to make a payment or take some other action shortly after the trade is made. Examples of cases where it might be difficult to hide a trade are when initial collateral must be posted, variation margin payments must be made, and final settlement takes

place. One alleged case where this happened was a mortgage trader at Merrill Lynch in 1987 by the name of Howard Rubin. He was reported to have hidden certain trades from the firm and, by the time they were discovered, the firm had lost US\$250 million, one of the largest trading losses in Wall Street history at that point in time.

(2) *Weaknesses in the financial reporting system:* Another approach is to identify weaknesses in the company's financial reporting system than can be manipulated to the trader's advantage and then take advantage of these issues. An example of this is Joseph Jett, a trader at Kidder, Peabody & Co. during 1994. Jett entered into complex trades that the financial reporting system incorrectly determined were profitable to the firm when they were not. These trades were forward reconstitutions of U.S. Treasury bonds using Treasury STRIPS (separate trading of registered interest and principle securities). While these trades never had the possibility of being profitable due to their complexity and errors in the financial reporting system, it was believed for a considerable time period that these trades were profitable. Kidder, Peabody & Co. said that it lost US\$75 million on these transactions.

(3) *Misappropriation of assets:* A third fraudulent activity can be the misappropriation of assets used to facilitate improper trading activities. The situation at MF Global Holdings Ltd., which has received much press in recent weeks, started as a possibly questionable and aggressive trading strategy, but, based on publicly available information, it was appropriately initially authorized. However, over time, as the trades turned "bad" and lost hundreds of millions of dollars, MF Global may have begun to illegally use customer assets to support the losing trade. While the precise details of this situation remain unclear, the firm is now said to be missing at least US\$1.2 billion in customer-owned assets, which may have been lost in supporting the firm's trading positions. A similar situation occurred in the Daiwa Bank case, when U.S. Treasury bonds were misappropriated to cover losses occurring on unauthorized trades.

(4) *Breakdowns in separation of duties:* One of the most important rules in stopping unauthorized trading is a thoughtful separation of duties in the trading and financial reporting process. A cardinal rule is that a trader should not also have financial reporting or clearance responsibilities for his/her own trades. When these overlaps occur, they are an open invitation for fraud. Examples of this were the case with Nick Leeson at Barings Bank and Toshihide Iguchi at Daiwa Bank. The ability to both trade the book and control its reporting enabled both of them to run unauthorized trading schemes for a prolonged period of time.

(5) *Bogus trades:* Often, rogue traders will say they have entered into nonexistent trades (called "bogus trades") for a variety of purposes. One reason to have a bogus trade is to make it look as though the trader's book is better hedged than it really is. A good example of this approach is John Rusnak of Allfirst Financial. He reported the existence of bogus currency option trades that, in actuality, never took place with counterparties. These bogus option positions made it look as though his book was balanced, although, in fact, it was not. Rusnak incurred US\$691 million in currency trading losses for his employer before the fraud was discovered.

The Use of Derivatives in Rogue Trading

Often, these unauthorized trades and their associated losses are in connection with positions in some form of derivatives contracts. Of the 10 largest rogue trading losses of all time, all but one case was primarily or heavily related to some kind of derivatives trading.

In the sole non-derivatives case (Toshihide Iguchi), the trader eventually confessed his losses to his Daiwa Bank superiors regarding 11 years' worth of unauthorized trading in U.S. Treasury bonds that resulted in US\$1.1 billion in losses. However, at that point, bank management asked the trader to remain silent as the bank attempted to conceal the loss. Five months later, Daiwa Bank was forced to plead guilty to 16 counts of federal felony charges, and paid a US\$340 million fine to the U.S. government, the largest criminal fine in history, and was required to stop doing business in the United States. In this scandal, Iguchi made 30,000 unauthorized trades in U.S. Treasury securities in an effort to offset losses he had incurred. While trading, he simultaneously had back-office responsibilities.

The types of derivatives involved in these transactions included different varieties: equities, foreign exchange and jet fuel, and consisted of both futures and options. The specific types of derivatives involved in each case depended primarily on the specific market with which the trader was actively involved.

The most recent rogue trader case is that of Kweku Adoboli, who recently lost US\$2.3 billion on unauthorized trades. However, he is but one case in a long line of rogue trader stories. Other traders having been accused of similar unauthorized activities in the past, including Jérôme Kerviel at Société Générale, who lost the bank an astonishing US\$7.1 billion; Nick Leeson at Barings Bank, who caused the failure of the more than a century old institution through unauthorized trading; and Yasuo Hamanaka of Sumitomo Corporation of Japan, who lost US\$2.6 billion in copper trades. These are but a few names from a long list of traders who evaded their employers' controls and entered into unauthorized trades, resulting in substantial unauthorized employer trading losses.

While each situation is unique, the common characteristics are depicted in the table. In the most recent one, Kweku Adoboli was supposed to have taken only modest market positions in his position on UBS' "Delta One" trading desk that facilitated client requested trades. Delta One is an industry term used to describe the trading of a class of financial derivative that have no optionality and, as such, have a delta of (or very close to) one; that is to say that, for a given percentage move in the price of the underlying asset, there will be a near identical move in the price of the derivative. These products include equity swaps, forwards, futures and exchange-traded funds (ETF).

Why are Insurance Companies Different?

Given the frequency of these issues at other major financial institutions and market participants, why have insurers not had a problem similar to those found in other financial institutions? What institutional factors that cause rogue trading scandals to occur at other institutions do not exist at insurance companies? While it is not possible to say definitively why something does not occur, we believe that there are indeed logical reasons why insurance companies have been spared this problem to date. Below we discuss seven factors that we believe can help explain the reasons why rogue trading has not been a meaningful issue for the insurance industry.

Regulation: Insurance companies are subject to strict and detailed regulations regarding the permitted use of derivatives. These requirements include the submission and prior approval of a derivatives use plan (DUP) to the company's domestic state insurance department, which serves as the insurance company's primary regulator. The regulatory derivatives controls for an insurer can be quite strict. The NAIC *Derivative Instruments Model Regulation (#282)* sets standards for the prudent use of derivative instruments by insurance companies. It requires insurance companies to establish written guidelines for transacting in derivative instruments. Internal control procedures must be outlined, describing elements such as the monitoring of derivative positions and the credit risk-management process. These guidelines and procedures are typically set forth in a DUP.

For example, at a New York state-domiciled insurer, the insurer's board of directors (or a committee thereof) is charged with the responsibility for supervising such investments. This committee must (a) authorize the transactions; (b) ensure that all individuals conducting, monitoring, controlling and auditing derivative transactions are suitably qualified and have appropriate levels of knowledge and experience; and (c) approve a DUP outlining how these transactions will be conducted. If these determinations are made by a board committee, the minutes of the committee reflecting these determinations must be recorded and a report must be submitted to the board of directors for its review at the next meeting of the board.

In addition, most of the states' insurance laws have specific requirements related to the use of derivatives. Generally, the use of derivatives is limited to three objectives: (1) hedging; (2) income generation; and (3) replication. Each of these three objectives comes with its own set of associated regulatory and detailed reporting requirements. In some cases, an insurer may also be permitted to use derivatives in its investment "basket." However, investment baskets are strictly limited in size.

The detailed insurance company reporting requirements are especially important, because the detailed level and public nature of this reporting would greatly complicate the efforts of a rogue trader at an insurance company to keep these activities hidden. The investment transactions of an insurance company are highly transparent, including its derivatives transactions. At an insurance company, all transactions — regardless of term and including intra-period transactions — must be reported in detail, and this transaction reporting becomes information in regular publicly disclosed regulatory filings. This extraordinary level of trading information transparency is nearly unheard of in almost every other form of financial institution. Given these complications, it would seem unlikely that a rogue trader would

voluntarily elect to use an insurance company to book unauthorized derivatives trades. However, it remains possible that a non-insurance entity in the same group might be used for this purpose.

Compensation: A common theme in rogue trading scandals is that the trader at the center of the scandal believes that he would be favorably compensated for earning a significant trading profit for his employer. Once the trader believes this is the case, the trader could have a considerable incentive to engage in any form of activity generating meaningful profits for his employer. Obviously, the vast majority of traders working in such an environment know better than to cross the line into unauthorized trading, despite their incentive structure. However, as with most rules, there are always those individuals that take the opportunity to cross the line into inappropriate behavior if it might benefit them. If and when the trader has crossed the line, and if his trades have gone bad, the trader may have considerable incentive to attempt to reverse the loss before it is discovered and appropriate disciplinary action is taken. Insurance reporting and valuation play a significant role here, because every trade is publicly reported. And, while the market values for positions are reported, not all derivatives are marked-to-market for financial statement purposes.

A leading factor protecting insurers from rogue trading is the expectation that trader compensation at insurers is rarely designed to incentivize trading profit maximization. In addition, the compensation of insurance investment professionals is structured much differently than that of a trader at a bank or broker-dealer. Therefore, the insurance company trader has little incentive to engage in unauthorized trading activity in an effort to boost reported profitability. While external investment managers are also used by insurance companies, it is our belief that this is unlikely to add meaningful additional rogue trading derivatives risk to the client insurer. First, external investment managers are predominantly used by medium-size and smaller insurers. Second, the use of derivatives is heavily skewed to the largest companies in the industry. The combination of these two factors would indicate that the potential for a rogue trader should be small in this venue. Third, external managers are rarely compensated for trading profits per se, but are more focused instead on other performance metrics, such as relative investment performance. So, again, we think it would be unlikely for external managers to be the site of a derivatives-based rogue trading problem.

Trading volume: It is much easier to hide a few unauthorized trades in between a large volume of authorized trades, such as those occurring at an active broker-dealer. A handful of unauthorized trades could go unnoticed if they are carefully sprinkled in between dozens of legitimate, authorized trades. Consequently, a trader at a volume shop (such as a broker-dealer or market making desk), might have considerably greater opportunity to disguise trades in a high-volume trading environment than does the insurance company trader in a low-volume environment. In a low-volume environment, such as an insurer, it becomes much harder for one or more unauthorized trades, and especially a large number of them, to go undetected, making it much harder to engage in unauthorized trading without it being rapidly identified as such.

Profitability: Broker-dealers routinely attempt and expect to earn a significant portion of their operating income via trading and realized gains. The reporting of trading gains and losses is expected in the ordinary course of business. Consequently, at a broker-dealer, a rogue trader making a profitable (or unprofitable) trade might not be immediately identified as such. This would permit the activity to continue for an indefinite period, until the problem is identified and stopped, possibly not until a large loss occurs. In contrast, the vast majority of investment activity at most insurers is intended to generate investment income, rather than realized trading gains. Consequently, the realization of significant and regular trading gains (or losses) coming out of a single trader's activity would likely trigger considerable scrutiny long before a major unauthorized loss occurred. Because most insurance companies' use of derivatives is for hedging, other activity would be quickly noticed. And, with effective hedging, the financial reporting for both the hedge itself as well as the hedged item is combined, so there should be no profits to be reported benefiting the rogue trader.

Financial reporting: At an insurer's trading desk, the financial reporting process is relatively simple. Positions are carried on the books and marked-to-market daily. If, somehow, the trader manages to corrupt or entirely evade the employer's relatively simple unidimensional financial reporting system, the trader might have the opportunity to have the unauthorized trades remain undetected for a considerable time period.

In particular, statutory reporting contains detailed requirements regarding transaction reporting. Rogue trading is more likely to become a problem in a market where transactions may not be cash settled in a

short time period, such as for some longer-term derivatives contracts that are not marked-to-market on a regular basis. For derivative transactions, just a few of the trade details that must be reported on the insurer's Schedule DB include the trade date, description, trade size and counterparty. This information must be regularly submitted by the insurer to its domestic insurance regulator. This includes all trades, including those that are opened and closed during the same quarterly reporting period. The report, along with all of its details, also becomes a public document subject to inspection by the public. The combination of regulatory reporting, as well as the public nature of this reporting process, makes it exceptionally difficult for rogue trading to occur in an insurance company environment. This is particularly true for rogue trading schemes that may evolve and grow slowly over time, becoming a significant problem only with the passage of a considerable amount of time.

Counterparties: A trade at an insurance company, as a "buy side" client, always has an external counterparty on the other side of the trade. In a few cases, insurers may "cross" a trade internally without the involvement of an external party, but this would be a rare occurrence. Even then, trade tickets and the normal accounting process would still be required at the insurer to appropriately keep track of the transaction. However, at a broker-dealer, it is more common for a transaction to be internal to the firm without the involvement of an external third party. Once the transaction involves an external counterparty, the ability of the trader to keep the transactions from being detected and outside of the normal financial reporting process becomes more challenging and unlikely, making rogue trading difficult to accomplish in an insurance environment.

Confirmations: Trade confirmation is a process whereby the two parties to a transaction formally compare the details of an agreed-upon transaction to confirm that the trade is mutually and identically understood by both parties. Through the use of the trade-confirmation process, trade discrepancies or misunderstandings should be quickly identified and, ideally, rapidly resolved. The details of the actual trade confirmation process itself can vary, depending on the specifics of the transaction. In some cases, especially where both sides of the transaction are internal to the same institution, the confirmation process may not function as it normally would, thereby giving the rogue trader an opportunity to "game" the system. Additionally, it has been reported that not all transactions are immediately confirmed with the counterparty, again giving the rogue trader room to take advantage of the system until the trade is to be confirmed. This lack of trade confirmations that permit trades to be hidden for a meaningful time period is what happened in the Kweku Adoboli case, allowing him to run up a large loss position before it was recognized by UBS.

In an ideal trade confirmation environment, the confirmation is a highly automated process, facilitated by an external vendor that can verify a trade's authenticity and correctness by comparing matching trade information submitted by each party to the trade.

The rogue trader will, by necessity, need to identify methods to manage the employer's confirmation and compliance system so as to be able to implement the unauthorized trading scheme without being caught. An important part of the effort might be to identify a method for getting an unauthorized trade confirmed with the trade's alleged counterparty without triggering compliance alarms.

Alternatively, the trader's objective may instead be to enter fake trades into the system that never really occurred so the system will think these trades actually occurred with a counterparty, thereby offsetting some other risk on the trader's book. In a case like this, the rogue trader would not want the trade confirmed, because, obviously, there is no counterparty available for confirming the trade. In this case, the trader would want to identify a method to keep the trade from going through the trade-confirmation process. To do this, the trader might try to find a counterparty or product for the trade that does not use the normal confirmation process. That way, the trader can attempt to keep the trade from entering the employer's normal recordkeeping system for an extended time period.

Conclusion

While we certainly will not say that insurers are exempt from the risk of unauthorized trading and resulting unexpected trading losses, we do believe that there are sound reasons why this has not been a significant issue to date for the insurance industry.