

Not Just One Man - Barings

The chain of events which led to the collapse of Barings,

Britain's oldest merchant bank, is a demonstration of how **not** to manage a derivatives operation.

The control and risk management lessons to be learnt from the collapse of this 200 year-old institution apply as much to cash positions as they do to derivative ones, but the pure [leverage](#) of derivatives makes it imperative that proper controls are in place. Since only a small amount of money (called a [margin](#)) is needed to establish a position, a firm could find it facing financial obligations way beyond its means. The leverage and liquidity offered by major [futures](#) contracts - such as the Nikkei 225, the S&P 500 or [Eurodollars](#) - means that these obligations, once in place, mount very quickly; thus bringing down an institution with lightning speed. This is in stark contrast to bad loans or cash investments whose ill-effects takes years to ruin an institution as demonstrated by the cases of British & Commonwealth Bank or Bank of Credit and Commerce International (BCCI).

I. How Leeson Broke Barings

The activities of Nick Leeson on the Japanese and Singapore [futures](#) exchanges, which led to the downfall of his employer, Barings, are well-documented. The main points are recounted here to serve as a backdrop to the main topic of this chapter - the policies, procedures and systems necessary for the prudent management of [derivative](#) activities.

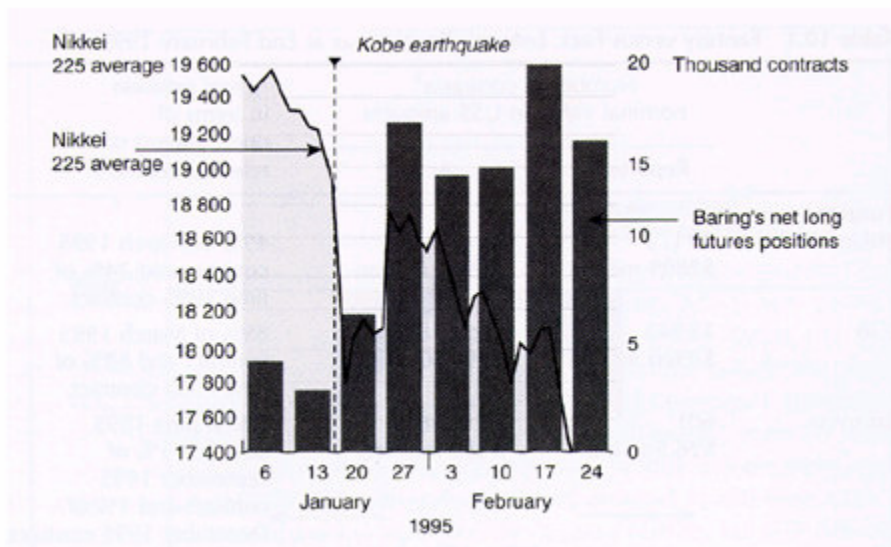
Barings collapsed because it could not meet the enormous trading obligations, which Leeson established in the name of the bank. When it went into receivership on February 27, 1995, Barings, via Leeson, had outstanding notional futures positions on Japanese equities and interest rates of US\$27 billion: US\$7 billion on the Nikkei 225 equity [contract](#) and US\$20 billion on Japanese government [bond](#) (JGB) and [Euroyen](#) contracts. Leeson also sold 70, 892 Nikkei [put](#) and [call](#) options with a nominal value of \$6.68 billion. The nominal size of these positions is breathtaking; their enormity is all the more astounding when compared with the banks reported capital of about \$615 million.

The size of the positions can also be underlined by the fact that in January and February 1995, Barings Tokyo and London transferred US\$835 million to its Singapore office to enable the latter the meet its [margin](#) obligations on the Singapore International Monetary [Exchange](#) (SIMEX).

Reported activities (Fantasy)

The build-up of the Nikkei positions took off after the Kobe earthquake of January 17. This is reflected in **Figure 10.1** - the chart shows that Lesson's positions went in the opposite direction to the Nikkei - as the Japanese stock market fell, Leeson's [position](#) increased. Before the Kobe earthquake, with the Nikkei trading in a range of 19,000 to 19,500, Leeson had long futures positions of approximately 3,000 contracts on the Osaka Stock Exchange. (The equivalent number of contracts on the Singapore International Monetary Exchange is 6000 because SIMEX

contracts are half the size of the OSE.) A few days after the earthquake Leeson started an aggressive buying programme which culminated in a high of 19,094 contracts reached about a month later on February 17.



But Leeson's Osaka position, which was public knowledge since the OSE publishes weekly data, reflected only half of his sanctioned trades. If Leeson was long on the OSE, he had to be short twice the number of contracts on SIMEX. Why? Because Leeson's official trading strategy was to take advantage of temporary price differences between the SIMEX and OSE Nikkei 225 contracts. This [arbitrage](#), which Barings called 'switching', required Leeson to buy the cheaper contract and to sell simultaneously the more expensive one, reversing the trade when the price difference had narrowed or disappeared. This kind of arbitrage activity has little [market risk](#) because positions are always matched.

But Leeson was not short on SIMEX, in fact he was long approximately the number of contracts he was supposed to be short. These were unauthorised trades which he hid in an account named Error Account 88888. He also used this account to execute all his unauthorised trades in Japanese Government Bond and [Euroyen](#) futures and Nikkei 225 options: together these trades were so large that they ultimately broke Barings. Table 10.1 gives a snapshot of Leeson's unauthorised trades versus the trades that he reported.

For the rest of the chapter, contracts will be discussed or converted into SIMEX contract sizes.

Unreported positions (Fact)

The most striking point of Table 10.1 is the fact that Leeson sold 70,892 Nikkei 225 options worth about \$7 billion without the knowledge of Barings London. His activity peaked in November and December 1994 when in those two months alone,

Table 10.1		Fantasy versus Fact: Leeson's Positions as at End February 1995.	
	Number of contracts ¹ nominal value in US\$ amounts		Actual position in terms of open interest of relevant contract ²
	Reported ³	Actual ⁴	
Futures			
Nikkei 225	30112 \$2809 million	long 61039 \$7000 million	49% of March 1995 contract and 24% of June 1995 contract.
JGB	15940 \$8980 million	short 28034 \$19650 million	85% of March 1995 contract and 88% of June 1995 contract.
Euroyen	601 \$26.5 million	short 6845 \$350 million	5% of June 1995 contract, 1% of September 1995 contract and 1% of December 1995 contract.
Options			
Nikkei 225	Nil	37925 calls \$3580 million 32967 puts \$3100 million	
<p>1. Expressed in terms of SIMEX contract sizes which are half the size of those of the OSE and the TSE. For Euroyen, SIMEX and TIFFE contracts are of similar size.</p> <p>2. Open interest figures for each contract month of each listed contract. For the Nikkei 225, JGB and Euroyen contracts, the contract months are March, June, September and December.</p> <p>3. Leeson's reported futures positions were supposedly matched because they were part of Barings' switching activity, i.e. the number of contracts on either the Osaka Stock Exchange, the Singapore International Monetary Exchange or the Tokyo Stock Exchange.</p> <p>4. The actual positions refer to those unauthorized trades held in error account '8888'.</p> <p>Source: The Report of the Board of Banking Supervision Inquiry into the Circumstances of the Collapse of Barings, Ordered by the House of Commons, Her Majesty's Stationery Office, 1995</p>			

he sold 34,400 options. In industry parlance, Leeson sold straddles. i.e. he sold put and call options with the same strikes and maturities. Leeson earned premium income from selling well over 37,000 straddles over a fourteen month period. Such trades are very profitable provided the Nikkei 225 is trading at the options' strike on expiry date since both the puts and calls would expire worthless. The seller then enjoys the full premium earned from selling the options. (see Fig 10.2 for a graphical presentation of the profit and loss profile of a straddle.) If the Nikkei is trading near the options' strike on expiry, it could still be profitable because the earned premium more than offsets the small loss experienced on either the call (if the Tokyo market had risen) or the put (if the Nikkei had fallen.).

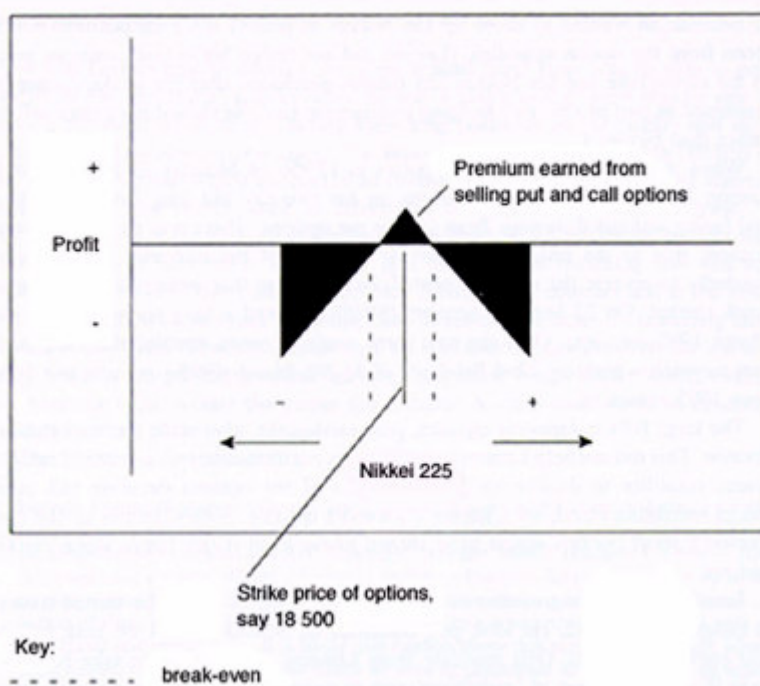


Figure 10.2 Payoff Profile of a Straddle.

The strike prices of most of Leeson's straddle positions ranged from 18,500 to 20,000. He thus needed the Nikkei 225 to continue to trade in its pre-Kobe earthquake range of 19,000 - 20,000 if he was to make money on his option trades. The Kobe earthquake shattered Leeson's options strategy. On the day of the quake, January 17, the Nikkei 225 was at 19,350. It ended that week slightly lower at 18,950 so Leeson's straddle positions were starting to look shaky. The call options Leeson had sold were beginning to look worthless but the put options would become very valuable to their buyers if the Nikkei continued to decline. Leeson's losses on these puts were unlimited and totally dependent on the level of the Nikkei at expiry, while the profits on the calls were limited to the premium earned.

This point is key to understanding Leeson's actions because prior to the Kobe earthquake, his unauthorised book, i.e. account '88888&' showed a flat position in Nikkei 225 futures. Yet on Friday 20 January, three days after the earthquake, Leeson bought 10,814 March 1995

contracts. No one is sure whether he bought these contracts because he thought the market had over-reacted to the Kobe shock or because he wanted to shore up the Nikkei to protect the [long position](#) which arose from the [option](#) straddles. (Leeson did not [hedge](#) his option positions prior to the earthquake and his Nikkei 225 futures purchases after the quake cannot be construed as part of a belated hedging programme since he should have been selling rather than buying.)

When the Nikkei dropped 1000 points to 17,950 on Monday January 23, 1995, Leeson found himself showing losses on his two-day old long futures position and facing unlimited damage from selling put options. There was no turning back. Leeson, tried single-handedly to reverse the negative post-Kobe sentiment that swamped the Japanese stock market. On 27 January, account '88888' showed a long position of 27,158 March 1995 contracts. Over the next three weeks, Leeson doubled this long position to reach a high on 22nd February of 55,206 March 1995 contracts and 5640 June 1995 contracts.

The large falls in Japanese equities, post-earthquake, also made the market more volatile. This did not help Leeson's short option position either - a seller of options wants [volatility](#) to decline so that the value of the options decrease. With volatility on the rise, Leeson's short options would have shown losses even if the Tokyo stock market had not plunged.

Leeson engaged in unauthorised activities almost as soon as he started trading in Singapore in 1992. He took proprietary positions on SIMEX on both futures and options contracts. (His mandate from London allowed him to take positions only if they were part of 'switching' and to execute client orders. He was never allowed to sell options.) Leeson lost money from his unauthorised trades almost from day one. Yet he was perceived in London as the wonder boy and turbo-arbitrageur who single-handedly contributed to half of Barings Singapore's 1993 profits and half of the entire firm's 1994 profits. The wide gap between fact and fantasy is illustrated in table 10.2 which not only shows the magnitude of Leeson's recent losses but the fact that he always lost money. In 1994 alone, Leeson lost Barings US\$296 million; his bosses thought he made them US\$46 million, so they proposed paying him a bonus of US\$720,000.

Table 10.2		Facts versus Fantasy: Profitability of Leeson's Trading Activities.		
Period	Reported (million)	Actual (million)	Cumulative actual ¹ (million)	
1 Jan 1993 to 31 Dec 1993	+GBP 8.83	-GBP 21	-GBP 23	
1 Jan 1994 to 31 Dec 1994	+GBP 28.529	-GBP 185	-GBP 208	
1 Jan 1995 to 31 Dec 1995	+GBP 18.567	-GBP 619	-GBP 827	

1. The cumulative actual represents Leeson's cumulative losses carried forward.
Source: Report of the Board of Banking Supervision Inquiry into the Circumstances of the Collapse of Barings, Ordered by the House of Commons, Her Majesty's Stationery Office, 1995.

The cross-trade

How was Leeson able to deceive everyone around him? How was he able to post profits on his 'switching' activity when he was actually losing? How was he able to show a flat [book](#) when he was taking huge long positions on the Nikkei and [short positions](#) on Japanese interest rates? The Board of Banking Supervision (BoBS) of the Bank of England which conducted an investigation into the collapse of Barings believes that "the vehicle used to effect this deception was the cross trade."¹ A cross trade is a transaction executed on the floor of an Exchange by just one Member who is both buyer and seller. If a Member has matching buy and sell orders from two different customer accounts for the same contract and at the same price, he is allowed to cross the transaction (execute the deal) by matching both his client accounts. However he can only do this after he has declared the bid and offer price in the [pit](#) and no other member has taken it up. Under SIMEX rules, the Member must declare the prices three times. A cross-trade must be executed at market-price. Leeson entered into a significant volume of cross transactions between account '88888' and account '92000' (Barings Securities Japan - Nikkei and JGB Arbitrage), account '98007' (Barings London - JGB Arbitrage) and account '98008' (Barings London - Euroyen Arbitrage).

After executing these cross-trades, Leeson would instruct the settlements staff to break down the total number of contracts into several different trades, and to change the trade prices thereon to cause profits to be credited to 'switching' accounts referred to above and losses to be charged to account '88888'. Thus while the cross trades on the Exchange appeared on the face of it to be genuine and within the rules of the Exchange, the books and records of BFS, maintained in the Contac system, a settlement system used extensively by SIMEX members, reflected pairs of transactions adding up to the same number of lots at prices bearing no relation to those executed on the floor. Alternatively, Leeson would enter into cross trades of

smaller size than the above but when these were entered into the Contac system he would arrange for the price to be amended, again enabling profit to be credited to the 'switching' account and losses to be charged to account '88888'.

Table 10.3 below is an example of how Leeson manipulated his books to show a profit on Baring's switching activity.

Table 10.3	No. of contracts in account '88888' ²		Price per SIMEX	Average Price per CONTACT	Value per SIMEX JPY millions	Value per CONTACT JPY millions	Profit/ (Loss) to '92000' JPY millions
	Buy	Sell					
20 January	6984		18950	19019	66173	66413	240
23 January	3000		17810	18815	26715	28223	1508
23 January		8082	17810	18147	(71970)	(73332)	(1362)
25 January	10047		18220	18318	91528	92020	492
26 January	16276		18210	18378	148193	149560	1367
							2245
<p>1. This table is Figure 5.2 of Report of the Board of Banking Supervision Inquiry into the Circumstances of the Collapse of Barings, Ordered by the House of Common, Her Majesty's Stationery Office, 1995.</p> <p>2. This column represents the size of Nikkei 225 cross-trades traded on the floor of SIMEX for the dates shown, with the other side being in account '92000'.</p>							

The BoBS report notes "In each instance, the entries in the Contac system reflected a number of spurious contract amounts at prices different to those transacted on the floor, reconciling to the total [lot](#) size originally traded. This had the effect of giving the impression from a review of the reported trades in account '92000' that these had taken place at different times during the day. This was necessary to deceive Barings Securities Japan into believing the reported profitability in account '92000' was a result of authorised arbitrage activity. The effect of this manipulation was to inflate reported profits in account '92000' at the expense of account '88888', which was also incurring substantial losses from the unauthorised trading positions taken by Leeson. In addition to crossing trades on SIMEX between account '88888' and the switching accounts, Leeson also entered fictitious trades between these accounts which were

never crossed on the floor of the Exchange. The effect of these [off-market trades, which were not permitted by SIMEX], was again to credit the 'switching' accounts with profits whilst charging account '88888' with losses."

The bottom line of all these cross-trades was that Barings was counterparty to many of its own trades. Leeson bought from one hand and sold to the other, and in so doing did not lay off any of the firm's market risk. Barings was thus not arbitraging between SIMEX and the Japanese exchanges but taking open (and very substantial) positions, which were buried in account '88888'. It was the profit and loss statement of this account which correctly represented the revenue earned (or not earned) by Leeson. Details of this account were never transmitted to the treasury or risk control offices in London, an omission which ultimately had catastrophic consequences for Barings shareholders and bondholders.

Figure 10.3², below, shows the number of cross-trades executed by Leeson. It is the difference between the solid line which represents all the Nikkei trades of account '92000' not crossed into account '88888' and the broken line which reflects the position Leeson reported to Barings management. The figure graphically illustrates the chasm between reported and actual positions. For example, Barings management thought the firm had a 'short' position of 30,112 contracts on SIMEX on 24 February; in fact it was long 21,928 contracts after ignoring the trades crossed with account '88888'.

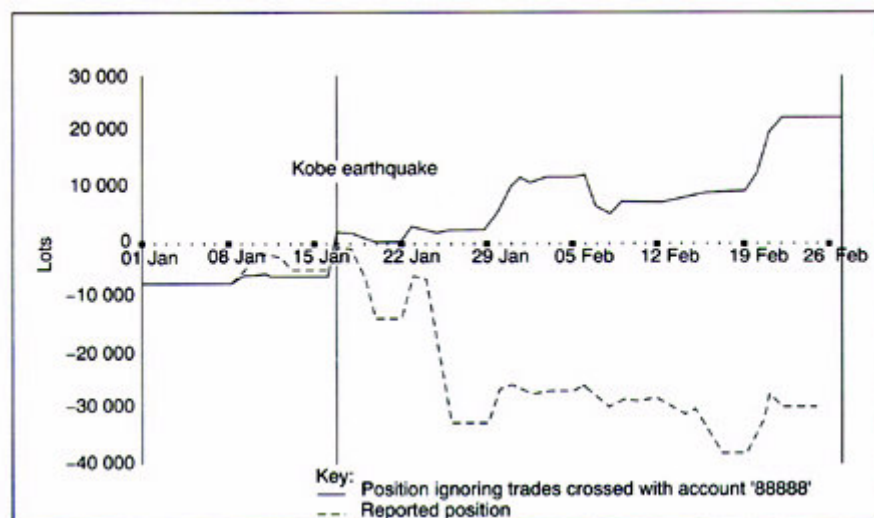


Figure 10.3 Graph to show the Nikkei Position of Account '92000'. Reproduced by permission from the Report of the Board of Banking Supervision Inquiry into the Circumstances of the Collapse of Barings.

Footnotes:

1, 2) Report of the Banking Supervision Inquiry into the Circumstances of the Collapse of Barings, Ordered by the House of Commons, July 1995, Her Majesty's Stationery Office, London

II. Lessons from Leeson

Numerous reports have come out over the last three years with recommendations on best practices in [risk management](#). (see *key risk concepts - [risk control](#)*.) Barings violated almost every recommendation. Because its management singularly failed to institute a proper managerial, financial and operational control system, the firm did not catch on, in time, to what Leeson was up to. Since the foundations for effective controls were weak, it is not surprising that the firm's flimsy system of checks and balances failed at a number of operational and management levels and in more than one location. The lessons from the Barings collapse can be divided into five main headings:

[\(a\) Segregation of front and back-office](#)

[\(b\) Senior management involvement](#)

[\(c\) Adequate capital](#)

[\(d\) Poor control procedures](#)

[\(e\) Lack of supervision](#)

(a) Segregation of front and back-office

The management of Barings broke a cardinal rule of any trading operation - they effectively let Leeson settle his own trades by putting him in charge of both the dealing desk and the back office. This is tantamount to allowing the person who works a cash-till to bank in the day's takings without an independent third party checking whether the amount banked it at the end of the day reconciles with the till receipts.

The back-office records, confirms and settles trades transacted by the front office, reconciles them with details sent by the bank's counterparties and assesses the accuracy of prices used for its internal valuations. It also accepts/releases securities and payments for trades. Some back offices also provide the regulatory reports and management accounting. In a nutshell, the back office provides the necessary checks to prevent unauthorised trading and minimise the potential for fraud and embezzlement. Since Leeson was in charge of the back office, he had the final say on payments, ingoing and outgoing confirmations and [contracts](#), reconciliation statements, accounting entries and position reports. He was perfectly placed to relay false information back to London.

Abusing his position as head of the back-office, Leeson suppressed information on account '88888'. This account was set up in July 1992 - it was designated an error account in Barings [Futures](#) Singapore system but as a Barings London client account in Simex's system. But Barings London did not know of its existence since Leeson had asked a systems consultant, Dr Edmund Wong, to remove error account '88888' from the daily reports which BFS sent

electronically to London. This state of affairs existed from on or around 8 July 1992 to the collapse of Barings on 26 February 1995. (Information on account '88888' was however still contained in the [margin](#) file sent to London.)

Error accounts are set up to accommodate trades that cannot be reconciled immediately. A compliance officer investigates the trade, records them on the firm's books and analyses how it affects the firm's [market risk](#) and profit and loss. Reports of error accounts are normally sent to senior officers of the firm.

Barings' management compounded their initial mistake of not segregating Leeson's duties by ignoring warnings that prolonging the status quo would be dangerous. An internal auditor's report in August 1994 concluded that his dual responsibility for both the front and back offices was "an excessive concentration of powers." The report warned that there was a significant general risk that the general manager (Mr Nick Leeson) could override the controls.

The audit team recommended that Leeson be relieved of four duties: supervision of the back-office team, cheque-signing, signing-off SIMEX reconciliations and bank reconciliations. Leeson never gave up any of these duties even though Simon Jones, regional operations manager South Asia and chief operating officer of Barings Securities Singapore, had told the internal audit team that Leeson will "with immediate effect cease to perform the[se] functions."

(b) Senior management involvement

The crux of the Barings' collapse lay in senior management's lackadaisical attitude to its derivative operations in Singapore. Every major report on managing derivative risks has stressed the need for senior management to understand the risks of the business; to help articulate the firm's risk appetite and draft strategies and control procedures needed to achieve these objectives.

Senior managers at Barings can be found wanting in all these areas. For example, while they were happy to enjoy the fruits of the success of the Singapore branch, they were not so keen on providing adequate resources to ensure a sound risk management system for a unit that alone ostensibly accounted for one-fifth of its 1993 profits and almost half of its 1994-profits. The senior management's response to the internal auditor's report for a suitably experienced person to run Singapore's back office was that there was not enough work for a full-time treasury and risk manager even if the role incorporated some compliance duties. No senior managers in London checked on whether key internal audit recommendations on the Singapore backoffice had been followed up.

Barings' senior management had a very superficial knowledge of derivatives and did not want to probe too deeply into an area that was bringing in the profits. Arbitraging the price differences between two [futures](#) contracts is a low-risk strategy. How could it then generate

such high profits if the central axiom of modern finance theory is low risk-low return, high risk-high return? And if such a low-risk and relatively simple [arbitrage](#) could yield so much profits, why were Barings' better-capitalised rivals (all with much larger proprietary trading teams) not pursuing the same strategy?

The profitability of the business was marvelled at by all senior managers, but never analysed or properly assessed at Management Committee meetings. Senior managers did not even know the breakdown of Leeson's reported profits. They erroneously assumed that most of the switching profit came from Nikkei 225 arbitrage, which actually only generated profits of US\$7.36 million for 1994, compared with US\$37.5 million for JGB arbitrage. No wonder Peter Baring, ex-chairman of Barings, told the bobs that he found the earnings "pleasantly surprising" since he did not even know the breakdown. Andrew Tuckey, ex-deputy chairman, when asked whether there had ever been any discussion about the long term sustainability of the business, told the same investigation, "Yes...in very general terms. We seemed to be making money out of this business and if we can do it, can't somebody else do it? How can we protect our position?...." Senior management naively accepted that this business was a goldmine with little risk.

Of Ron Baker (head of the Financial Products Group) and Mary Walz (Global head of Equity Financial Products), two of Barings' most senior derivatives staff and Leeson's bosses, the BoBS report concluded, "Neither were familiar with the operations of the SIMEX floor. Both claim that they thought that the significant and large profits were possible from a competitive advantage that BFS had arising out of its good inter-office communications and its large client order flow. As the [exchanges](#) were open and competitive markets, this suggests a lack of understanding of the nature of the business and the risks (including compliance risks) inherent in combining agency and proprietary trading."

Given the huge amounts of cash that Barings had to borrow to meet the [margin](#) demands of SIMEX, senior managers were almost negligent in their duties when they did not press Leeson for more details of his positions or/and the Credit department for client details. Members of the Asset and Liability Committee (ALCO), which monitored the bank's market risk, expressed concern at the size of the position, but took comfort in the thought that the firm's exposure to directional moves in the Nikkei was negligible since they were arbitrage (and hedged) positions. This same misplaced belief led management to ignore market concerns about Barings' large positions, even when queries came from high level and reputable sources including a query on January 27 1995 from the Bank for International Settlements in Basle.

The bank was haemorrhaging cash and still London took no steps to investigate Singapore's requests for funds - partly because senior management assumed that a proportion of these funds represented advances to clients. Even then the complacency is still baffling. BFS had only one third-party client of its own - Banque Nationale de Paris in Tokyo. The rest were clients of the London and Tokyo offices. Either London or Tokyo's existing customers had suddenly become very active or Leeson had recently gone out and won some very lucrative accounts or Tokyo or London had a new supersalesman who had brought new business with

him. Yet no enquiries were made on this front, which displays a blasé attitude about a potentially important source of revenue.

(c) Adequate capital

There are two aspects to this issue - an institution must have sufficient capital to withstand the impact of adverse market moves on its outstanding positions as well as enough money to keep these positions going. Barings management thought that Leeson's positions were market neutral and were thus quite happy to fund margin requirements till the contracts expired. In the end, these collateral calls from SIMEX and OSE proved too much to bear (as was pointed out earlier, they were larger than Barings' capital base) and the 200-year old institution was forced to call in the receivers. It was funding risk that seriously wounded Barings but the terminal shot came from the discovery that the enormous positions were unhedged.

Funding risk also nearly sank Metallgesellschaft, a German industrial company, in 1993. In that year alone, Metallgesellschaft's US subsidiary paid out \$900 million in margins for its crude oil hedges on NYMEX. When the American subsidiary asked for a cash infusion to meet further margin obligations, the parent refused and closed out the NYMEX contracts at a loss. The latter only survived because a consortium of German banks quickly put together a rescue package of \$2 billion.

Both the Barings and Metallgesellschaft stories highlight the need for institutions to pay more attention to the interim funding needs of hedged and semi-hedged positions. But the parallel ends here. Baring's senior managers continued to fund Leeson's activities because they thought they were paying margins on hedged positions (as well as those of their clients) whereas they were actually losing money on outright bets on the Tokyo stock market. Metallgesellschaft, on the other hand, refused to grant any more interim finance because they thought they were losing money on contracts which were in fact *bona fide* hedges for the company's long-term obligations. Both incidents illustrate the need for senior managers to be more knowledgeable about hedged positions because the issues facing them are complex in many cases.

As it turned out Barings had significant market risk from its naked positions so even if it had managed to borrow enough money to cover its margin costs till the contracts expired, it would have been unable to withstand the substantial losses it would suffer on expiry. Agents appointed by Barings' administrators closed out the contracts at losses totalling US\$1.4 billion, so Barings' inability to meet its margin obligations at the end of February just hastened its demise. Its fate had been sealed at the end of January when Leeson had an unauthorised Nikkei exposure of about 30,000 contracts.

(d) Poor control procedures

In many trading houses, not only is there a separation of operational duties between the front and back-office (absent in Barings), but there is also a unit independent of both to provide an additional layer of checks and balances.

(i) Funding

Barings' control procedures were sloppy. No where is this point better illustrated than in the way it funded BFS (or more accurately Leeson's unauthorised positions). Barings did not require Leeson, to distinguish between [variation margin](#) needed to cover proprietary and customer trades; neither did it have a system to reconcile the funds Leeson requested to his reported positions and/or that of its client positions. (The London office for example could have used the Standard Portfolio Analysis of Risk (SPAN) margining programme to calculate margins and would then have realised that the amount of money Leeson was requesting was significantly more than that called for under Simex's margining rules.) London simply, automatically, remitted to Leeson the sum of money he asked for, despite misgivings felt by many senior operational staff about the accuracy of his data.

The fact that no one even asked Leeson to justify his requests is all the more astounding given the size of his demands. At the end of Dec 1994, the cumulative funding of BFS by Barings London and Tokyo stood at US\$354 million. In the first two months of 1995, this figure increased by US\$835 million to US\$1.2 billion.

The BoBS inquiry team notes, "We described...how [Tony] Railton [Futures and option settlements senior clerk] discovered in February 1995 that the breakdown of the total US Dollar request was meaningless, and that the BFS clerk knew the total funding requirement for that day and made up the individual figures in the breakdown to add up to the required total." From November 1994, BFS usually requested a round sum number split equally between US dollars for client accounts and proprietary positions. The BoBS team notes, "Tony Hawes [group treasurer] confirmed that he identified this feature of the requests: 'That was one of the main reasons why during February 1995 I paid two visits to Singapore.' If the US Dollar requests had been in relation to genuine positions taken by clients and house [Barings itself], on any one day we consider it unlikely for the margin requests for these two sets of positions to be identical; as for having the requests split 50:50 most days, this is in our view is beyond all possibility. Tony Hawes appears to agree with this view. He told us that: 'It was just one of the factors that made me distrust this information... It was quite too much of a coincidence. ...Throughout I put it down to poor book-keeping and sloppy treasury management in Barings Futures [BFS]."

"David Hughes [Treasury Department manager] also told us that the 50:50 split: 'was a cause for concern...we said, this cannot be right.' He explained that: 'I do not think we could have house positions and client positions running totally in tandem.' [Brenda] Granger [manager, futures and options settlements] confirmed that she would have spoken to Hughes about the split. She added: 'We would joke about Singapore, -Why don't we send somebody's mother [anyone] out there to run the department since Nick is so busy now?'".

Staff in London could not reconcile funds remitted to Singapore to both proprietary in-house and individual client positions. But no remedial action was taken. Their cavalier attitude to reconciliation is illustrated by Figure 10.4³ which shows total funds remitted to Singapore ostensibly to pay customer margins. [place fig 10.4 here](#)

The solid line in Figure 10.4 shows the total funds sent to BFS by Barings Securities London

(BSL) - the entity to which all customer trades of London were booked; the broken line the amount of money funded by Barings Securities Group Treasury in London, this funding was known in the firm as the 'top-up' balance. The Group Treasury advanced this money, on behalf of clients, because it was not always possible for clients to transfer money to Barings in time to meet SIMEX intra-day margin calls. (The bank was expected to recover from clients these advances as quickly as possible.) Figure 10.4 shows that BSGT had to consistently advance a substantial portion of the funds earmarked for margins for client positions. The graph shows that from 1 January to 24 February 1995, the proportion of genuine client moneys which were transferred to BFS fell as a proportion of the total funding. Indeed on 21 February 1995, BSGT had to advance all the client margins of some US\$440 million. On 24 February, only US\$50 million of the US\$540 million sent to Singapore to cover client positions had been recovered from individual clients (i.e. the difference between the solid and broken lines). Barings control did not reconcile the top-up payments to individual client balances - if it did it would have discovered that it was sending out far too much money just to cover the margin calls of clients.

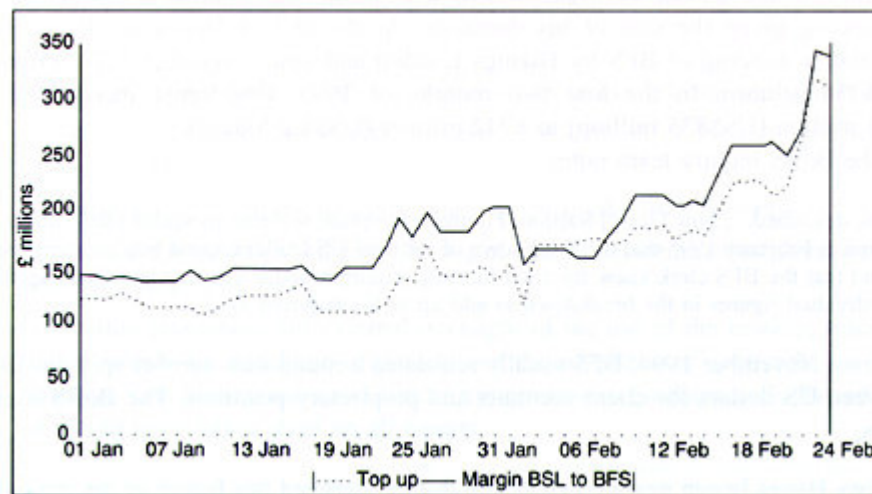


Figure 10.4 Top-up Funding from BSGT to BSL and Margin Balances from BFS from 1 January 1995. Reproduced by permission from the Report of the Board of Banking Supervision Inquiry into the Circumstances of the Collapse of Barings

(ii) Credit risk

The credit risk implication of the client advances represented by the 'top-up' balances was significant if the total funds remitted to Singapore was to meet genuine client margin calls. Yet the Credit risk department did not question why Barings was lending over US\$500 million to its clients to trade on SIMEX, and collecting only 10% in return. It did not seem to have an idea of who these clients were, yet Barings' financial losses would have been significant if some of these clients defaulted.

The Credit Committee under George Maclean insists that it was Baring's policy to finance client margins until they could be collected. But no limit per client or on the total 'top-up' funds was set. Indeed clients who were advanced money this way appear not to have undergone any credit

approval process.

The Credit Committee never formally considered the credit aspects of the 'top-up' balance although they could see the growth of these advances as recorded on the balance sheets. Plainly put, the credit risk controls of Barings Securities were shambolic.

(iii) Market risk

Because Leeson controlled the back office and because Barings had no independent unit checking the accuracy of his reports, the market risk reports generated by Barings' risk management unit and passed on to ALCO were inaccurate. Leeson's futures positions showed no market risk because trades were supposedly offset by opposite transactions on another exchange. Peter Baring and Baring shareholders have learnt too painfully the meaning of 'garbage-in, garbage-out' because a system is only as good as the data it receives

(iv) No limits

Barings did not impose any gross position limits on Leeson's proprietary trading activities because it felt that there was little market risk attached to arbitrage trades since at the close of business, the position must be flat. But the Barings collapse has shown that placing gross position limits on each side of an arbitrage book is perhaps not such a bad idea after all. While it is true that an arbitrage book has little price (directional) risk, it has basis and settlement risk. The former arises because prices in two markets do not always move in tandem and the latter because different markets have different settlement systems, creating [liquidity](#) and [funding risk](#).

(e) Lack of supervision

Theoretically Leeson had lots of supervisors; in reality none exercised any real control over him. Barings operated a 'matrix' management system, where managers who are based overseas report to local administrators and to a product head (usually based at head office or the regional headquarters). Leeson's Singapore supervisors were James Bax, regional manager South Asia and a director of BFS, and Simon Jones, regional operations manager South Asia, also a director of BFS and chief operating officer of Barings Securities Singapore. Jones and the heads of the support functions in Singapore also had reporting lines to the Group-wide support functions in London. Yet both Bax and Jones told the BoBS inquiry that they did not feel operationally responsible for Leeson. Bax felt Leeson reported directly to Baker or Walz on trading matters and to Settlements/Treasury in London for backoffice matters. Jones felt his role in BFS was limited only to administrative matters and concentrated on the securities side of Barings' activities in South Asia.

Leeson's reporting lines for product profitability are not clear cut since his supervisors have disputed who was directly responsible for him from January 1, 1994. His ultimate boss was Ron Baker, head of the financial products group. But who had day-to-day control over him? Mary Walz, global head of equity financial products, insists that she thought Fernando Gueler, head of equity derivatives proprietary trading in Tokyo was in charge of Leeson's intra-day activities

since the latter's switching activities were booked in Tokyo. However, Gueler insists that in October 1994, Baker told him that Leeson would report to London and not Tokyo. He thus assumed that Walz would be in charge of Leeson. Walz herself still disputes this claim. Tapes of telephone conversations show that Leeson spoke frequently to both Gueler and Walz. (The bottom line however is that Gueler reported to Walz.)

Two important incidents vividly illustrate the cavalier attitude Barings had towards supervising Leeson. The first involves two letters to BFS from SIMEX. In a letter dated 11 January, 1995; SIMEX senior vice-president for audit and compliance Yu Chuan Soo, complained about a margin shortfall of about US\$116 million in account '88888' and that Barings had appeared to break SIMEX rule 822 by previously financing the margin requirements of this account, (which appeared in SIMEX's system as a customer account.) SIMEX also noted that the initial margin requirement of this account was in excess of US\$342 million. BFS was asked to provide a written explanation of the margin difference on account '88888' and of its inability to account for the problem in the absence of Leeson.

No warning lights went off in Singapore. No one investigated who this customer really was and why he was having difficulties in meeting margin payments or why he had such a huge position; or the credit risk Barings faced if this 'customer' defaulted on the margins that Barings had paid on its behalf. A copy of the letter was not sent to operational heads in London. Simon Jones did not press Leeson for an explanation; indeed he dealt with the matter by allowing Leeson to draft Barings' response to SIMEX.

The second incident did come to the attention of London but again was dealt with unsatisfactorily, perhaps because Barings' personnel themselves are unsure about what really happened. At the beginning of February 1995, Coopers & Lybrand brought to the attention of London and Simon Jones the fact that US\$83 million apparently due from Spear, Leeds & Kellogg, a US investment group, had not been received. No one is sure how this multi-million dollar receivable came about. One version of events is that BFS, through Leeson, had traded or broked an over-the-counter deal between Spear, Leeds & Kellogg, and BNP, Tokyo. The transaction involved 200 50,000 call options, resulting in a premium of 7.778 billion (US\$83 million). The second version was that an 'operational error' had occurred; i.e. a payment had been made to a wrong third-party in December 1994.

Both versions had very serious control implications for Barings. If Leeson had sold or broked an OTC option, then he had engaged in an unauthorised activity. Yet he was not admonished for doing so; nor is there any record of Barings' management taking any steps to ensure that it did not happen again. If the SLK receivable was an operational error, Barings had to tighten up its back-office procedures.

Conclusion

The Nikkei 225 and JGB [futures](#) contracts traded by Leeson were the simplest of [derivative](#) instruments. They were also the most transparent - since they were listed contracts, Leeson was required to pay (or receive) daily [margins](#) and so needed funds from London. In January and February 1995 alone, he asked for US\$835 million. His could not hide his build-up of positions

on the OSE because the [exchange](#) publishes weekly numbers. All his rivals could see his enormous positions, and many assumed that the positions were [hedged](#) because such naked positions were out of all proportion to the firm's capital base or even those of other players.

His senior managers also assumed Leeson's were hedged. But unlike outsiders who **had** to assume that these positions were hedged, Barings' management did not. They could have done something about it - they could have probed Leeson, they could have tried to obtain more information from their internal information systems, and most of all they could have heeded the warning signals available in late 1994 and throughout January and February of 1995.

But although Barings fate was only sealed in the final weeks of February, the seeds of its destruction were sown when senior management entered new businesses without ensuring adequate support and control systems. The collapse of Britain's oldest merchant bank was an extreme example of operations risk, i.e. the risk that deficiencies in information systems or internal controls result in unexpected loss. Will it happen again? Certainly, if senior managers of firms continue to disregard rules and recommendations which have been drawn up to ensure prudent risk-taking.

SOURCE: IFCI Risk Institute, www.ifri.ch