ROADS TO RUIN

A STUDY OF MAJOR RISK EVENTS: THEIR ORIGINS, IMPACT AND IMPLICATIONS

A report by Cass Business School on behalf of Airmic
sponsored by Crawford and Lockton

John Hurrell, Chief Executive, Airmic.

PREFACE

Airmic is pleased to have commissioned this important piece of research, which highlights the critical role of boards in the effective oversight of risk management within their organisations.

The report demonstrates, through the case studies, that risk is at the heart of strategy, and that boards and specialist risk functions must work more closely together to avoid or mitigate the catastrophic consequences of events. Airmic wishes to thank the outstanding team at Cass who researched and prepared this report and our sponsors, Crawford and Lockton, who worked closely with us throughout the project. We commend this report to all those persons who have responsibility for risk within their organisations.

Professor Derek Atkins BSc, PhD, MIMMM, CEng, FCMI, FCII, Chartered Insurer

Derek currently chairs the risk committees of an international reinsurance company and a London market insurance broker and was formerly UK Strategy Director for Royal & Sun Alliance. He has co-authored twelve books on risk management and insurance-related subjects, including Reputational Risk (sponsored by Airmic). He has also been a member of two UK governmental working groups (Arson and Hazchem) and is a recipient of the CII Exceptional Service Medal.

Anthony Fitzsimmons MA (hons) Cantab (Engineering), Barrister, Solicitor

Anthony is the chairman and founder of Reputability, which specialises in reputation and crisis risk and strategy. He is an authority on reputational risk. An engineering graduate, Anthony became a risk, crisis, insurance and reinsurance lawyer. Over 30 years at Ince & Co, he developed and implemented strategies to prioritise and reconcile the reputational, human, commercial, legal and insurance issues that regularly arise and often conflict in a major crisis. Working with AIRMIC, he chaired the workshop that led to the joint report Policy and Governance for Risks to Reputation.

Professor Chris Parsons BA, LLB, PhD, PGCertEd, FCII, Chartered Insurance Practitioner

Chris began his career with the GRE (now AXA) Group. He is now Professor in Insurance at Cass Business School and Director of its Masters (MSc) programme in Insurance & Risk Management. Chris is the author of two books on insurance law and many scholarly papers on law and insurance. Chris is a recipient of the CII Morgan Owen Medal and Prize for the best research paper produced by a member of the Institute. In 2010, he was awarded the Geneva Association/ International Insurance Society Research Awards Prize for a paper on systemic risk jointly authored with Cass colleagues.

Professor Alan Punter BTech, MSc, PhD, MBA, ARM, ARe, MIRM

Alan was formerly Managing Director, Chairman's Office in Aon Limited and has 25 years' experience of the international insurance and reinsurance industry in a variety of risk financing, risk management and corporate functions. He authored the Institute of Financial Services textbook on Risk Financing and Management. He now teaches risk management and alternative risk financing courses on the Cass Business School MSc Insurance & Risk Management programme and is Assistant Chief Examiner for the International Certificate and Diploma qualifications of the Institute of Risk Management.

TABLE OF CONTENTS

This report investigates the origins and impact of over twenty major corporate crises of the last decade.

The crises examined involved substantial, well-known organisations such as Coca-Cola, Firestone, Shell, BP, Airbus, Société Générale, Cadbury Schweppes, Northern Rock, AIG, Independent Insurance, Enron, Arthur Andersen, Railtrack, the UK Passport Agency and also some smaller firms. Several did not survive and most of the rest suffered severe damage.

Our aims were to trace the deeper causes of the crises, to assess the post-event resilience of the companies involved and to consider the implications for the risk management of companies in general.

Our report is built around eighteen detailed case studies that analyse the impact of critical events both on the enterprises most directly affected and, in many cases, on other associated firms. There are references to around forty organisations in total.

The case studies provide a rich source of lessons about risk, risk analysis and risk management, in the context of critical events of many different types, ranging from fires and explosions, product-related and supply chain crises to fraud and IT failures. Our report details over one hundred specific 'lessons about risk' that emerge from the case studies.

Much broader lessons have also been distilled from the case studies. Several of the firms we studied were destroyed by the crises that struck them. While others survived, they often did so with their reputations in tatters and faced an uphill task in rebuilding their businesses. We found that the firms most badly affected had underlying weaknesses that made them especially prone both to crises and to the escalation of a crisis into a disaster.

These weaknesses were found to arise from seven key risk areas that are potentially inherent in all organisations and that can pose an existential threat to any firm, however substantial, that fails to recognise and manage them. These risk areas are beyond the scope of insurance and mainly beyond the reach of traditional risk analysis and management techniques as they have evolved so far. In our view, they should be drawn into the risk management process. They are as follows:

A. **Board skill and NED control risks** – limitations on board competence and the ability of the Non-Executive Directors (NEDs) effectively to monitor and, if necessary, control the executives.

B. **Board risk blindness** – the failure of boards to engage with important risks, including risks to reputation and 'licence to operate', to the same degree that they engage with reward and opportunity.

C. **Poor leadership on ethos and culture**

D. **Defective communication** – risks arising from the defective flow of important information within the organisation, including to board-equivalent levels.

E. **Risks arising from excessive complexity**.

F. **Risks arising from inappropriate incentives** – whether explicit or implicit.

G. **Risk 'Glass Ceilings'** – arising from the inability of risk management and internal audit teams to report on risks originating from higher levels of their organisation's hierarchy.

We conclude that a number of developments are necessary to deal with these risks.

- The scope, purpose and practicalities of risk management will need to be rethought from board level downwards in order to capture these and other risks that are not identified by current techniques.
- The education of risk professionals will need to be extended so that they feel competent to identify and analyse risks emerging from their organisation's ethos, culture and strategy, and from their leaders' activities and behaviour.
- The role and status of risk professionals will need to change so that they can confidently report all that they find on these subjects to board level.

However, these risks will remain unmanaged unless boards – and particularly Chairmen and NEDs – recognise the need to deal with them. Boards will also need risk professionals with enhanced vision and enhanced competencies to help them do so.

2. INTRODUCTION AND TERMS OF REFERENCE

The principal objectives of this research were:

- to investigate the impact on firms of major risk events of various types;
- to analyse the causes of these events; and
- to consider the implications for the risk management of firms in general.

It is clear that the impact of a major crisis is sometimes underestimated and takes the firm by surprise, whereas other organisations are better prepared and manage a crisis well, so that the firm suffers little harm or even emerges with an enhanced reputation. Our aim is to identify circumstances that make firms especially vulnerable to risk events and also the critical factors for minimising their effects.

Our research is built upon a series of case studies involving a variety of different types of firms and risk events of various types. There are eighteen case studies in all, but a number of them examine the effect of the event in question, or similar events, on several organisations. One (involving rail disasters) covers several events affecting the same organisations. Thus, the case studies between them consider twenty-three primary events and there are references to about forty organisations in total.

Most of the firms covered in this report are private sector organisations, but there are one or two exceptions. These public sector organisations have been included on the basis that their status (private or public) is largely irrelevant to the impact of the event and the lessons that emerge from the case study are of equal value to public and private sectors alike. The firms studied vary in size from medium-sized businesses to large multinational corporations and they cover a range of business sectors, including manufacturing, engineering, financial services, energy and transport.

Our case studies cover a range of different types of 'risk event'. In fact, classifying risk events in a consistent and systematic way presents a number of difficulties. These problems, and the associated difficulties of arriving at an orderly classification of causes of risks events and of their consequences, are considered separately, in Appendix C, which also outlines the methodology used in our study and contains proposals for further research.

The main categories in our relatively simple classification of risk events are as follows:

A. Events causing major loss of life, including transport accidents

B. Fire and explosion, including terrorism

C. Regulatory action, including criminal prosecution

C. Management behaviour, including fraud and mismanagement

E. Employee behaviour, including fraud or other (mis) behaviour

F. Product liability, product recall and supply chain failures

G. IT failure, including breach of data confidentiality

It is fully recognised that these classes are not strictly consistent and comparable (for example A and C are partly consequences rather than events and D and E might be regarded as causes rather than events) but they remain useful categories that will be familiar to most risk managers. We also acknowledge that some common categories are not included, such as natural catastrophes and environmental disasters. The first of these was omitted because natural disasters are usually widespread in their effects, affecting many firms simultaneously. This makes it difficult to isolate and select one firm in particular that merits study above all the others. As far as environmental disasters are concerned, the category was omitted in the absence of an obvious candidate in the time period covered in this report.

The main subjects of the case studies, and the risk events affecting them, are detailed opposite

Event/ Case study (date)	A Major loss of life	B Fire or explosion	C Regulatory action	D Managmt. behaviour	E Employee behaviour	F Product related	G IT related
1 AIG and AIG Financial Products (2005 & 2007)			✓	✓	✓		
2 Arthur Andersen (2001)				✓	✓		
3 BP Texas City Refinery (2005)	✓	✓					
4 Buncefield (HOSL) explosion (2005)		✓					
5 Cadbury Schweppes (2007)						✓	
6 Coca-Cola Dasani (2003)						✓	
7 EADS Airbus A380 (2006)				✓		✓	✓
8 Enron (2001)			✓	✓			
9 Firestone (2000)						✓	
10 HSBC/Nationwide/ Zurich Insurance (2006-8)							✓
11 Independent Insurance (2001)			✓	✓			
12 Land of Leather (2008)						✓	
13 Maclaren Pushchairs (2009)						✓	
14 Northern Rock (2007)			✓	✓			
15 Rail disasters: Great Heck, Hatfield, Potters Bar (2000-2)	✓		✓				
16 Shell (oil & gas reserves) (2004)				✓			
17 Société Générale(2007)				✓	✓		
18 UK Passport Agency (1999)				✓			✓

Several case studies involve risk events that fall into more than one category. For example, the serious delay that set back production of the giant Airbus A380 was at least in part IT-related, but can also be classified as a supply chain failure or the result of management behaviour.

With one exception, the events covered in our study occurred or began since the year 2000. We have also excluded events that have taken place very recently, because in many such cases, the true facts are not yet known and the full and final impact of the event remains uncertain. 'Deepwater Horizon' is such an example.

Each of the case studies, contained in Appendix A of this Report, follows the same pattern. A brief summary of the crisis is followed by details of the firm(s) involved and their business activities. This is followed by a description of the risk event, an account of the management response to it and a discussion of consequences of the event for the firm itself and for other parties. A discussion of the role of insurance in the crisis and a comparison with similar risk events is included where appropriate. The final section contains an analysis of the risk management implications of the case and the lessons that can be drawn from it.

While each case study is intended, in its own right, to provide useful insights about risk, we also attempt, in Section 3, to conduct a broader analysis of the case studies taken together and to summarise the risk management lessons that can be drawn from them as a whole. This analysis reveals common patterns in crises that initially appear to be very different in nature and in the action of firms that would appear to have little in common at first sight. In this way, some more general lessons in risk management have been distilled from the case studies.

INTRODUCTION

We studied crises affecting twenty-one organisations with pre-crisis assets of over $6 trillion. Most were well regarded and many had good reputations.

Only a few firms emerged without obvious immediate damage. Six firms collapsed and, while three of these were revived, this was achieved only through a state rescue and/or what amounted to nationalisation. Most suffered large, uninsurable losses and their reputations were damaged, sometimes severely. The position of most Chief Executives and Chairmen were put into question. We identified about twenty who subsequently lost their jobs, at least partly as a result of the crisis.

In the course of our research, it became clear that there was much more to these crises than is usually discussed. Once we had filtered out the 'triggers' for the crises, other, deep-seated, risks were seen to be at work. We have called these risks, which transcended business sectors, 'underlying risks'.

These underlying risks were dangerous in four ways:

- Many posed a potentially lethal threat to the organisation's business and business model.
- When they materialised, they often caused serious, sometimes devastating and almost always uninsurable[1] losses to the business, its reputation and its owners, often putting the position of the CEO and Chairman into question.
- Many were also instrumental in transforming serious but potentially manageable crises into catastrophes that destroyed reputations and licences to operate.
- Most of these risks are both beyond the reach of current risk analysis techniques and beyond the remit and expertise of typical risk managers. Unidentified and thus unmanaged, these risks remain unnecessarily dangerous.

We have therefore set out to identify and discuss most, though inevitably not all, of these underlying risks as they emerged from our study. We eventually produced a more detailed classification of risks under seven broad categories.

A. **Board Skill and NED Control:** Risks arising from limitations on board skills and competence and on the ability of the NEDs effectively to monitor and, as necessary, control the executive arm of the company.

B. **Board Risk Blindness:** Risks from board failure to recognise and engage with risks inherent in the business, including risks to business model, reputation, and 'licence to operate', to the same degree that they engage with reward and opportunity.

C. **Inadequate Leadership on Ethos and Culture:** Risks from a failure of board leadership and implementation on ethos and culture.

D. **Defective Internal Communication:** Risks from the defective flow of important information within the organisation, including up to board level.

E. **Risks from Organisational Complexity and Change**: This includes risks following acquisitions.

F. **Risks from Incentives:** This includes effects on behaviour that result from both explicit and implicit incentives.

G **Risk 'Glass Ceiling':** Risks arising from the inability of risk management and internal audit teams to report to and discuss, with both the 'C-Suite' (leaders such as the Chief Executive, Chief Operating Officer and Chief Financial Officer) and NEDs, the risks emanating from higher levels of their organisation's hierarchy, including risks from ethos, behaviour, strategy and perceptions.

A number of the risks we identified predispose organisations to 'groupthink'[2] or may be examples of its dangers.

A number of the risk areas we have identified concern the so-called 'soft' skills (staff, style and shared values) as opposed to the so-called 'hard' skills (technical know-how, strategy, structure and systems).[3] A valuable question for further investigation in this area is whether there is a causal link between weaknesses in leaders and board composition with respect to the so-called 'soft' skills and the propensity to suffer major reputational crises. More controversially, there is a question of whether there is a statistical or causal link with the much-discussed gender imbalance on boards.[4]

The studies themselves are rich in detailed lessons about conventional risks and their management, as brought into focus by crises. Since every case study is the story of a crisis, the studies also contain many lessons on the practicalities of crisis management and planning. The studies contain a valuable and extensive opportunity to learn painlessly from the misfortunes of others, so we have also extracted a series of observations about crisis management. These are to be found in Appendix B.

ANALYSIS

In this section of the report, we provide granularity to, and illustrate and support, the types of risk we have identified. In doing this, we have used a more detailed classification of risks that[than?] we developed during our analysis. The abridged comments made in this section should be understood in the context of the detailed case studies in Appendix A.

A. Board Skill and NED Control: Risks arising from limitations on board competence and the ability of the NEDs effectively to monitor and, as necessary, control the executive arm of the company.

A1. The risk posed by a board and NEDs who are not in effective control of the business

Our studies included a number of cases in which the board appeared not to be in full control of the business. This problem took a number of forms, including cases where the board or its NEDs did not fully understand the business model, the foundations and assumptions on which the business model was based, or the company's reputation and the essential foundations of that reputation.

For example, AAA-rated **AIG** ran a complex business. Its long-time CEO Hank Greenberg's basic business model was 15% revenue growth, 15% profit growth and 15% return on equity. Those who did not deliver were 'blown up'. In 2005, it emerged that AIG had 'hidden' significant underwriting losses by using creative 'reinsurance'. AIG was obliged to restate more than four years' earnings. Greenberg was forced to resign following allegations of fraudulent accounting and the use of an offshore entity to conceal losses. AIG lost its AAA rating. Five people were jailed for conspiracy and fraud, and Greenberg paid $15 million to the US Securities and Exchange Commission (SEC) to settle charges that he had altered AIG's records to boost results between 2000 and 2005.

AIG's Financial Products subsidiary **(AIGFP),** operating from a small London office, wrote a large portfolio of Credit Default Swaps (CDS). AIG's AAA rating gave it a competitive advantage. When AIG lost its AAA rating, it had to post more collateral, and this was one factor that weakened the company. Furthermore, the CDS business was, in effect, a bet on the strength of the US house mortgage market, so when the subprime credit crisis struck, the potential losses on AIG's CDS portfolio mounted. Its 2008 loss was $99 billion. AIG was rescued by the US Federal Reserve in an operation that required funds of $182 billion to be made available.

It emerged that AIG's board had been hand-picked by Greenberg over his years as a dominating CEO. The board mainly comprised two types: loyal friends and colleagues, and distinguished former politicians and government officials chosen 'to add prestige to the board'. Such a board was unlikely to be capable of challenging a dominant long-standing CEO even if it had the technical skills to understand the business, which is doubtful. This created a weakness in AIG that left important CEO decisions unchallenged – and left the board weaker still once it had lost the knowledgeable Greenberg as CEO.

Enron was an energy distribution and trading company based in Texas. It collapsed in 2001/2 under the weight of accounting scandals and fraud allegations that eventually led to the conviction of its CFO Andrew Fastow and its CEO and Chairman, Ken Lay and Jeffrey Skilling, as well as sixteen other Enron employees. As we shall see, the collapse of **Arthur Andersen** was closely tied to the failure of Enron. Lay had selected his board members from those who had business relationships with Enron (for example, relationships developed through consulting contracts) or whose organisations had been beneficiaries of Enron's political or charitable donations. This group was unlikely to be willing to challenge a dominant long-standing Chairman from whom members derived income and munificence, even if it had the technical skills to do so, which again seems doubtful. This weakness predisposed Enron to collapse.

Hertfordshire Oil Storage Ltd (HOSL) was a joint venture between Total Oil (60%) and Chevron (40%). HOSL was nominally responsible for the **Buncefield** tank farm, where 200,000 tonnes of fuel and heating oil were stored. The vapour cloud explosion at the site, which measured 2.4 on the Richter scale, could be heard over 200 km away and the resulting fire burned for five days. London's Heathrow airport lost 40% of its fuel supplies, and more than 600 businesses on a neighbouring estate, built after Buncefield was commissioned, were badly affected. It was a matter of luck that there were no deaths or serious injuries among

members of the public or the 16,500 people who were employed on the estate, the explosion having occurred early on a Sunday morning.

HOSL was run on a minimalist basis. Its board met only for a couple of hours twice per year and it had no staff to carry out its decisions. While its shareholders may have carried out some essential functions, such a minimalist set-up was inadequately resourced to co-ordinate management of the risks involved in running a large fuel tank farm. A judge later held that the tank farm was effectively run by Total Oil, one of the owners of HOSL.

- There were other examples of board ineffectiveness among our case studies.
- The board of **Independent Insurance** was clearly ineffective to oversee its fraudulent CFO and CEO.
- At **Arthur Andersen**, a partnership, local offices seem to have been able to disregard or overrule such central management as there was.
- At **EADS Airbus**, the effectiveness of the board and the company was compromised by its nature: a joint venture of national champions whose political sponsors made appointments and tried to influence decisions for political reasons.
- With reference to **BP**, the Baker Report on the Texas City Refinery explosion criticised BP's board for the 'disconnect' between its high ideals and the day-to-day practice of its operations.

A number of these exemplify situations that predisposed the leadership to 'groupthink'.

A2. The risk that either leaders or NEDs as a whole do not have the skills necessary to understand and run or, in the case of NEDs, independently oversee the business

It sounds obvious that leaders of a business should have the skills that are necessary to understand and run it, but some of our studies suggested that the leaders did not. Similarly, given that the role of NEDs is to provide independent oversight of the business, they need – at least collectively and arguably individually – sufficient skill and knowledge to ask all the right questions and to understand and evaluate the adequacy of answers they receive. Our study included a number of cases where this appeared not to be the case.

A prime example is **Independent Insurance**, set up by Michael Bright and his long-standing friend and colleague Philip Condon. In 1987, Bright became CEO with Condon as his deputy. Denis Lomas became Finance Director. The company wrote a significant amount of long-tail liability insurance and other types of insurance where reserves are hard to assess.

The company made stellar progress at first, but the business was not as profitable as it seemed. By the late 1990s, the trio came to realise that the business was in fact making losses and set out to conceal them. Their techniques included keeping reserves off the accounts, understating reserves and, eventually, making fraudulent reinsurance contracts. These were in two parts: with one hand they gave Independent reinsurance protection; with the other, in side letters, Independent gave back the benefits. The side-letters were hidden from the board and auditors. The company was put into liquidation in June 2001. Bright, Condon and Lomas were convicted of fraud in 2007.

There had been rumours in the insurance market to the effect that Independent's results were 'too good to be true'. The Annual Reports contained hints that things were going wrong, but these were not picked up by the board (or the auditors, actuaries or the UK FSA). The publicly available biographies we have found suggest that the NEDs were eminent City figures, but we have not found evidence that any had the specialist technical skills or experience to know how – and how easily – long-tail liability reserves can be manipulated. If, as we suspect, the NEDs collectively lacked this key know-how, their collective weakness made the company more vulnerable to a fraud by its executives.

Northern Rock was a bank, formerly a mutual 'building society', which collapsed in September 2007 following the UK's first bank run in nearly 130 years. Neither Adam Applegarth, the bank's leader, nor his Chairman had systematic training in banking. This may explain why they lacked the expertise to understand the risk involved in the bank's heavy reliance on wholesale funding markets. This inexperience helped to leave the bank's business model untested under stress; and under stress the bank failed.

The **Passport Agency**, which is responsible for issuing most UK passports, provides another instructive example. When the Agency introduced a new computer system in 1998, chaos ensued, followed by a large bill for compensating the many people who had to cancel planned holidays when their new passports did not arrive in time.

In fact, central government has a long history of IT projects that have gone disastrously wrong. The latest in a long series, involving a national fire service computer system, was reported as recently as December 2010.[5] One explanation may be the Civil Service's infamous 'cult of the talented amateur', immortalised and severely criticised by the Fulton Report as long ago as 1968. The essence of the 'cult' is that anyone clever enough to become a senior civil servant is clever enough to run anything regardless of experience – because they are clever enough to learn anything. The sad truth is that they are not. Those with high levels of technical expertise are still, it seems, looked down on by senior generalist administrative civil servants, who are reluctant to allow those with relevant expertise to take the lead in making policy and strategy. Taken with a system of rotation between posts, which ensures that expertise and any sense of long-term responsibility amongst administrators is easily lost, the result has been a long series of hugely expensive IT failures. In the case of this particular debacle, the core of the problem was that those in charge of the project lacked the experience that would have fitted them for the job. Putting them in charge was a huge, unrecognised, risk – and one that Civil Service leaders were probably unable to see because it concerned institutional weaknesses of their own about which they had long been in denial.

We found other examples of boards lacking necessary skills.

- **Enron's** board NEDs were selected for their connections with Enron rather than for their skills.
- **AIG's** board mainly comprised loyal friends and colleagues of Greenberg and distinguished former politicians and government officials chosen to add prestige to the board. They were unlikely to have the skills to challenge Greenberg's obscure reinsurance transactions – let alone to investigate how AIGFP's market models worked, on what assumptions they were based and what approximations were made.
- **AIGFP's** CEO Cassano lacked the mathematical skill to understand the business of his company.
- In the lead-up to the Texas City explosion, the **BP** director who had board responsibility for all operations at BP's refineries, including safety, had no refining experience prior to his appointment.

A3. The risk that the NEDs are blinded by charismatic leaders

As previously discussed, Independent Insurance appeared to be spectacularly successful and its leader a star. It seems likely that Independent's NEDs were at least partly blinded by Michael Bright's larger-than-life character, either feeling unable to challenge him or feeling that no challenge was warranted.

The same may be true with regard to the equally charismatic Hank Greenberg at AIG and also the leadership trio at Enron.

B. Board Risk Blindness: Risks from board failure to engage with important risks, including risks to business model, reputation, and 'licence to operate', to the same degree that they engage with reward and opportunity.

B1. The risk that the board fails to identify and guard against threats to the organisation's reputation and 'licence to operate'

Organisations often take aspects of the status quo – specifically, the world as they see it – for granted. In particular, they may take their good reputation, as they see it, for granted – and expect it to last indefinitely. This is a dangerous assumption. Boards should be aware of risks of this kind and ensure that the strategy they set (including their crisis strategy) is fit to deal with the most severe threats to their reputation.

For example, one of the main reasons for the collapse of the UK's monopoly rail infrastructure operator Railtrack, following the Hatfield rail crash, was its loss of reputation for competence as a railway infrastructure operator. It seems clear that **Railtrack's** board did not fully appreciate that its licence to operate literally depended on the UK government, which, when previously in Opposition, had vehemently opposed the privatisation of the railway system. Nor does it seem likely that the board understood how others perceived its competence. When Railtrack's reputation was sufficiently damaged, the government had no hesitation in removing its licence to operate – by effectively renationalising the railway network.

We met many other examples of failures of this kind.

- At the time of the 2000 crisis, the **Firestone** management seems to have failed to appreciate how the company's reputational capital had been eroded by its handling of earlier defective tyre problems and eventual recalls in the 1970s. Nor, apparently, did the board prioritise the safeguarding of Firestone's reputation as a trusted tyre manufacturer.
- **Northern Rock's** leadership seems to have failed to appreciate the importance of maintaining a bank's reputation for paying depositors on demand. This may have been so, at least in part, because neither the Chairman nor the CEO had been trained as bankers, but the board as a whole should have recognised this imperative. Arguably, the run could have been stopped on the evening of the announcement that the Bank of England was acting as lender of last resort to the bank, but neither CEO nor Chairman took the only step that might have succeeded.
- The actions of **Arthur Andersen's** leadership suggest that it did not understand or take action to protect the reputational foundations that are essential to the survival of any major audit firm.
- It seems unlikely that the **Passport Agency** thought about its reputation – or its own or the Civil Service's reputation for carrying out IT projects successfully – when it set out to bring in a new computer system. As stated earlier, it seems clear that the Passport Agency had no strategy to deal with a crisis either.
- **Land of Leather's** board seems not to have thought about how to deal with a product quality issue, let alone devised a strategy to deal with a type of problem that is common in the sector.

In contrast to these cases, it is clear that **Coca-Cola** was in no doubt as to the central importance of its reputation – not just its brand – when it ran into unexpected trouble at the UK launch of 'Dasani'. Coca-Cola reacted decisively and in a way that demonstrated that the company understood the central importance of its reputation. It abandoned the UK launch of Dasani within 24 hours, and the drink has not reappeared on UK shelves since.

Similarly, it seems clear that the bank **Société Générale** immediately appreciated the danger of a run. Preventing a run, such as had recently brought down Northern Rock, seems to have been a core element of its survival strategy.

As an aside, we note that Berkshire Hathaway has publicly set its risk appetite for reputation. In his biennial letter to his CEOs, Warren Buffett has regularly written the following:

As I've said in these memos for more than 25 years: 'We can afford to lose money – even a lot of money. But we can't afford to lose reputation – even a shred of reputation.'[7]

It may be a coincidence, but Berkshire Hathaway owns 9% of Coca-Cola.[8] Its CEO may well have received Buffett's biennial letter.

B2. The risk of failing to question the foundations of success

When things are going well, there is a tendency to ask fewer questions than when things are changing or going wrong, which is a mistake. As Nicholas Taleb perceptively explained,[9] successful leaders can be fooled into thinking that their success is due to skill rather than good luck – which is not to suggest that many, let alone most, successful leaders lack skill.

While the reasons for the failure of **AIG, Enron** and **Independent Insurance** are not what Taleb had in mind, the basic point still holds. Their boards should have questioned how their companies were producing exceptionally – and consistently – good results. Researching the answer to this question could have revealed much if the boards had investigated; and the mere fact of their having the skills and a known appetite to investigate success would have acted as a deterrent, at least, to fraudulent activities.

For the whole period of his tenure as CEO of **BP**, Lord Browne, the charismatic leader of BP, was seen as a standard-bearer of excellence and cost-effectiveness, but history is being reconsidered. His era has come to be seen as one in which management (no doubt inadvertently) focussed on cost-saving and efficiency to the detriment of a sound safety culture. We do not know whether the BP board questioned the foundations of BP's success under Lord Browne, but the external evidence that this happened is sparse. A poor safety culture at AMOCO, with which BP merged on Lord Browne's watch, was certainly a partial cause of the **Texas City Refinery** fire and seems also to have been part of the foundations of the Deepwater Horizon disaster.

B3. Risk can emanate from anyone inside or outside the organisation, including its top management

We have already seen how large risks can originate within the 'C-suite' and the upper reaches of a company. To recap, our examples include:

- **Independent Insurance**, where frauds were perpetrated by the CEO and the CFO.
- **AIG**, where frauds were alleged against Greenberg, who paid $15 million to the US SEC to settle charges that he altered AIG's records to boost results between 2000 and 2005. He and three other AIG directors later agreed to pay $115 million to settle a shareholder lawsuit over allegations that they had made false statements regarding AIG's financial results.
- **Northern Rock**, where the board failed to ensure stress testing of the core of the business model, with its heavy reliance on wholesale markets.
- **Railtrack,** where a major factor in the Hatfield train crash was the decision to subcontract maintenance work without ensuring that quality would be maintained. This was a board failure – whether the board approved what should have been a strategic decision or failed to oversee it.
- **Arthur Andersen**, where decisions involving individuals at a high level within the firm led both to the firm's continued involvement with Enron and to the shredding of documents relating to its audit of Enron.

Shell provides another example of risk originating at the highest levels. By 'Shell', we mean the UK arm of Royal Dutch Shell Group. Shell had long been proud to be an organisation with values. One of its directors even published a book – 'Walking the Talk' – about the need for senior management to be totally committed to Corporate and Social Responsibility (CSR), good corporate behaviour and other cultural objectives, and not just to pay lip service to them.

Unfortunately, it was subsequently revealed, in stages over four restatements, that the Executive Team had overstated the company's oil reserves by about 23%. Some sources have suggested that the overstatement ran into many tens of billions of dollars. Shell's share price collapsed and it was fined by both the US SEC ($120 million) and the UK FSA (£17 million). It eventually came to light that the Head of Exploration had emailed the Chairman that he was 'sick and tired of lying' about the oil reserves. The Chairman and Head of Exploration resigned. Later that year, the UK company was folded into the Dutch company.

This episode also revealed that staff incentive schemes were linked to the level of reserves. According to a Wall Street Journal article in 2004, for two years before the reserving crisis, reports from Shell's internal auditors had previously 'prominently flagged' that Shell's bonus system could encourage the inflation of reserves bookings.

The problem was that reserves additions were incorporated into Shell's 'score card' bonus system, in which executives were awarded additional pay-outs when their business units achieved certain targets. The relevant reports went to Shell's external auditors. Shell abolished reserves-related bonuses in the wake of the reserves crisis. Whether the points in the reports were passed on to the Audit Committee, or how the Audit Committee responded to them if it received them, is not known.

B4. The risk of failure strategically to set and control risk appetite

If the board does not set risk appetite, it is not directing the nature or scale of risks taken by the business. Risk governance first became a mandatory issue in the UK with the Turnbull Guidance.[10] Following the 2008 financial crisis, this was reviewed. Sir David Walker's report made detailed recommendations[11] about the handling of risk in the financial sector. The May 2010 revision of the Combined Code[12] requires that boards that are subject to the UK Financial Reporting Council (FRC) rules should set risk appetite.[13] This cannot be done without a comprehensive understanding of all the risks the organisation faces and how they might combine.

The **EADS Airbus A380** wiring debacle is a good example of this sort of failure, and it also illustrates other risk factors discussed in this section. The programme to design and build the giant A380 aircraft was one of exceptional complexity and novelty. Part of the complexity arose from the fact that major components were to be built at factories in France, Germany, Spain and the UK, with myriad sub-assemblies made around the world. Everything had to be shipped to Toulouse for final assembly. The programme was highly complex; and it is now better understood that complexity is itself a source of risk[14] (see Risk E below). It is clear that the decision to make major assemblies in different countries and bring them together for assembly was, at least in part, a politically driven strategy choice taken without regard to its impact on the manufacturing process. Airbus also took considerable risks in using new – and not entirely standardised – technology, not only for the structure and control systems but also for the design

and modelling of the aircraft for the processes of design and construction. It seems unlikely that the Airbus board became involved in these decisions, let alone set risk appetite for Airbus.

When major assemblies were brought together for final assembly, it was found that the wiring harnesses did not mate. The harnesses had to be dumped and the aircraft rewired to a new design, costing something in the region of €3 billion to €5 billion. Senior figures and their political sponsors became embroiled in resulting internal disputes that saw the French and German governments manoeuvring to install new leaders.

This is not a lone example. We saw other examples of likely failures to set risk appetite.

- It seems highly improbable, in the light of events, that risk appetite informed any part of the discussions at **Railtrack** that led its subcontracting maintenance work without adequate supervision. It is also improbable that proper consideration was given to the potential reputational or 'licence to operate' consequences.
- We have seen no evidence that risk appetite formed part of decisions concerning the maintenance of the former Amoco estate acquired in the BP/Amoco merger or of **BP**'s decision to base 70% of executive bonus on financial performance and attribute 15% only to safety.
- It seems very unlikely, given the nature of their boards, that **AIG**'s or **Enron**'s boards set risk appetite for their respective organisations.
- It seems likely that there was inadequate understanding at board level of the true extent and nature of the risks in the businesses of all of the above and also those of AIGFP, Northern Rock, HOSL (Buncefield), Arthur Andersen, Land of Leather and the Passport Office.

By way of contrast, the speed of Coca-Cola's decision, made within 24 hours of the troubled UK launch of Dasani, indefinitely to abandon the UK launch, shows not only that Coca-Cola had a clear crisis strategy, but also suggests that it had set its risk appetite for risks to the Coca-Cola reputation at nil. As previously mentioned, this decision may well have been taken in the light of how its 9% owner Berkshire Hathaway had set its own appetite for risks to reputation.

B5. Risk of failure to recognise change in the risk environment

Risks change over time. The change is not always significant, but sometimes it can become important. When the shift is sudden, it will often be spotted, but when a gradual change accumulates over years, it is more likely to be overlooked. A number of our case studies suggest a failure to recognise change in the risk environment.

- The Buncefield site was originally surrounded by fields, but a large industrial estate employing more than 15,000 people later grew around it. This dramatically changed the risk, but it is far from clear whether **HOSL** responded to the change.
- Attitudes to **Railtrack** changed as it suffered a series of fatal rail crashes (Southall in 1997; Ladbroke Grove in 1999) that increasingly appalled the public. These set an increasingly bad 'back-story' against which future failures would be set, but the Railtrack board did not seem to have recognised the importance of this deterioration.
- **BP** similarly grew an increasingly bad 'back-story', of which the **Texas City Refinery** fire was one element, which left the firm vulnerable to serious reputational damage when the Deepwater Horizon disaster occurred.
- When **Firestone** came to face its second major tyre recall in 2000, it too had grown a 'back-story' from the 1978 recall, in the course of which it had emerged that the company had been aware of tyre defects as early as 1972. However, its approach in 2000 seems not to have recognised the existence of this 'back-story', even though the 1978 recall had become a text-book case study of 'how not to do things', widely used in major business schools.
- **Arthur Andersen's** discussions of whether to continue to work for Enron seemed to have ignored the risk of severe reputational damage in Enron's growing use of increasingly 'creative' accounting practices. Arthur Andersen also seemed oblivious to the damage done incrementally to its reputational capital through two previous episodes in which it was fined by the US SEC and subjected to shareholder suits following high-profile client bankruptcies.

- **The data loss** episodes at HSBC, Nationwide and Zurich took place against a background of sharply increasing public sensitivity to the loss and misuse of personal information.

- Land of Leather's business model seems to have been based on selling cheap Chinese sofas as part of a range that included expensive ones. However, as the former came to dominate, press stories of their being assembled in back-street factories in South China by 'exploited' workers set a growing, negative 'back-story', which surfaced when customers started to develop severe eczema from contact with the furniture.

B6. Risks from deficient crisis strategy

In a crisis, good judgement and speed of reaction are important. What may turn out to be momentous decisions often need to be made very quickly if the tide of public opinion is not to turn against the organisation. These decisions can be made 'on the hoof'– that is, if and when the need arises – but this increases the risk of bad decisions that could threaten the company's future. A clear, overarching crisis strategy, defined in the calm of peacetime, will help an organisation to make better, more thoughtful decisions even when the time available for consultation and reflection is limited. Crisis strategy sets crisis planning upon strategic principles that can form the basis for handling any crisis.

When it comes to crises centred on the activities or behaviour of the 'C-suite', it is perhaps not surprising that the boards of **Independent, AIG** and **Enron** were unprepared for what faced them. However, a good crisis strategy should be designed to set at least a core of strategic responses, even to totally unexpected events.

- To judge by their actions after rail accidents involving system failures, of which there was a recent history, **Railtrack/Network Rail** appeared to have little in the way of a crisis strategy.

- When **Firestone** came to deal with its second tyre recall crisis in 2000, it seemed not to understand the importance of its reputation, the toxicity of its previous history of tyre quality problems or the importance of tyre defects to its reputation. This suggests that its leaders probably did not have any crisis strategy.

- When **Land of Leather's** customers started complaining of rashes and the issue hit the media, the company seemed unprepared. This suggests that its board had not thought about how to deal with a product quality issue, let alone devised a strategy to meet a problem that was common in the sector.

- **Maclaren's** initial reaction to its 'finger amputation' problem suggests that it was guided by 'what is legal' rather than 'what is right'. It is unclear whether this reflects poor crisis strategy or poor execution.

- When the **EADS Airbus A380** project ran into trouble, its handling was characterised by an unwillingness to admit problems and the piecemeal release of information, an approach that typically builds distrust. At best, this was poor crisis management; but it is also symptomatic of the lack of a sound crisis strategy.

- The National Audit Office criticised the **Passport Agency** for failing to plan or manage the project adequately. Given its botched crisis management when the project went off the rails, it seems clear that the Passport Agency had no strategy to deal with a crisis either.

- **Northern Rock's** response to an impending liquidity crisis suggests a lack of crisis strategy.

- By way of contrast, Coca-Cola was clearly well prepared strategically to deal with the problematic launch of Dasani; and BP seems to have been similarly well prepared to deal with the **Texas City Refinery** explosion.

C. <u>Inadequate Leadership on Ethos and Culture: Risks from a failure of board leadership and implementation on ethos and culture.</u>

C1. The risk that boards have not set and universally applied an adequate and coherent business and moral compass

Business culture, ethos and behaviour matter. Mechanically applied rules, guidance and a 'compliance culture' are not enough.

Mr Arthur E. Andersen, founder of **Arthur Andersen,** is said to have cemented his reputation when he told a local railroad chief that there was not enough money in Chicago to persuade him to agree to enhance reported profits by using creative accounting. He lost the account – and the railroad firm went bankrupt soon after. Mr Andersen had a clear moral compass.

By the 1980s, the firm was adopting the Big Five auditors' new business model: grow the business by selling

consultancy on the back of the audit relationship. Andersen did well. It embraced a '2x' model – bring in twice as much consultancy as audit revenue. Those who succeeded in doing this were rewarded, whereas those who did not perform faced sanctions. Fear of losing consultancy work must have pervaded audit teams.

Through its work for Enron, Andersen earned $25 million in audit fees and $27 million in consultancy fees in the year 2000. Over the years, Andersen had been involved in creating and signing off 'creative' accounting techniques, such as aggressive revenue recognition and mark-to-market accounting, along with the creation of Special Purpose Vehicles (SPVs) used for doubtful purposes. The firm was sufficiently concerned in 2001 for fourteen partners, eight from the local office that handled Enron, to discuss whether they retained sufficient independence from Enron. Having observed that revenues could reach $100 million (predominantly from consultancy, one would assume), they decided nonetheless to keep Enron's account. Mr Andersen might not have reached the same conclusion.

As news of the US SEC's investigation into Enron spread to Andersen, the Houston practice manager gave the audit team a lecture. When it had recently been investigated by the SEC, Andersen had learned that most of the SEC's ammunition came from Andersen's own files. He therefore said, that while they could not destroy documents once a lawsuit had been filed, 'if [documents are] destroyed in the course of the normal [destruction] policy and the next day suit is filed, that's great...'. A few days later, Andersen's in-house lawyer, having seen some embarrassing internal memos, sent an email to the Houston office stating 'it might be useful to consider reminding the engagement team of our documentation and retention policy ...'. In the next few days, Andersen's shredders in Houston, London and around the USA were working overtime. This loss of moral compass was an important cause of Andersen's collapse.

Cadbury was a company with a Quaker-inspired moral history. During Todd Spitzer's period as CEO, Cadbury had a central catch-phrase to describe its approach – 'Performance Driven, Values Led'. This highlighted a dilemma at the heart of Cadbury's new strategy: was performance to be the priority? Or values? Or were they to be equal?

In June 2005, Cadbury's initiated a precautionary product recall of one million bars of chocolate that might have been contaminated with salmonella. The problem had arisen because Cadbury had increased the tolerance level of salmonella from zero to a finite but low level on the (incorrect) assumption that a very low level of salmonella contamination in chocolate was safe. One might question whether this would have happened if values were the undisputed priority. The prosecutor said the change was to reduce 'wastage' (i.e. cost). Cadbury denied this and maintained that it believed low levels of salmonella to be safe, but this differed from external thinking.

BP's twin focus on safety and financial performance contained a similar contradiction. Which was to prevail: safety or performance? At BP, the conflict was implicitly resolved – in favour of financial performance – by the executive incentive scheme. This allocated 70% of bonus to performance and 15% to safety.

There are other examples in our case studies:

- At **AIG**, Hank Greenberg's priority was 15% revenue growth, 15% profit growth and 15% return on equity. Those who did not deliver were 'blown up'. With this priority so clearly set, other priorities were at risk of being disregarded.
- At **Independent Insurance**, if other values were set, the message for those around Michael Bright was to be complicit in his concealing the true level of reserves. Most people complied or left without raising the alarm.
- At **Northern Rock**, the culture permitted employees to be pressured into under-reporting mortgage arrears.
- **Shell** had long regarded itself as a responsible and ethical company with an ethical leadership. The discovery that senior executives had overstated the reserves undermined this view.
- **BP** was criticised for having a 'compliance culture' as opposed to a culture that focussed on fixing the fundamentals.
- In the case of **Dasani**, did Coca-Cola realise that it could be seen as passing off processed tap water as something equivalent to spring water? We wonder whether Coca-Cola had thought of the issue in the light of potentially different stakeholder attitudes in different countries before they launched the product in the UK. If they had not, it suggests poor stakeholder analysis. If they had, it suggests a quasi-moral issue.

C2. **The risk of failure by boards to create, and embed, throughout their organisation, a coherent strategy on safety that covers both physical and organisational safety.**

Three of our studies – **Railtrack, Buncefield** and **Texas City Refinery** clearly illustrate the dangers of an inadequate safety culture. The Report of the

US Commission investigating the Deepwater Horizon concluded[15] that BP's safety culture, found to lack focus on process safety at the time of the Texas City Refinery explosion, retained this inadequacy by the time of the Deepwater Horizon disaster. Lack of a good, well-embedded safety culture not only makes it more likely that things will go wrong, but exacerbates the consequences if things do go wrong.

'Safety', however, is not just a matter of physical safety. Organisational safety also matters. For example, banks that employ the intrinsically unstable 'borrow short, lend long' business model have a critical dependency on maintaining liquidity – and the reputation for having liquidity. **Northern Rock** was no exception, but the risk of inadequate liquidity was not adequately considered. Northern Rock could not operate safely without adequate

liquidity, but the board failed to ensure it could be maintained at all times.

Similarly, particularly through AIGFP, **AIG's** business model depended critically on maintaining its AAA rating. The board seems not to have considered the effects of losing that rating. The effect of its loss was to put AIGFP into a cycle of having to post more cash to support AIGFP's derivative contracts, being further downgraded and, as a result, having to post yet more cash.

This cycle was the main cause of AIG's effective collapse and subsequent bailout.

A board's strategy also needs to be coherent. We have already commented on the internal contradictions inherent in Cadbury's 'Performance Driven, Values Led' philosophy and in BP's twin focus on safety and financial performance. We have also seen how, in the case of BP, the contradiction seems to have been resolved in favour of financial performance.

C3. The risk of failing to ensure that the business's moral compass and safety strategy are also implemented throughout its supply chain

Where the safety of consumers is concerned, businesses have a key interest in the actions of those in their supply chains. When it comes to the ethicality of dealings in the supply chain, consumers and their proxies in many countries have come to demand the same standards as they demand of the organisation itself.

- A major factor in the **Hatfield** and **Potters Bar** rail crashes was an inadequate safety culture within the maintenance companies to which Railtrack, and later Network Rail, had subcontracted maintenance work. This was a key source of risk to both.
- In the case of **Zurich Insurance's** data loss, the firm had assumed, without checking, that its South African sibling company would adhere to data protection standards that were similar to its own.
- As already noted, **Land of Leather's** business model came to focus on selling cheap Chinese sofas, apparently assembled in back-street factories in South China by poorly paid workers. When a product safety issue arose, its supply chain and the 'exploitation' of Chinese workers came back into focus.

C4. The risk of perceived double standards

Double standards and their cousin, hypocrisy, are issues of personal morality. Examples from public life have long been food for the media, particularly when the media is able to contrast what a politician preaches with what they do. But perceptions of double standards and hypocrisy can also damage companies and their leaders.

- A core element of **Maclaren's** difficulties with its pushchair 'recall' was the perception that it was treating its UK and other European consumers in a less caring manner than its US consumers.
- In the case of **Société Générale,** it was alleged that traders were allowed to ignore trading limits and 'smooth' results – at least while things were generally going well.
- As regards **Shell**, the company had built a reputation as a global leader in CSR. One director had published a book emphasising the need for senior management to be totally committed to living the company's commitments to CSR, good corporate behaviour and other corporate cultural objectives, and not just pay lip service to these concepts. However, the reputational capital built up by this positive activity was undermined once it was perceived that the company tolerated what some would see as unethical behaviour in the setting of its reserving levels.

D <u>Defective Communication: Risks from the defective flow of important information within the organisation, including to board-equivalent levels.</u>

D1. The risk that information does not flow freely in all directions – up and sideways as well as down – and from the very bottom to the very top of the organisation

Without a free flow of information, things that are known within the organisation, but not to its leaders and their proxies, will flourish hidden from leaders' sight. We have adopted the descriptive shorthand 'Unknown Knowns'[16] to identify them. As a result, leaders can live in what has been described as a 'rose-tinted bubble'.[17] Risks that are 'Unknown Knowns' can be unnecessarily dangerous because, being unrecognised, they remain unmanaged. Boards have to set the tone on freedom – and the incentive – to share information, which is also fundamental to an effective learning culture. (A different, but connected problem – 'not listening' – is dealt with in the next section.) Examples from our case studies include the following.

- **Railtrack** and **Network Rail** were criticised for having poor communication with subcontractors, and this was a contributory factor to poor safety standards.
- After the **Buncefield** explosion, there was criticism of poor communication with contractors before the explosion.
- In the cases of **Independent Insurance**, **Enron** and **AIG**, there was poor internal communication about problems because of the hectoring and/or bullying behaviour of the leadership. This blocked internal routes to NEDs becoming aware of what was going wrong.
- In the case of the **Airbus A380** delays, middle managers kept the problem of non-matching aircraft sections from senior managers for six months. This seems to have resulted, at least in part, from a culture that did not allow the freedom to criticise – essentially a communication problem.
- The background to the **Texas City Refinery** fire included poor vertical communication, which meant that there was no adequate early warning of problems and no means of understanding the growing problems on the site. BP's approach to decentralisation also meant that top management had not effectively communicated its priorities, including those on safety, to its operating units.

D2 Risks in a culture that does not listen or learn from experience

The evolution of human knowledge is a tale of learning from experience – personal experience and the experience of others, whether contemporary or historical. Organisations often have difficulty in learning from experience, whether it is their own or that of others. We saw numerous examples in our case studies

- BP was criticised following the **Texas City Refinery** explosion for not absorbing lessons from previous incidents at its own refineries in the UK.
- The leaders at **Société Générale** should not have been surprised about the possibility of their harbouring a 'rogue trader'. Between Nick Leeson (who brought down Barings in 1995) and 2008, the activities of at least seven other major rogue traders were uncovered, roughly one every two years.
- The **Passport Agency** was severely criticised on two counts: failure to learn from its 1989 IT roll-out debacle and failure to learn from the 1998/9 pilot scheme's problems when that project went off the rails. The Agency pressed ahead with the 1998/9 roll-out regardless of the pilot's known problems, causing chaos.[19]
- One of the lessons explicitly learned by **Arthur Andersen** concerned the risks inherent in 'problem clients'. An internal memo written shortly before the firm's demise emphasised that '… client selection and retention are among the most important factors in determining our risk exposure … [we must] have the courage to say no to relationships that bring unacceptable levels of risk to our firm'. In spite of this, and despite a discussion in 2001 about the wisdom of retaining Enron as a client, the decision was made to do so.
- **Firestone** had to conduct a major recall of defective tyres in 1978, but the lessons of that recall seem not to have been learned. When the circumstances surrounding Firestone's tyre recall of 2000 were investigated, it became apparent that the company had been aware of potential production problems with its tyres as far back as 1994, just as it had been aware of tyre quality problems long before the 1978 recall was announced. The firm had even increased production of its tyres in the hope that this would dilute the failure rate – i.e. reduce the ratio of faulty to non-faulty tyres.
- In the case of the **EADS Airbus A380** delays, complacency seems to have been one reason why middle managers hid problems from senior managers –

a failure to recognise not only that there were problems needing to be fixed but also that there were lessons that needed to be learned. There seems also to have been a culture of buck-passing between French and German partners, rather than one of investigating and learning lessons.

In contrast:

Coca-Cola had clearly learnt a great deal from the experience of its 1999 crisis in Belgium. As a result, the firm appears to have developed an effective crisis strategy and the means to carry it out efficiently. Its decisive handling of the Dasani crisis is evidence for this.

- **Maclaren** was aware of fifteen previous incidents of severe injuries to children, including twelve finger amputations, eight of which had occurred in the last two years. Maclaren identified the need for a solution and implemented it, even if the firm's response was initially mishandled in the UK.
- **Société Générale** had recently been reminded, by the recent Northern Rock run, of the importance of avoiding a run on its own bank – and this seems to have strongly influenced its strategy.

Not listening is often a cause of failure to learn from experience as well as a symptom of 'groupthink', but its impact can go much wider.

- Neither **Independent Insurance's** auditor, nor its actuary, nor its regulator seems to have heeded the prevailing market view that Independent's results were 'too good to be true'.
- Before Kerviel's unauthorised trading came to light, two types of warning went unheeded. First, enquiries had been made to **Société Générale** by Eurex, the derivatives exchange on which Kerviel was trading, about his unusual trading patterns and, second, there were 75 internal alerts between June 2006 and early 2008 that should have alerted Kerviel's managers to his unauthorised dealings.
- It seems that the **Passport Agency's** decision to roll out its pilot scheme to a second office was partly the result of the Agency's leaders not listening to the unwelcome news that the first phase of the roll-out was not going well.
- **Enron's** Chairman, Ken Lay, received a letter from a 'whistle-blower' who feared 'a wave of accounting scandals'. When Lay eventually met the writer, the inquiry he instigated was ineffectual. He asked the company's lawyers to investigate. They asked Arthur Andersen. The company lawyers then said it was 'OK if Andersen said it was OK'. Perhaps Lay preferred not to receive bad news.
- As mentioned earlier, two years before the company's reserving crisis, **Shell's** internal auditors had 'prominently flagged' the risk that Shell's bonus system might encourage the inflation of reserves bookings. The problem they identified was that reserves additions had been incorporated into Shell's 'score card' bonus system, through which executives were awarded additional pay-outs if their business units achieved certain targets. The relevant Wall Street Journal article indicates that the reports went to a range of senior executives within Shell. It is not clear whether the internal auditor's report was not acted on because of 'not listening' or because it was judged to be wrong.

E. Risks from Organisational Complexity and Change, including acquisitions.

In his seminal book, Normal Accidents, Charles Perrow[20] lucidly argues that complexity is both a cause of accidents and of the exacerbation of accidents that have already 'begun'. Our case studies support the view that excessive complexity can be a key factor in major crises.

- **The EADS Airbus A380** project involved immense complexity at the levels of aircraft design, design IT, technology, procurement, manufacture and assembly. Additional complexity was caused by political demands that work be shared 'fairly' between operations in the UK, France, Germany and Spain (which did not share technology platforms) and insistence that the management structure should preserve a delicate Franco-German balance, with two CEOs, one from each country. This multi-dimensional complexity lay at the root of the debacle in which it was discovered that the wiring in different aircraft sections designed and made in different countries would not mate properly when the assemblies were brought together at Toulouse, leading to costly production delays.
- The **Hatfield** and **Potters Bar** rail crashes were partly a result of the increased complexity arising from outsourcing[subcontracting is the term used previously?] the core activity of rail maintenance.
- BP's **Texas City Refinery** explosion was partly the result of the BP's merger with Amoco, which had a very different culture. The merger made BP's management

and structure overly complex, and the Texas City Refinery came with a long history of poor maintenance.

- Many businesses affected by the **Buncefield** explosion seem not to have appreciated the complexity of their supply chains arising from just-in-time supply.
- **AIG's** business, particularly at **AIGFP,** was highly complex. It was partly understood by those who had built it, but their successors lacked the essential tools (e.g. strong maths and a knowledge of the history) to run it safely. Nor did AIG, its board or its regulators appear to understand the complexity of its business, its weaknesses or its place in the financial system when that highly complex system came under stress.
- Shortly before its collapse, **Arthur Andersen** came to realise that there was risk in the complexity of the marginal accounting techniques used by **Enron** – yet the decision was made to continue working for this client.
- **Northern Rock's** board appears not to have even considered the complexity of the financial markets on which its business model depended and how this might affect the bank's access to liquidity.

F. <u>Risks from Incentives, whether explicit or implicit.</u>

Incentives, whether explicit or implicit, can distort culture and behaviour in ways that endanger the organisation. Boards should be aware that the incentives they create or encourage can distort the outcomes they wish to achieve.

- Under BP's system of executive incentives, financial performance accounted for 70% of bonuses, whereas targets relating to safety contributed only 15%. This gave financial targets a predominance that may not have been fully intended.
- BP's executive team targeted personal and occupational safety, not process safety. It is not surprising that safety improvements missed the latter important goal.
- At **Independent, AIG** and **Enron**, the bullying nature of the firms' Chief Executives discouraged staff from speaking out about problems. This implicit incentive may have been intended by the CEOs concerned, but not by their boards.
- At AIG's **AIGFP** subsidiary, 50% of the large bonuses, set at the top, were dependent on short-term performance and were immediately available – the 'Trader's Option'. This is likely to have skewed performance towards short-term bonanzas based on profits that were largely made possible by 'free-riding' on AIG's substantial capital and its AAA credit rating.
- **Arthur Andersen's** system rewarded those who doubled audit fees through consultancy and punished those who did not. The incentives within this system seem to have influenced Andersen's decision to retain Enron as a client, despite its concerns about the firm.
- As previously discussed, the **Shell** reserving episode revealed that staff incentive schemes were linked to increases in the level of reserves. The internal auditor had twice flagged up his concerns about this. On the second occasion, the auditor emphasised his 'firmly held belief that the reserves-addition targets in these score cards present a potential threat to the integrity of the Group's reserves estimates'. Regardless of whether or not the bonus system actually led to a distortion of reserves, it appears that the auditor's advice was heeded only after the reserving crisis blew up.
- It appears that the management at **Land of Leather** focussed to a large extent on deriving profit from peripheral activities such as the sale of warranty or PPI insurance, and rewarded staff handsomely for success in doing so. This created the risk that both management and staff would 'take their eyes off the ball' and neglect key issues of safety, quality and customer service.

G. <u>Risk 'Glass Ceiling': Risks arising from the inability of risk management and internal audit teams to report to the C-Suite and to NEDs on risks emanating from higher levels of their organisation's hierarchy, including risks from ethos, behaviour and strategy.</u>

Internal audit and risk management teams are an important source of information to NEDs as well as to the business via its executives. We found cases in which the relatively low status of risk managers made them less effective than they could have been, and cases where their ability to report on risks presented by higher echelons of the organisation was restricted by their lower place in its structure.

The French bank **Société Générale** provides a good example. In January 2008, the bank discovered that a rogue trader, Jérôme Kerviel, had lost an amount eventually determined to be nearly €5 billion. Evidence of internal problems is found in the fact that there had been a series

of queries about Kerviel's trading. For example, there were several queries in November 2007 from the exchange on which he mostly traded, but these were not followed up. More than 70 oddities associated with his trading were reported internally, but the compliance officer was unable to challenge Kerviel or get the attention of his superiors. Clearly, companies are exposed to unnecessary risk when the status of their risk and compliance teams is so low (e.g. in relation to traders and senior staff) that they cannot do their job effectively.

Again, at **Independent Insurance, AIG** and **Enron**, internal controls such as Internal Audit and Risk Management were not strong enough to prevent fraud on the part of executives. While NEDs sincerely hope that the executives will not defraud the company or otherwise withhold critical information, it is essential that internal controls (of which Risk Management and Internal Audit are the most important) are sufficiently robust and all-pervading to police even the most senior executives.

Yet again, at **Arthur Andersen**, the internal controls on internal ethicality seem to have been sufficiently low in status that a branch operation could, in effect, collectively persuade the centre to override them.

IMPLICATIONS

Risk appetite is increasingly on board agendas. The UK's Combined Code[21] now requires that boards subject to the UK FRC rules should set risk appetite.[22] This cannot be done without a comprehensive understanding of all the risks the organisation faces and how they might combine. And, in looking at risk appetite, risks emanating from board level must be identified and brought into the discussion.

The seven overarching risk areas described earlier are fundamental to the ethos, safety, reputation and longevity of an organisation and to its ability to use its own information effectively. However, they seem to be rarely discussed either by firms or in the literature on risk analysis. Many are virtually taboo internally because they touch on the behaviour, decisions, performance and perceptions of senior echelons. Without listening to outsiders, boards can only see themselves as in a mirror. They are vulnerable to 'groupthink'. They cannot see themselves as others do. They face the risk of self-deception.

Some of these risks were perhaps conceptually alluded to in the UK Financial Services Authority's 2006 Risk Assessment Framework.[23] Some were discussed in relation to the financial sector in the UK's Walker Review[24] that followed the 2008 banking crisis. A few were given recognition in the Financial Reporting Council's 2011 *Guidance on Board Effectiveness*.[25] In the UK, the FRC is in the final stages of a consultation on the relationship between boards, NEDs and risk.[26]

In his forward to a recent report[27] by the Korn/Ferry Institute, Peter Brabeck-Letmathe, Chairman of Nestlé, wrote:

The events of the last two years put risk-related issues squarely on the front burner, and the flame remains high. Board members are proactively rethinking their approach to risk, asking: How does risk inform our corporate strategy? Have we lost sight of the fact that risk is the fuel for reward? Has our risk appetite become too conservative? Has the pendulum swing too far?

An important discussion is beginning, but it must be based on sound assumptions. There has been an implicit assumption that boards have complete access to information on all important risks faced by their organisations, and a full understanding of them. Our report illustrates how wrong this assumption can be, even in the case of large, highly respected companies.

This state of affairs is not simply the fault of boards or risk managers, but the result of how, and how far, risk analysis and management have evolved over the last 60 years. Organisations such as Airmic, and its members, have played a full part in developing and applying the necessary techniques. As a result, they have made a significant contribution towards the mitigation of risk in society. They have helped create many of the familiar tools of traditional (hazard) risk management, and they have embraced the more recent concept of enterprise risk management.[28] We suspect that most risk managers make good use of the tools currently available to them.

However, our research shows that the scope and reach of risk analysis needs to evolve further, and with it, the range of risks that are managed and the approaches used to manage them. We see the seven areas highlighted above as the next challenges for Airmic and its members, as well as for boards and the risk community worldwide. Given that society has increasingly high expectations of corporate behaviour – and a sharply increased ability to find and broadcast embarrassing information – these challenges are doubly important.

What needs to be done?

Many risk managers and internal auditors will feel uncomfortable working in the areas highlighted in this report unless they have been able to gain the skills and experience necessary to question and discuss corporate strategy and senior management's leadership styles in an effective way. Furthermore, many of these risk areas are difficult for risk managers and internal auditors to explore, let alone report on. This is so because the need to question and sometimes criticise those above them in the hierarchy could be seen as a putting their careers at risk.

We have concluded that four important developments are necessary if risk managers are to be able to support boards effectively on these important risk issues.

1. **The scope, purpose and practicalities of risk management will need to be rethought from board level downwards in order to capture risks, such as those we have identified, that are not identified by current techniques.**

2. **At least some risk professionals will need to extend their skills so that they are – and feel – competent to identify, analyse and discuss risks emerging from their organisation's ethos, culture and strategy, and their leaders' activities and behaviour.**

3. **The role and status of risk professionals will have to change so that they can confidently report and discuss all that they find on these subjects at all levels, including board level.**

4. **Boards, and particularly Chairmen and NEDS, need to recognise the importance of risks that are not captured by current techniques. They also need to focus on how to ensure that the missing risks are captured.**

How this can best be achieved is a question beyond the scope of this report, although the work involved in these four areas, particularly the first two, would be a natural extension of our research. We suspect that there is also a need for more sophisticated NED and Executive education directed towards the understanding, evaluation and engagement with risk. This needs to go far beyond risk analysis and aversion, to bring risk and risk appetite routinely into board thinking about opportunities and reward.

Some of these issues were partly raised in the context of Chief Risk Officers of 'Banks and Other Financial Institutions' (BOFIs) in the Walker Report.[29] There has also been some discussion[30] of what a 'BOFI' CRO should look like; and the Korn/Ferry report, to which we have referred above, recognises the need for boards to engage more with risk-related issues.

CONCLUSION

The underlying risks we have highlighted are potentially inherent in any organisation. If they are unrecognised and unmanaged, these risks can pose a lethal threat to the future of the largest and most successful business. Firms lose an important opportunity to deal with potentially existential threats if risks such as these are not sought out, identified and addressed.

Boards, and particularly Chairmen and NEDs, can have a large blind spot in this dangerous area. Without board leadership, these risks will remain hidden because only boards have the power to ensure that enough light is shed on these hard-to-see risks.

As we have observed, risk appetite is increasingly on board agendas. Boards subject to UK FRC guidelines now have to set risk appetite. This report should be the impetus for a change in boardroom thinking, transforming risk from a tedious Cinderella 'hygiene' subject into one that is, with risk appetite, as comprehensively a part of the currency of strategy discussion as its siblings, Opportunity and Reward. NEDs and executive directors may need to obtain specialist education to increase their understanding of risk and boost their confidence in discussing it.

Having learnt what they may not be seeing, wise boards will prefer to fly with their eyes wide open, not blinkered. They will also need risk professionals with enhanced vision and skills to guide them.

1. Although we were unable to fully assess the role of insurance in every one of our case studies, it is striking how small a part insurance appeared to play in most of them.
2. 'Groupthink' may be defined as a psychological phenomenon that occurs within groups of people. Group members try to minimise conflict and reach a consensus decision without critical evaluation of alternative ideas or viewpoints. The reasons for such a state of affairs may vary.
3. This classification is taken from a diagram of the 'McKinsey 7-S Framework' illustrated in In Search of Excellence by Thomas Peters and Robert Waterman, 1982 Warner Books.
4. Two reports suggest this may be a profitable avenue to explore. McKinsey's report, Women Matter (2007) at pages 12 et seq www.mckinsey.com/locations/paris/home/womenmatter/pdfs/Women_matter_oct2007_english.pdf; and the Davies report Women on Boards (2011).
5. See the BBC report at http://www.bbc.co.uk/news/uk-england-12042563.
6. The Civil Service: Report of a Committee chaired by Lord Fulton: HMSO 1968 Cmnd 3638, Chapter 1 et seq
7. Berkshire Hathaway Shareholder Letter 2010, www.berkshirehathaway.com/letters/2010ltr.pdf at page 26
8. Ibid at page 16
9. Nassim Nicholas Taleb, Fooled by Randomness, (2nd Ed), Random House, 2005
10. Internal Control: Revised Guidance for Directors on the Combined Code. Financial Reporting Council, London. 2005, though the requirement can be traced back to 1999
11. Sir David Walker, A review of corporate governance in UK banks and other financial industry entities: final recommendations 2009
12. The UK Corporate Governance Code, Financial Reporting Council, London, 2010
13. Ibid at page 19: 'The board is responsible for determining the nature and extent of the significant risks it is willing to take in achieving its strategic objectives.'
14. See Normal Accidents, Charles Perrow, Princeton University Press, 1999
15. Deep Water, The Gulf Oil Disaster and the Future of Offshore Drilling, Report to the President [of the USA], January 2011 ISBN: 978-0-16-087371-3
16. Unknown Knowns, Anthony Fitzsimmons, http://reputabilityblog.blogspot.com/2011/04/unknown-knowns.html, 2011
17. Annual Management Report, Roffey Park, 2011, described in its press release at www.roffeypark.com/press/Pages/ManagementAgenda2011.aspx ; and 'Do boards live in a rose-tinted bubble? Anthony Fitzsimmons, 2011 http://reputabilityblog.blogspot.com/2011/01/do-boards-live-in-rose-tinted-bubble.html
18. Sadly, this is not a new observation. Georg Hegel observed: 'What experience and history teach is this – that people and governments never have learned anything from history, or acted on principles deduced from it.' Lectures on the Philosophy of History, published 1837.
19. The reason, at least in part, may have been a loss of corporate memory; but the UK Civil Service has a record of disastrous IT projects suggesting a systemic ineptitude. It may also be a result of the Civil Service's culture of the 'talented amateur' – see note 7.
20. See Perrow Supra note 15
21. The UK Corporate Governance Code, Financial Reporting Council, London, 2010

22. Ibid at page 19: 'The board is responsible for determining the nature and extent of the significant risks it is willing to take in achieving its strategic objectives.'

23. The FSA's Risk Assessment Framework of August 2006, Annex 1, www.fsa.gov.uk/pubs/policy/bnr_firm-framework.pdf

24. Sir David Walker, ibid

25. Guidance on Board Effectiveness, Financial Reporting Council, London, 2011

26. See speech by Stephen Hadrill, Chief Executive of the FRC, to Audit Committee Chairs on 6 December 2010, to be found at www.frc.org.uk/images/uploaded/documents/SH%20Audit%20Committee%20Chair%20Event%206%20DEC2.pdf

27. See Calculated Risk – the view from the boardroom, Korn/Ferry Institute, 2011

28. See Dickinson, G. 'Enterprise Risk Management: Its Origins and Conceptual Foundation', The Geneva Papers on Risk and Insurance Vol. 26 No. 3 (July 2001) pp. 360-366. Gerry Dickinson is a pioneering academic proponent of ERM who spread the word among many audiences, including hundreds of students, over the years.

29. Sir David Walker, ibid

30. See Risk Upgrade – The Rise of the New Model CRO in the Financial Services Sector, Hedley May, 2010 and A New Breed of Chief Risk Officer by Anthony Fitzsimmons, 2011 http://reputabilityblog.blogspot.com/2011/03/new-breed-of-chief-risk-officer.html

31. See Korn/Ferry Institute2011, ibid

TABLE OF CONTENTS

Case study title	AIG and AIG Financial Products
Main risk event categories and brief description	**Corporate misconduct – accounting fraud and 'rogue subsidiary'** Revelations following an allegedly sham financial reinsurance contract led to the ousting in 2005 of AIG's long-term CEO Hank Greenberg and a weakening of its share price and, more importantly, its credit rating. Two years later, large mark-to-market losses on Credit Default Swaps within AIG's subsidiary AIG Financial Products led in 2007 to AIG incurring large book losses and losing its investment grade credit rating, necessitating a rescue operation by the US government.
Companies involved and key company details	**American International Group (AIG) and its subsidiary AIG Financial Products (AIGFP)** American Asiatic Underwriters (AAU) was formed by C.V. Starr in Shanghai in 1919; it moved its headquarters to New York in 1939 and was renamed American International Group (AIG) in 1967. On C.V. Starr's death, Maurice 'Hank' Greenberg succeeded as CEO in 1968. AIG was publicly listed in 1969, joined the New York Stock Exchange in 1984 and went on to become the world's largest insurance group, reaching a peak market capitalisation of $213 billion in 2001 (dropping to $180 billion in 2004 and $170 billion in 2006). At the end of the third quarter 2007, AIG's consolidated assets were $1.072 trillion and shareholders' equity was $104.07 billion; in early 2008, it was the 18th largest public company in the world. In the US, AIG was the largest life insurer and the second-largest commercial lines insurer; amongst other activities, it was the world's largest airline leasing company. At its peak, it had around 223 subsidiaries, with more than 110,000 employees and operations in more than 130 countries around the world, with more than 70 million customers. From 1990 to March 2005, AIG enjoyed an S&P credit rating of AAA, and was one of only two large re/insurance companies (the other was Berkshire Hathaway) and seven US commercial companies to do so in March 2005 AIG Financial Products Corporation (AIGFP) is a subsidiary of AIG. AIGFP has its headquarters in Fairfield, Connecticut, but its main operations were conducted in London. AIGFP was formed by Greenberg in 1987 when he hired a group of traders who had worked together at the investment bank Drexel Burnham Lambert before it failed. Over the period 1987 to 2004, AIGFP contributed over $5 billion to AIG's pre-tax income (a period over which AIG's market capitalisation increased over sixteenfold).
Main business sectors and activities of companies	AIG's principal operations were all areas of general insurance, life insurance and retirement services, financial services (including aircraft leasing) and asset management. AIGFP acted as a principal in a wide variety of financial transactions for a global client base. In the early years, it engaged mainly in low-risk over-the-counter (OTC) derivative trades, but in 1998, it began to sell Credit Default Swaps (CDSs).

Dates of events

2005 and 2007

Risk events

This case study concerns two related risk events. The accounting scandal that caused the resignation of Hank Greenberg in 2005 and first weakened AIG, and the impact of the subprime crisis in 2007, which devastated AIGFP and led to AIG facing an acute liquidity crisis and needing to be rescued by the US government.

Background 1

Hank Greenberg's basic business model was for his companies to deliver 15% revenue growth, 15% profit growth and 15% return on equity[1] . Greenberg showed 'no restraint towards the heads of profit centres … To make his ambitious numbers, they have to succeed. If they do not, he blows them up'[2] . Greenberg ran AIG with a tight control on costs. AIG had a reputation in the insurance market for, putting it politely, being tough on paying claims. Also, basic salary levels within AIG were lower than other big insurance companies, but high performers were well rewarded with stock options and participation in the Deferred Compensation Profit Participation Plan (DCPPP) – details of which are provided below.

This first event was really the culmination of a number of AIG's business practices that came to light following investigations by Eliot Spitzer, New York Attorney General, and were deemed no longer acceptable in the post-Enron business world. During the 38 years of Greenberg's tenure at AIG, the share price increased more than 180-fold in value. Amongst equity analysts, AIG had an unsurpassed track record amongst insurers for making underwriting profits year on year. Anything that shook analysts' confidence in AIG's continued profitable growth would have an adverse impact on AIG's ever-increasing share price (and the value of all the executive stock options, and DCPPP participations in C.V. Starr and SICO).

Event 1

Spitzer's investigations focussed on three areas:

- Bid-rigging between insurance companies and insurance brokers. Nothing was proven against AIG, but the largest US insurance broker Marsh & McLennan (M&M) paid a large fine, and Greenberg's son, Jeffrey, who ran M&M had to resign.
- To preserve AIG's record of always making underwriting profits, some significant underwriting losses were reinsured into offshore entities created specially for the purpose, in which AIG held controlling interests. Through this mechanism, the underwriting losses were converted into write-downs in the shareholders' funds of these entities and consolidated back into AIG's balance sheet, without appearing in AIG's profit and loss account – preserving the illusion of AIG continuing to make underwriting profits.

- On 26 October 2000, AIG's share price fell 6% on its earnings announcement; one reason was equity analysts' disquiet at the $59 million decrease in AIG's claims reserves, at a time when other insurers were strengthening theirs. Subsequently, AIG wrote $600 million of finite reinsurance coverage for General Re, in return for $500 million of premium and $5.2 million of fees from General Re. This enabled AIG to report that it had increased its claims reserves by $500 million (from the equity analysts' viewpoint, a good thing) and also that it had increased its written premium by $500 million (again, from the equity analysts' viewpoint, a good thing) – which had the desired (from Greenberg's viewpoint) beneficial impact on AIG's share price.

In 2005, AIG said it would restate more than four years of its earnings. It also said, without naming Greenberg directly, that former executives at times were able to 'circumvent internal controls over financial reporting'.[3]

Hank Greenberg (born in 1925), who had led AIG's growth for nearly 40 years, was forced to resign (at the age of 79) from his AIG responsibilities at the end of March 2005[4] over allegations by the US Securities and Exchange Commission (SEC) of fraudulent accounting (including sham reinsurance transactions with General Re, use of an offshore entity to conceal motor insurance losses and shifting money around to report investment gains).

'To outsiders, these two examples – placing insurance with independent reinsurers you actually control and utilizing a seemingly bogus finite reinsurance transaction to boost reserves – epitomize AIG's culture, personified by Greenberg, a culture that suggested you had to make your numbers whatever the cost and that led to excesses.'[5]

In February 2006, AIG agreed to pay $1.6 billion to settle civil charges bought by Eliot Spitzer and the SEC;[6] in 2008, over $800 million of the settlement was set aside to return to investors who had been harmed by AIG's mis-statements.[7] This was the largest such fund established since the passing of the Sarbanes-Oxley Act in 2002. One AIG and four General Re executives were found guilty of conspiracy and fraud,[8] and were fined and sent to prison. In August 2009, Greenberg paid $15 million to settle SEC charges that he altered AIG's records to boost results between 2000 and 2005.[9]

Background 2

The second event concerns the losses incurred by one of AIG's financial services subsidiaries, AIG Financial Products (AIGFP).

AIGFP's CEO, Joseph Cassano, was one of its founders in 1987. Cassano was probably AIG's highest paid employee; he was paid $44.6 million in 2003 and $43.7 million in 2006, and his net cash compensation over the period 2000 to 2007 was about $280 million.[10]

AIGFP shared 30% to 35% of all its profits with staff.[11] Driven by a thirst for greater profits, AIGFP reached a point where it had written guarantees on Credit Default Swaps (CDS) with a total notional value of more than $500 billion. Cassano boasted in August 2007 that the company could not envisage a scenario that would 'see us losing $1 in any of those transactions'.[12]

One consequence of the accounting scandal (described above) was that AIG lost its prized AAA credit rating on 30 March 2005 – this was AIGFP's competitive advantage. This was a serious matter for AIGFP, making it more expensive for it to do business, because it then had to post more cash collateral in its derivative transactions. However, this problem, although serious, was not to be the event that finally brought AIGFP and AIG down – it was the subprime crisis.

Event 2

In its third quarter 2007 results, AIG reported net income for the quarter of $3.09 billion (compared to $4.22 billion in third quarter 2006). These results included a charge of approximately $352 million pre-tax for a net unrealised market valuation loss related to AIGFP's super senior Credit Default Swap (CDS) portfolio. AIG stated that it 'continues to believe that it is highly unlikely that AIGFP will be required to make payments with respect to these derivatives'.[13]

In its fourth quarter 2007 results (released 28 February 2008), AIG reported a $5.29 billion loss for the quarter (compared to a net income of $3.44 billion in fourth quarter 2006). The main reason for this loss was charges of approximately $11.47 billion full year, $11.12 billion fourth quarter, for a net unrealised market valuation loss related to AIGFP's super senior Credit Default Swap (CDS) portfolio. AIG stated that it 'continues to believe that the unrealised market valuation losses on this super senior Credit Default Swap portfolio are not indicative of the losses AIGFP may realise over time. Under the terms of these credit derivatives, losses to AIG would result from the credit impairment of any bonds AIG would acquire in satisfying its swap obligations. Based upon its most current analyses, AIG believes that any credit impairment losses realised over time by AIGFP will not be material to AIG's consolidated financial condition, although it is possible that realised losses could be material to AIG's consolidated results of operations for an individual reporting period. Except to the extent of any such realised credit impairment losses, AIG expects AIGFP's unrealised market valuation losses to reverse over the remaining life of the super senior Credit Default Swap portfolio.' [14]

AIGFP had sold Credit Default Swaps to protect investors against losses on mortgage-linked securities, but the emerging subprime crisis during the latter part of 2007 had caused many companies to default on their debt, causing AIGFP to incur greater losses than ever anticipated.

In February 2008, AIG revealed that PricewaterhouseCoopers (PwC) had found a 'material weakness' in its accounting controls and oversight relating to the fair valuation of AIGFP's CDS portfolio.[15] Later that month, AIG announced a fourth quarter 2007 loss, driven largely by write-downs on the AIGFP CDS portfolio. On 7 March, the Office of Thrift Supervision wrote to AIG to say that its oversight of AIGFP lacked 'critical elements of independence, transparency and granularity'.[16]

Joseph Cassano resigned under pressure in late February/March 2008 from his AIGFP role, but was retained as a consultant on $1 million per month for the rest of 2008 and received his 2008 $35 million bonus. The US Securities and Exchange Commission (SEC) conducted an inquiry into Joseph Cassano, believing that he hadn't disclosed material information to senior AIG executives or its auditors PwC, but evidence was found that he had made key disclosures and the enquiry was dropped without any criminal charges being brought against him. Civil charges, which would only have meant proving recklessness, were also dropped shortly afterwards.[17]

AIG continued to report losses over successive quarters in 2008, with record losses in quarter 4:

- Quarter 1: net loss of $7.81 billion – including pre-tax charge of $9.11
- billion on AIGFP CDS portfolio and losses of $6.09 billion on investment portfolio.[18]
- Quarter 2: net loss of $5.36 billion – including pre-tax charge of $5.56 billion on AIGFP CDS portfolio and losses of $6.08 billion on investment portfolio.[19]
- AIG operated a securities lending programme, through which it made short-term loans of certain securities it owned to generate revenues by investing in high-grade residential mortgage-backed securities (MBS) – these MBS became very illiquid. Additionally, because of the deterioration in AIGFP's CDS portfolio, AIG was having to post ever-increasing amounts of cash collateral, which was placing further stress on the parent company's liquidity.
- Quarter 3: net loss of $24.47 billion – including pre-tax charge of $7.05 billion on AIGFP CDS portfolio and losses of $18.31 billion on investment portfolio.[20]
- Quarter 4: net loss of $61.70 billion (the largest in US corporate history) – including pre-tax charge and losses of $25.30 billion on AIGFP's portfolio.[21]
- Full year 2008: net loss of $99.30 billion.

AIG was not the only US financial services company experiencing problems as the subprime crisis came to a head:

- 16 March 2008: Bear Sterns was acquired by JPMorgan Chase with Federal Reserve support in a fire sale to avoid bankruptcy.
- 10 September 2008: federal mortgage insurers Fannie Mae and Freddie Mac were put into conservatorship by the US government.
- 15 September 2008: Bank of America agreed to buy Merrill Lynch.
- 15 September 2008: Lehman Brothers filed for Chapter 11 bankruptcy protection.

The next day, on 16 September, the US Federal Reserve Bank agreed to an $85 billion emergency loan to AIG.[22] The funds made available ultimately increased over further bailouts to $182.5 billion.[23]

At year end 2008, AIG's shareholders' equity was approximately $52.7 billion (more or less exactly half of what it had been 15 months earlier) – despite raising at least $23 billion of additional capital during this period.

Management response

Following nearly 40 years under Hank Greenberg as CEO, there have been a series of leadership changes at AIG since 2005, with a succession of four CEOs and four Chairmen in the last five years:

- Hank Greenberg was forced to resign from his AIG responsibilities at the end of March 2005, and was succeeded as CEO by Martin J. Sullivan (who had joined AIG as a clerk in London in 1970).
- On 15 June 2008, after the disclosure of financial losses and subsequent falling share price, Sullivan resigned and was replaced by Robert B. Willumstad, Chairman of the AIG board of directors since 2006.
- Willumstad was forced by the US government to step down and was replaced under the Bush administration by Edward M. Liddy as Chairman and CEO on 17 September 2008.
- AIG's board of directors named Robert Benmosche CEO on 3 August 2009 to replace Mr. Liddy, who earlier in the year had announced his retirement to allow the incoming Obama administration to choose a new leader. Harvey Golub was appointed as Non-executive Chairman on 6 August 2009.
- Harvey Golub resigned in July 2010 amid a clash with the company's CEO, Robert Benmosche. Robert Stephen Miller, who joined AIG's board on 30 June 2009, took over as Chairman on 14 July 2010.
- In October 2010, it was announced that Robert Benmosche was receiving aggressive treatment for cancer and that if he became unable to fulfil his role at any time, then Stephen Miller would step in as interim CEO.

Consequences of risk events

The events had consequences for Hank Greenberg, AIG, AIGFP and the overall market.

a. Consequences for Hank Greenberg

Since he was forced to resign in 2005, Hank Greenberg has been engaged in extensive litigation. As noted above, in August 2009, he agreed to pay $15 million to settle the US SEC investigation into his role in accounting fraud from 2000 to 2005, and his alleged involvement in 'numerous improper accounting transactions' that inflated AIG's profits. Greenberg neither admitted nor denied the allegations. Howard Smith, former AIG Vice-Chairman and CFO, settled with the SEC for $1.5 million.[24]

Greenberg and three other former AIG executives agreed in August 2009 to pay $115 million to settle a shareholder lawsuit over alleged false statements regarding the insurer's financial results ($85.5 million of this was covered by AIG's D&O policy).[25] {In February 2009, General Re had agreed to pay $72 million to settle claims against it in the case.} Greenberg was also involved

in long-running lawsuits with AIG over the ownership of the C.V. Starr and SICO companies, amongst other matters, which were finally settled in November 2010.

b. Consequences for AIG

With reference to the accounting scandal, AIG paid more than $1.6 billion to settle with the SEC and New York Attorney General, but more seriously, as noted above, the accounting scandal led to AIG losing its AAA credit rating in 2005. The losses at AIGFP then led the credit rating agencies to further downgrade AIG's rating in September 2008. Each downgrade meant that AIG had to post more cash collateral against its outstanding derivative contracts; the resulting liquidity crisis essentially bankrupted all of AIG. AIG was believed to be 'too big to be allowed to fail' and had many retail as well as commercial policyholders, and so on 17 September 2008, the US Federal Reserve Bank extended an $85 billion line of credit to AIG in return for a stock warrant for 79.9% of AIG's equity (effectively nationalisation). The credit facility was structured as a loan, repayable over two years, and bearing interest at LIBOR plus 8.5%. At the time, it was the largest US government bailout of a private company. AIG drew down about $61 billion in the first two weeks.[26]

Additional credit facilities were established in November 2008 and March 2009, giving total funds available of $182.5 billion. As at 31 December 2009, just over $129 billion had been drawn down by AIG.

(If AIG had not been rescued, then one of its biggest counterparties, French bank Société Générale, would have suffered an $11 billion loss, on top of its €4.9 billion loss earlier in 2008 over the Jérôme Kerviel rogue trading event.)

The collapse in confidence in AIG is shown by the performance of AIG's share price leading up to the US government rescue in September 2008. AIG's share price had fallen from an all-time nominal high of around $160 (on 24 July 1997) to $1.25 by 16 September 2008.

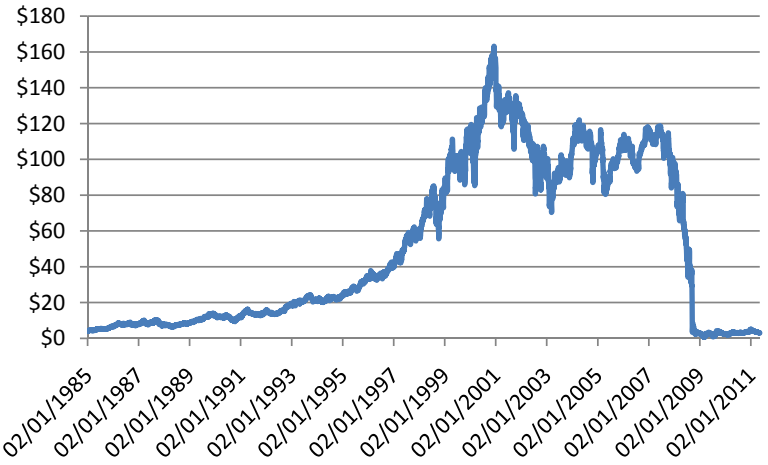


Chart: AIG share price[27]

AIG's fall from grace is also neatly summarised by its S&P credit rating history.[28]

Date	Rating	Outlook	Note
26 June 1990	AAA	Stable	(a)
29 October 2004	AAA	Negative	
15 March 2005	AAA	Watch negative	
30 March 2005	AA+	Watch negative	(b)
3 June 2005	AA	Negative	(c)
10 November 2006	AA	Stable	
12 February 2008	AA	Negative	(d)
8 May 2008	AA-	Watch negative	
21 May 2008	AA-	Negative	
12 September 2008	AA-	Watch negative	
15 September 2008	A-	Watch negative	(f)
17 September 2008	A-	Watch developing	(g)
3 October 2008	A-	Watch negative	
2 March 2009	A-	Negative	(h)

Notes:

a. (AIG gained its AAA rating because of its internationally diversified business mix, historically superior earnings performance, conservative balance sheet management and exceptional liquidity characteristics.

b. AIG lost its prized AAA rating in large part because of its involvement in a number of questionable financial transactions, causing a revised assessment of AIG's management, internal controls, corporate governance and culture.

c. Rating lowered again due to significant accounting adjustments, AIG announced; despite strong earnings, adjusted statements indicated greater volatility and lower profitability than previously reported.

d. Placed on negative outlook because of concerns about the way AIG was determining the fair value of Credit Default Swaps (CDS).

e. Rating lowered again in large part because of AIG's announcement of an after-tax loss of $7.8 billion, including $5.9 billion in losses related to its CDS portfolio.

f. Rating lowered again as AIG's financial condition deteriorated sharply following market disruptions, including the US government takeovers of Freddie Mac and Fannie Mae, the bankruptcy of Lehman Brothers, and the sale of Merrill Lynch, amongst other things. These events led a sudden drop in the market value of AIG's investments and, more importantly, the investments of third parties that had purchased CDS guarantees from AIG (through AIGFP).

g. Federal Reserve Bank of New York extended a $85 billion borrowing facility to AIG. Without this government assistance, AIG's creditworthiness would have continued to decline.

h. A- rating affirmed; this was adjusted for the continuing federal government support. Without government support, S&P's rating of AIG at this stage would have been BB- (six notches lower).

AIG's financial problems had no direct effect on the solvency of its insurance subsidiaries, because insurance subsidiaries' capital is generally insulated by state insurance laws and regulations. S&P judged that if AIG had been forced into bankruptcy, this would have included only a relatively small number of AIG's subsidiaries, including AIGFP, with only a marginal impact on AIG's insurance subsidiaries. However, when on 15 September 2008 S&P lowered its credit rating on AIG to A-, it also lowered the credit rating on most of AIG's insurance subsidiaries from AA+ to A+. This was for two main reasons. Firstly AIG's financial problems made it less likely that the parent company would provide additional capital to subsidiaries in the event that they suffered investment or capital losses of their own. Secondly, the reputational risk – it is more difficult for subsidiaries to retain or attract new business when there is uncertainty surrounding the parent company and whether the subsidiary will be sold off.

US Treasurer, Hank Paulson, announced the Treasury's desire to break up and liquidate most of AIG; it has since been selling off many of its subsidiaries in order to raise the funds to pay back the Federal Reserve.

AIG renamed its remaining worldwide property/casualty business unit as Chartis in July 2009; Chartis UK came into effect on 1 December 2009.[29]

US Congress Financial Crisis Inquiry Commissions (FCIC) took testimony from Martin Sullivan, AIG's former AIG chief executive, and Joseph Cassano in hearings on 30 June and 1 July 2010. The FCIC published its 662-page report in January 2011.[30]

c. Consequences for AIGFP

AIGFP had effectively failed and was taken over by the US Federal Reserve. Under the new AIG CEO, Edward Liddy, the decision was made to wind down its entire book of business.

On 15 March 2009, AIG paid $165 million in retention bonuses to AIGFP staff to help unwind the losing contracts.[31] This in turn had several consequences:

- US employees of AIG were pressurised by New York Attorney General Andre Cuomo to repay their bonuses in full, threatening to make public details of their names and bonuses.[32]
- AIG had to persuade the Chief Executive and Deputy Chief Executive of Paris-based Banque AIG to both stay on after they had resigned; otherwise European banks that had bought contracts from Banque AIG may have been able to force AIG to repay them citing 'change of control' if an external manager had been appointed by the French authorities. If Banque AIG had been allowed to fail then banks such as Royal Bank of Scotland, Banco Santander and BNP Paribas might have had to raise around $10 billion.[33]

d. Consequences for market generally

The failure of AIG was the major event outside the US investment banks (Bear Sterns, Merrill Lynch, Lehman Brothers) and the UK banks and building societies (HBOS and Northern Rock) that crystallised the global financial crisis of 2007-2009.

Former employees have suggested that if it were not for AIGFP writing so much CDS business then the subprime mortgage bubble might not have grown and the financial crisis might never have happened.[34]

Within the insurance sector, AIG's crisis was reckoned to benefit the other major global property & casualty insurers and Lloyd's, as the benefits of diversification and syndication (in banking and insurance) was reappraised – reversing the trend to placing larger concentrations of risk with fewer major insurers and reinsurers. AIG's problems also gave the opportunity for other insurers to poach some of AIG's staff and business. On balance, AIG's problems were of some benefit to insurance brokers; AIG had tended to pay less than market average commissions to brokers.

Role of insurance in loss containment, compensation and remediation

AIG's Directors' and Officers' liability insurance policy paid $85.5 million of the $115 million settlement of the shareholders lawsuit in September 2008. Greenberg and three other former executives of AIG were responsible for the other $29.5 million (although it has been suggested that the C.V. Starr company would be paying more than $20 million of this balance).

In 2010, AIG launched, somewhat ironically, a new insurance product offering coverage for executives under investigation by enforcement authorities, such as the SEC; Chartis (AIG's new name) complemented this product with the introduction in March 2011 of a Directors' & Officers' liability product offering coverage to companies for expenses related to investigations by enforcement authorities. [36]

Comparison with similar risk events/companies

Event 1 – accounting for financial reinsurance contracts

Around the period 2005/6, a dozen or more US and Bermudan insurance and reinsurance companies restated various prior year financial results to more properly account for financial reinsurance contracts.[37]

Event 2 – impact of subprime crisis on underwriting results of re/ insurance companies

The US monoline (or financial guaranty) insurance companies – AMBAC, MBIA, FGIC and FSA – had as their original business model 'wrapping' US municipal government bonds to give them an AAA rating, a business that had no or very low expected losses. However, in the 1990s, looking for growth, the monolines diversified into selling Credit Default Swaps (CDS) on mortgage-backed Collateralised Debt Obligations (CDOs) and other structured financial products.

By 2006, the total outstanding amount of paper insured by monolines was $3.3 trillion. The subprime crisis of 2007/8 caused the monolines to experience large losses and lose their crucial AAA ratings. For instance, AMBAC filed for Chapter 11 bankruptcy on 8 November 2010.

Other insurance companies to be directly affected by the subprime and associated CDS crisis included XL Capital, which suffered significant losses through its stake in Security Capital Assurance Limited (SCA), which operated as financial guarantor, and Swiss Re, which made substantial losses writing credit default policies.

Risk management lessons and conclusions

Lessons

1. **Senior management should pay attention to the upside risks, not just the downside risks, coupled with the risk of a lack of understanding of the business by top managers and the board**

   Senior management can become lax when a subsidiary's activities are profitable – just keep increasing earnings targets, consolidating the profits and building the bonus pool, without trying to understand or worrying exactly how these profits are being made, and how reliable and sustainable they are. (As with the Société Générale rogue trader case study, management needs to devote more resources, not less, to assessing and managing the risks of the most profitable traders.)

   AIGFP had exhibited stellar growth of revenues and profits. By 2001, AIGFP could be counted on to generate profits of $300 million a year, or 15% of AIG's profits, [38]

   Hank Greenberg took a close interest in AIGFP's operations, but one AIGFP trader said that, after Greenberg had been forced to resign, 'the new guys running AIG had no idea. They thought the money machine ran on its own.' [39]

   If something is too good to be true, it is probably too good to last – you only consistently earn high returns for consistently taking high risks. At the Congressional hearings in October 2008, AIG's former CEO Martin Sullivan admitted that he did not know the terms of the $78 billion of contracts sold by AIGFP. In fact, Sullivan had had even eliminated a twice-a-month meeting to assess the work of the unit, according to a person formerly close to the company. 'He wasn't really interested in the business,' the person said. [40]

Financial trades are not riskless.

2. **Beware of the cult of the personality**

There should be appropriate checks and balances for those in positions of power.

a. **Joseph Cassano**

   Joseph Cassano took over as CEO when Tom Savage retired in 2001; Savage was a trained mathematician who understood the models used by AIGFP traders, and enjoyed debates about both the models and the merits of AIGFP's various trades. Joseph Cassano did not have a strong

mathematical background and has been reported by former colleagues as a workplace bully, who imposed an autocratic management style. One employee said 'Cassano had a crude feel for financial risk but a real talent for bullying people who doubted him. AIGFP became a dictatorship. Joe would bully people around. He'd humiliate them and then try to make it up by giving them huge amounts of money.' Another employee said 'The culture changed. The fear level was so high that when we had these morning meetings, you presented what you did not to upset him.' [43]

b. Hank Greenberg

Hank Greenberg had become CEO of AIG in 1968 and had overseen the phenomenal growth of AIG in size and scope of operations, but ran the company in an authoritarian manner. 'Everything is Greenberg this, Greenberg … wants that. The cult of Greenberg … came about because of the force of his personality and a fierce determination to get his own way, and because of longevity.'[43] 'Hank Greenberg's temper and sharpness with everyone – subordinates, journalists, directors, government officials – is a legend in business and political circles.' After Hank Greenberg resigned, one executive said 'Hank's leaving had a liberating impact. You are no longer afraid to offer your own opinions.' [43]

As long as such a company appears to be delivering results, such people are not challenged internally or externally – and business managers are usually too afraid to pass any bad news up the line.

Additionally, top executive directors were tied in and kept loyal to AIG (and Greenberg) through a lucrative Deferred Compensation Profit Participation Plan (DCPPP) with shares in two outside companies, C.V. Starr and Starr International Company (SICO). Both companies were formed when AIG was listed on the stock exchange and were technically independent of AIG, but shared many common directors. C.V. Starr and SICO owned shares in AIG, and so would prosper alongside AIG. In 2005, SICO was by far the largest shareholder in AIG, with around 311 million AIG shares (about 12% of the total), worth around $20 billion. Participants in the DCPPP got some cash, but the main benefit came from the appreciation in C.V Starr's and SICO's holding of AIG stock. Most participants in the DCPPP were multi-millionaires; many became centi-millionaires; Greenberg and at least one other were reported to be billionaires.

However, 'actual ownership of interest in these two companies did not vest until an executive reached the age of 65. Anyone who departed before then forfeited his or her interest, leaving more money in the pot for those that stayed. What's more, the participations were not fixed. If the business a person wrote ultimately went sour, or if profitability faltered in one's division, Greenberg could, and did, adjust the participation downward.'[47]

3. Failure of non-executive directors

As well as dominating internal management, someone like Hank Greenberg can also dominate his board, if non-executives do not challenge the CEO. AIG's board was hand-picked by Greenberg and was made up mostly of two types of people: (a) friends and colleagues who had been loyal to him over many years, and (b) distinguished former politicians and government

officials, chosen 'just to add prestige to his Board'[48] and to help AIG's relationships with governments in the US and elsewhere (and not necessarily for their knowledge of the global insurance business).

Looking at the composition of the AIG board as at 16 March 2006, apart from four senior executives (Principal Executive Officer, Principal Financial Officer, Principal Accounting Officer and Senior Vice-Chairman – Life Insurance), the average age of the 15 non-executive directors was over 66 (one, M. Bernard Aidinoff, was 77 and had been a director for more than 20 years). One could wonder how much they understood of the credit derivative business being undertaken by AIGFP.

4. **Insurance risks are not the same as banking risks**
   Lesson for re/insurance companies: financial risks are correlated and contagious, both within and across types of financial instruments. This is a lesson that could have been learnt from the experience of Royal and other insurance companies in the UK in around 1992, when they experienced significant losses on mortgage indemnity guarantee business.
   If, for example, interest rates rise, then all mortgagees experience greater stress in making their mortgage repayments and there is downward pressure on house prices, so that when mortgagees start defaulting, then their security in terms of their house price may also become impaired – and this applies to the whole population of mortgagees. Also rising interest rates put pressure on companies that have debt to repay, in fact most companies – and the failure of one company is likely to increase the chances of other companies failing. In other words, losses on financial contracts are often not independent and random. Additionally, in relation to house prices, there is no immutable natural law that house prices can only increase, and never fall. AIG is not the only financial institution to underestimate the import of correlation of financial risk, in particular credit risk – the subprime crisis illustrated how recent financial innovation has more often ended up producing concentrations of risk, rather than dispersing it.

5. **Excessive use of offshore entities**
   As in the Enron case, offshore entities were used for accounting manipulation.

6. **Alignment of risk and remuneration – the curse of the trader's option**
   'The typical hedge fund kept 20% of profits; the traders at AIGFP kept 30% to 35%. The traders at AIGFP had essentially unlimited capital on tap from the parent company, along with the AAA credit rating, rent-free.'[49] This is an example of the so-called trader's option: a trader within an institution such as an investment bank has an unbalanced incentive to take big risks to make money. If his trades make large gains, he gets a handsome bonus; if his trades make large losses, then the bank (or rather its shareholders, and ultimately maybe the taxpayer) pays. However, the traders at AIGFP 'were required to leave 50% of their bonuses in the company … when it collapsed, the employees lost more than $500 million of their own money'[50] .

7. Post-crisis reputation management

There were stories in the press of AIG staff attending conferences and charging for spa services on expenses after the US government bailout, 'they were getting facials, manicures, and massages, while the American people were footing the bill', said Rep. Elijah Cummings, a Maryland Democrat on the House Oversight and Government Reform Committee.[51]

Also avoid if possible executives appearing to be rewarded for failure – for example, Cassano's $1 million a month consulting contract following his resignation and AIGFP staff's retention bonuses. John Gapper in the FT on 19 March 2009[52] labelled such phenomena as the trader's option squared. The first part is that AIGFP's traders sold complicated and opaque financial contracts that generated high revenues (and bonuses). The squared part is that the complexity of the contracts makes the traders irreplaceable, and if and when things go wrong, the traders have to be paid even more to unravel the contracts.

8. Failure of regulation

The AIGFP event showed up regulatory failings. Firstly, Credit Default Swaps (CDS) and similar derivatives are unregulated instruments, and do not usually require counterparties to post collateral. Secondly, AIGFP as a company was inadequately regulated – AIG's operations spanned general insurance, life assurance, and financial services and capital markets operations, and were international – but its primary regulator, the regulator of its holding company, was the Office of Thrift Supervision (OTS) in New York, because amongst other operations, AIG owned a small savings and loan bank. As the FCIC report concluded: 'The OTS […] lacked the capability to supervise an institution of the size and complexity of AIG, did not recognise the risks inherent in AIG's sales of Credit Default Swaps, and did not understand its responsibility to oversee the entire company, including AIG Financial Products.'[53] AIGFP in the US was not under the same supervisory regime as its peer competitors within investment banks and other financial institutions. Further, AIGFP operated mainly outside the US, primarily in London, but because AIG owned a small bank in France, the UK regulator deferred to the French regulator. Result: unregulated products being heavily traded by an under-regulated company.

Concluding remarks

Company size is often associated with complexity. AIG had more than 4,300 legal entities across the world, making internal control and external scrutiny virtually impossible. Martin Sullivan, a long-time insurance man, had taken over in 2005 as CEO of AIG from Hank Greenberg – but had little chance of understanding the size and nature of the capital market risks being run by AIGFP. At his testimony to the Congressional hearing in October 2008, Martin Sullivan said 'I am not an accountant or an economist – I have been an insurance man all my life.'[54] In fact, the FCIC report noted the AIG senior management's ignorance of the terms and risks of the company's $79 billion derivatives exposure to mortgage-related securities.[55] Companies can become too big and/or complex for one person to run, for boards to control, for shareholders to understand, or for regulatory agencies to supervise.

Banking and insurance risks are different, and probably should not be mixed on the same balance sheet. AIG as primarily an insurance company was regulated by the New York Supervisor of Insurance, and its local state and national companies were supervised by the State Insurance Commissioners and national regulatory authorities. However, the banking operations of AIGFP fell into somewhat of a regulatory black hole, and it was the banking operations that shook and collapsed the entire AIG edifice.

1. 'Fallen Giant: The Amazing Story of Hank Greenberg and the History of AIG' by Ron Shelp with Al Ehrbar, Wiley (2006), p. 8
2. Shelp, op cit, p. 130
3. BBC News, 2 May 2005, Audit flaws wipe $2.7bn from AIG, http://news.bbc.co.uk/1/hi/business/4504865.stm
4. Copy of AIG Chairman Greenberg's retirement letter, 28 March 2005, www.insurancejournal.com/news/national/2005/03/29/53099.htm
5. Shelp, op cit, p. 158
6. CNN Money, 9 February 2006, AIG, regulators reach record $1.64B settlement, http://money.cnn.com/2006/02/09/news/companies/aig_settlement/
7. U.S. Securities and Exchange Commission, 5 May 2008, SEC announces start of distribution process in AIG settlement; Court approves distribution plan for $800 Million Fair Fund, www.sec.gov/news/press/2008/2008-77.htm
8. msnbc.com, 25 February 2008, Five found guilty in AIG stock inflation scheme, by Associated Press, www.msnbc.msn.com/id/23339730/ns/business-us_business/
9. Financial Times, 6 August 2009, Greenberg pays $15m in SEC settlement, by Brooke Masters and Francesco Guerrera, http://cachef.ft.com/cms/s/0/fbf6e48e-82af-11de-ab4a-00144feabdc0.html#axzz1LJBxBKPy
10. BusinessInsurance.com, Cassano's pay at AIG peaked at $44.6M in 2003, 10 February 2011, by Bloomberg, www.businessinsurance.com/apps/pbcs.dll/article?AID=/20110210/NEWS/110219994
11. 'The Man Who Crashed the World', Michael Lewis, Vanity Fair, August 2009.
12. Lewis, op cit
13. AIG reports third quarter 2007 results, 7 November 2007, http://findarticles.com/p/articles/mi_m0EIN/is_2007_Nov_7/ai_n27437692/?tag=content;col1
14. AIG reports full year and fourth quarter 2007 results, 28 February 2008, http://findarticles.com/p/articles/mi_m0EIN/is_2008_Feb_28/ai_n24356452/
15. Financial Times, 11 February 2008, Revelation of losses puts heat on AIG chief, by David Wighton, www.ft.com/cms/s/0/ea46093a-d8f7-11dc-8b22-0000779fd2ac.html#axzz1LJWAzj88
16. Office of Thrift Supervision letter to AIG Members of the Board, 7 March 2008, http://fcic-static.law.stanford.edu/cdn_media/fcic-docs/2008-03-07%20OTS%20letter%20to%20AIG%20General%20Counsel%20and%20Board%20re%20Supervisory%20Concerns.PDF
17. The Wall Street Journal, 17 June 2010, Inquiry Ends on Cassano, Once of AIG, http://online.wsj.com/article/SB10001424052748703513604575311350142446886.html
18. AIG reports first quarter 2008 results, 8 May 2008, http://findarticles.com/p/articles/mi_m0EIN/is_2008_May_8/ai_n25403077/
19. AIG reports second quarter 2008 results, 6 August 2008, http://findarticles.com/p/articles/mi_m0EIN/is_2008_August_6/ai_n27983179/
20. AIG reports third quarter 2008 results, 10 November 2008, http://findarticles.com/p/articles/mi_m0EIN/is_2008_Nov_10/ai_n30979757/
21. AIG reports fourth quarter and full year 2008 loss, 2 March 2009, http://findarticles.com/p/articles/mi_m0EIN/is_20090302/ai_n31408278/
22. GAO, Federal Financial Assistance; Preliminary observations on assistance provided to AIG, GAO-09-490T, 18 March 2009, p. 3, www.gao.gov/new.items/d09490t.pdf
23. GAO, op cit, p. 4
24. U.S. Securities and Exchange Commission, 6 August 2009, SEC Charges Hank Greenberg and Howard Smith for roles in alleged AIG accounting violations, www.sec.gov/news/press/2009/2009-180.htm
25. The D&O Diary, 11 September 2008, by Kevin LaCroix, www.dandodiary.com/2008/09/articles/shareholders-derivative-litiga/about-the-aig-derivative-settlement/
26. GAO, op cit
27. Daily adjusted closing share price, source Yahoo Finance 12 May 2011
28. Testimony of Rodney Clark, Managing Director, Ratings Services, Standard & Poor's Financial Services LLC, before the Subcommittee on Capital Markets, Insurance, and Government sponsored enterprises, United States House of Representatives, 18 March 2009, www.house.gov/apps/list/hearing/financialsvcs_dem/rodney031809.pdf

29. Chartis Press release, Chartis Insurance UK Limited comes into effect, 1 December 2009, www.chartisinsurance.com/chartisint/internet/GB/en/files/Chartis%20rebrand%20announcement%20release%20final_tcm911-227207.pdf
30. Financial Crisis Inquiry Report, Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States, January 2011, www.gpoaccess.gov/fcic/fcic.pdf
31. Financial Times, 15 March 2009, Summers 'outrage' at AIG bonuses, www.ft.com/cms/s/0/31bafc52-1192-11de-87-b1-0000779fd2ac.html#axzz1LJWAzj88
32. msnbc.com, 24 March 2009, Cuomo: 15 AIG execs agree to return bonuses, by Associated Press, www.msnbc.msn.com/id/29843465/ns/business-eye_on_the_economy/
33. Financial Times, 29 April 2009, AIG acts to avoid default risk, www.ft.com/cms/s/0/f70c7736-3453-11de-9eea-00144feabdc0.html#axzz1LJWAzj88
34. Lewis, op cit
35. Reuters, 17 September 2008, AIG woes offer double benefit for insurance rivals, by Simon Challis, www.insurance-journal.com/news/national/2008/09/17/93795.htm
36. BusinessInsurance.com, Chartis launches entity cover for SEC investigations, 3 March 2011, www.businessinsurance.com/apps/pbcs.dll/article?AID=/20110303/NEWS/110309977
37. Such companies included MBIA, Platinum Underwriters of Bermuda, Renaissance Re, Odyssey Re, Max Re, Converium, CNA, Endurance, Hannover Re, St Pauls and Zurich
38. Lewis, op cit
39. Lewis, op cit
40. Portfolio.com, A.I.G.'s House of Cards, 28 September 2008, by Lynnley Browning, www.portfolio.com/news-markets/top-5/2008/09/28/AIGs-Derivatives-Run-Amok/
41. Lewis, op cit
42. Lewis, op cit
43. Lewis, op cit
44. Shelp, op cit, p. 33
45. Shelp, op cit, p. 129
46. Shelp, op cit, p. 34
47. Shelp, op cit, p. 8
48. Shelp, op cit, p. 161
49. Lewis, op cit
50. Lewis, op cit
51. (Reuters) - The chairman of the Senate Finance Committee demanded answers on Thursday from the Federal Reserve about reported lavish spending by insurer American International Group Inc (AIG.N) after it received an $85 billion rescue loan, 9 October 2008, www.reuters.com/article/2008/10/09/us-financial-aig-baucus-idUSTRE49886E20081009
52. Financial Times, 19 March 2009, AIG reinvents the trader's option, by John Gapper, www.ft.com/cms/s/0/8f604c04-1426-11de-9e32-0000779fd2ac.html#axzz1LJWAzj88
53. Financial Crisis Inquiry Report, op cit, p. 352
54. Testimony of Martin Sullivan before the Committee on Oversight and Government Reform, United States House of Representatives, 7 October 2008, http://democrats.oversight.house.gov/images/stories/documents/20081007101236.pdf
55. Financial Crisis Inquiry Report, op cit, p. xix

Case study title	Arthur Andersen
Main risk event category and brief description	**Corporate misconduct – fraudulent accounting** Arthur Andersen was the external auditing firm on several big US corporations where, after they went into bankruptcy, fraudulent accounting was discovered. However, it was Andersen's involvement with Enron, and in particular its conduct around the time of Enron's bankruptcy (such as shredding client files), that destroyed its credibility as an independent auditor and Andersen was to all intents and purposes dissolved.
Companies involved	**Arthur Andersen and Enron**
Key company details	Arthur Andersen was founded in 1913, with headquarters in Chicago; it started building an international network in 1963. Worldwide revenues exceeded $9.3 billion in 2001. At its peak, Andersen had 28,000 employees in the US and 85,000 worldwide, in 84 different countries[1].
Main business sectors	Accountancy, auditing, tax and consulting services for large companies.
Date of event	2001
Risk event	**Background** Mr Arthur Andersen himself headed the firm until his death in 1947. He argued that the accountant's responsibility was to investors, not their clients' management. Company folklore has it that during its early years, Mr Andersen told a local railroad client that it would have to change a certain accounting practice, to the detriment of reported profits. When the company's president demanded that the firm reverse itself or lose the account, Mr Andersen refused in no uncertain terms, saying that there was 'not enough money in the city of Chicago' to make him do it. Andersen lost the account; however soon after the railroad company went bankrupt.[2] Quality audits were to be more valued than short-term firm profits.[3] {The irony here is that it was ultimately giving in to the demands of clients (such as Enron) that caused Andersen's demise as a company.} In time, Arthur Andersen (henceforth, the company) became one of the 'Big Five' global accounting companies – along with Deloitte Touche Tohmatsu, Ernst & Young, KPMG and PricewaterhouseCoopers. Arthur Andersen established a reputation for IT consultancy in the 1980s. All these 'Big Five' experienced to some degree internal tension between the accountancy, auditing and tax partners (the relatively slower growth and lower profit margin part of the business) and the consulting partners (the faster growth

and higher profit margin part of the business). It has been calculated that throughout the 1990s profits from consulting at the 'Big Five' auditors were three times those produced from auditing work. The desire to secure profitable consultancy projects from their accountancy clients put pressure on their audit independence, particularly in a time of the growing importance of quarterly earnings and clients' desires to maximise reported profits.

In Andersen's case, this led to splitting the business into two separate units, Arthur Andersen and Andersen Consulting, under an umbrella company, Andersen World[4] ; Arthur Andersen used its audit clients to generate clients for Andersen Consulting, but the Andersen Consulting partners resented the transfer payments they had to make to the Arthur Andersen partners.[5] In 2000, Andersen Consulting split away entirely and renamed itself Accenture.

Arthur Andersen (henceforth Andersen) in the US was involved as the auditor in two previous high-profile bankruptcies, Waste Management and Sunbeam, which both resulted in shareholder suits and SEC penalties (1998 and 2001 respectively). In 1998, Waste Management, an Andersen client for several decades, restated its earnings to show an overestimate of $1.4 billion over a four-year period (the largest restatement in US history). The SEC investigation turned up several incriminating documents at Andersen's offices – which resulted in Andersen being fined nearly $300 million. After this incident, Andersen instituted its document retention policy that would later lead to the shredding of Enron documents. Sunbeam also misstated its earnings for some years when it was an Andersen client.

Waste Management was a prime example of Andersen's '2X' performance evaluation system under which partners were expected to 'cross-sell' two times their revenues in work outside their area of practice; over the period 1991 to 1997, Waste Management had paid Andersen $7.5 million in audit fees and $17.8 million in non-audit fees. Partners who achieved this standard were rewarded, while others were penalised and, in some cases, dismissed from the company.[6]

Andersen began auditing Enron in 1986 and continued through the years leading up to Enron's bankruptcy in 2001. It had been involved in creating and signing off on various accounting techniques used by Enron, such as aggressive revenue recognition, mark-to-market accounting, Special Purpose Entities (SPEs) and related-party transactions (for details, see Enron case study). Enron was Andersen's second-largest client; in 2000, Andersen had earned $25 million in audit fees and $27 million in consulting fees from Enron.[7]

Event

There had been concerns within Andersen over its relationship with Enron for some while. For instance, a meeting was held on 5 February 2001 (summarised in follow-up email[8]) of fourteen senior Andersen partners (including eight based in Houston, where the Enron was handled) to discuss whether to retain Enron as a client. There were significant discussions about the SPEs and the Enron's CFO Andrew Fastow's conflicts (see below); Enron's use of mark-to-market accounting was called 'intelligent gambling'; and concerns expressed over 'Enron's dependence on transaction execution to meet financial objectives'.

But it was also noted that it 'would not be unforeseeable that fees could reach a $100 million amount per year', and so they concluded that despite[given?] the rising fees, Andersen could retain its independence – and so would keep the account.

During September 2001, it first became apparent to Andersen that Enron's accounting might at last require restatement.

On 9 October, an in-house Andersen lawyer noted that it was highly probable that there could be an SEC investigation. Andersen could not afford this, because it had just paid the SEC fine on the Waste Management case and was under a cease-and-desist order barring it from further misconduct.

On 10 October, the Andersen Houston practice leader gave a talk to the audit managers on the subject of destroying files. In the Waste Management case, Andersen's internal records had provided all the ammunition that the government regulators and plaintiffs lawyers needed. Under Andersen's document retention policy, everything that wasn't an essential part of the audit file – drafts, notes, internal memos, and e-mails – should be promptly shredded. The practice leader noted that once a lawsuit was filed, nothing could be destroyed, but 'if it's destroyed in the course of the normal policy and litigation is filed the next day, that's great, you know, because we've followed our own policy, and whatever there was that might have been of interest to somebody is gone and irretrievable'.[9]

On 12 October, the in-house Andersen lawyer, having seen potentially embarrassing internal memos on the Enron account, sent an e-mail to the Houston office saying 'It might be useful to consider reminding the engagement team of our documentation and retention policy. It would be helpful to make sure that we have complied with the policy.'[10]

The next day, a Saturday, the Houston office began to shred high volumes of Enron-related documents (26 trunks and 24 smaller boxes) and delete nearly 30,000 emails and computer files. The Houston office also contacted the Andersen offices in London and Portland, Oregon, asking them to shred documents and delete emails.

On 22 October, the SEC publicly announced its probe into Enron's financial transactions. The pace of shredding documents at Andersen's Enron office was stepped up.

On 31 October, Enron's board asked William Powers Jr., the Dean of the University of Texas Law School, to look into the firm's accounting. The Powers Committee later reported: '*The evidence available to us suggests that Andersen did not fulfil its professional responsibilities in connection with its audits of Enron's financial statement, or its obligation to bring to the attention of Enron's Board (or the Audit and Compliance Committee) concerns about Enron's internal contracts over related-party transactions.*'[11]

On 8 November, Enron restated its earnings back to 1997, revealing a $586 million loss and blamed Andersen's poor accounting standards for allowing millions of dollars of improper transactions to pass without sounding any alarms.

On 9 November, the SEC announced a subpoena of Andersen's files and ordered the shredding to stop.

On 29 November, the SEC investigation into Enron was expanded to include Andersen.

Between January and May 2002, the US Congress conducted hearings into the Andersen shredding incident.

On 15 March 2002, the US Department of Justice indicted Arthur Andersen on charges of obstruction of justice for shredding documents related to its audit of Enron, in its Houston, Chicago, Portland (Oregon) and London offices.

On 15 June 2002, Andersen was found guilty. This judgement spelt the end of Andersen as a viable company. Firstly, no financial firm has ever survived criminal conviction in the US. Secondly, more specifically, the SEC does not allow convicted felons to audit US public companies, and so Andersen agreed to surrender its licences to practice to the SEC on 31 August 2002. Finally, the stories about the shredding, Andersen's top management refusing to testify at Congressional hearings and the fact of the felony conviction destroyed Andersen's reputation and the viability of its international practices outside the US. On 31 May 2005, this felony conviction was overturned on appeal to the US Supreme Court – but it was too late to resurrect or rebuild Andersen's business.

Management response

After the SEC subpoena of Enron's files, Andersen did run an advertisement campaign to point out that the Houston office was only a very small part of a global firm with 85,000 employees and that Paul Volcker (former Federal Reserve chairman) was leading internal restructuring attempts.

Joseph Bernardino, Managing Partner and CEO of Andersen, tried to defend its audit of Enron rather than admitting failures and accepting the consequences.[12]

Consequences of risk event

The event had consequences for both Andersen, the other 'Big Five' accountancy firms and all US publicly listed companies.

a. Consequences for Andersen

Enron was not Andersen's first faulty audit – it had been involved in previous bankruptcies and faulty accounting at clients including Waste Management, Sunbeam and the Baptist Foundation of Arizona. Shortly after Enron's collapse, the even bigger bankruptcy of WorldCom took place – WorldCom's frauds were discovered when it changed its auditor from Andersen to KPMG.

As noted above, Andersen was found guilty in a US District Court, a ruling subsequently overturned by the US Supreme Court, but by that time the company had lost most of its customers and had shut down.

Many of the Andersen partners and staff joined other accountancy firms or formed new companies.

On 28 April 2009, Andersen agreed to pay $16 million to Enron Corp. creditors to settle claims that the accounting firm was negligent in auditing and advising the energy trader.

b. Consequences for surviving 'Big Four' accountancy firms

Just before the bankruptcy of Enron, consulting services of the 'Big Five' accounting groups made up to half of their revenues. After the subsequent failure of Andersen, which both audited Enron's books and offered consulting advice, the remaining 'Big Four' shed many of their advisory businesses in an attempt to regain trust.

The large corporate frauds at Enron, Worldcom, Tyco and others were the prime cause for the passing of the Sarbanes-Oxley Act of 2002. Amongst its provisions to impact auditing companies were:

- The creation of a Public Company Accounting Oversight Board to provide independent oversight of public accounting firms. Its roles included registering auditors, defining specific processes and procedures for compliance audits, inspecting and policing conduct and quality control.
- The establishment of standards for auditor independence, to limit conflicts of interest, including restrictions on auditing companies providing non-audit services (e.g. consulting) for the same clients. It also required that companies rotate their lead auditor every five years.
- Definition of the interaction of external auditors and corporate audit committees.

c. Consequences for US publicly listed companies

All US publicly listed companies were impacted by new legislation to increase the accuracy of financial reporting, primarily the Sarbanes-Oxley Act of 2002. Amongst its provisions were:

- The requirement that senior executives take personal responsibility for the accuracy and completeness of corporate financial reports. Section 302 requires that the company's 'principal officers' (typically the Chief Executive Office and Chief Financial Officer) personally certify and approve the integrity of their company's quarterly financial reports, with possible fines and imprisonment for non-compliance.
- Enhanced reporting requirements for financial transactions, including off-balance sheet transactions, pro-forma figures and stock transactions of corporate officers.

- One section, also referred to as the 'Corporate and Criminal Fraud Accountability Act of 2002' described specific criminal penalties for manipulating, destruction or alteration of financial records or other interference with investigations, while providing certain protections for whistle-blowers.

The costs of companies complying with the requirements of Sarbanes-Oxley are considerable (including external auditor fees, Directors' & Officers' insurance, board compensation, lost productivity, legal costs and IT systems development). Also the scope of Sarbanes-Oxley is extra-territorial – non-US-headquartered companies have to comply with the requirements of Sarbanes-Oxley with regard to any US subsidiaries.

Role of insurance in loss containment, compensation and remediation

Not known.

Comparison with similar risk events/companies

Andersen's demise was closely entwined with Enron's collapse.

Auditors' failure to comment on risks inherent in their clients' business models was described as 'a dereliction of duty' by the House of Lords Select Committee on Economic Affairs during its investigation into the UK banking crisis in general and Northern Rock in particular[13] .

Risk management lessons and conclusions

Lessons

1. **Conflicts of interest in business model and mode of operation**
   There were various conflicts of interest, both within Andersen and between Andersen and its client Enron:

- As previously noted between the auditing and the consulting businesses within Andersen.
- Also between Andersen's head and local offices. Individual offices within Andersen each focussed on a single large client – in the Houston office's case, it was Enron. Andersen's Houston office was able to overrule various critical reviews of Enron's accounting decisions by Andersen's Professional Standards Group (PSG) and even got the expert auditor who raised concerns removed from the PSG.[14]
- Andersen also acted as Enron's internal auditor. In the mid-1990s, Andersen hired Enron's entire team of 40 internal auditors, added some of its own people and opened an office in Enron's Houston headquarters. With 150 people on site, Andersen staff attended Enron meetings and provided input into new businesses and other strategic issues,[15] blurring a fundamental division of responsibilities that companies employ to ensure the honesty and completeness of their financial figures.
- Many of Enron's senior financial executives had previously worked at Andersen (including the Chief Financial Officer and Chief Accounting Officer), and over the years, Enron had hired at least 86 Andersen accountants (who were lured by the promise of higher pay and Enron stock options),[16] further obscuring the line between corporate management and independent

auditor. (All of Waste Management's CFOs from 1991 to 1997 had joined from Andersen.)

- Andersen was also active in political lobbying against the SEC's efforts in 2000 to prohibit an accounting firm performing both accounting functions and consulting services for the same client. Arthur Levitt, the then chairman of the SEC,[17] said that he had never been subjected to a more intensive and venal lobbying campaign in his eight years at the SEC. When President Bush was elected in 2000, he replaced Arthur Levitt by Harvey Pitt, an Andersen lawyer, whose stance was that it was unnecessary to adopt any rules that would restrict accounting firms performing multiple services for clients. {All the 'Big Five' accountants were amongst the top 20 contributors to Bush's 2000 presidential election campaign; Andersen was the fifth-largest.} It was the efforts of Elliot Spitzer, the Attorney General of New York, rather than Harvey Pitt's SEC, that started investigations into Enron and Andersen.

2. Misalignment of reward systems

Andersen's '2X' performance evaluation system compromised its audit partners' independence, by putting pressure on them to develop a 'sweetheart relationship' with clients and get non-audit consultancy in return for being co-operative on audits.

3. Management ignored warning signs – poor track record

Enron was not Andersen's first client to experience problems – Andersen had a recent track record of accounting mistakes and bankruptcies, including:

- In 1998, Andersen agreed to pay $75 million to settle shareholder suits over its auditing of Waste Management, plus a $7 million fine imposed by the SEC.[18]
- In 2001, Andersen agreed to pay $110 million to settle shareholder suits arising from their audits of Sunbeam Corporation,[19] plus a $7 million fine imposed by the SEC.
- On 6 May 2002, Andersen's lawyers agreed to pay $217 million to settle pending litigation with the Baptist Foundation of Arizona[20] (the largest non-profit bankruptcy when it filed for Chapter 11 in 1999).

Enron was then followed by an even bigger bankruptcy, WorldCom – another Andersen client.

4. Manage your clients, don't let them manage you

Following the settlement with the SEC over the Waste Management case, Andersen circulated a memo to all its partners: 'One of the most important lessons from litigation involving our profession is that client selection and retention are among the most important factors in determining our risk exposure […] have the courage to say no to relationships that bring unacceptable levels of risk to our firm.'[21]

5. Regulators have long memories

In their investigation in respect of Enron, the SEC noted that there did not appear to have been any change in Andersen's internal controls despite previous SEC penalties in the Sunbeam and Waste Management cases.

6. **Say sorry, don't try and parcel out the blame**
   Andersen's statement in response to the SEC verdict on 15 June 2002 included: 'Today's verdict is wrong […] The reality here is that this verdict represents only a technical conviction.'[22] Andersen's attitude was one of being a victim, a victim of Enron's business decisions to adopt various accounting treatments (despite Andersen's responsibility as auditors to sign off Enron's published account as a fair reflection of its financial status) and a victim of a politically motivated federal government to find it guilty of a purely technical obstruction of justice charge (i.e. shredding documents). There were no apologies made by Joseph Berardino, Andersen's CEO — his comment on why Enron failed was 'because the economics didn't work'[23] and nothing to do with Andersen's role in helping Enron hide those economics from its shareholders for so long.

7. **Value of brand name**
   Rebranded (somewhat fortunately in 2000, not long before the Enron event) as Accenture, the previous Andersen Consulting operations survived and prospered – as Andersen Consulting, they probably would have collapsed along with Arthur Andersen. (This is the reverse of the situation in another case study, Coca-Cola Dasani, where a subsidiary brand was sacrificed in order to protect the parent brand.)

1. Arthur Andersen and the Temple of Doom, Jeffrey S. Kinsler, Southwestern University Law Review, 2008, Vol. 37, p. 99, www.swlaw.edu/pdfs/lr/37_1kinsler.pdf
2. 'The Smartest Guys in the Room: The Amazing Rise and Scandalous Fall of Enron' by Bethany McLean & Peter Elkind, Penguin 2004, pp. 143-144
3. Capstone case study on organisational architecture: Arthur Andersen LLP, www.uwlax.edu/faculty/knowles/eco310/Capstone%20case%20study%20on%20organizational%20architecture.doc
4. Capstone, op cit
5. Smartest Guys, op cit, pp. 144-145
6. Capstone, op cit
7. Accountingweb, 13 December 2001, Andersen CEO Takes Aim at Enron, www.accountingweb.com/item/66339
8. Accountancy Age, 18 January 2002, Andersen memo: Houston office to David Duncan, www.accountancyage.com/aa/news/1786608/andersen-memo-houston-office-david-duncan
9. Arthur Andersen and the Temple of Doom, op cit, p. 102
10. Arthur Andersen and the Temple of Doom, op cit, p. 102
11. (Powers Report), REPORT OF INVESTIGATION BY THE SPECIAL INVESTIGATIVE COMMITTEE OF THE BOARD OF DIRECTORS OF ENRON CORP, 1 February 2002, p. 24, http://fl1.findlaw.com/news.findlaw.com/wp/docs/enron/specinv020102rpt1.pdf
12. CFO.com, 21 January 2002, Enron Was Economic--Not Accounting--Failure, Says Andersen CEO, by Stephen Taub, www.cfo.com/article.cfm/3003050
13. HOUSE OF LORDS, Select Committee on Economic Affairs, 2nd Report of Session 2010–11, Auditors: Market concentration and their role, Volume I: Report, published 30 March 2011, p. 45, www.publications.parliament.uk/pa/ld201011/ldselect/ldeconaf/119/119.pdf
14. Smartest Guys, op cit, pp. 317-318
15. Capstone, op cit
16. Smartest Guys, op cit, p. 145
17. The New York Times,19 January 2002, ENRON'S COLLAPSE: THE LOBBYING; Auditing Firms Exercise Power In Washington, by Stephen Labaton, www.nytimes.com/2002/01/19/business/enron-s-collapse-the-lobbying-auditing-firms-exercise-power-in-washington.html
18. Smartest Guys, op cit, p. 145
19. The New York Times, 18 May 2001, Auditors Noticed Sunbeam's Fraud but Ignored It, by Floyd Norris, www.nytimes.com/2001/05/18/business/18NORR.html
20. The New York Times, 7 May 2002, $217 million new settlement by Andersen in Baptist case, by Floyd Norris, www.nytimes.com/2002/05/07/business/217-million-new-settlement-by-andersen-in-baptist-case.html
21. Smartest Guys, op cit, p. 145
22. Statement from Arthur Andersen LLP , 15 June 2002, www.thefreelibrary.com/Statement+from+Arthur+Andersen+LLP.-a087468528
23. CFO.com, op cit

Case study title

BP Texas City Refinery

Main risk event category and brief description

Fire and explosion

The March 2005 explosion and fire at BP's Texas City Refinery killed 15 people and injured many others – subsequent compensation settlements exceeded $1.6 billion. In addition, BP had to pay various criminal penalties and fines for health and safety violations. This event was one in a series to involve BP in North America, meaning that BP's did not have strong reputation for safety and operations going into the Deepwater Horizon 2010 disaster.

Company involved

BP

Key company details

BP's origins go back to the Anglo-Persian Oil Company formed in 1909, renamed as the British Petroleum Company in 1954. Over the period 1979 to 1987, the British government sold its entire holding in BP as part of its privatisation programme.

Main business sectors

BP is headquartered in London and listed on the London Stock Exchange as BP (with a secondary listing on the New York Stock Exchange). It is the third-largest energy company and fourth-largest company in the world (measured in terms of revenues – behind Wal-Mart Stores, Royal Dutch Shell and Exxon Mobil). For the 2010 year, it had $309 billion of revenues, total assets of $272 billion and total equity of $95 billion, and as at December 2009, it had 80,300 employees and operations in more than 80 countries.

Its largest division is BP North America, which is the biggest producer of oil and gas in the US and is headquartered in Houston, Texas.

BP is a vertically integrated oil and gas company, including exploration and production, refining, distribution and marketing, petrochemicals, power generation and trading.

Date of event

23 March 2005

Risk event

Background

John (later Lord) Browne joined BP straight from university and joined the board as Managing Director in 1991 and was appointed Group Chief Executive in 1995. Under his leadership, BP increased its market value and profits fivefold.

BP took a radical decision in 1991, not to buy any corporate insurance for exposures greater than $10 million, unless otherwise required (such as under a joint venture agreement), after judging that the cost of insurance did not justify the perceived benefits. [1] From that time up to now, a paragraph along the

following lines has appeared in BP's Annual Report and Accounts each year: *The group generally restricts its purchase of insurance to situations where this is required for legal or contractual reasons. This is because external insurance is not considered an economic means of financing losses for the group. Losses will therefore be borne as they arise rather than being spread over time through insurance premia with attendant additional transaction costs. The position will be reviewed periodically.*

It has also been suggested that a major factor in the decision was simply the desire to cut costs;[2] BP was heavily indebted and facing a major financial crisis at the time,[3] and halved its dividend in 1992[4] and commenced a programme of disposals. Whatever the original reasoning, this decision has not been reversed over the following 20 years.

Under John Browne, BP undertook a number of major mergers and acquisitions: Amoco (1998 – the fourth-largest US oil company), ARCO (1999) and Burmah-Castrol (2000) – more or less doubling the size of BP. Lord Browne was regularly voted Britain's most admired business leader and reckoned by Fortune to be the most powerful executive in the world outside America.

The 1998 merger with Amoco included the Texas City Refinery, which was the third-largest refinery in the US, the second-largest in Texas and BP's largest refinery worldwide. The Texas City Refinery, near Galveston, had been in operation since 1934, but had not been well maintained for several years. It came out after the event that Amoco and then BP had had a series of warnings and less serious accidents. Maintenance and safety at the plant had been cut as a cost-saving measure, the responsibility ultimately resting with executives in London.

In September 2004, an accident at Texas City Refinery killed two people.

A consulting firm that examined conditions at the plant in January 2005 found conditions so poor that it reported 'We have never seen a site where the notion 'I could die today' was so real.'[5]

Event

On 23 March 2005, a fire and explosion at BP's Texas City Refinery killed 15 contract workers, injured between 170 and 500 others in and around the plant, and 43,000 nearby residents were ordered to remain sheltered in their homes for several hours.

The event had no significant impact on BP's share price, as the following two charts show. The first chart shows BP's share price over the period one week before the event through to five weeks after; the second shows, for the same time period, the share prices for BP and Shell, plus the FTSE Oil & Gas Producers sector and the price of Brent Oil, all indexed to 100 on the 22 March 2005 (the day before the event). BP's share price did not move significantly in absolute terms, and most of any movement was in close relativity to its major UK peer company, Shell, and the FTSE Oil & Gas Producers sector and oil prices as a whole.

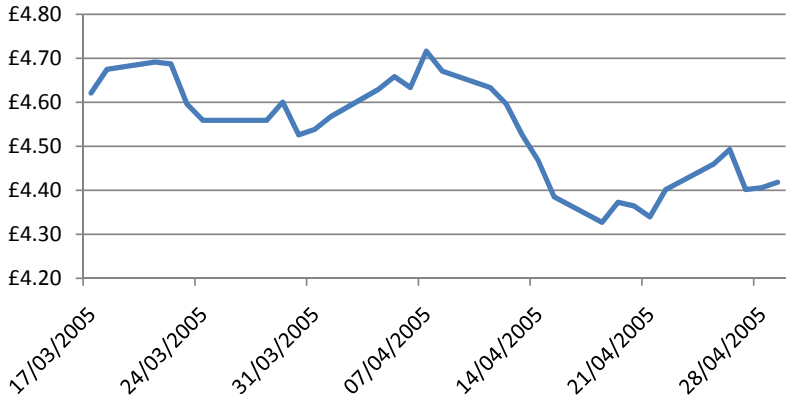


Chart: BP share price[6]

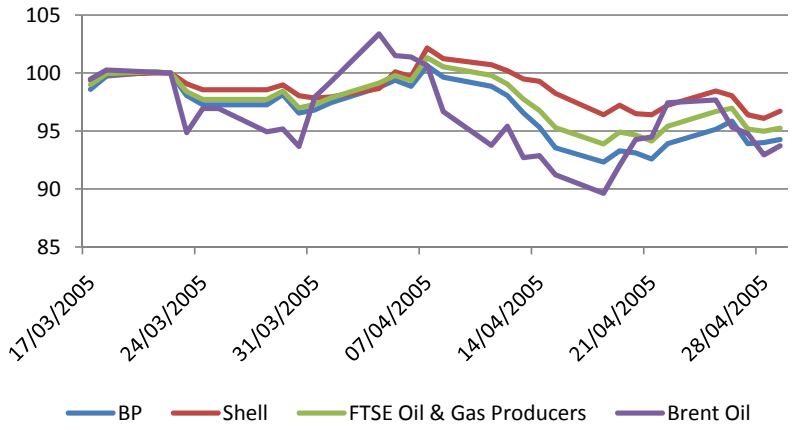


Chart: Comparison of BP and Shell share prices, FTSE Oil & Gas Producers sector and Brent Oil price, all rebased to 22 March 2005 = 100[7]

Management response

In the immediate aftermath of the disaster, BP reacted well. The President of BP America arrived at the site the next morning, expressed the company's deep regret over the accident and promised full co-operation with the investigations into the causes. Lord Browne also performed well, flying to Texas City immediately after the explosion:

- He emphasised that BP was responsible for what happens inside the boundaries of its sites and that this incident was no exception.
- He promised that BP would provide support to the victims of the tragedy and their families.

- He pledged BP's full resources to determine the cause of the explosion and fire, and also made it clear that BP would take any action necessary to prevent a recurrence.
- He guaranteed BP's full co-operation with government agencies investigating the incident and promised to make public BP's own investigation and share lessons learnt with others.

On 24 March 2005, BP set up a ten-person Fatality Investigation Team, consisting of both BP employees and contractors, led by John Mogford (then a BP Group executive). This team produced its interim report on 17 May 2005, [8] which found that the operators of the unit that exploded had failed to follow procedures for filling the unit, managers had failed to supervise the start-up of the unit, and then, when the unit overfilled and a vapour cloud formed, evacuation alarms had not been sounded and so staff occupying trailers near the unit did not have the chance to escape. As a result, BP appointed a new plant manager, placing the old one on administrative leave; it also began disciplinary actions against an unspecified number of managers and workers directly responsible for the fire.

The final 192-page report – the Mogford Report[9] – was released on 9 December 2005 and identified five underlying cultural issues that were present in the refinery at the time of the accident:

- **Business context:** over the years, the working environment had eroded to one characterised by resistance to change and a lack of trust, motivation and sense of purpose. Expectations around supervisory and management behaviour were unclear. Rules were not followed consistently. Individuals felt disempowered from suggesting or initiating improvements.
- **Safety as a priority:** process safety, operations performance and systematic risk reduction priorities had not been set nor consistently reinforced by management. Safety lessons from other parts of BP were not acted on.
- **Organisational complexity and change:** many changes in an already complex organisation – both structural and personnel – had led to a lack of clear accountabilities and poor communication. The result was workforce confusion over roles, responsibilities and priorities.
- **Inability to see risk:** poor hazard awareness and understanding of process safety on the site, resulting in people accepting higher levels of risk than at comparable installations.
- **Lack of early warning:** poor performance management and vertical communication in the refinery meant there was no adequate early warning system of problems and no independent means of understanding the deteriorating standards in the plant through audit of the organisation.

The team made 81 recommendations, which were all implemented on site. These included a new management team for the Texas City Refinery, simplification of the organisation, improved communication, clarified roles and responsibilities, and steps to verify compliance with operating procedures – plus a project team to co-ordinate and track implementation of the recommendations (many of the recommendations had been documented in previous policies and procedures, but either were not followed through or were not specific enough). At the corporate level, a new global Safety and Operations organisation was created, to be led by John Mogford; a key aspect of this new role was to improve the transfer and

incorporation of new learnings.
Following the completion of BP's internal investigation into management accountability for the Texas City Refinery explosion, four BP executives ranked 'Tier 1' ('direct accountability for substantial management activities; aggravating factors generally outweigh mitigating factors') were recommended for dismissal.[10]

John Browne and other senior executives had their bonuses for 2005 cut.[11]

Following a recommendation from the US Chemical Safety and Hazard Investigation Board (CSB), on 17 August 2005,[12] BP commissioned an independent panel, chaired by former US Secretary of State James Baker III, to investigate the safety culture and management systems at BP North America.

The Baker panel's 374-page report was released on 16 January 2007.[13] Its brief was to examine BP's corporate safety oversight, corporate safety culture and its process safety management systems generally and not the Texas City Refinery or any other particular incident specifically.[14] The Panel set itself the task of understanding BP's value, beliefs and underlying assumptions about safety in relation to all of its US refineries and how these interacted with the company's corporate structure and management philosophy.[15] Its main findings included:

- It was imperative that BP's leadership set the process safety 'tone at the top' of the organisation and establish appropriate expectations regarding safety performance. However, in recent years, BP had emphasised personal or occupational safety, rather than process safety.[16]
- *Personal or occupational safety* hazards give rise to incidents – such as slips, falls and vehicle accidents – that primarily affect one individual worker for each occurrence.
- *Process safety* hazards can give rise to major accidents involving the release of potentially dangerous materials, the release of energy (such as fires and explosions), or both. Process safety incidents can have catastrophic effects and can result in multiple injuries and fatalities, as well as substantial economic, property and environmental damage.

The Texas City Refinery tragedy on 23 March 2005 was a process safety accident. The opening line of the Panel Statement in the report is 'Process safety accidents can be prevented.'[17]

- BP's corporate management had mandated numerous initiatives that applied to US refineries, and that this 'initiative overload' plus the high levels of overtime often worked by operations and maintenance personnel and a high turnover of refinery plant managers all contributed to undermine safety performance in BP's US refineries.
- BP tended to have a short-term focus and its decentralised management system and entrepreneurial culture had delegated substantial discretion to US refinery managers without clearly defining process safety expectations, responsibilities or accountabilities.
- BP had not instilled a common, unifying process safety culture among its US refineries. The Panel found instances of a lack of operating discipline, toleration of serious deviations from safe operating practices and apparent complacency toward serious process safety risks at each refinery.
- BP had an aspirational goal and expectation of 'no accidents, no harm to people, and no damage to the environment', but its corporate process safety

system did not effectively translate corporate expectations into measurable criteria for the management of process risks or define the appropriate role of qualitative and quantitative risk management criteria.
- Baker suggested that BP's board of directors should appoint an independent monitor to report over a period of at least five years on the company's implementation of changes in safety standards.

Following a sequence of problems over the period 2005 and 2006 (Texas City Refinery, pipeline oil spills in Alaska, allegation of propane market manipulation, start-up delays of the Thunderhorse project in the Gulf of Mexico), Lord Browne announced on 12 January 2007 that he would retire as chief executive at the end of July 2007 (earlier than the expected February 2008, when he would have reached BP's standard retirement age); however for other personal reasons, he retired suddenly on 1 May 2007, to be replaced as CEO by Tony Hayward.

In the CSB's final 341-page Investigation Report published in March 2007,[18] it stated that 'the Texas City disaster was caused by organizational and safety deficiencies at all levels of the BP Corporation'[19] and that 'the BP Board of directors did not provide effective oversight of BP's safety culture and major accident prevention programmes'. The board did not have a member responsible for assessing and verifying the performance of BP's major accident hazard prevention programmes.[20] More specifically, its findings included that 'cost-cutting, failure to invest and production pressures from BP Group executive managers impaired process safety performance at Texas City'[21] and that 'deficiencies in BP's mechanical integrity program resulted in the 'run to failure' of process equipment at Texas City'. [22]

The various steps taken since by BP to address its safety performance in the areas of (a) process safety culture, (b) process safety management systems and (c) performance evaluation, corrective action and corporate oversight, with regard to (1) Texas City Refinery, (2) all BP's US refineries and (3) BP corporate level, are summarised in Appendix F (BP post-Texas City measures) in the Baker Report.[23]

Consequences of risk event

The Texas City Refinery fire and explosion had severe consequences for BP, in various ways.

a. Consequences for BP – compensation

BP initially set aside a reserve of $700 million for potential fatality and personal injury claims and litigation expenses in July 2005; it set aside a further $500 million in reserves in July 2006.[24] (BP is self-insured for worker-related losses.) By October 2007, BP had paid more than $1.6 billion in compensation to victims of the Texas City Refinery event and settled more than 1,600 personal injury claims. One of the settlements included a payment of at least $32 million to universities and other institutions involved in safety education and health care, and others included various donations to schools and charities connected with the victims.

BP committed $1 billion to rebuilding the Texas City Refinery site over the period 2005 to 2008. The work took more than 60 million work hours; with the replacement of retired staff and added positions, a total of 1,000 new employees were hired.[25]

b. Consequences for BP – criminal penalties

On 25 October 2007, BP agreed to pay a fine of $50 million, in return for the Department of Justice not bringing any additional criminal charges against BP in connection with the Texas City Refinery explosion. BP also agreed to pay fines and penalties of $20 million for the pipeline leaks violating the Clean Water Act in Prudhoe Bay, Alaska in March and August 2006, and a $303 million fine for manipulation of the propane market in 2003/4, in return for an end to US government investigations. (BP also suffered an operational loss in August 2006 as the US government forced it to shut about half of Prudhoe Bay's production as it replaced the corroded pipelines and inspected others for similar problems.)

c. Consequences for BP – Health and Safety penalties

In September 2005, BP was fined $21.4 million for health and safety violations at the Texas City Refinery (a record fine at the time).

On 30 October 2009, the Department of Labor's Occupational Safety & Health Administration (OSHA) imposed an $87.4 million fine on BP for failing to correct safety hazards revealed in the 2005 explosion (the largest fine in OSHA history at the time, only surpassing BP's 2005 fine); inspectors found 270 violations that had been previously cited but not fixed and 439 new violations. By 12 August 2010, the fine had been reduced by $6.1 million and BP announced that it had agreed to pay $50.6 million and would continue to contest the remaining $30.7 million. In September 2010, BP agreed to pay a further $50 million penalty to resolve federal Clean Air Act violations resulting from the Texas City Refinery explosion.

d. Consequences for BP – official investigations

The US Chemical Safety and Hazard Investigation Board (CSB) blamed 'organizational and safety deficiencies at all levels of the BP Corporation' [26] for the accident, in a report released on 20 March 2007. The CSB said that its two-year inquiry revealed an inadequate response to several audits revealing safety lapses, failure to thoroughly investigate and respond to previous accidents, the ignoring of federal regulations and a focus on production rather than safety. It found that both BP group executives in London and Texas City managers became aware of serious problems at the refinery beginning in 2002 and continuing through March 2005. The CSB chairman added that 'The combination of cost-cutting, production pressures and failure to invest caused a progressive deterioration of safety at the refinery. There was a broken safety culture at BP.'[27]

e. Consequences for BP – longer-term

The bad publicity over Texas City Refinery and other subsequent events, particularly with regard to its US operations (such as Alaska oil pipeline leaks, allegations of propane market manipulation and four further separate deaths at the Texas City Refinery) meant that BP did not start in a good position when on 20 April 2010, the semi-submersible exploratory offshore drilling rig Deepwater Horizon exploded after a blow-out and sank, killing 11 people and causing America's worst-ever oil spill affecting states around the Gulf of Mexico.

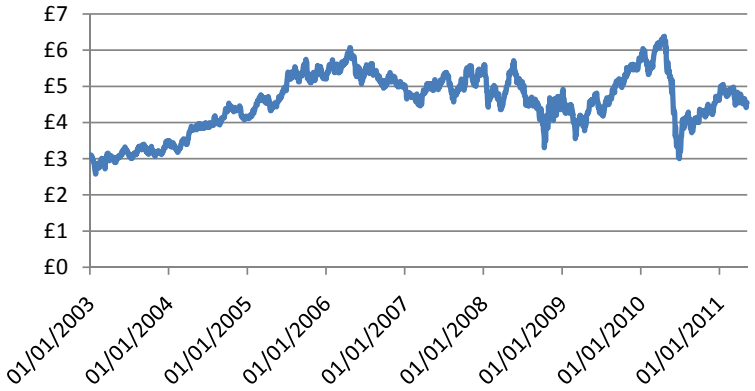


Chart: BP share price[28]

The share price chart shows that the Texas City Refinery fire in March 2005 had no significant impact on BP's share price, but the Deepwater Horizon event in early 2010 caused BP's share price to fall by around 50% over the following two-month period.

BP has since been reported, in February 2011, as having put the Texas City Refinery up for sale, just as it sold the Grangemouth petrochemicals complex in Scotland some years after the three serious incidents experienced there.

Role of insurance in loss containment, compensation and remediation

As noted above, BP did not purchase any corporate insurance above $10 million per event. Some of the cost would be insured through BP's captive, Guernsey-registered Jupiter Insurance Limited. Jupiter would have retained all these losses, because it does not buy reinsurance.[29]

Texas City residents brought a $10 billion class-action lawsuit against BP for the release of toxins following the explosion.

Comparison with similar risk events/companies

Fire and explosion – HOSL, Buncefield.

Risk management lessons and conclusions

Lessons

1. **Rapid growth resulting in organisational complexity**
   BP's doubling in size over a two to three-year period 1998-2000, through the merger with Amoco and acquisitions of ARCO and Burmah-Castrol, seems to have led to some organisational 'indigestion' or 'congestion'. The management structure of the combined operations and roles and accountabilities do not seem to have been rationalised and clarified. Certainly one of the first acts by Tony Hayward after he became CEO in May 2007 was to instigate a five-month review of BP's structure. In some parts of BP, four layers of management were removed, and Hayward said that overlaps in certain roles

remained from the mega-mergers masterminded by his predecessor, Lord Browne of Madingley, and had to be removed to reduce complexity.[30] Making a major acquisition is relatively easy; integrating it successfully is the much harder part.

2. **Management commitment – not walking the talk**
BP's board and senior management talked safety, but as one industry consultant said 'BP's culture was designed to be the most efficient cost-cutter in the industry and they did it with a certain degree of arrogance and out of that came too many corners cut on maintenance and safety'.[31] Tony Hayward, before he succeeded Lord Browne, wrote on BP's internal website that BP's management had made a 'virtue out of doing more for less'; that 'The front line operations teams, I think, have lived too long in the world of making do and patching up this quarter for the next quarter, rather than thinking about how we are going to maintain a piece of equipment for the next 30 or 40 years'; and that BP still had 'quite a lot of work to do' in ensuring safety levels that are sought for its plants, equipment and processes.[32]

   A consistent theme of the Baker report was the lack of connection between the high ideals of BP's board and the day-to-day practice of its operations. 'Ultimately, that represents a failure of leadership.' [33] In the Baker report's own words 'A substantial gulf appears to have existed between the actual performance of BP's process safety management systems and the company's perception of that performance.' [34]

3. **Management needs to take accountability for safety**
The Baker report said 'BP has not demonstrated that it has effectively held executive management and refining line managers and supervisors, both at the corporate level and at the refinery level, accountable for process safety performance in its US refineries.'[35]

4. **Take notice of early warning signals ...**
The factors that contribute to an event such as the Texas City Refinery explosion are often years in the making. Before the fire and explosion on 23 March 2005, there had been 23 fatalities at the Texas City Refinery, four since BP had taken over. The unit that gave rise to the March 2005 event had experienced eight previous releases of vapour over the period 1994 to 2004, two since BP had taken over; of these eight, six had resulted in vapour clouds that could have had catastrophic consequences but for the absence of an ignition source – on 23 March 2005, there was an ignition source, a worker trying to start up a nearby truck.

   The role of cost-cutting in relation to safety at the Texas City Refinery has been heavily debated. As the CSB Final Report noted, 'cost-cutting and failure to invest in the 1990s by Amoco and then BP left the Texas City Refinery vulnerable to a catastrophe. BP targeted budget cuts of 25 percent in 1999 and another 25 percent in 2005, even though much of the refinery's infrastructure and process equipment were in disrepair. Also, operator training and staffing were downsized.' [36] The Baker report however says it did not find enough information to tell whether BP had 'intentionally withheld resources on any safety-related assets or projects for budgetary or cost reasons', but said that 'the company did not always ensure that adequate

resources were effectively allocated to support or sustain a high level of process safety performance'.[37] But the CSB report, under the heading of Budget Cuts, stated that 'BP audits, reviews, and correspondence show that budget-cutting and inadequate spending had impacted process safety at the Texas City Refinery'.[38]

Union officials at the Texas City Refinery had previously expressed concerns about safety at the plant. The refinery's site manager commissioned an independent safety audit, from Telos Group, in which 60% of the Texas City Refinery employees were surveyed. The 338-page report,[39] completed on January 2005, told of broken alarms, thinned pipe, chunks of concrete falling, bolts dropping 60ft and staff being overcome by fumes. Staff rated 'making money' as BP's number one priority and 'people' as its lowest, at number nine. The report warned that 'The history of investment neglect, coupled with the BP culture of lack of leadership accountability from frequent management changes, is setting BP Texas City up for a series of catastrophe events'.[40]

Tony Hayward, before he succeeded Lord Browne, himself wrote on BP's internal website that 'We have a leadership style that is probably too directive and doesn't listen sufficiently well. The top of the organisation doesn't listen hard enough to what the bottom of the organisation is saying.'[41]

5. **... and learn from your own experience**
The Baker report noted that although BP was improving aspects of its incident and near-miss investigation process, it had not instituted effective root-cause analysis procedures to identify systemic causal factors that may contribute to future accidents. Baker was particularly damning of BP's failure to learn lessons from three significant incidents in 2000 at its plant in Grangemouth, Scotland. The Baker report concluded 'The panel considers the similarities between the 'lessons' from Grangemouth and the Texas City incident to be striking: a lack of leadership and accountability, insufficient awareness of process safety, inadequate performance measurement, a safety programme too focused on personal safety and a failure to complete corrective actions.'[42]

6. **Compliance should be more proactive ...**
The Baker report expressed concern that the principal focus of BP's safety audits was on compliance and verifying that required management systems were in place to satisfy legal requirements. It did not appear, however, that BP used the audits to ensure that management systems were delivering the desired safety performance or to assess a site's performance against industry best practices.

7. **... and follow through**
The Baker report stated that although BP regularly conducts various assessments, reviews and audits within the company, the follow-though after these reviews, to track that recommendations have been actioned and completed, has fallen short repeatedly.

Also do not ignore regulators' requirements, they have long memories.

8. Lessons at the operational level

In his 24 April 2006 speech,[43] John Mogford (then BP's Global Head of Safety and Operations) summarised the key lessons at the facility level as:

- The need to ensure that plant leadership teams have the time to focus on day-to-day operations and aren't distracted by too many competing demands. Managers need to know what's happening in their control rooms and on the plant.
- The need to capture the right metrics that indicate process safety trends; do not get seduced by personal accident measures, they have their place but do not warn of incidents such as Texas City.
- Procedures are ineffective if they are not up-to-date and routinely followed.
- The importance of two-way communication. If people believe leaders aren't listening or don't appear to be taking team members' concerns seriously, they soon stop raising them.
- The importance of investigating process incidents in the same way that serious injuries are investigated. Document all incidents thoroughly. Share what you learn.
- The value of having an effective feedback loop to capture and incorporate into operating procedures and training programmes lessons learned from earlier incidents and process upsets.
- Keep non-essential personnel out of process areas.

9. Corporate governance – board expertise and experience

Board expertise: the Baker report noted that John Manzoni, board director at the time in charge of refining and marketing had responsibility for all operations at BP's refineries, including safety, but had no refining experience prior to his appointment.[44] The CSB report recommended that BP should appoint an extra non-executive director with specific professional expertise in refinery operations and process safety.[45]

Many of the BP non-executives have been in place for almost a decade.[46] The most recent UK Corporate Governance Code guidance (June 2010) is that non-executives may no longer be regarded as independent if they have served more than nine years and that any term beyond six years should be subject to particularly rigorous review and should take into account the need for progressive refreshing of the board.

Concluding comment

John Mogford (BP's Senior Group Vice President, Safety & Operations) said in a speech on 24 April 2006, that the Texas City incident 'was a preventable incident. It should be seen as a process failure, a cultural failure and a management failure.' [47]

1. Corporate Insurance Strategy: The Case of British Petroleum', Neil A. Doherty and Clifford W. Smith Jr., Journal of Applied Corporate Finance, 1993, vol. 6, pp. 4-15
2. Lloyd's List, 25 October 1991, BP to slash its insurance bill, by Jim Mulrenan
3. Financial Times, 10/11 August 1996, BP's boldness pays dividends, by Robert Corzine
4. Financial Times, 21/21 May 2000, M&S board to approve first-ever cut in dividend, by Peggy Hollinger
5. Rolling Stone, 16 September 2010, BP's Shock Waves, by Matt Taibbi
6. Daily adjusted closing share price, source Yahoo Finance 12 May 2011
7. Daily adjusted closing share price, source Datastream
8. BP Products North America Accepts Responsibility for Texas City Explosion, 17 May 2005, BP Press release, www.bp.com/genericarticle.do?categoryId=2012968&contentId=7006066
9. (The Mogford Report) FATAL ACCIDENT INVESTIGATION REPORT, Isomerization Unit Explosion, Final Report, Texas City, Texas, USA, www.bp.com/liveassets/bp_internet/us/bp_us_english/STAGING/local_assets/downloads/t/final_report.pdf
10. Financial Times, 14 February 2007, BP Texas blast inquiry calls for sacking of four executives, by Sheila McNulty
11. The Times, 15 March 2006, BP chiefs suffer bonus cuts as they pay for US accidents, by Peter Klinger
12. BP to Appoint Independent Panel ,to Review U.S. Refinery Safety, 17 August 2005, BP Press release, www.bp.com/genericarticle.do?categoryId=2012968&contentId=7008210
13. (The Baker Report) The Report of The BP U.S. Refineries Independent Safety Review Panel, January 2007, Appendix F, BP Post-Texas City Measures, www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/SP/STAGING/local_assets/assets/pdfs/Baker_panel_report.pdf
14. The Baker Report, ibid, page ix
15. The Baker Report, ibid, page x
16. The Baker Report, ibid, page xii
17. The Baker Report, ibid, page 3
18. (The CSB Report) U.S. Chemical Safety and Hazard Investigation Board, Investigation Report, Refinery Explosion and Fire (15 Killed, 180 Injured), BP Texas City, Texas, March 23, 2005, Report No. 2005-04-I-TX, March 2007, www.csb.gov/assets/document/CSBFinalReportBP.pdf
19. The CSB Report, ibid, page 18
20. The CSB Report, ibid, page 25
21. The CSB Report, ibid, page 25
22. The CSB Report, ibid, page 25
23. The Baker Report, ibid, Appendix F, BP Post-Texas City Measures, pages F-1 to F-5
24. Business Insurance, 5 July 2005, BP adds $500 million for refinery blast litigation reserve, by Sarah Veysey
25. Texas City Refinery, Facility Fact Sheet, www.bp.com/liveassets/bp_internet/globalbp/STAGING/global_assets/downloads/A/abp_wwd_us_texas_city_fact_sheet.pdf
26. The CSB Report, op cit, page 18
27. Financial Times, 21 March 2007, Cost-cutting blamed for BP refinery explosion, by Sheila McNulty and Ed Crooks
28. Daily adjusted closing share price, source Yahoo Finance, 12 May 2011
29. Lloyd's List, 16 December 2005, BP's Jupiter tipped to recover from year of catastrophes, by James Brewer
30. The Times, 12 October 2007, Thousands of jobs to go at BP as chief acts to cut overheads, by Steve Hawkes
31. Financial Times, 20 September 2006, BP battles to clear its Augean stables, by Carola Hoyos
32. Financial Times, 18 December 2006, BP memo attacks its leadership strategy, by Sheila McNulty
33. Financial Times, 17 January 2007, Exhaustive report and dismal conclusions, by Ed Crooks and Sheila McNulty
34. The Baker Report, op cit, page xv
35. The Baker Report, op cit, page xii
36. The CSB Report, op cit, page 20
37. The Baker Report, op cit, page xii
38. The CSB Report, op cit, page 194
39. The Telos Group, BP Texas City Report of Findings, January 21, 2005
40. Financial Times, 19 December 2006, FT Investigation, Blowdown: how faults at BP led to one of America's worst industrial disasters, by Sheila McNulty

41. Financial Times, 18 December 2006, FT Investigation, A corroded culture? How accidents in Alaska forced BP on the defensive, by Sheila McNulty
42. The Baker Report, op cit – see also The Times, 17 January 2007, Panel hits hard at BP for failure to learn from Grangemouth mistakes, by David Robertson
43. John Mogford, Speech on 24 April 2006 to the 2nd Global Congress on Process Safety, Center for Chemical Process Safety, Orlando, Florida, www.bp.com/genericarticle.do?categoryId=98&contentId=7017238
44. The Baker Report, op cit, page 33
45. The CSB Report, op cit, page 214
46. Financial Times, 17 January 2007, BP's safety failures are not yet resolved: The oil company must respond to Baker's damning report, Editorial article
47. John Mogford, Speech, op cit

Case study title	Buncefield: Hertfordshire Oil Storage Ltd (HOSL)
Main risk event category and brief description	**Explosion and Fire** The ignition of a petrol vapour cloud from an over-filled storage tank caused the largest explosion in UK since World War 2, followed by a fire lasting five days. The plume of smoke extended over a large area of South East England and beyond. Damage to the neighbourhood was extensive, but fortunately there was no loss of life as the explosion occurred early on a Sunday morning. The disaster was the subject of a series of reports,[1] which highlighted some important lessons for both pre-event and post-event mitigation.
Key company details	HOSL is a 60:40 joint venture between Total UK Ltd and Chevron. It is the operator of one of three sections of the Buncefield Oil and Storage Transfer depot near Hemel Hempstead, Hertfordshire.
Main business sectors	Petroleum fuel and products storage and distribution.
Date of event	2005
Risk event	**Background** Buncefield was the fifth-largest of 108 oil storage sites across the UK and, at the time of the event, handled 8% of national supplies. It stored fuel and other petroleum products in tanks prior to distribution to petrol stations and airports. It was the hub for a network of pipelines and was served by 400 road tankers per day. HOSL stored 34,000 tonnes of motor fuel and 15,000 tonnes of heating oil. The operators at the other two sections of the site, British Pipeline Agency Ltd and BP Oil Ltd stored 70,000 and 75,000 tonnes of fuel respectively. When Buncefield originally opened, the site was relatively isolated in a semi-rural location. Over the succeeding years, the surrounding area had been built up and included the large Maylands Industrial Estate with 630 businesses employing 16,500 people contributing 2% of the GDP of eastern England. **Event** On the night of Saturday 10 December 2005, petrol began to be delivered by pipeline to HOSL Tank 912. At about 5.30 am on Sunday 11 December, the safety system that had been installed to shut off the supply of petrol to the tank failed to operate.

Petrol spilled down the side of the tank collecting first in the bund. As the over-filling continued, a petrol/air vapour cloud flowed over the bund wall and moved towards the site boundary with the Maylands. Between 5.30 and 6.00 am, CCTV footage showed the vapour cloud thicken and spread until it reached a source of ignition. A massive 'high over-pressure' open flammable cloud explosion resulted followed by a large fire involving 23 tanks and eventually destroying a large proportion of the depot.

Fortunately, as the explosion occurred early on a Sunday morning, there were no fatalities and there were no serious injuries among the 43 casualties.

However, there was severe damage and disruption to nearby commercial and residential properties. Two thousand people had to be evacuated from their homes. The aviation industry was affected by fuel rationing for sixteen months.

Management response

The scale of the emergency response was proportionate to the severity of the event. A strategic co-ordinating group was established within hours involving the Police, Fire & Rescue Service, Hertfordshire County Council, Dacorum Borough Council, the Environment Agency and the Health Protection Agency with Health and Safety Executive (HSE) support. A temporary four-square mile exclusion zone was set up around the site. Once all the fires were out on 15 December, the emergency services handed over the task of investigation to a specialist team from the HSE and the Environmental Agency.

The long process of clean up began within days, but areas remained too dangerous to access for months.

A series of reports on the event were published over the following years, culminating in December 2008 in a Final Report by the Major Incident Investigation Board (The Report).[2] The Report was particularly critical of the HOSL board's oversight. It said

'For the purpose of COMAH (Control of Major Hazards) Regulations, Hertfordshire Oil Storage Ltd was the operator of the HOSL sites. HOSL was responsible for the preparation and submission of the COMAH safety report. HOSL had a Board of directors but no employees, a challenging set up for a company whose responsibilities included the control of a major hazard site.

The safety report was prepared by a contractor, but never scrutinised by the HOSL Board. In fact the HOSL Board met only twice a year and were kept informed of health, safety and environmental issues by the Terminal Manager. Such a hands off approach was clearly insufficient for the control of a major hazard site.'

Consequences of risk event

The event had two major consequences, the **costs** to those involved and the **recommendations** of the Report.

1. Costs

The Report gave a detailed account of the total economic impact of the event. This information has here been supplemented by that obtained from the media coverage of subsequent developments and the criminal prosecution.

The Report estimated the overall cost as £1 billion, but not including a list of unquantified costs. The breakdown of the quantified costs is a follows:

a. Compensation claims

There were five claims from other businesses inside the site totalling £103 million.

The 749 claims submitted by businesses outside the site cost £490 million. A significant proportion came from ninety severely affected firms on the Maylands Estate (damage to buildings and other assets, loss of stock, disruption to business and loss of sales). There was also a high level of interdependence among the 630 firms on the Estate, so even those whose premises were not damaged by the blast suffered through loss of suppliers or customers who were affected.

There were 3,379 claims from individuals totalling £30 million.

Local authorities claimed £4 million for damage to council-owned premises.

b. Emergency response

The cost to the emergency services and the contingency teams of the local authorities was £7.4 million.

c. Competent authorities

The cost to the HSE and government agencies was £15 million.

d. Environmental impact on water supplies

Investigations into the effect of petrol and foam pollution on groundwater cost £2.1 million.

e. Aviation industry

Heathrow received 40% of its fuel supply from Buncefield. The event resulted in fuel rationing, which cost the industry approximately £245 million.

f. Prosecution

In July 2010 HOSL, Total Oil, British Pipeline Agency Ltd and two smaller firms involved in the event were fined a total of £10 million for failing to protect workers and the public.

g. Others

The Report also identified some **unquantified** costs including:

- Closure of M1, M10 and M25 motorways.
- Temporary loss of medical and public service records.
- Loss of goods in local warehouses awaiting shipping.

2. **Report recommendations**
   The Report was extremely well received by the petroleum industry and important improvements have since been put in place as a result. In all, there were eighty recommendations. Most of these related specifically to Buncefield itself and sites of a similar type storing large quantities of flammable liquids, but some also had a wider relevance to potential major events. The implications of those most relevant to the present study have been incorporated below under Risk Management lessons and conclusions.

Neighbouring companies affected
In addition to its effect on HOSL, the Buncefield explosion provided a severe test of the business continuity planning of neighbouring businesses experiencing disruption. Some key points arising from some excellent investigative work by Marsh is included in the Buncefield Appendix below.

In 2008 BP, one of the other two nearby operators, resumed activities at the site but was required to comply with fifty safety conditions, including refurbished tanks and an improved alarm system. [3]

Court case
In October 2009 when the case finally came to court, there was an unexpected development. The focus shifted to how HOSL as the operating company and Total and Chevron as the shareholders should share the cost of compensating the victims. The judge took a different approach to the Report and ruled that Total should pay all the compensation because the employees on site took their instructions from Total. He felt that Chevron, although 40% owner, was a sleeping partner and HOSL should not be made responsible as its board met only twice a year. This decision was upheld on appeal. Most of the individual claims have now been settled.[4] , [5]

Role of Insurance in loss containment, compensation and remediation

Perhaps a half of the total £1 billion cost was covered by insurers, but areas that were unlikely to have been insured included aviation industry losses, some recovery costs and the prosecution costs. Much of the unquantifiable costs would also have been uninsured.

Comparison with similar risk events/companies

Lake Charles isobutene tank explosion, 1967.
Port Hudson LPG pipeline explosion, 1970.
Flixborough cyclohexane explosion, 1974.
Ufa LPG pipeline explosion, 1989.

Risk management lessons and conclusions

Key lessons of a general nature from the case study are as follows:

1. **Board's must be diligent in exercising oversight**
   It was clear in this case that HOSL board had neither the time nor the resources to exercise sufficient oversight of the operations. This is necessary in all businesses but even more critical in the case of hazardous sites. After severe criticism in the inquiry report, the HOSL board were extremely fortunate that the judge decided to shift the liability to Total.

2. **Learning and sharing the lessons of the past**
The pre-event and post-event controls at Buncefield were designed under the commonly held industry assumption at that time that petrol, though highly flammable, was a relatively stable liquid. Therefore, a significant spillage could not possibly result in a devastating 'high over-pressure' open flammable cloud explosion of the type experienced in 1974 at Flixborough. However, at Buncefield, such an explosion did occur, invalidating the assumption, and existing controls such as containment in a single bund proved to be inadequate. Moreover, the Report said

'It was soon revealed during the investigation that other incidents which had involved large clouds of petrol vapour had occurred elsewhere. Unfortunately, to our knowledge these events were not subjected to thorough investigations concerning the generation of high overpressures.'

The lessons are:

a. Major events need to be thoroughly investigated and objectively compared with similar events in the past.
b. There should be better sharing of event data across, within industries and between industries.

3. **Neighbourhoods change over time**
In the years between the opening of Buncefield and the event, the area surrounding the site gradually changed from open fields to a thriving industrial and residential community. The result is that such change can create a mismatch between the original risk assessment and the current reality. This has implications both for a firm, and for the local authorities that grant planning permissions for development close to hazardous operations.

4. **Better communication needed on large complex sites**
Sites such as Buncefield, where there are several operators and many contractors coming into contact with high-risk processes, require robust communications management to ensure that common procedures are followed and that nothing is left undone.

5. **Interdependence of businesses**
The extent of the supplier/customer relationships between many of the 630 businesses on the Maylands Industrial Estate was far more extensive than anticipated. This does illustrate the potential interdependence of business communities and the consequent potential impact of an event.

6. **Control measures cannot necessarily prevent all major events**
The Report said that the emergency response to Buncefield was impressive. Nevertheless, it called on site operators and the Competent Authority in such high-risk installations *'to ensure that the emergency preparedness and response arrangements are effective, because however much improvement is made in control measures for preventing an incident there can be no guarantee that a major hazard incident could not occur, however unlikely such an event might be'.* The lesson is that Murphy's Law is still applicable even in this sophisticated 21st century.

h. **Certain industries are highly vulnerable to interruption to the supply of a commodity**
The disruption of the fuel supply to Heathrow Airport by the explosion exposed the vulnerability of the Aviation industry to a shortage of fuel. Such losses, £245 million in this instance, are not necessarily insured.

Buncefield Appendix

Buncefield: Neighbouring Businesses Affected

Background

Following the Buncefield explosion, Marsh investigated the impact of the event on local businesses that had to deal with issues such as loss of offices, loss of stock, information technology and repairing damage to property so that buildings could be reoccupied. In particular, Marsh considered the role played by Business Continuity Planning (BCP).

Marsh found that some businesses were able to recover more quickly than others due to having robust BCP in place. In the excellent 2005[6] and 2006[7] issues of Marsh's publication Advisor, the following lessons were identified.

Lessons and conclusions

1. **Replacement offices**
Businesses that had considered alternative premises in their BCP arrangements **moved quickly into fully equipped accommodation.** They were able to resume work more seamlessly.
(For example Steria UK, which provided managed IT services for Lloyd's, Xchanging and several major insurers, lost its head office building in the blast. Nevertheless, it was able to replicate all systems and move to a prearranged secure facility in London by mid-afternoon the same day.)

2. **Loss of stock**
Some businesses were unable to access millions of pounds worth of stock, some of it perishable. On the other hand, others had **prepared for the use of alternative suppliers** and were able to resume trading.

3. **Disruption to business**
Businesses were better placed if their BCP arrangements had previously **identified the key business processes** and had plans to ensure they could carry on or recover those processes. It proved that 'workarounds' were possible without having to reinstate the business on the existing site.

4. **Information technology**
Businesses with robust BCP arrangements were able **to transfer servers and switchboards to other locations** and continue to provide a seamless service to customers.

5. **Organising repair work to property**
   As a result of the event, the demand for local contractors increased dramatically so that the availability and price of people to undertake repair work was badly affected. It underlined the need to include **emergency agreements with contractors** in BCP arrangements.

6. **The importance of reviewing and testing BCP**
   Many of the businesses had identified these BCP lessons prior to the event. However, because they had not reviewed and tested their BCP plans, some encountered issues **that were not anticipated**.

7. **Business Interruption (BI) insurance**
   Some of the businesses worst affected by the event were those that experienced total loss of assets but had **not taken out BI insurance**. They were not expected to be able to continue operations in the area.

8. **Claims management**
   As a consequence of the event, business management were rightly focussed on the major task of recovering their businesses. The benefit of **outsourcing the complex and time-consuming process of claims management** to trusted third parties became clear.

9. **BCP needs to be phased**
   The year after the event highlighted the need for BCP to be phased. **Different plans and skills are needed** if a firm is to be successful in managing the steps of emergency response, crisis management, business recovery and full reinstatement of the business.

10. **BCP needs to be phased**
    Businesses that ignored dependencies on critical suppliers and customers overlooked major areas of exposure.

1. www.buncefieldinvestigation.gov.uk/reports
2. www.buncefieldinvestigation.gov.uk/reports
3. Hemel Today, 12 March 2008, Buncefield to reopen, www.hemeltoday.co.uk/news/berkhamsted-news/buncefield_to_reopen_1_1198318
4. The Times, 21 March 2009, Total alone held liable for Buncefield explosion, by Alex Spence
5. Hemel Today, 9 March 2010, Buncefield High Court appeal fails, www.hemeltoday.co.uk/News/Berkamsted-News/Buncefield_high_courst_appeal_fails_1_1209293
6. Learning from the Buncefield oil explosion – the benefits of Business Continuity Planning, Marsh Adviser, December 2005, http://me.marsh.com/research/2005/Buncefield_Adviser_12.05.pdf
7. Buncefield a year on, Marsh Adviser, December 2006, www.marsh.co.uk/Media/Buncefield_Adviser_ayearon_1206.pdf

Case study title	Cadbury Schweppes
Main risk event category and brief description	**Product related – salmonella.** This event involved a recall of chocolate products contaminated by salmonella. There was an incorrect assumption that the level of contamination was safe. Unlike current best practice, there was a long delay before the products were taken off the shelves. The event, which would have seriously impacted most companies, was mitigated by public loyalty to a popular brand.
Company involved	Cadbury, a long-established, Quaker-founded company, was eventually taken over by Kraft Foods in 2010. At the time of this salmonella event in 2006, the company was known as Cadbury Schweppes plc and was a constituent of the FTSE 100. It was a global confectionery business with eight UK factories and a head office in Uxbridge; it had 6,000 employees in the UK. Its partner company, Schweppes was a US-based beverage business.
Main business sectors	**Confectionery manufacturer, particularly chocolate.**
Date of event	2006
Risk event	Salmonella is a bacterial infection that causes diarrhoea, stomach cramps and sometimes vomiting and fever. It is usually contracted by consuming contaminated food. In many cases, the contamination arises from contact with vermin – such as rats or mice - or birds.[1] On 19 January 2006,[2] Cadbury quality assurance identified traces of the montevideo strain of salmonella bacteria in seven of its chocolate products, including the well-known Dairy Milk bar. The source of the contamination was suspected to be a leaking pipe at its factory at Marlbrook, near Leominster in Herefordshire. This factory produced chocolate crumb mixture, which was supplied to Bournville, near Birmingham, and Somerdale, near Bristol, factories for conversion into milk chocolate.[3] Cadbury followed its established protocol for such events. As the amount of contamination was minute, the company decided that the products posed no health risk and so did not undertake a recall. Samples were sent to an independent laboratory where salmonella contamination was confirmed. In June 2006, five months after the event, Cadbury officially informed the UK Food Standards Agency (FSA). The FSA and Birmingham City Council food standards department began investigating the event. The FSA revealed that there had been forty-five reported cases of this form of food poisoning over the previous four months, compared with twelve in the same period in 2005.[4] However, there was no evidence to link this increase directly to Cadbury.

On 23 June 2006, Cadbury undertook a precautionary recall of one million items of the seven chocolate products 'to reassure our consumers and the public at large as to the quality of the products'.[5]

On 4 July 2006, the FSA reported the findings of its investigation,[6] stating:

- Cadbury had failed to assess the risk of salmonella in its products.
- The company wrongly drew comparisons between the threshold for salmonella infection and the threshold for other micro-organisms that can be found in chocolate.
- There is no minimum infectious dose for salmonella.
- 'We think the testing methods were insufficiently up to date and insufficiently sensitive.'

The Cadbury Schweppes CEO Todd Stitzer responded by saying 'The quality assurance process that we used in our manufacturing has caused our customers concern and we are truly sorry for that.'[7]

In April 2007, Cadbury was prosecuted by Birmingham City Council (three charges) and Herefordshire Council (six charges) in relation to selling unsafe products, failure to report the problem immediately and general breaches of food hygiene and hazard controls. The prosecutor told the court, that until 2003, Cadbury had destroyed any chocolate that tested positive for salmonella, adopting an approach that 'no amount of testing will make a positive result go away. Then it changed it to what they believed to be an allowable tolerance level. They sought to save money from wastage by allowing a tolerance level for salmonella in their food. Large quantities of product were being destroyed and Cadbury's were looking for ways of avoiding that and that's what they did.'[8] Cadbury pleaded guilty to all nine charges and was fined a total of £1 million, plus costs of more than £150,000.[9] The fine was limited as the company quickly admitted its guilt, co-operated fully with investigations, and said it had been mistaken in assuming that there was no threat to health.

Management response

The Cadbury quality assurance process correctly identified the presence of salmonella but after that problems occurred. There was a false presumption that the level of contamination was safe. Unlike current best practice, the crisis management did not appear to be transparent and proactive – resulting in a five-month delay before the recall.

Once the FSA made its critical report, Cadbury Schweppes' CEO made a public apology.

Consequences of risk event

The impact on Cadbury was substantial:

- UK sales of Cadbury chocolate fell by 14% in the month after the recall,[10] reducing its market share by 1%.[11]
- Sponsorship TV adverts for Coronation Street were cancelled.[12]
- The recall reduced revenues by £35 million and profits by £5 million to £10 million.[13] Half of the sum related to the cost of recalling one million

chocolate bars, whilst the rest came from advertising costs and 'manufacturing improvements'[14].

- There was a £1 million fine plus the associated legal costs.

Nevertheless, the event did not have long-term effects – Cadbury's market share quickly returned to pre-event levels. This resilience was attributed largely to the special position of the Cadbury brand in the minds of the public.[15] Consultant William Grobel, Intangible Business, said 'Brands are more resilient than reputation and it will take some doing to dislodge a brand that has been the nation's favourite for 150 years.'[16]

The impact of this event on Cadbury's share price was not significant, as the following chart shows. This compares Cadbury's share price against the FTSE Food Producers sector and the FTSE All Share index, with all the figures rebased to 1 January 2006 = 100. Over the period of the discovery of the event, the recall and subsequent prosecutions (January 2006 to April 2007), Cadbury's share price movements closely matched the FTSE All Share index.

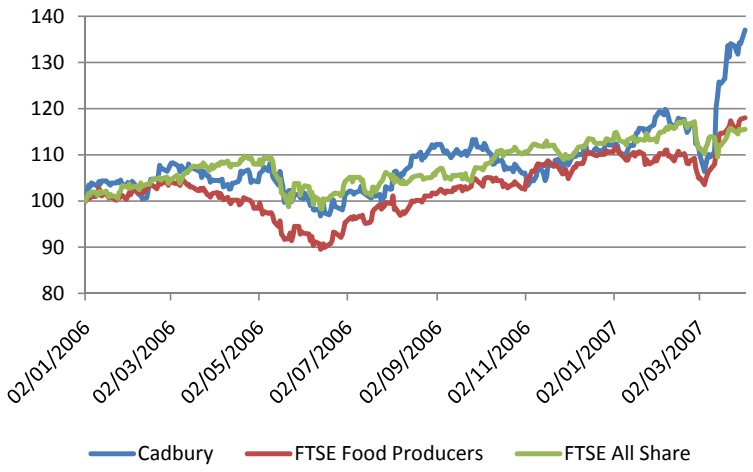


Chart: Comparison of Cadbury share price with FTSE Food Producers sector and FTSE all Share index, all rebased to 1 January 2006 = 100[17]

Role of Insurance in loss containment, compensation and remediation

It is presumed that Cadbury would have had product liability insurance and possibly product recall insurance.

Comparison with similar risk events/companies

Perrier, 1992.
Coca-Cola, Belgium, 1999.
Coca-Cola Dasani, 2004.
Maclaren Pushchairs, 2005.

Risk management lessons and conclusions

This event, described by City lawyers Berwin Leighton Paisner as 'the most serious ever to be prosecuted under food regulations in this country',[18] was a significant blow for Cadbury. However, it would probably have had an even higher impact on less resilient brands in the sector. Key lessons are:

1. **A popular brand may have greater resilience in a crisis**
   Cadbury, with its Quaker heritage, had been popular with the public for generations. Customers were extremely forgiving. It was suggested that the temporary drop in sales related more to the unavailability of products than to any lack of customer trust.

2. **Crisis management should be proactive and transparent**
   Cadbury was extremely slow to inform the FSA and initiate a recall. It may have genuinely believed that the levels were safe, but it did giving rise to media suggestions of a cover-up and worst of all of putting profits before public safety.[19]

3. **An apology from the CEO has a positive impact**
   Tom Stitzer's apology was well received. It showed that the company was controlling the situation, was mindful of how customers were feeling. The admission of guilt reduced the FSA fine.

There have been three more product recalls conducted by Cadbury following the salmonella event:[20]

- February 2007 – products were produced in a factory handling nuts, but the allergy risk was not clear on the labels.
- September 2007 – a printing mistake omitted a similar allergy warning.
- September 2008 – products were recalled to the Chinese factory after it was discovered that Cadbury, along with a number of other food manufacturers, had used milk from a source potentially contaminated by melamine.

All three recalls were this time conducted promptly and the reputational impact was minimal.

1. Daily Mail, 24 June 2006, Cadbury's boss defends 5 month withdrawal delay, www.dailymail.co.uk/news/article-392184
2. The Times, 15 June 2007, Cadbury admits Salmonella charges, by Michael Herman, business.timesonline.co.uk/tol/business/law/article1936836.ece
3. BBC News, 24 June 2006, Cadbury salmonella scare probed, news.bbc.co.uk/1/hi/5112470.stm
4. BBC News, 24 June 2006, op cit
5. BBC News, 24 June 2006, op cit
6. The Times, 4 July 2006, Cadbury's salmonella testing procedures 'inadequate', by Jenny Booth and agencies, www.timesonline.co.uk/tol/news/uk/article62877.ece
7. BBC News, 2 August 2006, Cadbury faces £20m salmonella hit, news.bbc.co.uk/1/hi/business/5237208.stm
8. Daily Mail, 13 July 2007, Cost-cutting led to Cadbury's salmonella scare, court told www.dailymail.co.uk/news/article-468151
9. Guardian, 16 July 2007, Cadbury hit with £1m fine, by Graeme Wearden, www.guardian.co.uk/business/2007/jul/16/money.lifeandhealth?INTCMP=SRCH
10. Guardian, 3 August 2006, Salmonella outbreak costs Cadbury £20m, by Fiona Walsh, www.guardian.co.uk/business/2006/aug/03/food.foodanddrink
11. BBC News, 2 August 2006, op cit
12. The Times, 4 July 2006, op cit
13. Guardian, 21 February 2007, Cadbury recovers from salmonella, by Mark Milner, www.guardian.co.uk/business/2007/feb/21/cadburyschweppesbusiness?INTCMP=SRCH
14. BBC News, 2 August 2006, op cit
15. Cadbury's 2006 Salmonella scare: Defying a Reputational Crisis – Why were consumers willing to forgive and forget?, C. Carroll, Corporate Review, Volume 12, Number 1, 2009, Palgrave Macmillan.
16. BBC News, 2 August 2006, op cit
17. Calculated using data from Datastream
18. The Times, 15 June 2007, op cit
19. Daily Mail, 24 June 2006, Cadbury's boss defends 5 month withdrawal delay, www.dailymail.co.uk/news/article-392184
20. http://en.wikipedia.org/wiki/Cadbury_plc

Case study title	Coca-Cola: Dasani Mineral Water
Main risk event category and brief description	**Product related – recall** Dasani, a brand of bottled water, was withdrawn in the UK only five weeks after its launch following criticisms of its source, purity and price. The parent company took radical action, providing a classic example of prompt, decisive crisis management.
Company involved	**Coca-Cola**
Key company details	Coca-Cola is the world's largest carbonated beverage company, selling 1.6 billion drinks a day to 200 countries. It is headquartered in Atlanta, USA. UK sales are £1 billion per annum.
Main business sectors	Beverage manufacturer, retailer and marketer.
Date of event	2004
Risk event	Coca-Cola first entered the bottled water market in the USA in 1999 under the brand name Dasani. Unlike European rivals that traditionally used spring water, Dasani used mains supply water treated by a process of filtration, reverse osmosis, adding minerals to improve flavour and followed by sterilisation using ozone. After a successful launch in the USA, Dasani began to be rolled out across the world. In Europe, the plan was to launch Dasani in the UK, and then follow up in Germany and France. A plant was built in Sidcup, Kent, and a high-profile publicity campaign was conducted prior to the consumer launch on 10 February 2004. The half-litre bottles were priced at 95p and labelled as 'pure' water, although no mention was made of the tap water source, i.e. mains supply at Sidcup (half a litre of tap water costs 0.03p[1]). Coca-Cola clearly underestimated the negative response by competitors and the UK media. There was an official complaint to the Food Standards Agency by the National Mineral Water Association over the purity claim. The press ran the story with headlines such as 'Coca-Cola sells tap water for 95p'.[2] The Dasani brand was seriously damaged; then a further blow was experienced in March when routine quality control analysis identified traces of bromate (a potential carcinogen) in the drink, which, though small, exceeded the legally permitted concentration.[3] The contamination was suspected as having been introduced from a bad batch of mineral additives.

Dasani in the UK began a product recall as a safety precaution.

The Coca-Cola Incident Management Team (IMCR) met and announced:

- An immediate withdrawal of Dasani from the UK market.
- The roll-out to Germany and France was subsequently cancelled.

Management response

By the time of this Dasani event, Coca-Cola had introduced best practice crisis management. This had been necessary following a public relations disaster in Belgium in 1999. On that occasion, Coca-Cola experienced a product incident when about 100 school children became ill after drinking cans of Coke. The company suspected two possible causes: either the use of a different grade of carbon dioxide at its Antwerp bottling plant, or contamination by a fungicide in the wooden transportation pallets.[4] The local management handled the crisis very poorly. The response appeared unco-ordinated and the press conference was allegedly chaotic and sometimes ill-tempered. The Minister of Health in France, where Coca-Cola was also temporarily withdrawn from the market, said 'That a company so very expert in advertising and marketing should be so poor in communicating on this matter is astonishing'.[5]

Five years later at the Dasani event, the crisis team IMCR, was rapidly invoked and took control. It set itself the objectives of protecting the global reputation of the Coca-Cola brand, protecting the reputation of the Dasani brand in 20 countries outside Europe and acting responsibly in the UK. It decided to immediately withdraw the product from the UK market and held 100 media interviews that day to clearly communicate the decision. The message was that it had volunteered to withdraw the product, it understood the problem and its significance, and knew how to fix it.

Coca-Cola subsequently cancelled the launch of Dasani in Germany and France.

Consequences of the risk event

The consequence of the event was the loss of the Dasani business in the UK immediately (after a £7 million high-profile publicity campaign and expected sales of £35 million in its first year) and subsequently in Germany and France. However:

- The Dasani brand was protected outside Europe.
- Damage to the Coca-Cola brand was minimised in the UK and almost unaffected elsewhere.
- Coca-Cola's standing in risk management circles was enhanced.

Role of insurance in loss containment, compensation and remediation

Whether or not Dasani had product recall insurance is not publicly available information.

Comparison with similar risk events/companies

Perrier, 1992.
Coca-Cola, Belgium, 1999.

Risk management lessons and conclusions

There are two important lessons from the Dasani case:

1. Effective crisis management can mitigate impact

This was not a simple product recall problem. The company very quickly realised the potential severity of the incident in terms of public trust and called in the crisis team. This team then applied a textbook crisis management exercise. Key points included:

- **Speed** – the crisis team were called in early.
- **Control** – it took immediate control of the crisis.
- **Authority** – it had the determination and authority to make major decisions or had immediate access to executives who had such authority.
- **Clear Priorities** – it had a hierarchy of objectives and knew what it was prepared to sacrifice (Dasani UK) to achieve them.
- **Good Stakeholder Communication** – there was immediate, co-ordinated communication, giving a simple message to a large number of opinion formers.
- **Transparency** – it gave the full facts as it understood them at the time.

This approach enabled Coca-Cola to protect the more important Coca-Cola and international Dasani reputations at the expense of the UK Dasani brand.

1. Companies Can learn from their own disasters

There is little doubt that Coca-Cola learned from its Belgian disaster and was therefore much better equipped to deal with the Dasani event. This provides anecdotal evidence to support the view that, in the aftermath of a disaster, companies are more likely to welcome changes that they might well have resisted beforehand. Moreover, they are more likely to pay attention to their own disasters than to those suffered by others.

References

D Atkins, I Bates, L Drennan (2006) Reputational Risk, 50 Lessons Publishing.
M Register, J Larkin (2005) Risk Issues and Crisis Management: a casebook of best practice, Kogan Page.

1. The Independent, 2 March 2004, The real thing? Coke's water comes straight from the tap, by Matthew Beard, www.independent.co.uk/life-style/food-and-drink/news/the-real-thing-cokes-water-comes-straight-from-the-tap-with-a-cool-markup-of-3000-per-cent-571780.html
2. BBC News, 16 June 2004, Coke's water bomb, news.bbc.co.uk/1/hi/business/3809539.stm
3. BBC News, 19 March 2004, Coke recalls controversial water, news.bbc.co.uk/1/hi/business/3550063.stm
4. BBC News, 16 June 1999,European warning over Coca-Cola, news.bbc.co.uk/1/hi/business/the_company_file/369684.stm
5. Crisis Management: Coca-Cola in Europe, Thomas P Lyon (2004), Erb Institute For Global Sustainable Enterprise, University of Michigan.
6. The Independent, 20 March 2004, Pure? Coke attempt to sell tap water backfires in cancer scare, by Matthew McCarthy, www.independent.co.uk/environment/pure-cokes-attempt-to-sell-tap-water-backfires-in-cancer-scare-567004.html

Case study title	EADS Airbus A380
Main risk event category and brief description	**IT related, management behaviour, supply chain failure** This case concerns a serious production problem affecting the introduction of the giant EADS Airbus A380 aircraft. The problem related to the aircraft's electrical wiring but was possibly caused by the company's use of two incompatible CAD software systems. The main consequences of the problem was a two-year delay in the A380's delivery schedule and the consequent need to renegotiate contracts with Airbus customers and pay penalties to them, estimated to be in the region of €3 billion. The announcement of the delay triggered a 26% fall in the company's share price and reduced its market capitalisation by €5.5 billion.
Companies involved	**European Aeronautic Defence and Space Company N.V. (EADS) and Airbus**
Key company details	EADS is a pan-European aerospace and defence corporation. The group includes Airbus, one of only two remaining large-scale manufacturers of commercial aircraft (the other being Boeing), Airbus Military, Eurocopter (the world's largest helicopter supplier), Astrium (the European leader in space programmes) and Cassidian (a provider of systems for aerial, land, naval and civilian security applications). EADS is a major partner in the Eurofighter consortium and an important stakeholder in the missile systems provider MBDA. In 2009, EADS generated revenues of around €42 billion and employed 119,500 people. EADS was formed in July 2000 by the merger of Aérospatiale-Matra of France, DaimlerChrysler Aerospace AG (DASA) of Germany and Construcciones Aeronáuticas SA (CASA) of Spain. The company is based in Leiden, the Netherlands, and operates under Dutch law. Headquartered in Toulouse, Airbus is owned by EADS and employs 52,500 employees worldwide, with fully owned subsidiaries in the US, China, Japan and in the Middle East, and more than 150 field service offices around the world. Airbus also relies on industrial co-operation and partnerships with major companies all over the world, and a network of some 1,500 suppliers in 30 countries.
Main business sector(s) and activities of company	Construction of passenger, military and freight-carrying aircraft and provision of associated supports services (Airbus). Provision of aerospace and defence systems (EADS).
Date of event	2004 onwards.

Risk event

Background

It is important to place the problems of the Airbus A380 in the context of Airbus's ongoing (and, up to the date of the crisis, mainly successful) struggle for dominance over Boeing, the only remaining global provider of a wide range of passenger aircraft. Besides the struggle within the Airbus/Boeing duopoly, the crisis also needs to be viewed in the context of political ambitions and machinations within the EU.

Up to the date of the crisis, Airbus had been consistently gaining market share over Boeing in a number of market sectors. It was hoped that the 'super-jumbo' A380 would similarly defeat its main opponent, the Boeing 787 Dreamliner. The strategy behind the huge Airbus A380 is based on the 'hub & spoke model', which relies on shuttling passengers in large numbers between major regional hubs which, in turn, need to be served by fuel-efficient 'spoke' services to and from smaller local airports. Conversely, Boeing's Dreamliner was intended as a large (albeit, by comparison with the A380, relatively small), comfortable and fuel-efficient aircraft to serve the 'point-to-point' approach, whereby planes do not originate from and return to a hub, but fly directly from one destination to another, and continue flying.

The A308 versus Dreamliner battle was also seen, at the highest political levels, as an important episode in the rivalry between Europe and the US, and a matter of continental pride as well as commercial success. However, as we have seen, both EADS and Airbus are effectively pan-European consortia in which the individual national interests of their constituent parts and their parent EU Member States also play a significant role. In relation to the Airbus and the A380, these interests required that the work be spread widely, and relatively evenly, among Member States with aeronautical engineering capabilities and, in particular, the maintenance of strict parity between major French and German interests. To some extent, therefore, business efficiency had to give way to (EU) political expediency. This resulted in a complex organisational structure for EADS and Airbus with, amongst other things, two CEOs (one French and one German) in the case of EADS.[1]

This complexity was mirrored in the construction of the A380 itself, which is the biggest passenger aircraft ever built, and the most complex and sophisticated project ever undertaken by the company. The A380 is assembled in Toulouse, but major parts are produced all over Europe, including the wings (Broughton, Wales), fuselage parts (Hamburg, Germany), tailfin (Stade, Germany), rudder (Porto Real, Spain), nose (Saint Nazare, France), fuselage and cockpit sub-assemblies (Méaulte, France) and tailplane (Getafe, Spain). Minor parts are sourced from round the world.

Origins of the problem

On 18 January 18 2005, the first A380 was unveiled at an extravagant launch ceremony in Toulouse. Jacques Chirac, the then French president, extolled the aircraft as a massive symbol of European manufacturing power, stating 'When it takes to the skies, it will carry the colours of our Continent, and our technological ambitions, to even greater heights.' The aircraft duly performed its successful maiden flight on 27 April 2005.

However, at the date of the aircraft's unveiling, a serious production problem had already been identified. About six months earlier, large sections of the aircraft's forward and rear fuselage had been delivered from Airbus's other main A380 production site in Hamburg, but in the autumn, after weeks of threading thousands of veins of copper and aluminium wire around the walls and floor panels of the airframes, the engineering teams discovered that the cables were too short, meaning that everything had to be ripped out and replaced from scratch. Perhaps not surprisingly, French and German production units tended to blame each other for this.

Apart from the immense complexity and extent of the wiring (530 km of wiring comprising around 10,000 wires and 40,300 connectors), and the fact that multiple options requested by various customers complicated manufacturing, the immediate cause of the problem may well have lain in Airbus's over-reliance on virtual design tools, specifically the three-dimensional 'digital mock-up' (DMU) that was used extensively on the A380 for the first time. Later, Airbus reintroduced the use of a physical mock-up to reduce the risk. Furthermore, questions have been raised about the compatibility of the CAD systems used by Airbus: its engineers in Germany and Spain were using an earlier version of Dassault Systemes CATIA design software, whereas their French and British equivalents had upgraded to a later one.[2]

Wiring problems were reported regularly at progress meetings among assembly line managers during the autumn of 2004 but were not regarded as significant enough to merit the alerting of senior management, even though difficulties were accumulating. In turn, it was not until 1 June 2005, six months after the unveiling of the aircraft, that Airbus made its first public admissions relating to the problem and announced delays in the A380's delivery schedule.

Management response

As suggested above, management response to the wiring problem and bottlenecks on the A380 production line was tardy and, even after a delay of six months, the extent of the problem was played down when it was announced. John Leahy, Chief Salesman for Airbus said that 'people were in denial' about the problems.[3]

There is little doubt that management was distracted at this time by a power struggle within EADS/Airbus in which Noël Forgeard, the French head of Airbus, supported by Jacques Chirac, sought to take advantage of the forthcoming retirement of Reiner Hertrich, the German co-CEO of EADS, to take over at the head of a simplified EADS management structure. While the existing French co-CEO of EADS was unseated in favour of Forgeard, German interests resisted Forgeard having complete control of EADS and insisted on the appointment of another German, Thomas Enders, to replace Hertrich as joint CEO. Forgeard's move to EADS along with Enders in March 2005 then sparked a new Franco-German power struggle as to who would now lead Airbus.

In the meantime, the EADS board had been persuaded that, with the A380 delayed and devouring resources, the challenge posed by Boeing's Dreamliner could be met simply by stretching the range of Airbus's popular twin-aisle A330, but Airbus failed to convince customers that the new version, the A350, was a match for the Dreamliner and its sales lagged well behind the Boeing plane. By early 2006, the A380 production problems were still unresolved, but uncertainties

about the extent of the likely delay caused the board to hold off until 13 June, when EADS announced a further six-month postponement, admitting that only nine of the 25 aircraft promised to customers in 2007 would be delivered. This, together with a warning that EADS earnings would reduce by €4.8 billion over four years,[4] caused a 26% fall in its share price (see share price chart below).

Forgeard and the current CEO of Airbus (Gustav Humbert) were forced to resign. The latter was replaced by Christian Streiff, who himself resigned in October 2006 on the grounds that he was not granted sufficient autonomy by the EADS board, but not before he had announced a further 12-month delay to the A380 programme, the third in fifteen months.

Consequences of risk event

As already stated, the main consequences of the risk event was a two-year delay in the A380's delivery schedule and the consequent need to renegotiate contracts with Airbus customers and pay penalties to them, estimated to be in the region of €3 billion. The 26% fall in the share price, mentioned above, reduced the market capitalisation of the company by €5.5 billion. By contrast, Boeing's share price rose by 5% when it gained an order for 20 Dreamliners from Singapore Airlines in the same month. This is illustrated in the share price chart below, which suggests that the announcement of the A380 delay caused EADS to lose much of the ground it had gained over its main competitor over the previous few years.

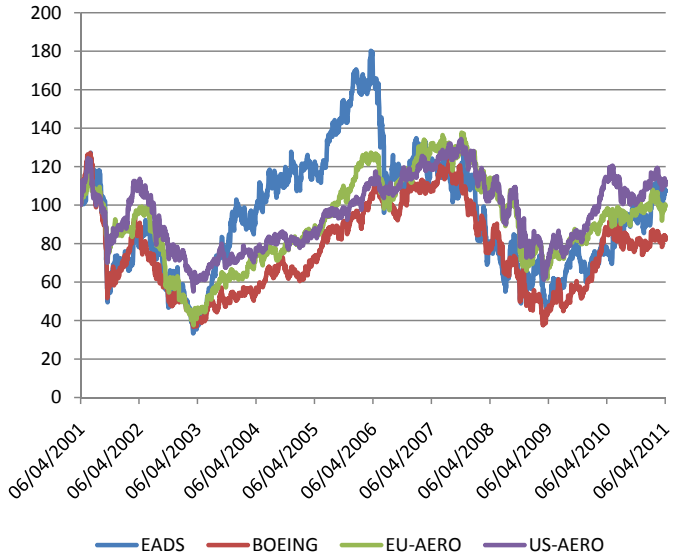


Chart: EADS and Boeing share prices compared with EU-Aero and US-Aero sectors, rebased to $ April 2001 = 100

The fallout from the A380 delays in terms of resignations, dismissals and replacement among top management has already been described. A further consequence of the A380 debacle was a series of allegations and investigations of insider trading on the part of EADS and Airbus executives, some of whom sold their stakes in the firm ahead of the news of the A380 delays becoming public.[5] Companies that cut their stakes in EADS were also involved in the allegations, including Daimler AG and the French media group Lagardère SCA.[6]

The Sanctions Committee of France's stock market regulator, Autorité des Marches Financiers, cleared 17 executives (including Forgeard) and both Daimler and Lagardère in December 2009, but a parallel judicial investigation into alleged insider trading continues. Recently, (December 2010) Airbus Commercial Director John Leahy, who sold shares in parent company EADS before their price fell sharply in 2006, was placed under formal investigation by two French judges as, once more, was Lagardère, in January 2011.

Total orders for the A380 stood at 244 by the end of February 2011[7] as against 835 for the smaller Boeing Dreamliner. However, Boeing is very far from 'winning the war' with Airbus, because the Dreamliner launch has itself been delayed no fewer than seven times since 2007 and the programme is now three years behind, with first deliveries not expected until late 2011 or early 2012.

Commenting in January 2011 on the Dreamliner delays, Boeing President and CEO Jim Albaugh stated: 'Some of the technology was not as mature as it should have been and we put a global supply chain together without thinking through some of the consequences. […] When you put immature technology in your supply chain and don't supply adequate oversight, you have issues and that is what we had.'

To a large extent, this statement echoes the problems that Airbus experienced with its own A380. Ironically, Boeing's problems have been of considerable benefit to Airbus, increasing demand for its well-established A330 aircraft to fill gaps left by the delayed Dreamliner.

Role of Insurance in loss containment, compensation and remediation

None known.

Risk management lessons and conclusions

As we have seen, IT problems played a significant part in disastrous delays that affected the A380 including, perhaps, an over-reliance on relatively new IT tools in a task of massive scope and complexity, and the use of software systems that may well have been at least partly incompatible. As we have also seen, Boeing's own subsequent problems were blamed by management on over-reliance on 'immature technology'.

This case study also illustrates the risks inherent in the use of massive and intricate global supply chains to deliver high-profile projects that carry a firm's reputation with them.

Furthermore, little flexibility seems to have been built into the A380's over-ambitious production schedule, which was scarcely longer than that for earlier and far less demanding aviation projects. A French labour union representative stated: 'Airbus had never built a plane of this complexity before and yet managers did not take the precaution of building more flexibility into the delivery schedule.'[8]

Management failings are also evident in the A380 case. For one thing, decisions on such matters as IT strategy and production schedules, mentioned above, were

clearly not taken at a high enough level. Added to this, we can identify an unwillingness on the part of management to fully admit problems and put information into the public domain, with a preference instead for releasing bad news over a long period in dribs and drabs – which is almost certain to convince suspicious outsiders that there is yet more bad news to come.

Behind all these failings lay inherent structural problems in the EADS and Airbus companies, differences in culture and the effects of political pressure and interference. The lumbering and Byzantine structure of EADS has already been referred to, and there is little doubt that this militated against the rapid flow of information within the group, the ability to react quickly in a crisis and the clarity of the company's strategic direction.

The most telling comments on the structural deficiencies within Airbus were those of Christian Streiff, the Frenchman mentioned earlier, who was brought in by EADS as Airbus CEO in July 2006. In his report to the board, Streiff noted, variously, 'Airbus is not yet an integrated company […] Airbus doesn't yet have a simple and clear organisation […] There are shadow hierarchies – leftovers from the never-finished integrations.' Streiff also criticised management for failing to inculcate an 'open spirit' and the 'right to error'.[9]

Cultural differences within EADS and Airbus also played a part in the debacle, not only in the sense of there being different business cultures within the badly integrated parts of the company – i.e. an absence of the shared beliefs, values and assumptions that should define a group of individuals working in an organisation[10] – but also in the narrower sense of differences based on mutual suspicion between groups of workers of different national origin. It has been suggested, for example, that the German managers' unwillingness to accept the later generation of CAD software used by French and English units was partly based on the reluctance to have a 'foreign' system foisted on them.

Yet another factor behind the Airbus 380's problems was the vulnerability of the project to political influence and, at times, political interference. For example, the appointment of eight members of the EADS board was largely geo-political and, as mentioned already, many of the decisions affecting EADS and Airbus were largely conditioned by the need not to affront national sensibilities and, in particular, not to upset the delicate Franco-German balance. For example, when job cuts became necessary to streamline Airbus in 2007, the balance between job losses in France and Germany and the locations affected became highly politicised, with intervention by politicians at the highest level in both countries.

Finally, we have seen that personal rivalries (not unmixed with rivalry among the protagonists' political patrons) clearly got in the way of efficiency and transparency at Airbus.

In summary, some of the risk management lessons arising from the Airbus A380 case are as follows:

1. Over-reliance on relatively new IT tools or 'immature technology' can be dangerous, especially in a task of great scope and complexity.

2. There are inherent risks in the use of intricate global supply chains. These must be overseen and managed carefully, especially in relation to high-profile projects that carry a firm's reputation with them.

3. There is danger in over-ambitious production schedules. Some flexibility needs to be built into them.

4. Management must be prepared to fully admit problems and put information into the public domain in a timely way. Releasing bad news in dribs and drabs will convince outsiders that there is yet worse to come.

5. There are benefits in a simple and clear management and organisational structure. Complexity and ambiguity militates against the rapid flow of information within a company, its ability to react quickly and the clarity of its strategic direction.

6. Management should aim to define and foster a supportive and consistent company culture: that is, a system of shared beliefs, values and assumptions that defines the company and those who work in it.

7. This should include a sense of member identity (with the organisation as a whole, not a specific role or group), team emphasis, integration of units and tolerance of innovation, risk-taking and the airing of conflicts.

8. Political influence and patronage can be a curse as well as a blessing for an organisation and its members.

Personal rivalries with a company's management can lead to their taking the eye off the ball, impeding efficiency and transparency.

1. Miqdad Sibtain, Newsflavour, 12 March 2009, 'Airbus A380: What Went Wrong?', http://newsflavor.com/opinions/airbus-a380-what-went-wrong/
2. Kenneth Wong, Cadalyst, 6 December 2006, 'What grounded the airbus A380? www.cadalyst.com/management/what-grounded-airbus-a380-5955
3. Nicola Clark, International Herald Tribune, 12 November 2006, 'Crossed wires and a multibillion-euro delay', www.nytimes.com/2006/12/11/business/worldbusiness/11iht-airbus.3860198.html
4. Jens Flottau & Adrian Schofield, Aviation Weekly, 4 October 2006, 'Airbus A380 Delayed By One More Year; Restructuring Planned'
5. Associated Press, 29 May 2007, 'Airbus A380 delays not disclosed for months' www.msnbc.msn.com/id/18918869/ns/business-us_business/
6. Lionel Laurent, 15 October 2007, 'Airbus' A380: Millstone, Not 'Milestone', www.forbes.com/2007/10/15/eads-airbus-update-markets-equity-cx_ll_1015markets32.html
7. www.airbus.com/ http://www.eads.com/eads/int/en.html
8. Nicola Clark, International Herald Tribune, 12 November 2006, note 3 above.
9. Nicola Clark, International Herald Tribune, 12 November 2006, note 3 above.
10. Barry Shore (2009), Global Project Strategy, 'Airbus 380', www.globalprojectstrategy.com/lessons/case.php?id=23

Case study title	Enron
Main risk event category and brief description	**Corporate misconduct – fraudulent accounting** Enron's share price reached exceptionally high multiples after several years of apparently stellar growth in revenues, until the variety of fraudulent accounting techniques that had been used to inflate revenues and hide losses became exposed – and Enron was declared bankrupt.
Companies involved	**Enron and Arthur Andersen**
Key company details	**Enron was a diversified energy distribution and trading company, headquartered in Houston, Texas** After the merger of two natural gas pipeline companies, Houston Natural Gas and InterNorth, Enron was formed in 1985 when Kenneth (Ken) Lay became CEO. Ken Lay lobbied for the deregulation of gas and electric prices – enabling traders such as Enron to sell energy at higher prices. By 1992, Enron had become the largest seller of natural gas in North America. In order to achieve further growth, Enron diversified into owning and operating a range of assets, including gas pipelines, electricity plants, pulp and paper plants, water plants and broadband services around the world; Enron made additional revenues trading contracts for the same range of products and services it was involved in. Through the launch of EnronOnline on 29 November 1999, it also became a leader in trading energy derivatives and 500 other products – at its peak, over $6 billion worth of commodities were traded through EnronOnline every day. Enron's reported revenue in 2000 was over $100 billion, with approximately 22,000 employees. Former NYSE ticker symbol ENE.
Main business sectors	Enron became involved in a wide range of activities, including the distribution of natural gas and electricity, construction of power and other utility plants, pulp and paper, communications, trading of energy, petrochemicals and other commodities.
Date of event	2001
Risk event	**Background** Enron's share price grew strongly over the 1990s, and then increased by 56% in 1999 and 87% in 2000 (compared to S&P 500 index up 20% and down 10% respectively). By 31 December 2000, Enron's share price was $83.13 (having hit an all-time high of $90.56 in August 2000), its market capitalisation was over $60 billion, at 70 times earnings and six times book value – all indications of the stock market's high expectations of future growth. Enron was named as the most

innovative large company in America by Fortune for each of the six years 1995 through 2000.

Jeffrey Skilling was a McKinsey consultant in Houston who spent much of his time on the Enron account. He joined Enron in June 1990 to run Enron Finance on a contract that gave him phantom equity in his division. He later became President and Chief Operating Officer, and then in December 2000, Skilling was named to succeed Ken Lay as CEO, as Ken Lay became Chairman.

CEO Ken Lay and other senior executives' employment contracts gave them big long-term stock options but with clauses that enabled them to draw down stock early if Enron delivered 15% annual growth. Generous stock options were also widely used to reward top performers across the company. At 31 December 2000, Enron had 96 million shares outstanding in stock options plans (approximately 13% of common shares outstanding). Therefore, there was a constant focus on meeting Wall Street's earnings expectations and to drive the share price up (which was shown in lobbies, elevators and on company computers).

To keep reported income and reported cash flow up, asset values inflated and liabilities off the books, Skilling developed a staff of executives who, through the use of accounting loopholes, Special Purpose Entities (SPEs) and poor financial reporting, were able to hid billions of debt from failed deals and projects. In this, they were assisted in devising and financing off-balance sheet structures by various investment banks, primarily Citigroup, JPMorgan Chase and Merrill Lynch. Enron's CFO Andrew Fastow and other executives not only misled Enron's board of directors and Audit Committee on high-risk accounting practices, but also pressurised its auditors, Arthur Andersen, to ignore the issues.

The accounting techniques used by Enron included:

- **Pre-payments** – towards the end of a financial period, Enron would make a sale, often to one of its banks (such as Chase Manhattan and Citigroup), and book the revenue. In actual fact, Enron also made a verbal agreement to buy the contract back the next period – so the whole arrangement was really a loan. For example, Merrill Lynch purchased Nigerian barges from Enron on the last day of 1999, only because Enron secretly promised to buy the barges back within six months, guaranteeing Merrill Lynch a profit of more than 20%. However, in the next period, Enron would need to further increase other sales to make up for the repurchased contract, plus more again to keep reporting the desired 15% growth – an ever-increasing spiral.
- **Revenue recognition** – trading firms usually use the so-called 'agent model' for reporting revenue, i.e. the commission or brokerage fees earned on the trade. Enron however adopted the 'merchant model', usually used when the merchant takes the risk of buying and selling the goods or services, and then reports the entire value of each trade as revenue and product costs as cost of goods sold. The merchant model is a more aggressive reporting approach and gives inflated revenue figures.
- **Mark-to-market accounting** – companies normally report just actual revenues earned in a reporting period and the associated costs. However, when Skilling joined Enron, he demanded that the trading business adopt mark-to-market accounting, saying that it would reflect true economic value.

Under mark-to-market accounting, once a long-term contract is signed, profit is estimated as the net present value of future cash flows. However, the future costs and revenues of such contracts are often hard to estimate, and Enron exploited this technique to book putative profits early. But having taken early credit for profits in this way, they could not be booked again in future years and then even more profits were needed from more long-term contracts in each successive year to both make up for those taken early and also to show additional growth (almost a sort of Ponzi scheme).

The SEC approved mark-to-market accounting for Enron's trading of natural gas futures contracts on 30 January 1992, but Enron later expanded its use to other areas of the company in subsequent years to help meet Wall Street revenue expectations.

- Special Purpose Entities (SPEs) are limited partnerships or companies created for a temporary or specific purpose. They are created by a sponsor, such as Enron, but funded mainly by independent equity investors and debt financing (from investment banks and institutional investors such as pension funds). If structured appropriately, an SPE can be off balance sheet, i.e. it does not have to be consolidated on the sponsor's balance sheet. By 2001, Enron had used hundreds of SPEs for various purposes, such as inflating sales revenue, hiding losses, evading tax, overvaluing assets and keeping debt off balance sheet. The existence of many of these SPEs was disclosed in footnotes to Enron's accounts, but not that they were usually partially financed using Enron shares and that Enron had financially guaranteed the SPEs. The assumption in structuring these SPEs was that they were underpinned by Enron shares and that Enron's share price would always rise – the problems started when Enron's share price stalled and started falling, and the SPEs instead became liabilities.
- Related-party transactions – a key part of keeping the SPEs off balance sheet was for 3% of their funding to be in the form of equity. Andrew Fastow used his family, friends and colleagues to provide much of this equity (on a personal basis) and generated himself and these others tens of millions of dollars in guaranteed revenue. Fastow also acted as general manager of the main limited partnership SPEs, paying himself management fees and profit shares, whilst setting the terms on which Enron would do business with the SPEs – in effect negotiating with himself as both the general manager of the SPE and the CFO of Enron.

Enron was not unique in using many of these accounting techniques. Other energy companies such as Dynegy and El Paso, started using mark-to-market accounting – primarily to keep up with Enron. Also SPEs were used by many US corporations; what was different in Enron's case was the multiplicity and connectedness, the lack of disclosure and finally the intent – each separate transaction was probably borderline legal within accounting rules, but the overall combined intent was not.

In fact, in its earliest days from 1985 to 1987, some oil traders in Enron had been using fictitious trades to move profits from one quarter to another, using phoney offshore companies and diverting company funds to personal accounts – and Enron had to restate its accounts in 1988 for the previous three and a half years.[2] Enron was a prime example of the accounting aphorism 'profits are only an opinion, but cash is a fact'.

Leading up to the event

Even from its early days, some analysts said that Enron was swimming in debt and the sale of key operations would not solve the problem. As noted above, Enron used various accounting devices to hide its real financial condition from its shareholders, equity analysts and the credit rating agencies. However, despite some earlier warning signs, the edifice of debt did not begin to unravel until the late summer and autumn of 2001.

Over the summer of 2001, Enron attempted to sell many of Enron International's assets – probably because it was in need of cash.

In August 2001, Wall Street analyst Daniel Scotto issued a report 'All stressed up and no place to go', encouraging investors to sell Enron shares and bonds at any and all costs.[3] (Scotto claims to have been sacked by BNP Paribas for issuing this report, because it made it difficult for BNP to get Enron's investment banking business.)

Concerns began to mount more generally: Enron was having major operational challenges, such as difficulties in running a new broadband communications trading unit and losses from constructing a large power plant in India. There was also mounting criticism of the company (as well as other energy companies) for the role they had played in the California electricity crisis in 2000/1.

On 14 August 2001, Jeffrey Skilling resigned after six months as CEO, for 'personal reasons'.[4] In response to an analyst's question, Ken Lay said 'There are no accounting issues, no trading issues, no reserve issues, no previously unknown problems issues. I think I can honestly say that the company is probably in the strongest and best shape that it has probably ever been in.'[5]

On 15 August, Sherron Watkins (a former Arthur Andersen accountant, who had worked for Andrew Fastow for eight years in Enron Global Finance) sent an anonymous letter to Ken Lay warning him about the company's accounting practices. 'I am incredibly nervous that we will implode in a wave of accounting scandals.'[6] She also contacted a friend in the auditors, Arthur Andersen.

On 22 August, Sherron Watkins met with Ken Lay and gave him a six-page letter further explaining Enron's accounting issues. Ken Lay got the company's law firm to review the issues, but on 15 October, the law firm, after in turn consulting Andersen, said that Enron had done nothing wrong in its accounting practices as Andersen had approved each issue. Ken Lay also consulted other executives and considered firing Watkins (Texas law did not protect company whistle-blowers), but decided against it to prevent a lawsuit.

Another whistle-blower was Margaret Ceconi (who had an accounting background and worked as an originator in Enron Energy Services), who on 29 August wrote an apparently somewhat emotive ten-page letter to the Enron board, including allegations of poor morale, wasteful spending, unprofitable contracts that had been booked as profits, and SEC violations involving more than $500 million of losses that were being hidden. Because Ceconi had recently been laid off, her letter was never shown to Ken Lay and the board – but she was seen by Human

Resources, who focussed on the employee morale aspects of her letter. Ceconi then began feeding one of the Wall Street analysts tough questions to ask the Enron management at analysts' meetings and conference calls. In late October/ early September, she reported her complaints about Enron's abusive accounting to the SEC through its website, but nothing happened.[7]

The start of the end

Although Enron's problems had been escalating over several years, and the cancerous debt had already probably become terminal, the first external symptoms and the start of the end can be considered to be on 16 October 2001. On that day, Enron announced a series of non-recurring charges totalling $1.01 billion after tax ($544 million from terminating some SPEs, $287 million to write-down overvalued assets in the water business and $180 million restructuring charges in the broadband business), leading to a $618 million net loss for the quarter. It also said it needed to correct certain accounting violations in connection with transactions with one of its limited partnerships, leading to a $1.2 billion reduction in equity – and that it was removing CFO Andrew Fastow from the related-party partnerships.

On 17 October, the SEC sent a letter to Enron asking for further information on the third-quarter losses.

On 22 October, Enron announced that the SEC had begun an inquiry into a number of transactions between Enron and 'related parties'. When asked, Fastow told the Enron board of directors that he had earned $30 million from managing the limited partnerships (it later emerged that the real sum was nearer $60 million).

On 23 October, Ken Lay held a conference call to reassure investors that the company's cash resources were ample and no further 'one-time charges' were anticipated. He also insisted that there were no improprieties regarding Enron's transactions with partnerships run by Fastow, and emphasised his support for the CFO and that all of Enron's accounting had been scrutinised by its auditor, Arthur Andersen.

On 24 October, Ken Lay sacked Andrew Fastow, stating 'In my continued discussions with the financial community, it became clear to me that restoring investor confidence would require us to replace Andy as CFO.'

On 31 October, Enron announced that the SEC inquiry had been upgraded to a formal investigation. Ken Lay asked William Powers Jr., Dean of the University of Texas Law School, to join the Enron board and to oversee a special committee investigating Enron's losses.

During November, Enron's share price continued to fall, but more importantly, its investment grade credit rating was coming under pressure. In its most recent annual report Enron had noted 'continued investment grade status is critical to the success of its wholesale business as well as its ability to maintain liquidity'. Loss of an investment grade credit rating would trigger early repayment of significant amounts of Enron's debt (which it did not have the cash to do) and prevent it borrowing more from the capital markets.

On 8 November, as a result of the scrutiny by the Powers Committee, Enron restated its financial statements again, saying that profits had been overstated by $591 million over the period 1997 to 2000.

On 9 November, Moody's was prepared to lower Enron's credit rating below investment grade, but was persuaded to hold off whilst Houston competitor Dynegy prepared plans to merge with Enron.

On 19 November, Enron restated its third-quarter earnings and disclosed that it was facing debt repayment obligations 'vastly in excess' of its available cash.

On 28 November, all the main credit rating agencies downgraded Enron credit rating to below investment grade; its share price fell below $1. Dynegy pulled out of merger talks. (Dynegy, which developed energy trading, broadband and other businesses similar to Enron, came close to bankruptcy in 2002 amid accusations of accounting fraud of its own.)

On 29 November, the scope of the SEC inquiry was extended to include auditor Arthur Andersen.

Enron's European operations filed for bankruptcy on 30 November and the US company sought Chapter 11 protection on 2 December 2001, and fired 4,000 employees. With a reported $63.4 billion in assets, it was, at the time, the largest corporate bankruptcy in US history, until WorldCom in 2002 and then Lehman Brothers in 2008.

The speed at which Enron unravelled is shown in the following chart. Enron's share price hit its all-time peak in August 2000, but began an inexorable decline from early 2001, recovering briefly in early October 2001, but then collapsing to near zero by early December 2001.

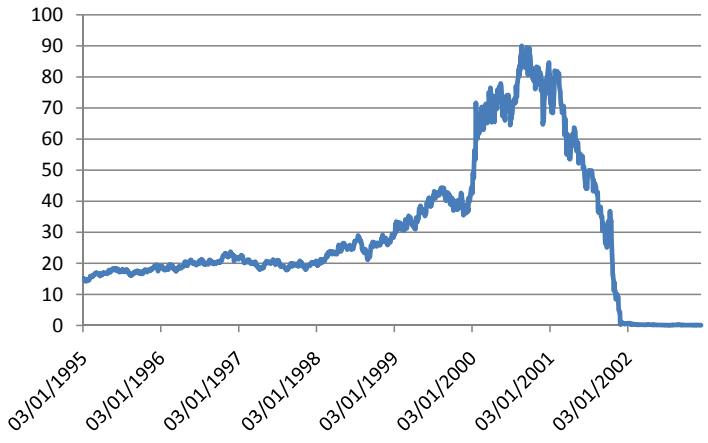


Chart: Enron share price[8]

On 17 January 2002, Enron fired Arthur Andersen as its auditor, citing its accounting advice and the destruction of documents. Andersen countered that it

had already severed ties with the company when Enron entered into bankruptcy. McLean & Elkind wrote 'In its accounting work for Enron, Andersen had been sloppy and weak. But that's how Enron had always wanted it. In truth, even as they angrily pointed fingers, the two deserved each other.'[9]

Management response

Ken Lay continually told investors and employees that Enron was headed in the right direction. He was finally forced to resign as Chairman and CEO on 23 January 2002 and to resign from the board of directors on 4 February 2002.

Following its emergence from bankruptcy in November 2004, Enron's new board of directors sued 11 financial institutions for helping Ken Lay, Skilling, Fastow and others to hide Enron's true financial condition. Nearly $20 billion was recovered on behalf of creditors.

Consequences of risk event

The event had consequences for Enron executives, its employees and share-holders, Arthur Andersen, its banks and investment banks, and publicly listed companies generally.

a. Consequences for Enron executives

Executives indicted and imprisoned:

- On 14 January 2004, Andrew Fastow pleaded guilty to two counts of wire and securities fraud and entered into a plea agreement, serving as a key witness against Ken Lay and Jeffrey Skilling, and in other criminal and civil trials.[10] He was sentenced to six years, plus two years probation, and forfeited $23.8 million.
- The trial of Ken Lay and Jeffrey Skilling began on 30 January 2006, and both were found guilty on 25 May 2006:[11]
- Ken Lay was convicted on all six counts of securities and wire fraud. He could have faced up to 45 years in prison, but died of a heart attack on 5 July 2006, before sentencing.
- Jeffrey Skilling was convicted on 19 of 28 counts of securities and wire fraud (one count of conspiracy, one count of insider trading, five counts of making false statements to auditors and twelve counts of securities fraud), but found not guilty of nine further counts of insider trading. He was sentenced on 23 October 2006 to twenty-four years, four months in prison (and must serve a minimum of twenty years, four months) and fined $45 million. He has successfully appealed at the Supreme Court against some of his charges, on the basis that although he committed illegal financial manoeuvres, he did so in order to save the company and did not profit from it – his 'misconduct entailed no bribe or kick-back'.[12]
- Sixteen other people pleaded guilty for crimes committed at Enron, and five others, including four former Merrill Lynch employees, were found guilty at trial – although some of these convictions were later overturned on appeal.

Post-bankruptcy, the name of the company was changed to Enron Creditors Recovery Corp to focus on reorganising and liquidating the remaining assets and operations of Enron. On 7 September 2006, the last remaining Enron business was sold.[13]

b. Consequences for employees and shareholders

Employees lost billions in shares, company savings and pension 401K plans; nearly 62% of 15,000 employees' savings plans relied on Enron shares that were purchased at $83 in early 2001 and became practically worthless.[14] In May 2004, 20,000 of Enron's former employees won $85 million compensation for the $2 billion lost from their pensions.[15]

Shareholders lost $74 billion in the four years leading up to Enron's bankruptcy. Shareholders did receive limited returns in various lawsuits.

c. Consequences for Arthur Andersen

Enron's auditors were Arthur Andersen. As a result its involvement in the Enron experience and its behaviour when the fraud was discovered (i.e. document shredding), Arthur Andersen effectively went out of business (see separate case study).

d. Consequences for banks and investment banks

Enron's banks have made various payments to settle suits brought by the U SEC and a class action lawsuit on behalf of Enron's shareholders. By the end of June 2010, the settlements on the Enron securities class action had reached $7.242 billion,[16] 95% of which had been paid by financial institutions.[17] The major settlements were $2 billion by Citigroup and $2.2 billion by JPMorgan Chase in June 2005, followed by $2.4 billion by Canadian Imperial Bank of Commerce (CIBC) in August 2005. The CIBC settlement was $575 million more than it has ever earned in an entire year, represented 17% of its shareholder equity and its share price dropped 7.6%.[18]

CIBC also paid $80 million in 2003 to settle with the SEC for being an 'aider and abetter of the Enron fraud' in helping make 34 transactions look like asset sales so that Enron could conceal its debts.[19] Other settlements with the SEC in 2003 include JPMorgan Chase for $135 million, Citigroup for $120 million[20] and Merrill Lynch for $80 million. By 2008, the disgorgements to the SEC totalled $450 million (the fourth-largest in its history, following AIG $800 million, Worldcom $750 million and Adelphia Communications $715 million).

e. Consequences for publicly listed companies generally

As a result of a number of US corporate frauds at the time, including Enron, new legislation was introduced to increase the accuracy of financial reporting for US listed companies, primarily the Sarbanes-Oxley Act passed on 30 July 2002. This Act increased the penalties for destroying, altering or fabricating records in federal investigations or for attempting to defraud shareholders; relinquishment of certain executives' bonuses in the case of financial restatements; expanded financial disclosure of firms' relationships with unconsolidated entities; increased protection for whistle-blowers; and it also increased the accountability of auditing firms to remain unbiased and independent of their clients (further details in Arthur Andersen case study).

Further on 6 June 2002, the New York Stock Exchange (NYSE) announced new corporate governance proposals, amended on 4 April 2003,[21] which were approved by the SEC in November 2003. The main provisions included:

- All firms must have a majority of independent directors.
- Independent directors must comply with an elaborate definition of independence.
- The compensation committee, nominating committee and audit committee shall consist of independent directors.
- All audit committee members should be financially literate. In addition, at least one member of the audit committee is required to have accounting or related financial management experience.
- In addition to its regular sessions, the board should hold additional sessions without management.

Role of insurance in loss containment, compensation and remediation

Enron had $435 million of insurance cover, comprising a Directors' and Officers' (D&O) policy of $350 million and a separate $85 million policy covering breaches of fiduciary duty connected to employees' pension funds.[22]

It was reported that at least two of the insurers on Enron's D&O programme sought to void the policy for 'material misrepresentations' in the application process,[23] because of the restatement of financial accounts subsequent to the original insurance submissions.

A problem often occurring after a bankruptcy is whether the benefits of a D&O policy are assets of the bankrupt company's estate or personal assets of the insured directors and officers. In the Enron case, a State Attorney General attempted to prevent Enron executives benefiting from the defence costs coverage within the Enron D&O policy, but failed.[24] The D&O insurers, led by AEGIS,[25] put up $20 million to defend all the Enron executives at the beginning of the trial, because their defence was that they were not aware of the illegal activities going on within the company. However, this amount proved to be well below the ultimate defence costs, estimated to be in the hundreds of millions of dollars; and any of the executives who were found guilty of criminal acts were required to pay the insurers back any funds the insurers had used to defend them (D&O policies do not pay to defend individuals who commit illegal acts).[26]

The bankruptcy of Enron also had an impact on D&O market conditions – premiums for major corporations were reported to have increased by more than 50%. [27]

Comparison with similar risk events/companies

Fraudulent accounting:

- Use of complex financial derivatives and overstatement of revenues – Global Crossing, Tyco International, Adelphia Communications, Xerox, Worldcom, ImClone Systems, Qwest Communications, Parmalat, etc.
- Hiding losses off balance sheet – AIG, Independent Insurance.

Failure of regulatory authorities, credit rating agencies and auditors to raise concerns – Northern Rock.

Risk management lessons and conclusions

Lessons

1. **Fraud is insidious, can start relatively innocently, but becomes habit-forming**
   'The Enron scandal grew out of a steady accumulation of habits and values and actions that began years before and finally spiraled out of control.'[28]

2. **Machismo culture**
   Enron's culture became one of excess, macho work-hard and play-hard risk-taking. Expenses were very generous, Enron had a fleet of corporate jets and cars on constant call, and benefits included free home computers for all employees and a subsidised concierge service. However, this was mixed with an abrasive cut-throat backbiting approach – kill or be killed. Skilling led small groups of Enron executives and customers on daredevil expeditions around the world – on which various participants were injured.[29] One writer described Enron's culture as a testosterone-packed 'company of winners', in which top executives acquired mythical status and juniors strove to emulate their bosses' heroic swagger.[30]

   Although Ken Lay is often described as gentlemanly, but because he hated any personal conflict or unpleasantness, he could be deceitful and self-delusional.[31] Jeffrey Skilling is reported as arrogant, intellectually aloof and ruthless,[32] and Andrew Fastow was known for his vicious temper[33] and described as a screamer,[34] who negotiated by intimidation and tirade; both had their small groups of favoured staff around them.

   Employees were ruled by the bonus culture, and retribution was taken on those who were not perceived to have succeeded. Enron did not have a conscience – the pervading modus operandi seemed to be to do deals, book the revenue, collect the bonus and leave someone else to worry about how to make the deal work later.

3. **Say sorry, don't try and parcel out the blame**
   From its early days, Enron management pursued aggressive retribution against its critics – be they accountants, lawyers or the financial media. Once Enron's situation became serious, Ken Lay seemed to be in denial and refused to recognise that there were any problems. Jeffrey Skilling claimed it was just a liquidity problem and if the credit rating agencies and banks had just given Enron a bit more time, everything would have come right. After Enron failed, it became a blame game. Andersen blamed Enron for its decisions to use certain accounting treatments; the banks and investment banks blamed Enron for making its accounting decisions and Andersen for approving them; the equity analysts and credit rating agencies blamed Enron for providing inaccurate and/or incomplete information; and the board of Enron said it relied on the advice of Enron's accountants and lawyers.

4. **Misalignment of risk and reward**
   Apparent reward for failure and complicity in fraud; in addition to their salaries, expenses and cash bonuses (the top 200 highest-paid employees earned $1.4 billion from salaries, bonuses and stock in 2000, up from $193 million in 1998 and $402 million in 1999),[35] senior executives

started selling their shares once the share price began its fall (whilst encouraging employees to buy more shares):

- Ken Lay had sold $144 million of Enron shares, much of it in the final few months before Enron's collapse. Several of his family members had bought million-dollar houses during late 2000 and 2001 (under Texas law houses could not be taken as part of any criminal penalties).
- Jeffrey Skilling sold $76 million of Enron shares around the time of his resignation.
- Andrew Fastow sold $30 million of Enron shares and received a further $60 million at least from his participation in the SPEs.[36]
- Other senior executives made substantial amounts from selling Enron shares. The highest was probably Lou Pai, who ran two of Enron's biggest loss-making businesses, Enron Energy Services and NewPower Holdings, and sold shares worth $270 million[37] by the time he left the company around May/June 2001, when the share price was still above $50.

Enron's compensation and performance management system was focussed on short-term earnings to maximise bonuses.

5. Conflicts of interest

There were various conflicts of interest between Enron and its auditors, Arthur Andersen. Enron was Andersen's second-largest client account in the US, and Andersen's Houston office's largest client; also, in 2000, Andersen had earned $27 million from consulting, more than the $25 million from auditing[38] (and so would not want to risk consulting revenues by being unco-operative on audit matters). Additionally, Andersen had taken responsibility for Enron's internal auditing function (employing all the members of Enron's internal audit department), had an office in Enron's headquarters office building,[39] and many of Enron's senior financial executives were former Andersen employees (for further details see Arthur Andersen case study).

Enron also had potential conflicts of interest with its investment bankers, lawyers and the credit rating agencies – mainly by virtue of the large fees it paid them, and their natural reluctance to 'rock the boat' and lose out on future fees. For instance, Enron's corporate law firm, Vinson & Elkins, earned around $35 million in fees from Enron each year, its single largest client.[40]

6. Regulators, credit rating agencies, auditors and management all ignored warning signs

Additionally, the equity analysts who raised concerns over Enron's true financial position were ignored or suppressed by their employers (such as Daniel Scotto of BNP Paribas, mentioned above) because it would exclude them from lucrative corporate finance assignments with Enron.

7. Failure of non-executives to restrain executives

On paper, Enron had a model board of directors comprising predominantly outsiders with significant ownership stakes; in its 2000 review of best corporate boards,[41] Chief Executive magazine included Enron among its top five boards. However, there does not appear to be any evidence that

Enron's non-executive directors ever raised any concerns over its operations and performance – in fact the rationale for using many of Enron's aggressive accounting practices (such as use of the major SPEs) were presented and approved at board level. In defence of the non-executives, Enron's financial derivatives were so complex, and often designed to be borderline legal but misleading, that few people could have understood them, and even its accountants and bankers did not have an accurate picture of the company's finances. However, the non-executive directors were hand-picked by Ken Lay and most either had other business relationships with Enron, such as consulting contracts, or they and/or their organisations were beneficiaries of Enron's campaign or charitable donations.

8. **Failure of corporate governance – the agency problem**
As Frank Partnoy puts it in his book Infectious Greed, 'Control and ownership of Enron were so far separated that shareholders and the Board of directors could not stop, or even effectively monitor, the self-interested activities of Enron's managers.'[42] This is often referred to as the 'agency problem', where managers run a company more for their own purposes rather than as paid representatives of the owners, i.e. the shareholders. Partnoy further wrote 'At Enron, there were too many conflicts of interest within those agency relationships, too many temptations for personal profit, and too many ways to use other corporate entities – such as partnerships and Special Purpose Entities – to hide details from shareholders.'[43]

Concluding remark

Enron's problems began soon after the dotcom bubble burst in Spring 2000, when investors had become mesmerised by technology and the prospects for seemingly exponential growth in revenues – and management were rewarded with generous share options. Share prices seemed to be just driven by one metric, quarterly earnings figures (other business basics such as cash flows and balance sheet strength were ignored). Partnoy's conclusion about Enron however was that it was just the first public notice of a much bigger story of how the financial world was changing. During Enron's life, it evolved from a bricks-and-mortar firm to an agile firm focussed on technology and trading, with finances too complex to describe in the traditional language of accounting[44] – and many other major corporate bankruptcies followed in the next few years.

1. The Fall of Enron, by Paul M. Healy and Krishna G. Palepu, Journal of Economic Perspectives—Volume 17, Number 2—Spring 2003, p. 13, www.rau.ro/intranet/JEP/2003/1702/17020003.pdf
2. 'The Smartest Guys in the Room: The Amazing Rise and Scandalous Fall of Enron' by Bethany McLean and Peter Elkind, Penguin 2004, pp. 23-24
3. FastCompany, 30 April 2002, Jonathan Cohen: The Analyst, by Linda Tischler, www.fastcompany.com/articles/2002/05/cohen.html
4. Smartest Guys, op cit, p. 347
5. Smartest Guys, op cit, p. 347
6. Smartest Guys, op cit, p. 355
7. Smartest Guys, op cit, pp. 358-359
8. Data from Bloomberg
9. Smartest Guys, op cit, p. 393
10. US Department of Justice, Former Enron Chief Financial Officer Andrew Fastow pleads guilty to conspiracy to commit securities and wire fraud, agrees to co-operate with Enron investigation, 14 January 2004, www.justice.gov/opa/pr/2004/January/04_crm_019.htm
11. The New York Times, 25 May 2006, Count by count, by The Associated Press, www.nytimes.com/2006/05/25/business/25wire-counts.html?pagewanted=all
12. United States of America v. Jeffrey K Skilling, No. 06-20885, http://online.wsj.com/public/resources/documents/040611skillingappeal.pdf
13. Enron Creditors Recovery Corp, 7 September 2006, Enron Announces Completed Sale of Prisma Energy International Inc, www.enron.com/index.php?option=com_content&task=view&id=94&Itemid=34
14. CNN Money, 26 November 2002, 401(k) investors sue Enron, http://money.cnn.com/2001/11/26/401k/q_retire_enron_re/
15. The New York Times, 13 May 2004, Deal Reached on Enron Pensions, www.nytimes.com/2004/05/13/business/13enron.html
16. ISS, Securities Class Action Services, The SCAS 100 for Q2 2010, p. 2, www.issgovernance.com
17. NERA Economic Consulting, Trends 2010 year-end update: Securities class action filings accelerate in second half of 2010; Median settlement value at an all-time high, by Dr. Jordan Milev, Robert Patton and Svetlana Starykh, www.nera.com/nera-files/PUB_Year_End_Trends_1210.pdf
18. Bloomberg, CIBC shares drop after $2.4 billion Enron settlement (Update6), 3 August 2005, by Sean B Pasternak, www.bloomberg.com/apps/news?pid=newsarchive&sid=aYNiqVjT9lEE&refer=canada
19. Bloomberg, op cit
20. U.S. Securities and Exchange Commission, SEC settles enforcement proceedings against J.P. Morgan Chase and Citigroup, 28 July 2003, www.sec.gov/news/press/2003-87.htm
21. NYSE, Amendment No. 1 to the NYSE's Corporate Governance Rule Proposals, www.nyse.com/pdfs/amend1-04-09-03.pdf
22. The Telegraph, 3 February 2002, Wakeham faces ruin over Enron, by David Wastell and Grant Ringshaw, www.telegraph.co.uk/news/uknews/1383611/Wakeham-faces-ruin-over-Enron.html
23. Enron and the D&O Aftermath: Tips and traps for the unwary, by Lori E. Iwan and Charles M. Watts, Jr., Federation of Defense & Corporate Counsel Quarterly, Vol. 53, No. 1, Fall, 2002, p. 74, www.thefederation.org/documents/Vol53No1.pdf
24. Corporate Counsel, August 2002, "Uh-Oh"; D&O insurance in bankruptcy, by Joshua Gold, www.andersonkill.com/webpdfext/JG-200208CorpCnsl.pdf
25. Lessons of Enron: What the Enron bankruptcy means for your D&O insurance coverage, by Stephen Weiss, Directors & Boards, Summer, 2002, http://findarticles.com/p/articles/mi_go2446/is_4_26/ai_n7043634/
26. RJ Ahmann Company, Nonprofit Directors and Officers insurance basics, by Carl Godziek, www.rja.com/Business_Insurance/nonprofit-directors-and-officers-insurance-basics/
27. CFO.com, 22 February 2002, Enron insurance fallout: D&O premium surge, by Stephen Taub, www.cfo.com/article.cfm/3003402?f=related
28. Smartest Guys, op cit, p. 132

29. Smartest Guys, op cit, pp. 122-123
30. 'Power Failure: The Inside Story of the Collapse of Enron' by Mimi Swartz and Sherron Watkins, Doubleday, 2003
31. Smartest Guys, op cit, pp. 89-90
32. Smartest Guys, op cit, p. 32
33. Smartest Guys, op cit, p. 140
34. Pipe Dreams: Greed, Ego, and the Death of Enron, by Robert Bryce, Perseus; Reprint edition (18 Dec 2003), p. 211
35. Smartest Guys, op cit, p. 241
36. Smartest Guys, op cit, p. 367
37. Infectious Greed: How Deceit and Risk Corrupted the Financial Markets', by Frank Partnoy, Profile Books, 2003, p. 345
38. Accountingweb, 13 December 2001, Andersen CEO Takes Aim at Enron, www.accountingweb.com/item/66339
39. The New York Times,19 January 2002, Enron's collapse: The lobbying; Auditing firms exercise power In Washington, by Stephen Labaton, www.nytimes.com/2002/01/19/business/enron-s-collapse-the-lobbying-auditing-firms-exercise-power-in-washington.html
40. Smartest Guys, op cit, p. 357
41. The Chief Executive, October 2000, Boards on Trial – five best and five worst corporate boards for the year, by Robert W. Lear and Boris Yavitz, http://findarticles.com/p/articles/mi_m4070/is_2000_Oct/ai_66811889/pg_10/?tag=content;col1
42. 'Infectious Greed, op cit, p. 347
43. 'Infectious Greed, op cit, p. 348
44. 'Infectious Greed, op cit, p. 349

Case study title	Firestone
Main risk event category and brief description	**Product liability and recall** This case concerns the recall by Firestone and the Ford Motor Company of some 14.4 million tyres in August 2000. This followed an investigation into a large number of deaths possibly related to tread separation on Firestone tyres, many of them involving crashes or 'rollovers' on Ford vehicles. Firestone tyres had been linked to 271 fatalities and more than 800 injuries by 2000 and hundreds of lawsuits were launched against Firestone and Ford as a result. Both Ford and Firestone suffered significant damage to their reputations in the wake of the crisis.
Companies involved	**Bridgestone/Firestone** **Ford Motor Company**
Key company details	Bridgestone/Firestone, Inc. (hereinafter simply referred to as 'Firestone'), based in Nashville, Tennessee, began making tyres in 1900, when Harvey Firestone founded the Firestone Tire & Rubber Company in Akron, Ohio. Firestone was acquired by Bridgestone USA, Inc., a subsidiary of Tokyo-based Bridgestone Corporation, in 1990 for $2.6 billion. The company has also had a long relationship with Ford Motor Company, beginning in 1906 when Henry Ford bought 2,000 sets of tyres from Harvey Firestone for use on the Model T.
Main business sector(s) and activities of company	The company markets numerous types and sizes of tyres and a wide variety of other products.
Date of event	1978 and 2000 onwards.
Risk event	**Background – the 1978 recall** It is important to place the recall of 2000 in the context of an earlier tyre recall, in 1978. This concerned the company's first radial tyre, the Firestone 500, which the company manufactured using modified equipment originally designed to produce a previous generation of bias-belt (cross-ply) tyres. These new tyres suffered tread separation problems (the outer rubber peeling away from the steel wires beneath, especially at high speeds). Firestone attempted to resolve the problem by raising its quality control standards and voluntarily recalled some 400,000 tyres produced at its problematic Decatur, Illinois, plant in 1977. However, the National Highway Traffic Safety Administration (NHTSA) commenced a formal investigation into the problem in March 1978 and a Congressional hearing took place in the same year. The tyre was adjudged to be defective and to have been the cause of 34 deaths. In October 1978, the company conducted a recall of around 8.7 million Firestone 500 tyres at a cost of $150 million after taxes, which constituted the biggest consumer recall in US history.[1]

Evidence existed showing that Firestone was aware of the problem as early as 1972 when Firestone executives started to acknowledge the tyre's defects in internal memoranda.[2] In May 1980, the NHTSA fined Firestone $500,000, which at the time was the biggest fine ever imposed on any US corporation. In addition to the fine and recall cost, the company was obliged to settle multiple lawsuits out of court and the resultant bad publicity depressed sales and hit the company's share price hard.[3] It has been suggested that this episode was one of the factors behind the eventual change in control of the company in 1990.

It is universally acknowledged that Firestone did not manage this crisis well. First, it was reluctant to acknowledge any defect in the tyres, claiming that the recall was necessary only to avoid publicity and not for safety reasons. Second, its co-operation with the NHTSA was grudging at best and its approach to its investigation was contentious. Third, Firestone sought to place some of the blame on customers, suggesting that they may have skimped on maintenance or under-inflated the tyres. So evident were the shortcomings of the Firestone management that the 'Firestone case' became a popular vehicle for instructing university students in a variety of disciplines, including labour relations, business policy, ethics and public relations. For example, a detailed case study was published by Harvard Business School in 1983 and came to be used regularly in ethics classes at a number of prominent universities, including the Wharton School.[4]

The 2000 recall

In July 1998, a researcher alerted the NHTSA to twenty cases of tread failure associated with Firestone tyres dating back to 1992. In January 2000, a Houston television station ran a feature on tread-separation accidents in Texas and many people called the station to report their own stories, which mainly related to Firestone tyre failures, most of them on Ford Explorer sport-utility vehicles (SUV). Following this, and pressure from consumer bodies, the NHTSA began to investigate and requested data from Firestone. These enquiries revealed that a very high proportion of complaints involved P235/75R15 Firestone tyres and Ford's Explorer and Bronco SUVs and Ranger and F-150 trucks.

By this time, the NHTSA was investigating a large number of deaths possibly related to tread separation on Firestone tyres, many of them involving crashes or 'rollovers' of Ford vehicles. Following a meeting between representatives of NHTSA, Ford and Firestone, the companies jointly issued a recall of 14.4 million tyres on 9 August 2000. The recall covered size P235/75R15 radial ATX and ATXII tires and Wilderness AT tires, many of which had been made at Firestone's Decatur, Illinois, plant. Around 6.5 million of these were still on the road, mainly on Ford Explorers.[5] The recall was organised by state and gave priority to the (warmer) southern states of Arizona, California, Florida and Texas, where the greatest number of accidents had occurred. The NHTSA urged Bridgestone/Firestone to include other sizes and types of tyres in the recall, but the company refused. On 1 September, the NHTSA issued a warning to consumers of potential problems with other Firestone tyres not included in the recall.

During Senate hearings about the increasing volume of complaints and accidents, evidence emerged, yet again, that Firestone had known about potential problems with its tyres for a number of years, since 1994. The company also admitted

increasing production to dilute the failure rate. Eventually, Firestone accepted responsibility and admitted it had made 'bad tyres'.[6]

The precise source of the tyre defects remains uncertain, but many observers have commented on poor labour practices at Firestone plants, including the use of under-trained replacement workers and lax supervision during a severe strike at the Decatur plant in July 1994.[7] Other hypotheses include defective design, faulty materials, a shortening of the vulcanisation process and plant conditions that may have allowed moisture to seep into the rubber linings.[8] Significantly, however, Ford also came under scrutiny when Firestone executives claimed that the problem was, in part, due to the design of the Ford Explorer, which they claimed was prone to roll over.[9] They also argued that Ford was partly responsible for recommending that the air pressure of the tyres be set at 26 PSI, while they themselves recommended 30 PSI. The breakdown in relations between the two firms led Firestone (at least ostensibly) to sever its connections with Ford in 2001, citing a lack of trust.

In May 2002, Ford announced an additional voluntary recall of some 13 million Firestone Wilderness AT tyres potentially still on the road on its SUV vehicles and, as late as 2006, Firestone announced renewed efforts to recall tyres of the same type recalled in 2000 that might still be in use.

Management response

Firestone management's response has been partly detailed in the previous section.

The salient points are that Firestone was, at the very least, very slow to recall the tyres that it knew to be faulty and reluctant to acknowledge evidence from many sources that a problem existed. Its co-operation with the safety body NHTSA was, at best, grudging.

Commenting on the Firestone response, David Schmittlein, a Wharton marketing professor, noted that 'one lesson that Bridgestone/Firestone apparently had not learned from the 1970s is that to defend a product in the clinical terms of a product engineer, while ignoring the larger issues of public safety, may leave customers cold and bitter'.[10]

Schmittlein also criticised Firestone's somewhat piecemeal and ad hoc approach to the recall (for example, in limiting the recall initially to the warmer southern states where road conditions were viewed as more likely to lead to tyre failure). He argued that, even at the cost of a short delay, Firestone should have put in place a complete plan that was 'clearly thought through, is clearly implementable, is easy to understand and addresses the issue from the customer's standpoint'. Schmittlein also pinpointed a damning comment by Firestone's vice president of quality assurance: 'We've got such a high volume of tyres that looking for the root cause is like looking for a needle in a haystack', observing this to be self-pitying and 'company-directed' as opposed to being 'outward looking and addressing customers' fears'.[11]

A further key feature of Firestone's response was its attempts to push the blame for the crisis onto its long-standing business partner Ford. For example, Firestone's CEO John Lampe criticised Ford for being unwilling to share any

information with Firestone on the Ford Explorer and said 'Our initial analysis [...] suggests very strongly that there are safety concerns with a large segment of the Ford Explorers on the road today [...] Our tyres are absolutely safe and yet they replaced tyres in Venezuela and Ford Explorers continue to roll over [...] We believe they are attempting to divert scrutiny of their vehicles by casting doubt on the quality of Firestone tyres. The tyres are safe.'[12] Obviously, worried consumers are unlikely to carefully assess the degree of fault attaching to two warring firms in the course of a crisis such as this and blame-shifting of this sort is likely to increase their hostility to both parties rather than exonerate one of them.

Consequences of risk event

According to NHTSA data, Firestone tyres had been linked to 271 fatalities and more than 800 injuries by 2000.[13] Hundreds of lawsuits stemming from deaths and injuries resulting from tyre-separation incidents were quickly launched against Firestone, or Ford, or both. The first of these against Firestone, brought by a Texas family whose Ford Explorer had rolled following a tyre failure, went to trial in Texas in August 2001, and was eventually settled out of court for $7.85 million. Ford, also named in the suit, settled for $6 million before the trial began. By 2005, about a dozen class action suits had been filed together with 1,000 to 1,500 individual claims.[14]

Estimates of the total direct costs of the recall to the two companies vary, but in 2005, a Ford spokesman stated that Ford's costs had been 'significantly less' than the sum approaching $3 billion that Ford had previously reported. Chris Karbowiak, Vice President of Public Affairs for Bridgestone, said the company had spent about $440 million on recall-related costs. In the same year (2005), Firestone and Ford reached a settlement to cover some of Ford's costs for its tyre-replacement programme following the recall. The sum agreed ($240 million) was viewed by the two companies as effectively settling all disputes between them.[15]

Both Ford and Firestone suffered significant damage to their reputations in the wake of the recall. Opinion polls revealed that consumers had lost faith in both Firestone and Ford, and were worried about the safety of Ford Explorers fitted with Firestone tyres. Explorer sales plunged 21% and Ford's overall share of the US automobile market fell by 1.7 percentage points in 2001 to 23.1%. Firestone suffered a $750 million loss in 2000 and the share price of both Firestone and Ford was hit. See chart below, which tracks Bridgestone and Ford Motor company share prices over the relevant period and includes also Japan and US Auto indices (the latter index being one that has the Ford Motor company as a major component).

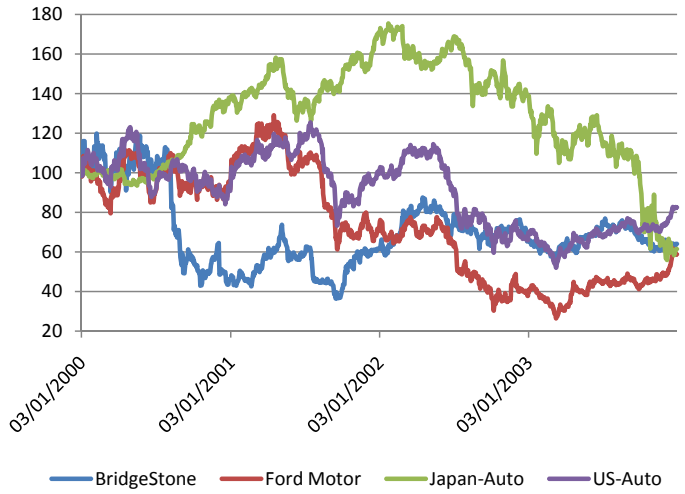


Chart: Bridgestone and Ford share prices compared with Japan and US Auto indices, all rebased to 1 January 2000 = 100

Research by Govindaraj, Jaggi and Lin (2004)[16] suggests that the initial loss in the market value both for Firestone and Ford was far in excess of the direct costs associated with recall. They found the market losses to be approximately equal to the near worst-case estimates of direct and indirect costs, litigation costs, regulation compliance costs and costs associated with future losses in sales, although the firms recovered their market value as more information on actual costs became available. Their results also show that major competitors in the tyre and auto industries experienced a significant gain in the market value of their stocks, probably because their products were substitutes for the products affected by the recall.

In the course of the crisis, Masatoshi Ono stepped down as CEO and John Lampe, former Executive Vice President, took over Bridgestone USA.

Role of Insurance in loss containment, compensation and remediation

It was a State Farm insurance researcher who first alerted the safety body NHTSA to the potential tread-separation problem with Firestone tyres in 1998, and a high proportion of claims against Firestone were in fact brought by the US motor insurers of accident victims proceeding against Firestone by way of subrogation. Otherwise, insurance appears to have played little role in the Firestone recall. Commentators take the view that Firestone had no cover for recall costs (though interest in such cover increased markedly after the 2000 recall) and there is some doubt as to whether Firestone was even insured for the basic product liability risk (i.e. for the direct cost of compensating the victims of tyre blow-outs).[17]

Comparisons with similar risk events/companies

The Firestone case can be usefully compared with a large number of product recall cases, especially those that were conducted more efficiently and successfully, such as the Dasani case in this report and celebrated cases such as the Tylenol recall. However, the Firestone case also bears useful comparison with the recent BP Gulf of Mexico oil spill – seen by many to have been handled badly by the company and a failure in public relations terms. Common features include

'previous form' on the part of the company (especially in the shape of the BP Texas City Refinery fire, considered in this report), allegations of cover-ups and corner-cutting, attempts at blame-shifting and destructive wrangles with other companies involved in the disaster (e.g. Transocean and Halliburton) together with a number of unfortunate PR gaffes by BP executives.

Risk management lessons and conclusions

It is clear that public reaction to product recalls, especially in relation to safety-critical components such as vehicle tyres, is a crucial factor determining the degree of damage to the company concerned. Indeed, a well-managed and successful recall may even leave the firm with an enhanced reputation and a better business. The authors of a 2004 research report on recalls in the motor industry highlighted this point when they noted 'Work on the relationship between recalls and stock (share) price indicates that the damage to stock prices caused by recalls were actually greater than the direct costs of recalls. However, this conclusion has been criticized and challenged on the argument that on an event-by-event basis 40% of reactions to recalls were positive. Others have re-asserted the predominance of the indirect costs of recalls, especially for certain types of recall. Recalls affecting components such as airbags, for example, produce a more negative effect than those that affect other parts of the car, such as the heating systems.'[18]

It is also clear that Firestone was less than successful in managing the 2000 tyre recall crisis. Some lessons – a number of them obvious - emerge from it:

1. Customers and the media do not 'forgive and forget'. If lessons are not learned from a crisis that is perceived to be of the firm's own making, reaction is likely to be even harsher if something similar happens again.

2. Companies need to be proactive in collecting and analysing data concerning possible safety issues, receptive to information on the issue from outside and co-operative with regulatory bodies and safety organisations.

3. Blaming the customer rather than accepting responsibility will inevitably alienate consumers and make the position worse.

4. Attempts to shift responsibility towards other firms involved in the crisis are likely to be treated with suspicion and tarnish all companies involved rather than exonerate one of them. Co-operation with fellow firms in addressing consumers' concerns is likely to prove far more fruitful.

5. Comment and response should not be 'company-directed' but aim to meet consumers' concerns and fears.

6. In relation to product defects, especially in products that are safety-critical, it is important to react early, consistent with the need to establish the facts and avoid alarming the public unnecessarily.

7. Crisis management plans, especially in relation to product recalls, should be carefully thought through, complete, easy to understand and address the problem from the consumer's standpoint. Reactive ad hoc arrangements ('fire-fighting') are likely to suggest that the company is not in control of the situation and alarm the public further.

by Steve Love, Akron University Press (1999), 150.
2. 'Forewarnings of Fatal Flaws', www.time.com/time/magazine/article/0,9171,912478,00.html
3. Firestone's Second Big Tire Blowout: Knowledge@Wharton, http://knowledge.wharton.upenn.edu/article.cfm?articleid=232
4. 'Case of the Firestone 500', Harvard Business School, Case 9-383- 130 (1983).
5. Kruger, A.B. & Mas, A. (2002) 'Strikes, Scabs and Tread Separations: Labor Strife and the Production of Defective Bridgestone/Firestone Tires', Princeton University, www.irs.princeton.edu/pubs/pdfs/461a.pdf.
6. E-center for business ethics 'Firestone Case' prepared by D. Schubert and O.C. Ferrell, www.e-businessethics.com/firestone.htm
7. Kruger, A.B. & Mas, A. (2002), note 5 above.
8. Kruger, A.B. & Mas, A. (2002), note 5 above.
9. A statement made to the US Senate Appropriations Transportation subcommittee on September 6, 2000 on behalf of the consumer group Public Citizen stated that Ford had instructed Firestone to add a nylon ply to strengthen the tyres it made in Venezuela and had made suspension changes to Ford Explorers available there, but did not take these measures in relation to US models of the vehicle at this time.
10. 'Firestone's Second Big Tire Blowout', Knowledge@Wharton, published 30 August 2000, http://knowledge.wharton.upenn.edu/article.cfm?articleid=232&CFID=5981763&CFTOKEN=72965973
11. A similar mistake was made by BP CEO Tony Hayward in the wake of the Deepwater Horizon oil spill when he was recorded as saying 'I want my life back.'
12. BBC News, 27 May 2001, http://news.bbc.co.uk/1/hi/business/1345087.stm
13. Kruger, A.B. & Mas, A. (2002), note 5 above.
14. 'Firestone Tire settles with Ford', CBS News, 12 October 2005, www.cbsnews.com/stories/2005/10/12/national/main936787.shtml
15. CBS News note 14 above.
16. Govindaraj, S., Jaggi B. & Lin, B. (2004) 'Market Overreaction to Product Recall Revisited – The Case of Firestone and the Ford Explorer' Review of Quantitative Finance and Accounting, Vol. 23 Issue 1 pp. 31-54.
17. See A.M. Best Newswire | August 11, 2000, http://business.highbeam.com/436091/article-1G1-64070187/companies-urged-prepare-impact-possible-recalls
18. Bates, H., Holweg, M., Oliver, N. & Lewis, N. (2004) 'Motor Vehicle Recalls: Trends, Patterns and Emerging Issues, ESRC Centre for Business Research, University of Cambridge', Working Paper No. 295.

Case study title	HSBC / Nationwide / Zurich Insurance
Main risk event category and brief description	**IT failure: breach of data confidentiality** Several financial services companies compromised the security of electronically stored customer data and were fined by the UK Financial Services Authority (FSA).
Companies involved	Three HSBC firms: HSBC Life UK Limited (HSBC Life), HSBC Actuaries and Consultants Limited (HSBC Actuaries) and HSBC Insurance Brokers. Nationwide Building Society (Nationwide) is the UK's largest building society, with over 11 million customers. Zurich Insurance Plc, is the UK branch (Zurich UK) of Zurich Insurance Company, a Swiss company operating globally, providing general insurance products for individuals and corporations.
Main business sectors	Financial services, including banking, mortgage lending, life assurance, general insurance, actuarial consulting.
Dates of events	2006 – 2008
Risk events	**Background** The FSA published a report entitled 'Countering Financial Crime Risks in Information Security' in November 2004,[1] followed by a number of speeches and other publications to raise awareness within the financial services sector of the need for firms to take action to combat the risks of financial crime. **Events** **a. HSBC firms** , ,[234] HSBC Life had more than 740,000 active individual and corporate customers; HSBC Actuaries had approximately 1,000 corporate customers and 5000,000 active pension scheme members; HSBC Insurance Brokers had approximately 65,000 customers, of which around 93% were corporates and the rest were individuals. All three firms held confidential data on customers (such as names, addresses, dates of birth, bank account numbers, credit card details and personal details concerning family, lifestyle and social circumstances, and details of education, training, employment, physical or mental health or conditions, and actual or alleged criminal offences) and had failed to put in place adequate procedures to manage their financial crime risks. In April 2007, HSBC Actuaries lost an unencrypted floppy disk in the post, containing the personal information of 1,917 pension scheme members, including names, addresses, dates of birth and National Insurance numbers.

Problems with systems and control were identified in June 2007, but not implemented until September 2007.

In July 2007, all three firms were warned by HSBC Group Insurance's compliance team about the need for robust data security controls. However:

- HSBC Life's Finance Department routinely sent unencrypted CDs containing significant amounts of confidential customer data to third parties by unrecorded delivery.
- In the same department, confidential customer data was routinely kept in unlocked cabinets, including unencrypted electronic copies of more than 740,000 'live' policies and over one million 'non-live' policies.
- Then on 11 February 2008, HSBC Life lost an unencrypted CD sent through the post by unrecorded delivery; the CD contained confidential data of 180,000 policy holders (including names, ages, sex, dates of birth, smoker status, policy numbers, premia and sums assured). The fact that the CD was lost was not escalated within HSBC Life until over a month later, on 20 March 2008.

The confidential information on both disks could have helped criminals to steal customers' identities and commit financial crime.

HSBC Life and HSBC Actuaries reported these data loss incidents to the FSA. During its investigation into the firms' data security systems and controls, the FSA found that the large amounts of unencrypted customer details had been sent via post or courier to third parties. Confidential information about customers was also left on open shelves or in unlocked cabinets and could have been lost or stolen. In addition, staff were not given sufficient training on how to identify and manage risks such as identity theft.

b. Nationwide[5]

Nationwide holds confidential financial information on more than eleven ~ million customers.

A laptop was stolen in August 2006 from the home of a long-standing Nationwide employee who needed to have extensive access to customer data; it contained confidential customer information that could have been used to further financial crime.

During its investigation, the FSA found that Nationwide did not have adequate information security procedures and controls in place; it did not manage or monitor downloads of very large amounts of data onto portable storage devices, which meant that Nationwide had limited control over information held in this way or how it was used, increasing the risk that it could be used to further financial crime.

The FSA also discovered that Nationwide was not aware that the laptop contained customer information and did not start an investigation until three weeks after the theft. The theft of the laptop had been reported promptly by the employee to Nationwide, but not what was on the laptop; that did not emerge until after the employee returned from holiday abroad three weeks later.

c. Zurich UK[6]

In July 2002, the general insurance business of Zurich UK outsourced the processing of some of its customer data to Zurich Insurance Company South Africa Limited (Zurich SA). A written outsourcing agreement was entered into between the two parties in May 2004. Both entities are members of Zurich Financial Services Group and are subject to relevant common Zurich Group policies, procedures and controls. However, Zurich UK relied to an unreasonable extent on Zurich SA being in compliance with Group policies and did not manage the outsourcing arrangement as if it were a third-party supplier arrangement.

On 11 August 2008, an unencrypted back-up tape was lost during a routine transfer to a data storage centre. Zurich SA engaged a subcontractor to collect and deliver the back-ups tapes and to provide the storage facility for those back-up tapes (without Zurich UK's written consent, as required by the outsourcing agreement). That subcontractor itself subcontracted the collection and delivery of the back-up tapes to a third-party contractor (unknown to Zurich SA and without Zurich UK's consent).

The lost tape contained an extensive range of sensitive insurance information belonging to 46,000 policy holders of Zurich UK, as well as certain personal data of 1,800 third parties; this data varied between customers, but included, among other things, identity details, bank account and credit card details, details of insured assets and the type of security arrangements used to protect them. The loss of this data could have resulted in financial loss to customers and potentially also exposed customers to the risk of other crime such as burglary and theft.

Additionally, the unencrypted back-up tapes of UK customer data were regularly left in the office of an engineer at the third-party data centre; other third parties used the data centre, so that unauthorised third parties might have gained access to the data.

As there were no proper reporting lines in place, the senior management of Zurich UK did not learn of the tape loss incident until 14 August 2009 (just over a year later), when it was reported through internal audit.

Management responses

a. HSBC firms[7]

Remedial actions taken have included:

- Writing to all customers affected by the data losses to offer support at the firm's expense.
- Amending procedures to include a requirement to encrypt data in order to ensure the secure transmission of confidential data.
- Enhancing physical security in its offices by installing lockable cabinets in every office.
- Enhancing data security awareness by revising induction training for new staff and requiring all existing staff to undertake annual data security refresher training.
- Restricting further the ability of staff to download data to portable devices.
- Engaging with the HSBC Business Information Risk Officer programme,

which includes the assessment of ongoing performance against 18 key information risk indicators.
- Introduction of Data Protection Champions to cascade information from Compliance to employees and to be the first source for day-to-day data security enquiries.
- Putting in place a defined response plan for reporting data loss incidents.

b. Nationwide[8]
Remedial actions taken included:

- On notification of the theft of the laptop, disabling the remote access facility, preventing access from the stolen laptop to live Nationwide systems.
- Taking a range of additional measures to increase security around accounts, including increased anti-fraud measures and monitoring of suspected fraudulent activity.
- Writing to all of its customers explaining the loss of information and measures customers could take to minimise the risk of identity theft.
- Confirming its existing policy that it would reimburse any customer who could establish that they had suffered financial loss as a result of the theft of the information on the laptop.
- Commissioning a comprehensive review of its information security procedures and controls, overseen by an independent third party.

9. Zurich UK[9]
After the incident came to the attention of Zurich UK's senior management on 14 August 2009, it reported it to the FSA on 21 August 2009 and other relevant regulators.

Remedial actions taken have included:

- All affected customers were offered a range of measures to minimise the risk of identity theft, including identity theft protection cover and the option of protective CIFAS registration, all of which Zurich UK offered to pay for.
- Zurich UK instructed external advisers to conduct an investigation into the circumstances surrounding the data loss incident and related issues. The FSA was involved in scoping the terms of reference for the investigation and kept updated throughout the investigation.
- Zurich UK also commissioned, from a leading firm of accountants, a comprehensive review of its security procedures and overall control environment in relation to electronic customer data.
- Zurich UK has strengthened certain of its data security controls; for instance, extending the role of the UK representative for the Group IT Risk function to have specific accountability to proactively assess all IT risks impacting the UK, regardless of where they originate within the Zurich Group.
- Zurich UK has appointed a dedicated Information Security Officer.
- Zurich UK has moved the hosting of its UK data from South Africa to its headquarters in Switzerland, where it is regularly reviewed by external auditors.
- Since October 2009, all newly created Zurich UK data back-up tapes that move between offices or storage locations have been encrypted, and any movement of historic back-up tapes is subject to stringent security procedures.

Consequences of risk events

These events had financial consequences for each of the three financial sector firms and have implications for corporations generally.

a. Consequences for HSBC[10]

HSBC Life was fined £2.3 million (reduced by 30% to £1,610,000[£1.61 million?] for early stage settlement), HSBC Actuaries was fined £1.25 million (reduced by 30% to £875,000 for early stage settlement) and HSBC Insurance Brokers were fined £1 million (reduced by 30% to £700,000 for early stage settlement) for not having adequate systems and controls in place to protect their customers' confidential details from being lost or stolen. These failings contributed to customer data being lost in the post on two occasions.

b. Consequences for Nationwide[11]

Nationwide was fined £1.4 million (reduced by 30% to £980,000 for early stage settlement) for failing to have effective systems and controls to manage its information security risks.

c. Consequences for Zurich UK[12]

Zurich UK was fined £3.25 million (reduced by 30% to £2,275,000[£2.275 million?] for early stage settlement) for failing to have adequate systems and controls to prevent the loss of customers' confidential information.

d. Consequences for individuals, public and private organisations generally

Not just financial services sector companies, but most organisations in both the public and private sectors maintain data electronically about private individuals – data that may include such items as name, address, contact details, date of birth, National Insurance number, passport details, bank account or credit card details, and lifestyle information, that, if compromised, could be used to further fraud, financial crime or identity theft.

The impact of data loss on an individual customer can be very serious, causing considerable inconvenience and possible financial detriment. This can include spending substantial time and effort repairing one's credit record, whilst in the meantime, one's credit score is impaired, potentially affecting one's ability to obtain finance (such as a mortgage) or obtain a new job. The stress and financial burden can continue for a sustained period of time.

A study by the Ponemon Institute published in February 2008[13] found that the average cost to UK firms of a data loss incident was £55 for each customer record. A data loss incident can also damage a firm's reputation and future trading prospects, such as developing an Internet distribution channel.

Role of insurance in loss containment, compensation and remediation

As noted above, Zurich UK offered affected customers free identity theft protection insurance cover.

Comparison with similar risk events/companies

The FSA has also fined:

- Norwich Union Life £1.26 million[14]
- BNP Paribas Private Bank £350,000[15]
- Capita Financial Administrators £300,000[16]
- Merchant Securities £77,000[17]

for failings related to data security lapses and fraud.

Risk management lessons and conclusions

During 2007, the FSA Financial Crime Operations Team dealt with 56 cases of lost or stolen data from financial services firms. The most common reasons for the loss of data were the theft of a portable device (such as a laptop or memory stick), data lost in the post and data lost by third-party suppliers.

No amount of security can eradicate the risk that electronic storage devices will be lost or stolen. However, steps can and should be taken to ensure that loss of physical equipment does not compromise customer information. Loss or misuse of data puts customers at an increased risk of financial crime.

Lessons from the case studies above include:

- Data security measures should include better encryption of data (particularly data that is transferred between machines and/or data centres), enhanced password protection and controls to ensure that large files cannot be down-loaded to devices such as memory sticks.
- Increase staff training on the exposures posed by the electronic storage of confidential data and the consequent risks of financial crime and identity theft. All staff with access to customer data should receive regular training; data security is not only the responsibility of IT staff. Training should also address the common lack of knowledge within an operation that outsourcing and/or offshore processing arrangements for data processing are in place and need to be monitored.
- Companies need to regularly assess and proactively monitor risks whenever customer data is transferred or backed up – and consider encryption, physi-cal security, procedures for monitoring, controlling and reporting/escalating any breaches of security.
- 'Outsourcing' operations with other entities in the same group should be managed in the same way as they would with an external third party, with clear written procedures and responsibilities for monitoring and controlling data security.
- If the event of any breach of data security, the relevant regulators should be notified promptly and it is good practice to involve the regulator, as far as appropriate, in any internal or external investigation. This is something that the FSA welcomes, because (a) it may be able to rely on work carried out by external advisers in its own investigation, and (b) such co-operation may be taken into account when deciding what regulatory action (such as level of fine) to impose. Firms should also write to the customers affected to explain the circumstances of the data loss incident and give advice and support.

Concluding remark

The FSA published a report entitled 'Data Security in Financial Services' in April 2008, which gives example of good and bad practice in the areas of governance, training and awareness, staff recruitment and vetting, access rights, passwords and user accounts, monitoring access to customer data, data back-up, access to the Internet and email, key-logging devices, laptops, portable media including USB devices and CDs, physical security, disposal of customer data, managing third-party suppliers, and internal audit and compliance monitoring (which are all summarised in Section 4, Consolidated examples of good and poor practice, pages 83 to 95).

1. Financial Services Authority, Countering Financial Crime Risks in Information Security: Financial Crime Sector Report, November 2004, www.fsa.gov.uk/pubs/other/fcrime_sector.pdf
2. Financial Services Authority, Final Notice, HSBC Life (UK) Limited, 17 July 2009, www.fsa.gov.uk/pubs/final/hsbc_in-uk0907.pdf
3. Financial Services Authority, Final Notice, HSBC Insurance Brokers Limited, 17 July 2009, www.fsa.gov.uk/pubs/final/hsbc_ins0709.pdf
4. Financial Services Authority, Final Notice, HSBC Actuaries and Consultants Limited, 17 July 2009, www.fsa.gov.uk/pubs/final/hsbc_actuaris0709.pdf
5. Financial Services Authority, Final Notice, Nationwide Building Society, 14 February 2007, www.fsa.gov.uk/pubs/final/nbs.pdf
6. Financial Services Authority, Final Notice, Zurich Insurance Plc, UK branch, 19 August 2010, www.fsa.gov.uk/pubs/final/zurich_plc.pdf
7. Financial Services Authority, HSBC Final Notices, op cit
8. Financial Services Authority, Nationwide Final Notice, op cit
9. Financial Services Authority, Zurich Final Notice, op cit
10. Financial Services Authority, HSBC Final Notices, op cit
11. Financial Services Authority, Nationwide Final Notice, op cit
12. Financial Services Authority, Zurich Final Notice, op cit
13. New Ponemon Study Reveals the True Cost of a Data Breach in the U.K., 25 February 2008, www.symantec.com/about/news/release/article.jsp?prid=20080225_02
14. Financial Services Authority, FSA fines Norwich Union Life £1.26m for exposing its customers to the risk of fraud, 17 December 2007, www.fsa.gov.uk/pages/Library/Communication/PR/2007/130.shtml
15. Financial Services Authority, FSA fines BNPP Private Bank £350,000 for weak anti-fraud controls, 10 May 2007, www.fsa.gov.uk/pages/Library/Communication/PR/2007/060.shtml
16. Financial Services Authority, FSA fines Capita Financial Administrators Limited £300,000 in first anti-fraud controls cause, www.fsa.gov.uk/pages/Library/Communication/PR/2006/019.shtml
17. Financial Services Authority, Stockbroking firm fined £77,000 for weak data security controls, www.fsa.gov.uk/pages/Library/Communication/PR/2008/058.shtml
18. Financial Services Authority, Data Security in Financial Services: Firms' controls to prevent data loss by their employees and third-party suppliers, April 2008, www.fsa.gov.uk/pubs/other/data_security.pdf

Case study title	Independent Insurance Company Limited
Main risk event category and brief description	**Corporate misconduct – fraudulent accounting** Independent Insurance became a UK stock market darling, reporting apparently market-beating results. The reality was that Independent won business aggressively by underpricing premiums and then achieved its reported results by under-reserving losses. To mask some of these underlying problems, Independent then started to use financial reinsurance contracts, but kept the payback obligations secret. When Independent tried to raise some additional capital, the existence of these secret 'side letters' was revealed – the net result was that Independent Insurance was found to be insolvent and was placed into provisional liquidation.
Key company details	**Independent Insurance was a publicly listed insurance company, based in the UK**
Main business sectors	Independent Insurance (Independent henceforth) wrote general insurance and reinsurance business, mainly covering liability, property, motor and other insurance for the personal lines and commercial sectors. It specialised in liability ('long-tail') insurance and also concentrated on niche markets, with large and hard-to-quantify risks – all classes of business that are difficult to reserve losses for.
Date of event	2001
Risk event	**Background** The 23-year-old Michael Bright and 18-year-old Philip Condon met at Orion Insurance in 1967, and became business partners and friends. In 1982, Bright and his trusted no. 2 Condon moved to Lombard, taking some 50 colleagues with them. In 1986, venture capitalists bought out the UK business of US insurer Allstate Insurance, and recruited Bright to run what would become Independent Insurance. It was floated on the London Stock Exchange in November 1993 (the first floatation of a general insurance company since World War 2)[1] and it continued to grow rapidly. The share price rose eightfold from floatation to reach a peak of just over 400p in December 2000, valuing the company at £1 billion (see later share price chart). Michael Bright was appointed Chief Executive Officer of the Independent Insurance Company Limited (Independent) in October 1987, with Philip Condon as Deputy Managing Director. Dennis Lomas, who had been with the group since 1984, was promoted to Finance Director in 1996. Michael Bright was a natural salesman; Independent introduced the 'club' concept for its top 200 regional brokers (its 'Absolute' brokers), who got perks and bonuses and were made to feel valued. He was also often described as

having a larger than life personality (one of mantras was 'let's have fun, fun, fun'),[2] a 'bon viveur' who hosted the best parties in the insurance industry in his large flat in Gun Wharf overlooking Tower Bridge. Michael Bright was named business entrepreneur of the year by the *Financial Times* in 1996 and won an achievement award at the British Insurance Awards in 1999.[3] Michael Bright was appointed President of the Chartered Insurance Institute in 2000.[4]

Michael Bright's twin-track business strategy was to generate cash flow by growing sales aggressively, if necessary by undercutting the opposition, and then to cut reserves against potential claims as a way of boosting reported profits. By 2000, Independent had become the ninth-largest UK general insurance company with more than 2,000 employees. The 2000 accounts showed gross premiums of £830 million, with profits of £22 million and net assets in excess of £300 million. In his Chairman's review in that year's report and accounts, Michael Bright wrote that Independent was a *'quality operator, well placed in an improving market'* whose unique and long-standing practice of having its reserves vetted by an independent firm of actuaries, Watson Wyatt, continued to provide '*a unique level of comfort to shareholders and policyholders'.*[5]

It almost seemed to be too good to be true – it was. In the late 1990s, Bright, Condon and Lomas began to realise that a large amount of Independent's pre-1997 liability business was in fact loss-making and would cost the company very much more than had been reserved for. Michael Bright had made 'accurate' reserving a point of honour at Independent – but as the Serious Fraud Office (SFO) Case Study puts it *'Independent's proudest boast – its Watson Wyatt certificate – became its Achilles heel.*[6]

Event

It was common criticism at the time within the insurance industry that Independent was aggressive on sales and 'under-reserved'. With hindsight, the evidence was in Independent's own annual reports; over the period 1997 to 2000, gross premiums almost doubled from £438 million to £830 million, whilst the outstanding claim reserves hardly changed, from £354 million to £372 million.

Two ongoing events came to a head in 2001, understatement of reserves and reinsurance contract 'side agreements', as Michael Bright tried to make Independent's published results look better than they really were.

a. Understatement of reserves

From about May 1997, and on an increasing basis from about July 1999, Independent understated its reported claims reserves. In addition to the Case Estimates that were recorded on the company's computer system, the company developed several Off-Claims Systems, where other information was recorded but not entered onto the computer system in a timely manner or at all; these Off-Claim Systems included:

- **Reserve Increase Lists** contained details of cases in which the estimate of the cost of the claim had increased. Additionally, as part of the drive to reduce the company's Case Estimates, audits (known as '1-4-1' Audits) were used to identify reductions in Case Estimates. Following a 1-4-1 Audit, decreases to Case Estimates were input onto the computer system, but increases were not.

- **Whiteboards** held details of new cases with large potential losses, and again Case Estimates for these cases were not input onto the computer system in a timely manner or at all.

Memos between employees and Michael Bright, Philip Condon and Dennis Lomas give evidence of how this practice started in about May 1997, and give snapshots of how these Off-Claim System amounts continued to grow significantly over the period 1999 to 2001. For instance, the total value of cases held on the white-boards was approximately £400,000 in December 1997; £5 million in 1998; £18 million in 1999; and £25 million by the end of 2000.[7] By the end of 2000, the total amount on the Reserve Increase Lists was £16 million, having trebled over the previous year.

By 12 April 2001, the total amount of increases to Case Estimates that were held on the Reserve Increase Lists but which had not been input onto the computer system was £35.312 million, and the total amount of Case Estimates held on whiteboards but which had not been input onto the computer system was £42.498 million.

The company's actuaries were not told about the Case Estimates on the Reserve Increase Lists and whiteboards, and so were misled into certifying understated amounts of claims reserves in at least the 1999 and 2000 published accounts. Philip Condon and Dennis Lomas represented the company at meetings with the Actuaries, assuring them, *inter alia*, on various occasions that *'top management do not directly interfere with the setting of individual case estimates' and 'case estimates are updated as soon as new information comes in'.*[8] When asked by the Actuaries how the same reserving process could have resulted in such a low figure for 1999 compared with 1998, Philip Condon responded that the company was *'being very hard on reserve increases',*[9] but failed to refer to either the Reserve Increase Lists or whiteboards in his explanation for the reduction.

During a visit to the company by the auditors, Dennis Lomas instructed staff to *'wipe the whiteboard'*[10] and thereby conceal the existence of the Off-Claims System lists from the auditors.

During the latter part of 2000, Philip Condon took various steps to postpone an internal audit of the London Market Claims Department, concentrating on reserving issues (knowing that it would probably reveal the practices surrounding the Off-Claims System Lists); permission for internal audit was finally given on 22 March 2001. At an internal audit debrief on 26 April 2001, it was reported that outstanding reserves for 1997 and prior claims amounted to £24.8 million and unreserved whiteboard claims stood at £25.1 million. The reported profit for the year 2000 of £22 million should actually have been a loss of at least £28 million; substantially more if the suppressed claims had been factored into the actuarial estimates for incurred but not reported (IBNR) claims – a real loss of at least £128 million, and maybe as much as £228 million, according to subsequent SFO calculations.

2. Reinsurance contract and side agreements

In February 2000, Independent entered into an Adverse Development Cover reinsurance contract paying £20 million premium for £50 million of cover to

bridge the gap between the Actuaries' calculation of the appropriate reserves and the reserves held at the time by the company ('Reserve Contract') for one class of business. In early 2001, Independent sought to protect its reserves on three other classes of business by entering into a further three reinsurance Reserve Contracts on 5 March 2001 (the 'good contracts') – obtaining a total of £278 million of cover for a total premium of £110 million, thereby releasing £168 million of 'profit' to be accrued in Independent's year 2000 results – turning a loss of over £70 million into a small but acceptable reported profit of £22 million.

However, Michael Bright was made aware that Independent's reinsurer would not sign these additional Reserve Contracts unless Independent also entered into four 'Pay-Back Contracts' (or side agreements) and signed a 'charge' over Independent's assets; these side agreements were negotiated by Michael Bright and Dennis Lomas, and signed on 2 March 2001 (the 'bad contracts'). In essence, the combined effect of the Pay-Back Contracts was to reimburse the reinsurers for any losses suffered under the Reserve Contracts, rendering the overall series of transactions between Independent and its reinsurers entirely circular.

On 5 March 2001, Michael Bright obtained approval from the board of directors of Independent to sign a Letter of Representation to the Auditors, which stated that the Reserve Contracts *'are final and there are no side agreements with reinsurers, or other terms in effect, which allow for the modifications of terms under the reinsurance arrangements'*.[11] Although questioned about the reinsurance arrangements, Michael Bright did not mention the Pay-Back Contracts to the board.

The accounts published on 6 March 2001 disclosed the existence of the 'good contracts' and incorporated their benefits, but not the 'bad contracts'.

3. The unravelling

Independent published its 2000 results on 6 March 2001. Profits on ordinary activities had dropped to £22.2 million from £61.5 million the previous year, but were acceptable given the then current difficult investment and insurance market conditions.

Michael Bright and Dennis Lomas showed Independent's Chairman, Garth Ramsay, a document (since known as 'schedule zero'), detailing the massive hole in Independent's claims reserves; it was the first time that Ramsay had heard any of this. To survive, Independent would urgently need to raise something like £220 million of new capital. The stockbrokers were confident that funds could be raised, but first needed to be certain that all the bad news was now out in the open; they had some concerns about a reinsurance deal that had been signed just before the year 2000 figures were announced that had provided a £100 million boost to the company's results. Ramsay wrote to Independent's reinsurer, asking for details of all active contracts; the reply revealed the four secret side contracts (the 'bad contracts'), which negated the benefit of the reported reinsurance contracts (the 'good contracts').

The existence of these Pay-Back Contracts was not discovered by the board and auditors until 14 May 2001, and their full effect was not appreciated until after Independent entered provisional liquidation in June 2001.

The company's year 2000 profits had been illusory; the balance sheet was a mess.

Michael Bright had lost the confidence of his board; he stepped down from CEO to non-executive Deputy Chairman on 19 April 2001 and then left the company altogether in early June 2001.

However, the share price had started a dramatic descent in early January 2001, which continued until 11 June 2001, when dealing in Independent's shares was suspended.

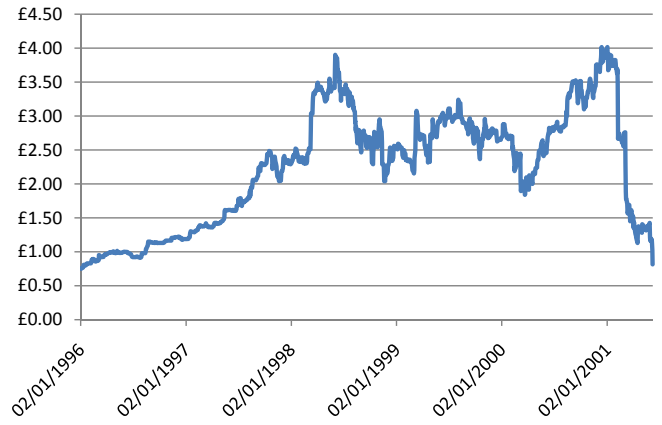


Chart: Independent Insurance share price[12]

On 14 June 2001, the operation to raise new capital had failed completely and the company closed its books to new business. This was the first collapse of a UK general insurer for 30 years.

On 15 June 2001, the FSA passed its files to the Serious Fraud Office and a criminal investigation was immediately launched.

On 17 June 2001, Independent was placed into provisional liquidation under PricewaterhouseCoopers (PwC).

The event had consequences for the senior executives involved, the company's employees, shareholders and policyholders, and Independent's professional advisors.

a. Consequences for senior executives

Michael Bright had been buying shares in Independent as late as February 2001; the collapse of Independent meant that he lost his entire personal

fortune and his reputation. He had a 6.5% shareholding in Independent, now worthless, and bank borrowings secured against these shares. Michael Bright petitioned for personal bankruptcy on 7 August 2001, owing around £5 million.[13]

A criminal investigation was launched by the Serious Fraud Office in June 2001 as soon as Independent collapsed. The trial of Bright, Condon and Lomas started on 30 May 2007 under His Honour Judge Rivlin QC.

Michael Bright was convicted on 23 October 2007 of conspiracy to defraud by dishonestly withholding claims data from the company's actuaries and conspiracy to defraud by making incomplete disclosure of all actual or intended agreements between the company and its reinsurers. He was sentenced to seven years' imprisonment for each count of conspiracy to defraud, to run concurrently, and was disqualified as a company director for twelve years.

Philip Condon was convicted on 23 October 2007 of conspiracy to defraud by dishonestly withholding claims data from the company's actuaries. He was sentenced to three years' imprisonment for one count of conspiracy to defraud and disqualified as a company director for ten years.

Dennis Lomas was convicted on 23 October 2007 of conspiracy to defraud by dishonestly withholding claims data from the company's actuaries and conspiracy to defraud by making incomplete disclosure of all actual or intended agreements between the company and its reinsurers. He was sentenced to four years' imprisonment for each count of conspiracy to defraud, to run concurrently, and disqualified as a company director for ten years.

The provisional liquidators of Independent obtained confiscation orders on 25 February 2009 against Philip Condon for £1,280,896 and Dennis Lomas for £470,113. No order was obtained against Michael Bright, because of his previous bankruptcy.

b) Consequences for Independent Insurance employees, shareholders and policyholders

Independent entered provisional liquidation on 17 June 2001, with the jobs of 2,000 employees at risk and employees lost all their investments in the company's Sharesave schemes. Shareholders lost everything; an Independent Insurance Shareholders' Action Group was formed.

The provisional liquidators sent letters to all known individual and commercial policyholders on 5 July 2001, cancelling their policies. Personal policyholders whose contracts were cancelled got 100% of their premiums for compulsory cover, such as third-party motor insurance, repaid by the Policyholders' Protection Board (PPB); however, the PPB only repaid 90% of premiums paid for other insurance. Personal policyholders whose contracts did not contain cancellation clauses did not get refunds. The process was complicated because many of the policies were sold through brokers. The British Insurance Brokers' Association (BIBA) had advised its members on 19

June 2001[14] that all brokers with clients of Independent should replace cover with new insurers as soon as possible and that Independent be notified of cancellation when cover was confirmed by the new insurer; if cover was not placed with a new insurer, then any client with a claim would be treated as an unsecured creditor of Independent, and it was unlikely any such claim would be settled in full, and furthermore there would be significant delays. Royal & SunAlliance (RSA) took over most of Independent's personal lines business. Many commercial policyholders were not covered by the PPB; it was reported that 40,000 British companies were without insurance cover. The provisional liquidator wrote to all known policyholders and brokers who had placed business with Independent in May 2005 to provide a summary of progress, with a further update on progress in December 2010.

c) **Consequences for Independent's professional advisers**
PwC, Independent's liquidator, brought a £300 million lawsuit against Independent's accountants KPMG; KPMG settled for an undisclosed sum in 2006. PwC also brought a lawsuit against Independent's actuaries, Watson Wyatt; settlement is also subject to confidentiality conditions.

Regulatory responses include:

- The FSA banned Michael Bright, Philip Condon and Dennis Lomas from performing any function in relation to any regulated activity under the Financial Services and Markets Act 2000.
- Following similar problems with Equitable Life entering into a financial reinsurance contract with a secret side 'letter of understanding', the FSA issued Consultation Paper 144 'A new regulatory approach to reinsurance firms' use of financial engineering' in July 2002.[15]
- On 16 March 2005, the FSA wrote a 'Dear CEO' letter[16] to all UK general insurance companies, demanding a full report on their use of financial reinsurance, specifically any cases where the 'economic value of the transaction differs materially from the value placed in the firm's balance sheet'.

Role of insurance in loss containment, compensation and remediation

At the date of the appointment of the provisional liquidators, Independent had around 190,000 policyholders and in excess of 50,000 outstanding insurance claims. Responsibility for handling claims was with the Policyholder Protection Board, which was superseded by the Financial Services Compensation Scheme (FSCS) on 31 December 2001. The provisional liquidator reported in December 2010 that Independent was continuing to receive approximately 80 new claims notifications per month.[17]

As at 1 May 2005, 60,000 claims had been settled in total, with a total aggregate value of £290 million, of which the FSCS had paid £227 million.

The total cost to FSCS of Independent's collapse will end up costing almost £400 million.

Comparison with similar risk events/companies

AIG and Enron – charismatic and autocratic demonic leader – misstatement of accounts to mislead investors.

AIG – use of financial reinsurance to manipulate insurance company reported results.

Lessons

1. **Fraud often starts almost innocently but can then become insidious**
   Fraud can often begin almost imperceptibly and in a relatively minor way (cf: Nick Leeson of Barings Bank and his 88888 error account), but then escalates with ever increasing attempts to cover up the initial dishonesty and its consequences – or as Judge Rivlin said in sentencing Michael Bright *'I am prepared to accept that it began almost imperceptibly and in a relative minor way. But by November 1998 you had determined on a course of dishonesty and […] it quickly steamrolled out of control'.*[18]

   Fraud on any significant scale can rarely be conducted by a single person; it usually needs co-conspirators or at least compliance by other employees. As the Judge Rivlin said in sentencing Dennis Lomas *'I have no doubt that in your case you were led into this dishonesty by Mr Bright and that you […] felt yourself unable to resist. I consider it entirely feasible that as time wore on […] you became increasingly frightened and shocked by what was happening and the extent to which you were becoming sucked into this criminal behaviour, but very sadly you did not have the character to say. 'enough is enough', and do something about it.'*[19]

2. **The dangers of a charismatic leader**
   The dangers of a charismatic/celebrity leader and/or an autocratic/ demonic management style. Judge Rivlin described Michael Bright as an overbearing bully who *'introduced a fear factor into the working lives of your managers. It was against this background that the fraud you devised was able to thrive.'*[20] Judge Rivlin said that Philip Condon *'foolishly felt a greater loyalty to your old friend and mentor Mr Bright than you did to all the many, many innocent people to whom you owed a far greater duty and who so badly needed your protection.'*[21] The ability of such a charismatic leader to cower and influence internal staff often also extends to external advisors.

3. **Failure of non-executives to restrain executives**
   Garth Ramsey, the non-executive Chairman had been on the board for 14 years and another non-executive, Sir Iain Noble, who was a joint founder of the company with Michael Bright, had been on the board for 15 years. Two other non-executives were in their seventies.[22]

   The National Association of Pension Funds and the Association of British Insurers, the leading investor groups, revealed that they had been warning shareholders for two months that the company's board had too few directors who could be considered independent of senior executives.[23]

4. **Ignoring early warning signs**
   The French insurance regulator Commission de Contrôle des Assurances (CCA) had warned the FSA about the shaky condition of Independent's French subsidiaries in late 2000, warnings also repeated in a formal report sent in January 2001, along with evidence that Independent was trying to hide large losses in France. The FSA claimed that it knew of Independent's under-reserving problem in January and had instructed the company to take steps to increase its capitalisation – but the unreported claims, the possible

fraud, the reinsurance agreements and the extent of the losses only surfaced after the company's attempts to do this (through the rights issue) failed.

5. **Say sorry, don't try and parcel out the blame**
   Judge Rivlin said in sentencing Michael Bright '*The breezy manner in which during the course of this trial you sought to blame some of your very able, decent and hard-working employees for dishonest practices that you had yourself introduced and put into operation has done little to confirm that you are truly sorry for what occurred',* [24] before giving him the maximum prison term possible. For instance, Bright blamed the underwriter on the London Market account that had generated many of the claims; however, the criminal issue was not incurring an underwriting loss, but fraudulently failing to disclose and covering up these losses.

Concluding remark

Is there a need for better whistle-blower protection in the UK? A number of senior underwriting and claims people left Independent towards the end because of what was happening, but none seems to have been prepared to 'blow the whistle' on Michael Bright to the authorities.

1. Serious Fraud Office (SFO) Annual Report 2007-2008, Case Study - Independent Insurance, 'When the truth won't do', page 11, www.sfo.gov.uk/media/30954/sfo%20annual%20report%202007-2008.pdf
2. The Independent, 4 July 2001, The fall of the house that Bright built, by Chris Blackhurst, www.independent.co.uk/news/business/news/the-fall-of-the-house-that-bright-built-676502.html
3. The Sunday Times, 28 October 2007, Bright flash obscured cooked books, by Grant Ringshaw, http://business.timesonline.co.uk/tol/business/industry_sectors/banking_and_finance/article2752065.ece
4. SFO Case Study, op cit, page 11
5. SFO Case Study, op cit, page 11
6. SFO Case Study, op cit, page 15
7. SFO Case Study, op cit, page 16
8. Financial Services Agency, Final Notice, Philip Condon, 11 April 2008, section 5.15.3, www.fsa.gov.uk/pubs/final/condon_p.pdf
9. Financial Services Agency, Final Notice, Philip Condon, 11 April 2008, section 5.15.5.
10. Financial Services Agency, Final Notice, Dennis Lomas, 11 April 2008, section 5.16.3, www.fsa.gov.uk/pubs/final/lomas_d.pdf
11. Financial Services Agency, Final Notice, Michael Bright, 11 April 2008, section 5.21, www.fsa.gov.uk/pubs/final/bright_m.pdf
12. Data from Bloomberg
13. The Independent, 24 August 2001, Independent Insurance boss to sell homes after declaring bankruptcy, by Chris Hughes, www.independent.co.uk/news/business/news/independent-insurance-boss-to-sell-homes-after-declaring-bankruptcy-666818.html and The Telegraph, 24 August 2001, Bright declares himself bankrupt, by Andrew Cave, www.telegraph.co.uk/finance/2731214/Bright-declares-himself-bankrupt.html
14. Independent Insurance liquidation – Broker questions and answers, 19 June 2001, British Insurance Brokers' Association, www.biba.org.uk/MediaCenterContentDetails.aspx?ContentID=820
15. Financial Services Authority, A new regulatory approach to insurance firms' use of financial engineering, www.fsa.gov.uk/pubs/cp/cp144.pdf
16. Financial Services Authority, www.fsa.gov.uk/pubs/ceo/invfirms_crd.pdf
17. PricewaterhouseCoopers, Independent Insurance Company limited ("Independent") update on progress in the provisional liquidation December 2010, www.independent-insurance.co.uk/pdf/ProgressLetter.pdf
18. Financial Services Agency, Final Notice, Michael Bright, 11 April 2008, section 6.3.
19. Financial Services Agency, Final Notice, Dennis Lomas, 11 April 2008, section 6.3.
20. Financial Services Agency, Final Notice, Michael Bright, 11 April 2008, section 6.3.
21. Financial Services Agency, Final Notice, Philip Condon, 11 April 2008, section 6.3.
22. Fleet Street Letter, 21 July 2001, Independent Insurance: Lessons for the private investor, by Robert C.B. Miller, www.fleetstreetinvest.co.uk/shares/trend-investing/independent-insurance-00073.html
23. Financial Times, 24 October 2007, Calamity of market darling, by Michael Peel and Andrea Felsted, www.ft.com/cms/s/0/3929fade-81cd-11dc-9b6f-0000779fd2ac.html#axzz1L6wz9nTy
24. Financial Services Agency, Final Notice, Michael Bright, 11 April 2008, section 6.3.

Case study title	Land of Leather
Main risk event category and brief description	**Product liability and recall** This case concerns the sale by Land of Leather and various other retailers of leather furniture contaminated by a mould-inhibiting chemical. The direct effects of the 'toxic sofa' cases included injuries to at least 4,500 people and claims by them against the firms who sold the furniture, including Land of Leather, in the region of £20 million. This crisis was a major factor in the subsequent collapse of Land of Leather.
Companies involved	**Land of Leather Holdings plc (in administration)** Argos, Homebase (Home Retail Group), Walmsley Furnishing and others.
Key company details	Land of Leather Ltd (LOLL) was founded in 1997 and floated on the London Stock Exchange in 2005 with the aid of the investment bank Investec. In mid-2008, the company issued profit warnings and planned to raise fresh capital via a new share issue. Buyout talks with a number of interested parties ended unsuccessfully in December 2008. At this time, the company employed approximately 850 people and had 109 stores in the UK and Ireland. On 12 January 2009, the company announced that it had entered into administration with Deloitte.
Main business activities of company	The company was a retailer, specialising in leather furniture.
Date of event	2007 onwards
Risk event	**Background** The original business aim of LOLL was to bring leather furniture (perceived to be expensive luxury goods) to a mass market. Some of its products were relatively expensive, but the company also increasingly served the 'bottom end' of the market, offering leather sofas or suites of leather furniture for a few hundred pounds. These were sourced mainly from China and from two Chinese companies in particular, Linkwise and Eurosofa. In September 2007, the company received complaints from a number of customers who had developed skin allergies from contact with the sofas that had been supplied to LOLL by Linkwise. Several thousand users who had bought these products from LOLL and other retailers were eventually affected, many of them suffering serious skin rashes. This gave rise to the biggest-ever group compensation claim brought in the UK courts. The origin of the allergies was traced to sachets of the mould-inhibiting chemical

dimethyl fumarate (DMF), which had been stapled to the frames of the sofas, inside their leather covering. Dimethyl fumarate is an allergic sensitiser at very low concentrations, producing extensive, pronounced eczema that is difficult to treat. In the EU, the use of DMS for consumer products had been forbidden since 1998, but the import of products containing dimethyl fumarate into the EU was not prohibited until January 2009.

The 'toxic sofa' cases earned notoriety for the sellers of the products concerned (which included, Argos, Homebase, Walmsley Furnishings and a number of other retailers) following investigations for the BBC consumer affairs programme 'Watchdog' and extensive reporting in the newspapers and other media. Prominence was given to babies, pets and elderly people who had suffered burns and also to the poor working conditions of 'exploited' workers in the factories in the Guandong Province of China from which the furniture came.[1]

For reasons that are obvious (the name of the company and its specialisation in leather furniture), LOLL was often singled out in particular for vilification.

Management response

Once the problem became clear, LOLL withdrew the sofas from sale, but they did not contact the customers who had bought them, in contrast to Argos, which commissioned a report by a consultant dermatologist to verify the cause of the injuries, withdrew the sofas (of which they had sold some 30,000) and contacted the purchasers. Richard Langton, a senior litigator at a law firm that spearheaded a class action against LOLL, described this as a 'crucial failure' and stated of his clients that 'All have been upset that household goods could hurt them in their own home.'[2]

In negotiations conducted by its CEO Paul Briant, LOLL sought redress against its supplier Linkwise and, in November 2007, reached a verbal agreement with Linkwise under which it agreed to give credit of $900,000 against future orders in settlement of matters relating to the 'toxic sofas'. LOLL in turn guaranteed $20 million of purchases over the 12 months from 1 December 2007. LOLL gained approval from its product liability insurers (Zurich) for this agreement, stating that the invoice for $900,000 would make it clear that the settlement was in respect of damage to reputation and recall costs, and did not include compensation payable to victims who made claims for personal injury. However, Linkwise subsequently refused credit against further deliveries at a time when LOLL was under severe pressure – New Year sales figures were down and the company's share price had declined by 50%.

In February 2008, there were further negotiations in which LOLL effectively reconfirmed the original agreement, with credit of $900,000 (payable in six instalments of $150,000) to be given against future orders of $20 million for the year, in exchange for which LOLL confirmed that it would 'make no further claim on Linkwise in respect of alleged allergic reactions to their products'. Unfortunately, this new agreement was not submitted to Zurich for approval. Since LOLL went into administration early in 2009, personal injury claims that otherwise would have been made against LOLL were now brought directly against the insurers under the Third Parties (Rights Against Insurers) Act 1930. Zurich at first repudiated liability for these claims, arguing that in settling directly with Linkwise under the 'February agreement', LOLL had breached a claim condition that prohibited it from compromising or settling any claim without the insurer's

consent and were also in breach of an implied term of the policy to act reasonably and in good faith with regard to Zurich's interests.

The High Court ruled in favour of Zurich,[3] which entitled the insurer to avoid personal injury claims made directly against them. However, in December 2001, Zurich reached a compromise agreement under which 408 claimants against LOLL received around £1,800 each.

Consequences of risk event

The direct effects of the 'toxic sofa' cases included injuries to at least 4,500 people and claims by them against the firms who sold the furniture, including LOLL, in the region of £20 million. Added to these were the substantial costs incurred by the companies concerned in investigating the problem and managing and paying for the recall. The collapse of LOLL meant loss of employment for a significant proportion of its 850 staff.

Three directors of LOLL, Paul Briant, Steve Dowdall and Peter Ling, all resigned from the business between three and twelve months before its collapse According to these three, the business at the time it went into liquidation had two other executive directors and five other non-executive directors, all of whom were described as 'respected members of the City'.

Briant, Dowdall and Ling claim to have personally lost over £5 million between them when the business collapsed and to remain unpaid from their service contracts. They subsequently became directors at another firm, 'World of Sofas Ltd', which started trading some eight months after the collapse of Land of Leather Ltd; with the exception of its taking over some empty stores, they stated it had no connection with Land of Leather Ltd. When World of Sofas Ltd itself went into administration, these directors claimed to be its majority creditors to the tune of over £2 million.[4]

It cannot be stated, simply, that LOLL was brought down by the 'toxic sofa' cases, because there were many contributory causes to the demise of the company. Not least of these was the credit crunch, which made refinancing difficult and affected LOLL directly, and the economic recession born of the financial crisis, which hit retailers hard, putting many similar firms out of business. The group was also badly affected by the weakness of the pound as well as a slump in trading. LOLL bought 40% of its stock in the Far East in dollars, and was thus exposed to movements in sterling against the dollar and the euro.[5] A further factor was a general shrinking in the availability of credit insurance at this time, which caused suppliers to cut ties with firms they regarded as high risk or to refuse to supply them on credit terms, making it difficult for companies such as LOLL to get goods into their stores. Yet another factor must have been the 'niche strategy' of LOLL, relying as it did on the sale of one (relatively expensive) product at a time, when buyers were likely to be short of cash and worried about the security of their jobs.

Having said all this, the damage to the reputation of LOLL brought about by the 'toxic sofa' scandal certainly made a very significant contribution to its difficulties. Many other firms, including Argos, Homebase and Walmsleys, sold the sofas but, quite apart from the fact that at least some of these handled the crisis better, their reputations suffered less because they were not associated exclusively with

leather furniture – the one and only culprit in the crisis. Equally, these other firms had businesses that were better diversified and they were not trapped in the same (almost literally) toxic niche as LOLL. The chart below tracks the LOLL share price over the relevant period against that of the Home Retail Group (owner of Argos and Homebase) and shows how the LOLL share price went into relative decline from early 2007 and then collapsed in late 2007.

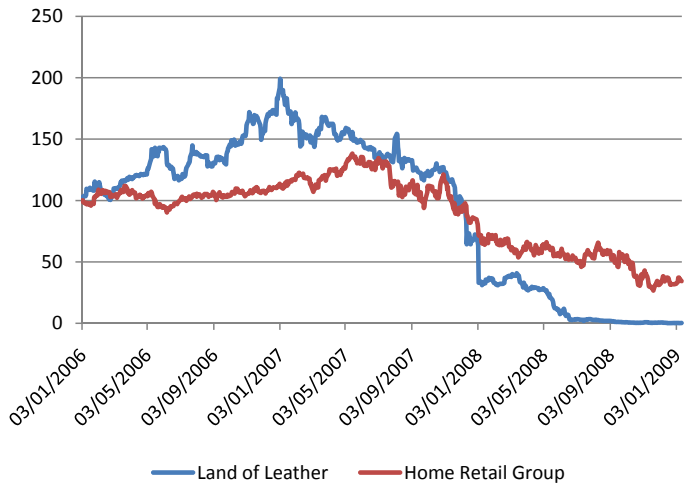


Chart: Land of Leather and Home Retail Group share prices, rebased to 1 January 2006 = 100[6]

Role of Insurance in loss containment, compensation and remediation

The insurance industry played a variety of roles in the 'toxic sofa' saga and it cannot be said that the LOLL's relationship with the industry was always a happy one. The mistake of LOLL's management, made at a time of great pressure, in not keeping Zurich informed of its negotiations with Linkwise, resulting in Zurich's initial refusal to indemnify it for injury claims has already been discussed. However, this error was largely irrelevant to the fate of the company, which was already in administration when liability was denied by Zurich. We have also seen that the withdrawal of credit insurance compounded LOLL's existing difficulties, with a spokesman for the administrators Deloitte commenting that this had 'tightened the noose around the company'.[7]

It is also relevant to mention that LOLL sales people were encouraged to vigorously sell both extended warranty and payment protection insurance (PPI) to the customers who bought their furniture and staff were well rewarded if they succeeded in doing so.[8] In fact, the FSA fined both LOLL and its Chief Executive Paul Briant personally for the company's mis-selling of PPI insurance in May 2008.[9]

Product liability insurers for all sellers of 'toxic sofas' (including Argos, LOLL and Walmsleys) were expected to pay around £20 million in total to the victims concerned.[10]

Finally, it is worth noting that, in 2010, the insurers of Argos, which received 1,840 claims for sofas sold by them, launched a £13 million claim against Leather Trade House, a leading leather technology supplier to Argos, based on an alleged failure in its duty to properly investigate the effects of DMF.[11]

Comparison with similar risk events/companies

The 'toxic sofa' cases bear useful comparison with other product recall cases detailed in this report, including Firestone, Cadbury and Dasani, and with a large number of well-known recalls, including the notorious (but well-managed) Tylenol cases.

Summary – risk management lessons and conclusions

We have seen already that the 'toxic sofa' crisis was only one among a whole set of problems that led to the failure of LOLL: even if the crisis had been managed perfectly by LOLL, the company might well have failed in any event. There appear to be three interlinked elements in the failure, working in combination. Not necessarily in order of importance, they were: first the 'toxic sofa' disaster and its handling by LLOL; second the general business strategy adopted by the group; and third, the exceptionally difficult trading conditions the group faced in the course of the credit crunch and the recession that followed. The second of these – the firm's business strategy made it more vulnerable to both the first (the 'toxic sofa' calamity) and the third (general market conditions). The last-mentioned needs no comment in itself, but the following points emerge from the first two and their interrelationship:

1. The handling of the 'toxic' sofa crisis reinforces the need to react quickly and positively where a product recall becomes necessary and to be open with customers, keeping them fully informed, even when the news is bad.

2. Insurers (and other professional advisers, including bankers, lawyers and brokers) should also be fully apprised of the situation and regularly updated. It is better to have them as useful allies than opponents who seek to avoid liability or otherwise pull out, which may cause yet more reputational damage.

3. A niche strategy linked to one type of product (leather furniture in this case) is dangerous, especially if the niche becomes unprofitable, and even more so if the product is tarnished by safety concerns.

4. Dependency on high volume sales of cheap products lines (which came to be the case with LOLL) creates obvious risks in terms of quality and safety, which can rebound upon management.[12]

5. Sourcing from overseas suppliers (such as China) needs careful management. Agreements need to be precise, detailed and accurately recorded to avoid misunderstanding and expensive legal disputes. (This was not the case with the 'November' LOLL agreement mentioned earlier.)

6. Safety standards are almost bound to be lower with goods supplied at rock-bottom prices and need to be carefully monitored.

7. Focus on deriving profit from peripheral activities (e.g. sale of extended warranty or PPI insurance) risks both management and staff 'taking their eyes off the ball' and neglecting key issues of safety, quality and customer service.
8. Selling extended warranty insurance transfers some of the risks associated with the second (quality) to the customer, but not the first (safety).

1. See, for example, the Mail Online report of 21 June 2008, www.dailymail.co.uk/femail/article-1028097/This-baby-burned-red-raw-sofa-giving-toxic-fumes-As-investigation-reveals-hundreds-victims.html
2. See www.rjw.co.uk/latest-news/article/justice-at-last-for-land-of-leather-toxic-sofa-victims/.
3. See Clare Horwood v. Land of Leather (In Administration), Zurich Insurance PLC & Others [2010] Lloyd's Rep IR 453, [2010] 1 CLC 423, [2010] EWHC 546 (Comm), where the facts of the agreements between LOLL and Linkwise are set out in the judgment.
4. See these parties' own statement (#87) at the blogsite 'Trading Talk', note 7 below.
5. The Independent, www.independent.co.uk/news/business/news/land-of-leather-shares-suspended-1320531.html
6. Based on daily share price data from Bloomberg
7. The Independent ,13 January 2009, www.independent.co.uk/news/business/news/land-of-leather-is-latest-victim-of-credit-crisis-1332233.html
8. See the extensive comments by employees on this, and other matters connected with the firm at the retail blogsite 'Trading Talk' http://blog.emap.com/shop/2009/03/17/land-of-leather-morphs-into-world-of-sofas/.
9. See www.fsa.gov.uk/pages/Library/Communication/PR/2008/039.shtml
10. See POSTonline, 15 December 2010, www.postonline.co.uk/post/news/1932783/zurich-reaches-toxic-sofa-compensation-compromise
11. The Daily Telegraph, 18 July 2010, www.telegraph.co.uk/finance/newsbysector/retailandconsumer/7897371/Argos-seeks-13m-from-sofa-supplier.html
12. LOLL sold sofas varying in price from £499 or less to around £5,000. It is evident that the vast majority of problems, including the toxicity issue, came from the former. See the LOLL staff blogs at 'Trading Talk' note 7 above.

Case study title	Maclaren Pushchair Recall
Main risk event category and brief description	**Product related – recall** In this case, reported child injuries in the USA involving pushchairs led to a major product recall. Maclaren was then perceived to not apply a similar standard of post-event action in UK and Europe. The result was damage to the brand.
Company involved	**Maclaren**
Key company details	Maclaren is a Northamptonshire-based company set up in 1965 by retired aeronautical engineer Owen Finlay Maclaren, who had patented the original folding baby buggy. The company went into receivership in 2000 and was bought by a US investor, who transferred its manufacturing operations to China and expanded sales. It has become one of the most successful of British exporters, selling pushchairs in 50 countries. Maclaren is an iconic brand in the eyes of mothers.
Main business sectors	Manufacturers of pushchairs (known as strollers in the USA).
Date of event	2009
Risk event	Maclaren pushchairs are designed to comply with the appropriate safety standards in Europe and the USA. The problem arose when children placed their fingers in the hinge mechanism when the adults were folding or unfolding the pushchair. By November 2009, Maclaren had received 15 reports of children being seriously injured in the USA over a ten-year period, twelve of these resulted in fingertip amputations, eight of which had occurred in the previous two years.[1] The firm undertook a voluntary recall of one million pushchairs in the USA, which involved issuing free repair kits to owners to cover the hinges. It should be noted that the use of term 'recall' in the USA is different from that in other countries. It does not necessarily mean that return of products to the manufacturer. It covers any type of corrective action such as in this case modification by the customer in their own home. Although the range of pushchairs in the UK and the rest of Europe are comparable, Maclaren decided not to conduct a similar recall exercise. This decision provoked strong reaction from the UK media[2] and customers, with accusations of applying double standards and trying to save money. The company quickly admitted its mistake and made repair kits available to customers outside the USA. However, reputational damage had already occurred – the influential UK mothers' social networking site www.mumsnet.com was particularly active and was used as a channel for criticism. Within three months, forty UK families had contacted the solicitors Russell Jones and Walker to join a class action against Maclaren.

In May 2010, Maclaren, without admitting liability, agreed to pay damages of £2,500 to £10,000 to children aged one to eight years, depending on their age and severity of their injury. The money is to be held in trust until the children reach 18 years of age.[3]

Management response

Maclaren took advice from the appropriate safety agencies and followed generally accepted procedures on each side of the Atlantic. Nevertheless, brand damage resulted from appearing to apply double standards, with the UK receiving inferior treatment.

Day 1 action

In the USA, after consulting with the US Consumer Product Safety Commission, Maclaren issued a joint press statement:[4]

- A voluntary recall of one million Maclaren pushchairs has been made to alert customers of the potential risk when folding/unfolding them.
- Customers should immediately stop using the pushchairs and contact Maclaren (phone, website) to obtain a free kit comprising hinge covers.
- Customers should read the safety advice in the Maclaren instruction manual prior to using the pushchairs.

Two Maclaren vans were deployed in New York City to drive around the streets offering repair kits to parents with pushchairs.

In the UK, when interviewed by the press in the UK, Maclaren Europe said:[5]

- The recall would not apply to the UK or the rest of Europe.
- The USA is considered a different market with different requirements.
- The products fully comply with European safety legislation and if the buggy is folded or unfolded in line with instructions, the risk of injury is non-existent.
- Customers should continue to use their existing Maclaren buggies since they are safe when opened and closed correctly.[6]
- There are a lower number of similar reported incidents among the considerably higher number of Maclaren buggies sold in Europe.
- Kits are not deemed necessary at the present time.
- Operating instructions had been updated and warning labels placed on new buggies.

The Northamptonshire Trading Standards Department said:[7]

- Maclaren approached us seeking advice on this issue in September.
- A product recall in the USA is not the same as that in the UK.
- The product recall in the USA is to alert people to a potential safety risk and no pushchairs were actually being taken back from customers.
- Because the pushchairs conform to EU regulations and there has been only one reported injury involving a Maclaren pushchair in the UK, we advised them that a recall in this country or the EU was not a legal requirement.

Day 2 action
Following severe criticism of the company on both sides of the Atlantic, the CEO of Maclaren in the USA told the press:[8]

- A number of mistakes had been made in how the product recall had been handled, including not explaining the issue clearly enough.
- Phone lines had been jammed and the website had been inoperable due to the high number of customer requests.
- Repair kits will now be made available to customers elsewhere in the world, giving equal treatment to all customers.
- 'Our mistake was that we did not apply our own knowledge of our customer base and our common sense to be physically present. In my view, we were also too shy about communication.'

Subsequent action
All new Maclaren pushchairs have been fitted with hinge covers.

Consequences of the risk event

The costs of the event were substantial, but the details are unavailable as Maclaren is a private company. They would have included:

- Cost of running a recall in the USA.
- Litigation costs in the UK and USA.
- Damage to the brand.
- Market share.

The UK government announced an investigation into the safety of pushchairs by all manufacturers in May 2010.

Role of Insurance in loss containment, compensation and remediation

It is presumed that Maclaren had product liability and possibly product recall insurance. However, this would not have compensated for reputational risk, particularly damage to the Maclaren brand.

Comparison with similar risk events/companies

Cadbury: salmonella (2006).
Roman blinds child strangulation (2009).

Risk management lessons and conclusions

This is a product problem where a company took advice, followed standard practice, yet rapidly discovered that its response was insufficient to satisfy public concerns. It provides several important lessons:

1. **Reputational damage is more likely where the event involves a core competence**
   Stakeholders appreciate that even the best companies may have problems from time to time. However, they will be less tolerant of events involving something that the company should have prevented as it is a core competence. In the case of Maclaren, this was a brand with a reputation for the safety of children and therefore it was highly vulnerable in that context. The injuries and, in particular, the UK response, therefore provoked strong negative reaction. Two typical newspaper quotes were:

'Maclaren's reputation in the UK was tarnished.' [9]
This is 'extremely damaging for the company [...] Any product that potentially causes serious injuries to children will face a battle to re-establish credibility with consumers'.[10]

2. **Response to an event needs 'outside in' thinking**
   Stakeholders do not live in isolation. In the modern world, they quickly become aware of issues and responses elsewhere. If they perceive that different standards are being applied, they will not be satisfied. Companies really need to consider how their actions, however well-meaning and compliant, will look from the outside.

3. **Social media has become a powerful channel of communication – for good or bad news**
   The role of mumsnet.com in this case is particularly interesting. Maclaren had benefited from glowing testimonials about its products in the past. However, the site became a rapid, targeted and influential channel for complaints after the event.

4. **Recalls require robust telephone systems and websites**
   Maclaren underestimated the volume of telephone and Internet traffic that would be generated by its recall. Companies need to consider how robust their systems would be should a recall be initiated.

1. BBC News, 10 Nov 2009, Pushchair amputation risk recall, news.bbc.co.uk/1/hi/8351424.stm and www.ft.com/cms/s/0/ae8c842e-cef9-11de-8a4b-00144feabdc0,s01=2.html#axzz1M3i3AhWo
2. Daily Mail, 10 Nov 2009, Maclaren recalls one million pushchairs in US after children lose their fingers … but leave the same models on sale here, by Sean Poulter, www.dailymail.co.uk/news/worldnews/article-1226583
3. Guardian.co.uk, 6 May 2010, Maclaren agrees to compensate UK children injured by pushchairs, by Jill Insley, www.guardian.co.uk/money/2010/may/06/maclaren-compensate-children-injured-pushchair?
4. http://recall.maclaren.us
5. The Independent, 10 Nov 2009, Pushchair maker defends lack of EU recall, by Ellen Branagh, www.independent.co.uk/news/world/americas/pushchair-maker-defends-lack-of-eu-recall-
6. Guardian.co.uk, 10 Nov 2009, Q&A: Maclaren pushchair recall and British customers, by Sandra Haurant, www.guardian.co.uk/money/2009/nov/10/maclaren-pushchair-recall-british-customers?
7. www.tradingstandards.gov.uk/extra/news-item.cfm/newsid/334
8. Financial Times, 11 November 2009, Maclaren chief pledges global action, by John Gapper, www.ft.com/cms/s/0/81d1c07e-ce55-11de-a1ea-00144feabdc0.html#axzz1JzN5SXiA
9. The Times, 6 May 2010, Maclaren payout to children injured by pushchairs , by Valerie Elliott, www.timesonline.co.uk/tol/news/article7118596.ece
10. Financial Times, 9 Nov 2009, Maclaren faces the mother of all recalls, by John Gapper, http://blogs.ft.com/businessblog/2009/11/maclaren-faces-the-mother-of-all-product-recalls/#

Case study title	Northern Rock
Main risk event category and brief description	**Corporate misconduct** Northern Rock's reliance on wholesale money market funding became unsustainable during the credit crisis and it had to seek liquidity support from the Bank of England. This led to a rush of Northern Rock's retail depositors seeking to withdraw their funds and the UK government had to effectively nationalise Northern Rock to prevent its collapse. Subsequently, around 2,000 jobs were lost.
Company involved and key details	Northern Rock was a building society, but converted to a bank when it demutualised in 1997. Prior to its problems, it had grown to be the fifth-largest mortgage lender in the UK.
Main business sectors	Personal banking services, particularly mortgage lending and savings accounts.
Date of event	2007
Risk event	**Background** Building societies developed in the UK in the late 1700s as co-operative savings groups to finance the building of houses for members. Building societies were mutual organisations, owned by their members and relied mainly on funds deposited with them by members to make mortgage advances to other members. To enable building societies in the UK to better compete with banks, the Building Society Act of 1986 allowed building societies to 'demutualise' under certain conditions and convert to public limited company status, giving them the capacity to raise additional capital to fund more mortgage lending and develop other banking services. Northern Rock demutualised in 1997; the conversion from mutual to commercial status increased the pressures to make profits and drive up the share price, with management holding share options. The consequences at Northern Rock included fraudulent reporting and an aggressive financial business model: • From 2005 onwards, staff at Northern Rock were under pressure to report mortgage arrears figures at half the industry average. • Like other banks and demutualised building societies, Northern Rock's business model included raising (short-term) funds from the wholesale money markets to support its (long-term) lending activities. However, Northern Rock was the most vulnerable of the UK building societies, with a uniquely high percentage of around 75% of its funds coming from the wholesale money markets by the end of 2006 (the proportion of funds coming from retail deposits had fallen from around 63% at the end of 1997 to around 22% by the end of 2006 – compared to other building societies that had demutualised, for example, Alliance & Leicester at 43% and Bradford & Bingley at 49%).

Event

Following demutualisation and listing on the stock exchange, Northern Rock pursued aggressive growth and entered the FTSE 100 in September 2001. At the end of 1997, Northern Rock had assets of £15.8 billion; by the end of 2006, it had grown more than sixfold to assets of £101.1 billion and it was the fifth-largest UK mortgage lender, with 8.3% of the residential mortgage market.

Northern Rock had sufficient assets to meet its liabilities, but during 2007, it started experiencing liquidity problems as the wholesale money markets began shrinking because of the emerging US subprime crisis, i.e. Northern Rock experienced difficulties refinancing loans that it was due to pay back to the markets. On 9 August, Northern Rock's traders noted a 'dislocation in the market' for its funding.

On 12 September, Northern Rock asked for liquidity support from the Bank of England.

At 8:30pm on 13 September, Robert Peston of the BBC reported that Northern Rock plc had asked for and received emergency financial support from the Bank of England.

The terms of the funding facility were finalised in the early hours of 14 September and announced at 7am. That day, long queues formed outside Northern Rock branches as depositors sought to withdraw their savings. Around £1 billion was withdrawn in one day, about 5% of the bank's total deposits; around £2 billion was withdrawn within a couple of days. Northern Rock's phone lines were jammed and its website failed due to the volume of customers trying to log on and withdraw funds from their Internet accounts. This was the first run on a UK bank since 1878.[1]

Northern Rock's share price fell by more than 50% in a couple of days (see share price chart). The shares had originally been floated at £4.70 in October 1997 and had reached a high of £12.51 on 9 February 2007. The share price then went into steady decline, losing nearly half its value, reaching around £6.50 by mid-September 2007, and dropping below £3.00 by 17 September, and below £1.50 by 14 November. The rise in the cost of a ten-year CDS (Credit Default Swap) on Northern Rock mirrored this pattern.

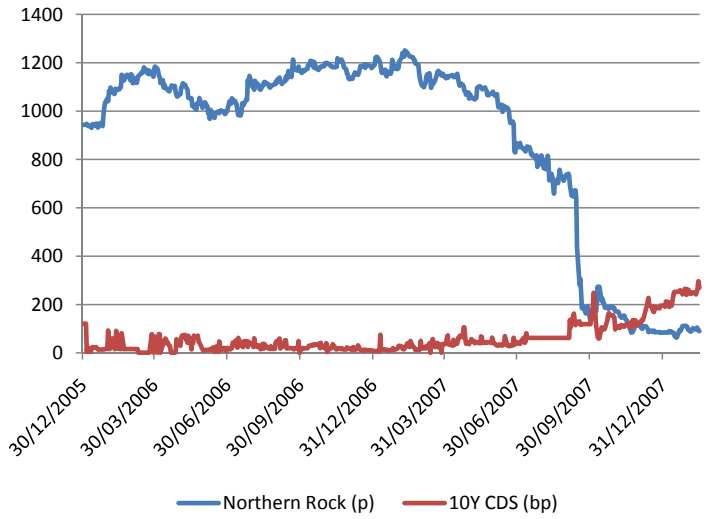


Chart: Northern Rock share price and price of ten-year CDS[2]

On 17 September, the Chancellor of the Exchequer, Alistair Darling, announced that the UK government and the Bank of England would guarantee all deposits held at Northern Rock. The Bank of England anticipated that emergency funding would be in the range £20 billion to £30 billion.

By January 2008, Northern Rock's loan from the Bank of England had grown to £26 billion. On 12 January 2008, Ron Sandler was appointed by the government to lead Northern Rock.

Various proposals were made to take over Northern Rock (including several consortia led by private equity firms), but only two remained on the 4 February deadline for bids (a consortium led by Virgin Group and another by the bank's management).

On 17 February, Alistair Darling announced that the bids did not offer 'sufficient value for money to the taxpayer' and Northern Rock was effectively nationalised. This was intended to be a temporary measure by the government, with the objective of eventually returning Northern Rock to the private sector. UK Financial Investments Limited was created to be the sole shareholder in Northern Rock and to run it on a commercial basis at 'arm's length' from the government.

In December 2008, EU regulators approved the UK government's actions in providing aid to Northern Rock as being in line with European emergency aid rules.

In February 2010, the government removed the 100% guarantee of Northern Rock deposits (now only the first £85,000 of any deposit is guaranteed, as for most other UK banks and building societies).

Management response

Northern Rock's Chairman Dr Matt Ridley resigned on 19 October 2007, and its Chief Executive, Adam Applegarth, resigned on 16 November 2007 (but stayed on in a caretaker role until 13 December 2007) and received a £760,000 pay-off.[3]

Four non-executive directors retired from the board of Northern Rock on 16 November 2007. Three other directors of the company stood down as board members, although they remained as officers of the company.

The event had consequences for various constituencies other than those noted above for the government and Northern Rock's senior management.

a. Consequences for Northern Rock employees
In July 2008, Northern Rock made the first of several redundancy announcements, 800 compulsory redundancies and 500 voluntary redundancies. On 8 June 2010, a further 650 job losses were announced.

b. Consequences for Northern Rock shareholders
Northern Rock had around 100,000 small shareholders when the shares were suspended on 18 February 2008, who were then unable to sell their shares and faced complete uncertainty as to how much they would now be worth.[4]

c. Consequences for local region
Northern Rock was headquartered in Newcastle, in the North East of England. Prior to its demotion from the FTSE 100, it was one of the only two FTSE 100 companies headquartered in the North East. A report commissioned by the development agency One North East estimated that the failure of Northern Rock cost the local region around £800 million (mostly due to the job losses).

Regulatory responses include:

Three former directors of Northern Rock were fined and banned by the UK Financial Services Authority (FSA) in relation to misreporting mortgage arrears and possessions data – David Baker,[5] former Deputy Chief Executive (fine of £720,000 reduced to £504,000); David Jones,[6] former Finance Director (£400,000 reduced to £320,000) and Richard Barclay,[7] former Credit Director (£300,000 reduced to £140,000).

The All Party Commons Treasury Select Committee conducted an investigation into Northern Rock's failure. The 181-page report was published on 26 January 2008[8] and its conclusions in relation to Northern Rock and the FSA included:

- The directors of Northern Rock were the principal authors of the difficulties the company had faced since August 2007. Northern Rock had pursued a high-risk, reckless business strategy, with its reliance on short- and medium-term wholesale funding and absence of sufficient insurance, and a failure to arrange a standby facility or cover for that risk. The non-executive members of the board, and in particular the Chairman of the board, the Chairman of the Risk Committee and the senior non-executive director, failed in the case of Northern Rock to ensure that it remained liquid as well as solvent, to provide against the risks it was taking and to act as an effective restraining force on the strategy of the executive members.[9]
- The business model of Northern Rock was clearly stated, and it is not possible to make a distinction between types of shareholders – and so whether shareholders[10] acquired their shares as part of the demutualisation process, or as staff (75% of employees at Northern Rock

were also shareholders), they must be viewed as taking a risk for which they sought a reward and for which they are now paying a price.

- The FSA systematically failed in its regulatory duty to ensure that Northern Rock would not pose a systemic risk.[11]
- The FSA has acknowledged that there were clear warnings signals about the risks associated with Northern Rock's business model, both from its rapid growth as a company and from the falls in its share price from February 2007 onwards, yet it did nothing to prevent the problems that came to the fore from August 2007 onwards. This was a substantial failure of regulation;[12] ; the FSA also failed in regard to various other aspects, such as allowing Northern Rock[14] to increase its dividend (and weaken its balance sheet) and not ensuring adequate stress testing was conducted by Northern Rock, and it did not allocate sufficient resources or time to monitoring a bank whose business model was so clearly an outlier and whose business grew so rapidly.[15]
- The Committee also expressed concern that the Chief Executive of Northern Rock was not a qualified banker. The FSA should not have allowed the appointment of a Chairman and Chief Executive of a 'high-impact' financial institution where both candidates lacked relevant financial qualifications.[16]

There were many other conclusions and recommendations in relation to other matters such as the role of Bank of England, the topic of depositor protection and the creation of the post of Head of Financial Stability.
On 26 March 2008, the FSA released a summary of a review carried out by its Internal Audit Division into its supervision of Northern Rock affair.[17] This Internal Audit Review identified four key failings:

- A lack of sufficient supervisory engagement with the firm [Northern Rock], in particular the failure of the supervisory team to follow up rigorously with the management of the firm on the business model vulnerability arising from changing market conditions.
- A lack of adequate oversight and review by FSA line management of the quality, intensity and rigour of the firm's supervision.
- Inadequate specific resource directly supervising the firm.
- A lack of intensity by the FSA in ensuring that all available risk information was properly utilised to inform its supervisory actions.

Two weeks before this FSA report was released, *The Times*[18] reported that of the seven FSA supervisors working closely on Northern Rock in the 19 months before its disaster, five had left. Separately, senior management in the FSA who had Northern Rock within their area of operation were also subsequently reassigned responsibilities.

On 1 January 2010, the bank was split into two, Northern Rock plc (the so-called 'good' bank – containing the bank's retail and wholesale deposit business) and Northern Rock (Asset Management) plc (NRAM, the 'bad' bank – containing the assets of the balance of the bank's mortgage book, government loan, etc.). Northern Rock plc was 100% funded by retail savings deposits, until March 2011, when around 3% funding was achieved through a mortgage-backed securities offering. There have been calls to remutualise Northern Rock plc or turn it back into a building society.

Role of insurance in loss containment, compensation and remediation

The post-nationalisation directors of Northern Rock decided in October 2008 not to bring legal action for negligence against the directors in charge during the crisis; nor would any action be taken against the auditors, PricewaterhouseCoopers.

Investors, led by two hedge funds that owned 20% of Northern Rock, took legal action against the government, regulators and individuals that they believed were responsible for the bank's failure, and sought reassessment of the compensation they received for their shares when the bank was nationalised; the case was lost (13 February 2009), as were subsequent appeals.

On 8 December 2009, it was announced that the Northern Rock shareholders would not receive any further compensation.

Comparison with similar risk events/companies

Risk management lessons and conclusions

The Bradford and Bingley building society demutualised in December 2000 and was then nationalised in 2008, due to the effects of the credit crunch. {By the end of 2008, every UK building society that floated on the stock market in the waves of demutualisation in the 1980s and 1990s had either been sold to a conventional bank or been nationalised.} On 24 March 2010, UK Financial Investments Limited integrated the mortgage run-off business of Bradford and Bingley and Northern Rock (Asset Management) plc, maintaining their separate balance sheets, but from 1 October 2010 running them under a single holding company UK Asset Resolution Ltd (AKAR).

In September 2008, all three of Iceland's major commercial banks collapsed following difficulties in refinancing their short-term debt and a run on deposits, primarily from UK savers.

Failure of regulatory authorities, credit rating agencies and auditors to raise concerns – cf: Enron case study.

Risk management lessons and conclusions

Lessons – pre-crisis

1. **Alignment of risk and remuneration coupled with apparent reward for failure**
   The nature and scale of management incentives changed when Northern Rock went from being a mutual to a listed company. This was combined with aggressive growth plans.

   There is also an apparent reward for failure – although he held the CEO position, Adam Applegarth was not fined or banned by the FSA, and as noted above, actually received a large financial settlement when he resigned. With such a reward for failure as a downside, there is even greater incentive for CEOs to take more upside risk (cf: the case of Joseph Cassano of AIG Financial Products).

2. **Lack of understanding of the business by top managers and the board**
   Senior management was not professionally qualified; neither Northern Rock's Chairman Dr Matt Ridley nor CEO Adam Applegarth had any banking qualifications. Both HBOS (in which the government took a 40% share) and RBS (in which the government took a 58% share) also received funds from the government as part of its steps to prevent a UK banking sector collapse. Similarly, none of the former Chairmen and CEOs of either HBOS or RBS had any professional banking qualifications. Also, there was an apparent failure of the non-executives to restrain the executives.

   In additional, management did not appear to have stress-tested their business models; if they had, then they did not have fall back plans for when the money markets dried up.

3. **Failure of the regulatory authorities, credit rating agencies and auditors to raise concerns**
   None of the Tripartite Authorities (namely the FSA, Bank of England and Treasury), which shared regulatory responsibility, nor the credit rating agencies, nor the auditors appear to have raised any concerns about Northern Rock's business model and its inherent risky reliance on wholesale funding markets. In March 2011, the House of Lords Select Committee on Economic Affairs said that the failure of audit firms to blow the whistle on reckless banks in the run-up to the financial crisis was down to a culture of box-ticking and neutrality at the expense of prudence. PricewaterhouseCoopers (PwC) was particularly criticised for its complacency in 2006 when the Committee said it was already clear that Northern Rock was operating a dangerously risky business model: 'We are astonished that PwC appeared not to recognise an amber light that flashed so brightly.'[19]

Lessons – once crisis broke

The following advice is drawn in part on material on The Smart Agency's website.[20]

1. **Speed of communication is vital to retain some control over the media**
   Once the news of Northern Rock's approach to the Bank of England for support had broken on the evening of 13 September 2007, Northern Rock was on the back foot in terms of media communication. It failed to get the message over at the opening of business on 14 September 2007 that its depositor's money was now as safe as […] the Bank of England, and so prevent the queues of people outside branches up and down the country and the consequent television coverage. From this point, it was almost impossible to restore depositors' confidence and staff morale.

2. **Senior people have to show that they care and that they are in charge**
   CEO Adam Applegarth, who apparently shuns the limelight, did not appear before the media, but left it to his deputy David Baker to field questions from angry listeners on radio and television programmes in studios around the country. A statement by and/or interview with the CEO from a position of power, such as Northern Rock's headquarters, on the morning of 14 September might have had more effect and gone someway to counter the only other images that television had to show, i.e. the queues, in news programmes and on the rolling news channels.

3. **Staff can be your ambassadors, so communicate early, take them into your confidence and bring them in on your side**
   Apparently internal communications were handled better, with Northern Rock's employees remaining calm and when door-stepped by TV crews outside headquarters, the message seemed to be 'everything's fine'. Press coverage fades, but television pictures have a much longer-lasting impact.

Concluding remarks

Northern Rock was the first UK bank to suffer a 'run on the bank' in 150 years and the first bank or building society to be nationalised in modern times. Northern Rock was a case study in failure not only by the board and senior management of Northern Rock, but also the Financial Services Authority (FSA) as the regulator and the other Tripartite Authorities, namely the Treasury and the Bank of England.

1. House of Commons, Treasury Committee, The run on the Rock, Fifth Report of Session 2007-08, Volume I, HC56-I, published 26 January 2008, pp. 8-9, www.parliament.the-stationery-office.co.uk/pa/cm200708/cmselect/cmtreasy/56/56i.pdf
2. Data from Datastream
3. The Telegraph, 31 March 2008, Northern Rock boss to get £760,000 payoff, www.telegraph.co.uk/finance/newsbysector/banksandfinance/2787258/Northern-Rock-boss-to-get-760000-payoff.html
4. The Times, 18 February 2008, Q&A: Northern Rock nationalisation, www.timesonline.co.uk/tol/money/investment/article3390744.ece
5. Financial Services Authority, Final Notice, David Baker, 13 April 2010, www.fsa.gov.uk/pubs/final/david_baker.pdf
6. Financial Services Authority, Final Notice, David Jones, 27 July 2010, www.fsa.gov.uk/pubs/final/david_jones.pdf
7. Financial Services Authority, Final Notice, Richard Barclay, 13 April 2010, www.fsa.gov.uk/pubs/final/richard_barclay.pdf
8. House of Commons, Treasury Committee, The run on the Rock, Fifth Report of Session 2007-08, Volume I, HC56-I, published 26 January 2008, , www.parliament.the-stationery-office.co.uk/pa/cm200708/cmselect/cmtreasy/56/56i.pdf
9. House of Commons, op cit, paragraph 2, p. 145
10. House of Commons, op cit, paragraph 3, p. 145
11. House of Commons, op cit, paragraph 9,p. 146
12. House of Commons, op cit, paragraph 4, p. 145
13. House of Commons, op cit, paragraph 5, pp. 145-6
14. House of Commons, op cit, paragraph 7, p. 146
15. House of Commons, op cit, paragraph 9, p. 146
16. House of Commons, op cit, paragraph 8, p. 146
17. Financial Services Authority, FSA moves to enhance supervision in wake of Northern Rock, 26 March 2008, www.fsa.gov.uk/pages/Library/Communication/PR/2008/028.shtml
18. The Times, 10 March 2008, Five FSA officials who oversaw Northern Rock have resigned, http://business.timesonline.co.uk/tol/business/industry_sectors/banking_and_finance/article3517067.ece
19. The Times, 31 March 2011, Peers 'astonished' that PwC failed to see flashing light, www.thetimes.co.uk/tto/business/industries/supportservices/article2966154.ece
20. The Smart Agency, The Northern Rock, in a hard place, 2009, www.thesmartagency.co.uk/dispatches/northern-rock.html

Case study title	Rail disasters: Great Heck, Hatfield and Potters Bar

Main risk event category and brief description

Major loss of life (transport accidents)

This study covers three rail disasters that occurred in a relatively short space of time, causing, between them, 21 deaths and more than 228 injuries. These events resulted in substantial compensation payments to the accident victims and criminal prosecutions against some of the firms and individuals involved.

Two of the accidents (Hatfield and Potters Bar – and especially the first of these) triggered major changes in the organisation and management of Britain's rail infrastructure. They also caused significant financial and reputational damage to two of the major rail maintenance contractors (Balfour Beatty and Jarvis) and contributed, at least in part, to the collapse of the latter.

Companies involved

Railtrack, Network Rail, Jarvis plc, Balfour Beatty Rail Maintenance Ltd (BBRML) and various Train Operating Companies (TOCs).

Key company details

Railtrack was a group of private companies that controlled Britain's rail infrastructure. Railtrack got into financial difficulty in the wake of the Hatfield Disaster, with debts of around £3.3 billion. It was put into administration in October 2001 following the government's refusal to inject further funds. Most of its assets were transferred to Network Rail.

Network Rail is the government-created successor of Railtrack, which now runs Britain's rail infrastructure, including rail tracks, signalling system, rail bridges, tunnels, level crossings, viaducts and 18 key stations.[1] It is a private company limited by guarantee, whose principal asset is Network Rail Infrastructure Limited, a company limited by shares. However, Network Rail is partially funded by the government, which also underwrites its debts, so it is generally regarded as a state-owned company.

The Balfour Beatty subsidiary, Balfour Beatty Rail Inc., is a rail infrastructure contractor specialising in construction and maintenance of public and private railway systems in more than 20 countries.[2] Maintenance work for Railtrack/Network rail was carried out by Balfour Beatty Rail Maintenance Ltd.

Jarvis plc was a construction company founded in 1846, which refocussed its business on infrastructure maintenance (including rail infrastructure maintenance) during the 1990s. It entered into administration in March 2010.

Main business sector(s) and activities of company

Provision and maintenance of railway infrastructure, train operators.

Dates of events

17 October 2000 (Hatfield).
28 February 2001 (Great Heck).
10 May 2002 (Potters Bar).

Risk event

General background

It is important to understand that whilst rail is arguably the safest major form of travel in the UK, with a steadily improving safety record, the public perception is otherwise. Rail accidents in which people are killed or injured lead to massive publicity and great public concern. This point, and its implications, is developed further in the later section on risk management lessons and conclusions.

We should also note that the Great Heck disaster was different in nature from the other two events. While it resulted in more deaths and injuries than either the Hatfield or Potters Bar disasters, there was found to be no failing on the part of any person or organisation other than the driver of the vehicle that caused the disaster. Great Heck is as near as we get to a 'freak' event or accident in its purest sense – something that no amount of care can guard against. Because it stands in contrast to the other two, Great Heck is dealt with first and relatively briefly.

Great Heck, 28 February 2001

The Great Heck (or Selby) rail disaster occurred when a Land Rover vehicle, driven by one Gary Hart and towing a loaded trailer, swerved off the M62 motorway just before a bridge, and ran down an embankment onto the southbound (Up) East Coast Main Line. Hart was unable to move the vehicle and shortly afterwards it was struck by an Inter City 225 (IC225) passenger train travelling from Newcastle to Kings Cross. The leading vehicle of the train was derailed but the train continued to run for some distance until the derailed vehicle was further deflected onto the Down line into the path of a north bound freight train. The speed of the IC225 was at or near the line speed of 125 mph according to an HSE report[3] and the closing speed of anywhere up to 170 mph was the highest for any rail accident in the UK.[4] The crash resulted in ten deaths (both train drivers, plus two additional crew and six passengers on the IC225) and 82 further injuries. Hart was convicted on ten counts of causing death by dangerous driving, having, according to the prosecution, fallen asleep at the wheel following a night without sleep, which he had spent talking to a woman he had met over the Internet.[5] He was sentenced to five years' imprisonment and released after serving approximately half of his sentence.

During the investigation that followed by HSE and the railway industry, 'no defects were found with the infrastructure, rolling stock or personnel competencies that could have contributed to the outcome of the incident' and the 'Condition of the road infrastructure complied with standards applicable at the time of the collision.'[6] The adequacy of the standards applying to crash barriers on bridges over railways was subsequently reviewed and just three such bridges were found to be in need of upgrading, not including the one at Great Heck.[7] This left Gary Hart solely to blame for the accident. Claims against him, met by his motor insurers (Fortis) and the reinsurers (Munich Re) exceed £20 million. Fortis failed in its High Court action against the Secretary of State for Transport for a contribution towards these payments.

Hatfield, 17 October 2000

The Hatfield disaster arose from the derailment on the East Coast Main Line just south of Hatfield station of a Great North Eastern Railway (GNER) Inter City 225, which was moving at about 115 miles per hour at the time. The train derailed on the down fast line (going north) as it travelled through the Welham Green curve. The locomotive and the first two coaches remained on the track, but the following eight vehicles derailed to varying degrees of severity. Some coaches were leaning over; the service coach was lying completely on its side. The train was carrying one hundred and seventy passengers and twelve GNER staff. Four passengers were killed and over seventy people were injured, four seriously, including two of the GNER staff.[8]

The immediate cause of the accident was later determined to be the left-hand rail fracturing as the train passed over it. This 'high' rail fractured into more than 300 pieces over a distance of approximately 35 metres. The steel rails of a railway track are subject to metal fatigue caused by the passage of trains over them. The fragmentation of the rail at Welham Green curve was due primarily to extensive fatigue cracking of a type known as 'rolling contact fatigue' (RCF), which starts near the surface of the rail. Within the rail industry, where these cracks are in the vicinity of the gauge corner of the rail (the curved portion of the rail head between the running surface and the inside running edge), the defects are commonly known as Gauge Corner Cracking (GCC).

Much of the maintenance work on the line where the disaster occurred had been contracted out at the time to Balfour Beatty Rail Maintenance Ltd (BBRML).

Potters Bar, 10 May 2002

This accident involved a Class 365 electric multiple unit, comprising four carriages operated by West Anglia Great Northern (WAGN). The train had left Kings Cross station with around 150 passengers and was bound for Kings Lynn, Norfolk, via the East Coast Main Line. At the time of the incident, the train, which was not due to stop at Potters Bar, was travelling at up to 100mph. The rear part of the train derailed at a set of points (identified as 2182A) located approximately 150 metres south of the station. The first three coaches remained upright and came to rest 400 metres north of the station, but the rear bogie of the third coach had derailed. The momentum carried the carriage into the station, where one end of the carriage struck a bridge parapet, sending debris onto the road below. It then mounted and slid along the platform before coming to rest under the platform canopy at an angle of 45 degrees.

As a result of the derailment, seven people died: six were on board the train and a seventh was killed by masonry falling from the bridge. Seventy-six people were injured, of whom thirty-two were hospitalised.

The derailment was eventually attributed to the failure of points 2182A. Some components in the points were in a poor condition and a number of securing bolts were missing. At this time, Jarvis plc had taken over as the major maintenance contractor on the line.

Management response

Hatfield and Potters Bar

Following Hatfield and Potters Bar, as in the case of any major rail accident, the response of the infrastructure operator Railtrack/Network Rail was at least partly constrained by the official investigations carried out by bodies acting under statutory powers, as detailed in the next section. However, the most important immediate reaction to Hatfield was Railtrack senior management's decision to impose more than 1,200 emergency speed restrictions across the rail network while checks on rail condition were carried out. The implication of the Hatfield crash was that other rails might be affected and, indeed, the incidence of cracks similar to those found at Hatfield was found to be high throughout the country. This, in turn, led to a lengthy rail replacement programme, further disrupting the country's rail network and causing substantial losses to a number of train operating companies.

A later and even more significant response on the part of what had now become Network Rail was the decision to take its maintenance work in-house. This decision was taken in October 2003 in the light of the clear failure on the part of maintenance contractors Balfour Beatty Rail Maintenance Ltd to fulfil its contractual duties properly and criticism of Network Rail's own failure to manage the relationship effectively. It was also taken in the aftermath of the intervening Potters Bar train crash and in the light of similar problems with the maintenance contractors Jarvis Rail.

Consequences of risk event

In this section, the consequences for the parties involved in Hatfield and Potters Bar are considered together. The direct consequence of the accidents described in terms of injuries and loss of life have been described already.

Consequences for Railtrack/Network Rail

At the time of the Hatfield disaster, Railtrack, then a listed company, was already under some pressure from the rail regulator to improve its performance following earlier rail accidents at Southall (1997) and Ladbroke Grove (1999). The massive cost of repairs to the rail network following Hatfield,[9] together with mounting costs associated with the modernising of the West Cost Main Line ment for funding. In October 2001, Railtrack plc was put into administration under the Railways Act 1933, effectively a form of bankruptcy protection. In October 2002, Railtrack plc was acquired by the government-created Network Rail for £500 million, no private bidders having come forward to compete with Network Rail's own bid. Railtrack's parent company, Railtrack Group was placed into voluntary liquidation and its various other businesses were sold off. The disposal of Railtrack to Network Rail prompted (ultimately unsuccessful) litigation on behalf of shareholders pressing for more compensation than the 70p per share earmarked for them.[10]

Following the Hatfield incident, the Health and Safety Executive (HSE) established an Investigation Board and emerging evidence was also submitted to the enquiry that was set up following the earlier train collision at Ladbroke Grove on 5 October 1999. Following a number of interim reports, the Board's final report was issued in July 2006 under the auspices of the Office of Rail Regulation (ORR). [11]

The executive summary of the report notes that 'The investigation also found that Railtrack plc, the infrastructure controller at the time, failed to manage effectively the work of BBRML and failed to implement an effective rail renewal operation at the same location.'[12] However, this rather bland summary does not do full justice to the damning and detailed criticism of Railtrack in the body of the report, which makes it clear that senior Railtrack staff were fully aware that the contractors were not delivering on track maintenance and that this posed a safety threat, including an enhanced risk of derailment.[13] The audit process applied to the contractors was found to be ineffective, Railtrack's asset database was incomplete and inaccurate, and there was no system in place that allowed it to view the totality of rail defects in the system at any one time.

The culture within Railtrack was also criticised as follows: 'At the time of the derailment and over the previous two years, the culture within Railtrack which conditioned decision making on safety and performance issues, was biased towards performance-driven decisions. In particular, there was a bias towards minimising train delays and quantifying rail failures in terms of broken rails but failing to focus on the poor quality of maintenance that was the root cause of the rail breakage.'[14]

Following the conclusion of an investigation prompted by the Health and Safety Executive, the Crown Prosecution Service (CPS) prosecuted Network Rail (as the successor to Railtrack) along with BBRML and six individuals for manslaughter due to gross negligence and various offences under the Health and Safety at Work Act. The manslaughter charges were dropped and all individuals were acquitted, but both Railtrack and Balfour Beatty were convicted of offences under the Health and Safety at Work Act in September 2005 and ordered to pay record fines of £3.5 million and £10 million respectively.

By this time, the changes mentioned earlier in the rail infrastructure provider and in its method of operation had already taken place. Ian McAllister, Chairman of Network Rail commented: 'It must be remembered that the maintenance of the railway has fundamentally changed since the Hatfield tragedy in October 2000. Since Network Rail took over the nation's railway infrastructure some three years ago, maintenance has been taken in-house rather than being outsourced. [...] We have changed our approach from a 'find and fix' maintenance regime to one of 'predict and prevent'. We have also invested heavily in new maintenance technology and doubled the size of our company to some 30,000 employees. All these changes have been made as we work to minimise the chances of this ever happening again.'[15]

The Potters Bar Disaster of 10 May 2002 occurred in the course of the investigations described above and while Railtrack was still in administration, prior to the transfer to Network Rail. The Potters Bar accident led to a concurrent investigation, which revealed similar failings in Railtrack and its maintenance contractors (in this case Jarvis) and resulted in further prosecutions under the Health and Safety at Work. Network Rail pleaded guilty to the charges and in May 2011 was fined £3 million.[16] In broad terms, the effect of the Potters Bar disaster was to reinforce the need for the changes we have described.

Consequences for Balfour Beatty

The ORR report mentioned above was equally critical of BBRML, referring to serious failures in the maintenance regime and citing deficiencies in BBRML's methods of line inspection, training of its staff, monitoring systems and communication of information. The report concluded that 'BBRML's failure to maintain the rail in the derailment zone was due to a number of significant shortcomings in inspection, defect management procedures, the ability to carry out risk assessments and staff competencies.'[17]

The judge in the prosecution mentioned above described the behaviour of BBRML's track maintenance unit as 'the worst example of sustained industrial negligence in a high-risk industry I have seen' and assessed the company's culpability as two or three times that of Railtrack, hence the much larger fine imposed on BBRML.[18]

In the wake of Hatfield, BBRML lost the contract to maintain the East Coast Main Line to Jarvis (see below), whose share price rose sharply on the news. The subsequent decision by Network Rail to move all maintenance work in-house in October 2003 had a substantial impact on Balfour Beatty and on a number of other large engineering firms that lost business as a result, causing share prices to fall across the sector.

Consequences for Jarvis

Although it was initially an indirect beneficiary of the Hatfield disaster, Jarvis was hit badly by the Potters Bar accident. Jarvis was viewed by many as being jointly to blame for the derailment, having failed to identify the 'loose nuts' in the points that failed and caused the crash. Jarvis initially blamed sabotage for the defects in the points but no evidence of this was ever found.

When Network Rail decided to take its maintenance work in-house in October 2003, Jarvis pulled out of rail maintenance citing 'reputational problems' and lower than expected profits. In the same month, its share price fell by 16% following news that Network Rail was investigating the company over allegations that records of substandard rail upgrades were falsified.[20] In November 2010, the Office of Rail Regulation (ORR) finally decided to prosecute Jarvis along with Network Rail. In the view of the ORR 'Jarvis Rail was in a position of trust as Infrastructure Maintenance Contractor (IMC) for the East Coast Main Line; Jarvis's performance fell far short of that to be expected of a competent IMC; and the consequences of its offending were exceptionally serious.'[21] However, Jarvis had already entered into administration and the ORR dropped its prosecution in March 2011 on the grounds that it would not be in the public interest to proceed.[22]

Role of Insurance in loss containment, compensation and remediation

As suggested already, insurance played a varying role in the three accidents covered in this report. A significant portion of the costs of the Great Heck disaster were born by the insurance industry following claims against the guilty motorist on behalf of the accident victims and various companies, including Railtrack, the train operator GNER and Freightliner.[23]

Less is known about the impact on the insurance industry of the Hatfield and Potters Bar disasters and the extent to which, if any, the claims against the parties involved (Network Rail/Railtrack and various maintenance contractors) were met by insurance. It is known that at least some of the train operating companies were insured for loss of revenue under business interruption policies, but they failed to recover from the insurers concerned because the Court of Appeal held that a 'wear and tear' exclusion prevailed, with wear and tear being a proximate cause of their loss.[24]

Comparison with similar risk events/companies

Since the disasters described in this case study, there have been relatively few serious rail accidents in the UK. The few cases in which fatalities have occurred since Potters Bar include: Ufton Nervet on 6 November 2004 in which seven people were killed; the Tebay rail accident on 15 February 2004 in which three track workers were killed and three were injured; the Copmanthorpe rail crash of 25 September 2006 in which one person was killed; and the Grayrigg, Cumbria derailment on 23 February 2007 in which one person was killed and thirty people were seriously injured. Two of the above (Ufton Nervet and Copmanthorpe) involved collisions with road vehicles on the track, and at a level crossing in the Ufton Nervet case. There have been a number of pedestrian deaths at level crossings also.

Summary - risk management lessons and conclusions

As suggested earlier, rail travel in the UK is very safe and, according to some measures at least, the safest of all common forms of transportation.[25] Equally, the railways in the UK have become safer over time rather than less so.[26] However, the public perception is otherwise, with respondents in many surveys putting rail travel near the bottom rather than at the top of the travel safety league.[27] Whether this is a product of the massive publicity that is given to rail disasters whenever they occur or whether the publicity is a product of that perception is open to debate. Undoubtedly, there are other factors too, including the fact that rail disasters can take many lives at once. Again, rail travel is an everyday necessity for many people, who have no real alternative way of getting to their destinations and no control over the rail vehicles that carry them. Car drivers have at least the illusion of being in control of their own safety. Furthermore, the management and operation of the railways has become a political football in recent years. This means that protagonists in the debates inevitably use high-profile rail accidents as ammunition to support their arguments (e.g. against what they see as 'fragmentation' or 'privatisation' of the railways).

The implications of all this are that the work of people and organisations having a role in rail safety is likely to face the highest levels of public scrutiny, and the individuals and firms in question are likely to endure the greatest vilification if they are responsible when things go wrong.

While in the case of the 'freak' Great Heck rail disaster, the whole of the blame fell on one person (a motorist), in our other two cases, Hatfield and Potters Bar, blame was placed on the rail infrastructure company Railtrack/Network Rail and on maintenance contractors Balfour Beatty Rail Maintenance and Jarvis Rail – for negligent work in the case of the last two and for a failure to manage their contractors properly in the case of the first-mentioned.

Some risk management lessons that emerge from the disasters are as follows:

1. The very low level of public tolerance for mistakes on the part of those with safety responsibilities in the field of public transport, and the high level of press and media scrutiny that will follow any accident.

2. The consequent high degree of risk (financial and reputational) faced by organisations whose work is safety-critical.

3. The fact that safety is more difficult to manage in a complex and fragmented organisation.

4. The need for a pro-active ('predict and prevent') risk management approach in relation to public transport safety instead of a reactive approach based on the sweating of assets and a 'find and fix' maintenance regime.

5. The general dangers (for an organisation such as Railtrack) in 'outsourcing' functions that should form part of its key competencies (ensuring that the system is safe).

6. The loss of control, which may result from outsourcing.

7. The potential loss of core knowledge and expertise that can result when key functions are divested to outside contractors.

8. The need for continuous monitoring of outsourcing partners and meticulous record-keeping.

9. The need to foster a positive safety culture in relation to the provision of mass public transport.

10. The need to ensure that the culture, values and incentives of outsource partners are closely aligned with that of the organisation.

1. www.networkrail.co.uk/
2. www.bbrail.com/
3. Office of Rail Regulation (2002), Health and Safety Executive report: 'The track obstruction by a road vehicle and subsequent train collisions at Great Heck February 2001'.
4. The Telegraph, 1 March 2001, www.telegraph.co.uk/news/uknews/1324585/A-disaster-that-defies-belief.html. The ORR report (note 3 above) suggests 142 mph.
5. The Independent, 12 December 2001, www.independent.co.uk/news/uk/home-news/hart-guilty-of-selby-train-crash-deaths-620071.html
6. Office of Rail Regulation (2002), op cit
7. See the Department for Transport report 'Managing the accidental obstruction of the railway by road vehicles' for an overview of actions taken by the various bodies involved.
8. Office of Rail Regulation (2006), Train Derailment at Hatfield: A Final Report by the Independent Investigation Board.
9. After the crash, Railtrack announced anticipated costs in the region of £580 million, around £400 million of which was in respect of compensation payable to train operating companies and freight operators.
10. There were 49,500 claimants, all shareholders in Railtrack. Keith Rowley, QC, the barrister for the shareholders, alleged that Stephen Byers, the Secretary of State for Transport had 'devised a scheme by which he intended to injure the shareholders of Railtrack Group by impairing the value of their interests in that company without paying compensation and without the approval of Parliament'. The Daily Telegraph, 25 June 2005.
11. Office of Rail Regulation (2006), Hatfield, op cit
12. Office of Rail Regulation (2006), Hatfield, op cit, p. 4.
13. Office of Rail Regulation (2006), Hatfield, op cit, see Section 8 generally and para S. 8.30, p. 108-109.
14. Office of Rail Regulation (2006), Hatfield, op cit, Section 8.105, p.123.
15. The Times, 6 September 2005.
16. BBC News, 13 May 2011, Potters Bar crash: Network Rail fined £3m, www.bbc.co.uk/news/uk-13389147
17. Office of Rail Regulation (2006), Hatfield, op cit, p.98.
18. Financial Times, 8 October 2005.
19. BBC News, Friday 24 October 2003, http://news.bbc.co.uk/1/hi/business/3209609.stm
20. BBC News, Friday 24 October 2003, op cit
21. Office of Rail Regulation (2006), Potters Bar Prosecution – Overview of ORR's decision not to proceed with the prosecution of Jarvis Rail.
22. Office of Rail Regulation (2006), Potters Bar, op cit
23. Estimates of the total cost to Fortis and Munich Re vary from £22.3 million (BBC News 7 October 2003) http://news.bbc.co.uk/1/hi/england/north_yorkshire/3172648.stm) to £50 million (London Evening Standard, 13 December 2001, www.thisislondon.co.uk/news/article-811741-million-to-one-accident-could-leave-50m-claim.do).
24. Midland Mainline Ltd & Ors v Eagle Star Insurance Company Ltd, Court of Appeal - Civil Division, July 28, 2004, [2004] EWCA Civ 1042.
25. If the number of fatalities per (say 100 million) passenger mile/kilometre travelled is used as the basis of comparison then air travel is as safe as rail travel, if not safer – because of the great distances travelled by aircraft. However, if passenger hours of travel are used as the comparator then rail travel is much safer. Travel by road or ferry is more dangerous than rail travel on any basis. See Bradbury, N. (2002) 'Face the facts on transport safety, Railwatch www.railwatch.org.uk/backtrack/rw94/rw094p06.pdf. Arguably, the Great Heck disaster, which took ten lives, should be classified as a road and not a rail accident.
26. See House of Commons (2010) 'Standard Note AN.SG/2034 Rail Safety Statistics', which shows that rail safety in the UK is improving and has continued to do so for many years. By comparison, in the five years from 1852 to 1856, there were 2,400 railway fatalities in the UK; an average of 480 per year – a fact that helps to put current concerns about rail safety into perspective (see Dinsdale, W.A. (1954) 'History of Accident Insurance in Great Britain', p. 180).
27. See Bradbury, note 24 above. For example, only 13% of respondents in one survey thought rail was the safest travel mode as against 20% for air and 67% for car. In another survey, only 7% cited rail as the safest mode.

Case study title	Shell: Oil and Gas Reserving
Main risk event category and brief description	**Financial irregularity, compliance failure** Immense damage was done to Shell after confessing to a 23% overstatement of its proven oil and gas reserves. This led to record fines, director resignations, and a radical restructuring of the company involving a reduction of Shell's independence.
Key company details	Shell was a long-established, leading FTSE 100 company forming part of the Anglo-Dutch giant, Royal Dutch Shell Group. This is one of the largest international energy companies, operating in 90 countries. At the time of the event, Royal Dutch Petroleum owned a 60% interest in the Group and Shell Transport and Trading UK had a 40% interest. The Group had an unwieldy dual board structure and was listed on the New York, London and Amsterdam stock exchange.
Main business sectors	**Oil and petrochemicals: exploration, refining, retail, trading**
Date of event	2001 to 2004
Risk event	**Background** A major part of the value creation of an oil company is the location of new oil and gas reserves to replace the oil and gas it extracts. These reserves still in the ground form a key part in ascertaining the value of the company overall. In large companies, such as Shell, these reserves represent many billions of dollars but, because of their nature, the amounts of unextracted oil and gas reserves cannot be easily verified by investors. Because of this uncertainty, some years ago, the US Securities and Exchange Commission (SEC) established a set of rules and guidelines for the calculation and reporting of 'proven' and 'unproven' oil and gas reserves for oil companies listed in the US. Proven reserves represent reserves where there is a high certainty as to the quantity of oil and gas in the ground and the proportion that can be extracted in the future. Unproven reserves represent finds where there is less certainty over the volume in the ground and/or how much could be extracted. Clearly, unproven reserves have significantly less value as far as investors are concerned. **Risk event** It would appear that for a number of years prior to 2004, Shell had used a different basis to that specified by the SEC. Following the implementation of these rules, the SEC and Financial Services Authority (the equivalent UK regulator) began to look much more closely at the various oil companies' stated reserves. Both regulators become uneasy about Shell and gave the company indications that they felt the figures were incorrect in 2001, followed up by stronger

warnings in 2002 and 2003. These concerns appear to have been rejected by Shell senior management at the time.

On 9 January 2004, Shell shocked the investment markets by announcing that its 'proven' oil and gas reserves were 20% less than it had previously reported It then made matters worse by revising the figure a further three times (on 18 March, 9 April and 24 May) before admitting it had overstated its reserves by around 23% –- amounting to many tens of billions of dollars, according to press reports (depending on the future price of oil). It had to make a further restatement on 3 February 2005.[1]

In addition to reducing its previously reported reserves, Shell twice restated its financial results for 2001 and 2002, and once restated its financial results for 2003.[3]

Management response

Shell's Audit Committee commissioned an independent review by US law firm Davis, Polk and Wardell to identify how the problem had arisen. This review (April 2004) severely censored the Chairman (who had previously been Shell's Head of Exploration and responsible for the reserve figures) and his successor as Head of Exploration. They were both obliged to step down, to be followed shortly after by the Finance Director. Particularly damaging was the disclosure of a series of internal emails, including one dated 9 November 2003, in which the Head of Exploration said he was becoming 'sick and tired of lying about the extent of our reserves issues'.[3]

Consequences of risk event

Share price: The Shell share price had matched the FTSE Oil & Gas Producers sector fairly closely for most of 2003; the first announcement of reserve deficiencies on 9 January 2004 was accompanied by a significant fall in Shell's share price, dropping just over 9%, and it lagged the FTSE Oil & Gas Producers sector thereafter – as shown in the following chart.

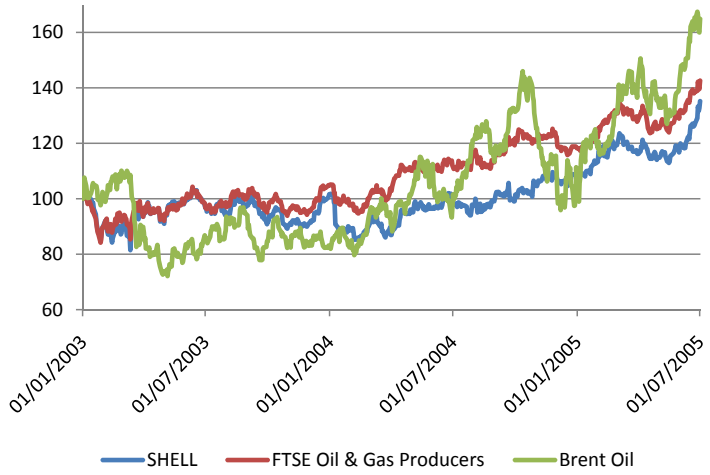


Chart: Shell share price compared with the FTSE Oil & Gas Producers sector and Brent Oil price, all rebased to 1 January 2003 = 100[4]

Role of Insurance in loss

Credit rating: Shell lost its AAA rating.

Prosecution: In July 2004, Shell was fined a record $120 million by the SEC after an inquiry found that the company had violated record-keeping and anti-trust rules in relation to the reporting of proven reserves.[5] The company also had to pay a fine of £17 million imposed by the FSA in relation to the same matter. When describing these fines, the Daily Telegraph said 'On top of this comes the loss of Shell's reputation – its ultimate hidden reserve.'[6]

Resignations: Three senior directors resigned. Over the next two years, the Chairman successfully fought to clear his name. The FSA (2005) and the SEC (2006) decided not to take any personal action against him resulting from his role in the event. He had maintained from the beginning that he had acted in good faith.[7]

It should be noted that under new SEC rules on oil and gas reporting, Shell reported a significant increase in proven oil and gas reserves for 2009[8] that may go some way towards supporting the previous Chairman's views.

Restructuring: The replacement Chairman, Jeroen van der Veer, was brought in to restore the company's credibility. He scrapped staff bonus schemes linked to oil reserves, as he believed that they provided an inappropriate incentive, which could lead to exaggeration of such reserves. Indeed, the Wall Street Journal reported that this, together 'systemic problems with the company's reserves reporting procedures', had been mentioned by the internal auditors to the external auditors as early as 2002[9] (we are not clear whether/how this was relayed back to the board or Internal Audit Committee).

In November 2004, it was announced that the Group would scrap its unwieldy dual board structure and move to a single capital structure, with just one board of directors. This was achieved by creating a new parent company to be named Royal Dutch Shell plc, with its primary listing on the London Stock Exchange, a secondary listing in Amsterdam, its headquarters in The Hague and its registered office in London.[10]

Shareholder compensation:

- A lawsuit based on the over-reserving resulted in a payment of $352.6 million to non-US shareholders in 2007.[11]
- As part of this settlement, Shell agreed to request that the SEC distribute to shareholders the $120 million paid by Shell to the SEC in 2004.[12]
- A class action for US shareholders was settled for $82.85 million in 2008.[13]

Gradual recovery: Over the following years, van der Veer changed the corporate culture. By 2010, trust was restored to the extent that the company, now known as Royal Dutch Shell, was voted third in Management Today's peer group survey *Britain's Most Admired Companies*.[14]

Containment, compensation and remediation	Non apparent.
Comparison with similar risk events/companies	Possible comparison with banking events regarding inappropriate bonuses.
Risk management lessons and conclusions	**1. Admit mistakes quickly and gracefully** Shell's overstatement of its reserves, for whatever reason, occurred over an extended period. It should not have allowed the 'tangled web' to develop. As soon as a company discovers that it has a serious problem, it should come clean at the earliest possible moment and then manage the communication process to minimise damage. Denial, or even worse, being seen to have an admission forced out into the open, is futile in the long run. The inevitable loss of stakeholder trust will far outweigh any short-term gains of a cover-up. **2. Don't appear to reward failure** The reputational damage associated with the failures of senior management was compounded by the generosity of the exit packages given to the directors. One City editor summed up the shareholders' anger by saying 'These two did screw up. They had to go, but a seven figure award for doing so is pretty eye watering.' **3. Incentivisation must encourage the desired behaviour** The new Chairman scrapped bonus schemes for Exploration and Production staff linked to oil reserves replacement. They were replaced by company-wide bonus schemes to encourage staff to think 'enterprise-first' rather than 'self-first'. The company also announced 'Multiple score-cards will be replaced by single group score-cards, focusing on execution of strategy, delivery of operational objectives and enterprise-first. Enterprise-first addresses the importance of group needs over the needs of individuals or operating units.'[15] **4. Ethical best practice cannot be adopted selectively** Shell was seen as a world leader in Corporate Social Responsibility (CSR), and it particularly emphasised its environmental work. It was also keen to be seen as a good neighbour. However, all the reputational capital built up by such positive activity was undermined when it was perceived that the company tolerated unethical behaviour. One director had actually published a book emphasising the need for senior management to be totally committed to living the company's commitments to CSR, good corporate behaviour and other corporate cultural objectives, and not just pay lip service to the concepts. **5. Organisations need a fully effective and functioning conscience** Large complex organisations need robust internal structures that effectively identify and manage risk, constantly monitor for deviations from approved standards, identify developing issues and problems, and constructively challenge management. As part of the SEC settlement, Shell agreed to develop a 'comprehensive internal compliance programme'.

To protect their reputations, companies need to take compliance seriously. However, the larger and more complex the organisation becomes, the more complex the compliance function needs to be. It must have the power to assess every level of the company, up to the very top.

6. **Directors must be vigilant at all times**
   Clearly, not all the directors of Shell were aware of the true reserve situation. However, what this case demonstrates is that, as guardians of the company's reputation, the board should take nothing for granted. Reports should be questioned and challenged, independent views sought and an active interest taken in every part of the organisation's activities. This is particularly important where issues involving significant levels of judgement, opinion or technical expertise are put forward. In other words, they should perform their duties with the same rigour that the owner of a small business would with his own organisation. A small businessman has the incentive that they are dealing with their own money and their personal reputation is at stake. Somehow this direct connection with the business seems to get lost as organisations grow in size.

7. **Financial irregularities can have exceptionally high impact**
   In this case, Shell lost share price, was fined, had to compensate shareholders, lost senior directors and effectively lost its independence in the Group. All were uninsured.

8. **Fresh blood may occasionally be needed at the top of the company**
   The *Observer*[16] reported that one investment institution had said 'Shell should recruit senior executives from outside the group; the chairman shouldn't have to come from within its own ranks.' Another shareholder had said 'The trouble with Shell is that the top executive positions appear to have been closed to anyone who hadn't been with the company for at least 20 years.' Such promotion from within builds a strong corporate culture, but it is liable to result in 'too much inbreeding and introspection'. (In Shell, it might possibly have led to a belief that it knew much more about oil accounting than the regulators. Whilst this may well have been true, it would have been a very dangerous approach to follow.) In reputational risk management, a degree of 'outside-in' thinking is necessary. To achieve this, it may occasionally be desirable to bring in fresh blood to challenge the embedded groupthink.

Reference

Atkins D, Bates I, Drennan L (2006), Reputational risk: a question of trust, 50 Lessons Publishing.

1. ShellSettlement.com (2010), http://shellsettlement.com/index
2. ShellSettlement.com (2010), op cit
3. Accountancy Age, 20 April 2004, Shell lied about oil reserves, www.accountancyage.com/aa/news/1766557/shell-lied-oil-reserves
4. Calculated using data from Datastream
5. ShellSettlement.com (2010), op cit
6. The Telegraph, 31 August 2004, Boards beware: The road to Shell was paved with 'good' intentions, by Christopher Fildes, www.telegraph.co.uk/finance/2893803/Boards-beware-the-road-to-Shell-was-paved-with-good-intentions.html
7. The Independent, 31 August 2006, SEC clears Watts over Shell reserves scandal, by Michael Harrison, www.independent.co.uk/news/business/news/sec-clears-watts-over-shell-reserves-scandal-414099.html
8. MarketWatch, 16 March 2010, Shell proved reserves climb on SEC rule change, www.marketwatch.com/story/shell-proved-reserves-climb-on-sec-rule-change-2010-03-16
9. The Independent, 16 July 2004, Shell auditors told of problems with overstated reserves two years ago, www.independent.co.uk/news/business/news/shell-auditors-told-of-problems-with-overstated-reserves-two-years-ago-553366.html
10. The Guardian, 30 June 2005, Shell escapes charges over reserves reporting, by Mark Tran, www.guardian.co.uk/business/2005/jun/30/oilandpetrol.news?INTCMP=SRCH
11. Shell press release, 11 April 2007, Shell announces settlement of reserve-related claims with European and other non-US investors, www.shell.com/home/content/media/news_and_media_releases/archive/2007/shell_claims_non_us_investors_11042007.html
12. Shell press release, 11 April 2007, op cit
13. Shell press release, 6 March 2008, Shell announces settlement of reserve-related claims with US investors, www.shell.com.home/content/media/news-and_media_releases/2008
14. Management Today, December 2010, Britain's Most Admired Companies, Haymarket Press.
15. The Telegraph, 30 August 2004, Shell will abolish 'discovery bonus', by Christopher Hope, www.telegraph.co.uk/finance/2893798/Shell-will-abolish-discovery-bonus.html
16. The Observer, 14 March 2004, FSA probes 'scandal' of missing oil reserves, by Richard Wachman, www.guardian.co.uk/business/2004/mar/14/watchdogs.oilandpetrol

Case study title	Société Générale – Jérôme Kerviel
Main risk event category and brief description	**Corporate misconduct – rogue trader** One of Société Générale's (SocGen) traders, Jérôme Kerviel, engaged in unauthorised high levels of derivative trading, taking positions larger than the bank's total market capitalisation. SocGen managed to close out these positions at a cost of approximately €5 million. This event was also a factor in SocGen having its credit rating downgraded.
Company involved and key details	Société Générale (SocGen) is one of France's oldest banks, founded in 1864. It is now France's second-largest bank, with three main operating divisions: Retail Banking & Specialised Financial Services (particularly in France and Eastern Europe), Corporate and Investment Banking (Derivatives, Structured Finance and Euro Capital Markets), and Global Investment Management & Services. In 2010, it employed 120,000 people, of which 75,000 were in Europe, and had operations in 80 countries.
Main business sectors	The corporate and investment banking business was the most profitable part of the SocGen group – accounting for 39.5% of group net income and making a post-tax return of equity of 40.1% in the first nine months of 2007. Equity derivatives, the area of the business Jérôme Kerviel worked in, was fast growing and responsible for nearly 30% of SocGen's total value, according to analysts covering the bank. Retail banking, investment banking, asset management.
Date of event	2008
Risk event	**Background** Jerome Kerviel graduated in 2000 with a Master of Finance, specialising in organisation and control of financial markets. He joined SocGen in Paris, first working in the compliance department, and then being promoted to a junior trader in the bank's Delta One products team in 2005 – trading German equities and the DAX (Germany's stock index), generally taking low-risk positions arbitraging discrepancies between cash equity prices and equity derivatives.[1] Described as 'not a star', his salary and bonus for 2006 were modest. During first three months of 2007, Kerviel was not subject to direct supervision (his immediate superior had resigned and had not been replaced) and he started to build up his hidden positions.[2] After April 2007, he was only subject to 'weak' day-to-day supervision by his new direct manager, who lacked the experience to carry out daily checks on trading positions. By the summer, Kerviel claims he was up €500 million but was too nervous to explain to his superiors how he had made so much – and so he started hiding his positions with fake hedges.

SocGen's 2006 annual report had 26 pages on its risk management practices and it had more than 2,000 risk management staff.

Event

Kerviel started making unauthorised, but often successful, trading bets soon after he was promoted and made a junior trader in 2005.[4]

During 2007, Kerviel was trading profitably, routinely exceeding his trading limits, with the knowledge of his superiors, and generated profits of €1.4 billion by Christmas (all according to Kerviel and his lawyers). He asked for a bonus of €600,000, but only received half that amount.[5] SocGen officials later claimed that he made high profits in 2007, but only by exceeding his authority on levels of trading, and then created intentionally losing trades to offset his early gains. But then things started unravelling.

In November 2007, Eurex, the derivatives exchange, made several enquiries to SocGen about Kerviel's unusual trading patterns.[6]

Early in January 2008, SocGen's compliance staff started asking Kerviel questions,[7] but he managed to explain the problems away.

On 7 January, a warning for a very high risk appeared on the compliance group's trade tracking dashboard, but Kerviel again fobbed off the compliance officer.

Kerviel's activities were discovered on 8 January, and 27 SocGen compliance staff worked around the clock to uncover what Kerviel had been up to; Kerviel was questioned repeatedly,[8] but kept changing his story and provided forged documents and bogus emails,[9] supposedly coming from counterparties verifying fictitious trades.

The unauthorised trading positions were finally identified on 18 January,[10] when a €30 billion trade was found to be far too large for its supposed counterparty. SocGen claims that Kerviel had engaged in unauthorised trades of up to €49.9 billion[11] (larger than the bank's total market capitalisation) – €30 billion on the Euro Stoxx, an index of Europe's biggest companies, and €18 billion on Germany's DAX and €2 billion on the UK's FTSE indices.[12]

Kerviel is not believed to have profited personally from his suspicious trades. 'The aim was to win money for the bank,' Kerviel said, although this indirectly would have probably increased his own salary and bonus,[13] and his own reputation as an 'exceptional trader'.[14]

Management response

On 20 January 2008, SocGen CEO, Daniel Bouton, informed the governor of the Banque de France, the SocGen board and the Paris market regulator Autorité des Marchés Financiers (AMF).[15]

Over the period 21 to 24 January, SocGen set up a star equity trader in a private trading room to close out Kerviel's trading positions; this trader was told that this operation was for an unnamed client and to sell off the positions without disturb-

ing the market as far as possible (for example, not to exceed 10% of the daily trading volume on any of the contracts concerned). The portfolio was showing a paper loss of around €1.5 billion, but when most of the positions were closed, it was with a loss of approximately €4.9 billion[16] (at the time the equity market was falling in price).

On 24 January, AMF told fellow market regulators in the US, UK and Germany. SocGen announced the incident to the market and filed a lawsuit against Kerviel for creating fraudulent documents, using forged documents and marking attacks on an automated system.

On 25 January, police raided the Paris headquarters of SocGen and Kerviel's apartment, seizing his computer files; on 26 January, Kerviel was taken into police custody and then on 28 January, Kerviel was charged with abuse of confidence and illegal access to computers.

On 30 January, the SocGen board of directors formed a special committee of three non-executive directors to oversee an independent inquiry into the Kerviel episode. The Chairman and CEO, Daniel Bouton, and Director and co-CEO, Philippe Citerne, presented their resignations to the board of directors, but they were not accepted.

This special committee commissioned two reports into the incident – one from SocGen's Internal Audit Department on the events leading up to the incident and one from PricewaterhouseCoopers (PwC) to evaluate the bank's control procedures. Selected findings from both reports are presented in Risk Management Lessons and Conclusions section below.

In May 2010, Kerviel published a book '*L'engrenage: Mémoires d'un* Trader' (The Spiral: Memories of a Trader), in which he alleged that his superiors knew of his trading activities and that the practice of exceeding trading limits was very common.

On 8 June 2010, Kerviel's trial began. Kerviel admitted that he exceeded his trading limits, but claimed that bank officials knew what he was doing and were happy as long as he was making profits (in fact, they deactivated risk limits on his computer and covered up any losses he made), and that other traders in the bank were trading in a similar way and risk limits were exceeded on a daily basis.

Bank officials said that Kerviel evaded the bank's internal controls by creating fake hedges to offset his positions, and closed his trades early, before the bank's internal control system would pick them up, and then renewed the trades.

Kerviel's supporters claimed that he was being used as a scapegoat to cover up for the bank's heavy sub-prime losses.

On 5 October 2010, Kerviel was found guilty and sentenced to five years in prison, with two years suspended. He was also ordered to make full restitution of the €4.9 billion that was lost (SocGen has since said that it did not expect him to repay the full amount, the restitution was 'symbolic', but it would seek an alternative arrangement) and was banned permanently from working in financial

services. Kerviel has appealed and his sentence was suspended until the appeal completed; in the meantime, he is working for a computer security consultancy company.

The event had consequences for both SocGen and the overall market.

a. Consequences for SocGen

SocGen lost approximately €4.9 billion closing out Kerviel's positions over the period 21 to 24 January 2008.

There were rumours in the press in January and February that the French government encouraged rival French banks BNP Paribas and Credit Agricole to make a bid to break up SocGen.[17]

The impact of this event on SocGen's share price is illustrated in the following two charts. The first shows the share prices for SocGen and its two closest French peer companies, BNP Paribas and Credit Agricole, compared with the Euro Stoxx Banks index; this shows that over the period of the financial crisis, January 2006 through to April 2010, they have all performed similarly, apart from BNP Paribas from 2009 onwards. There is no clear differentiating impact on SocGen from the Kerviel event of early 2008, with SocGen and Credit Agricole tracking each other very closely.

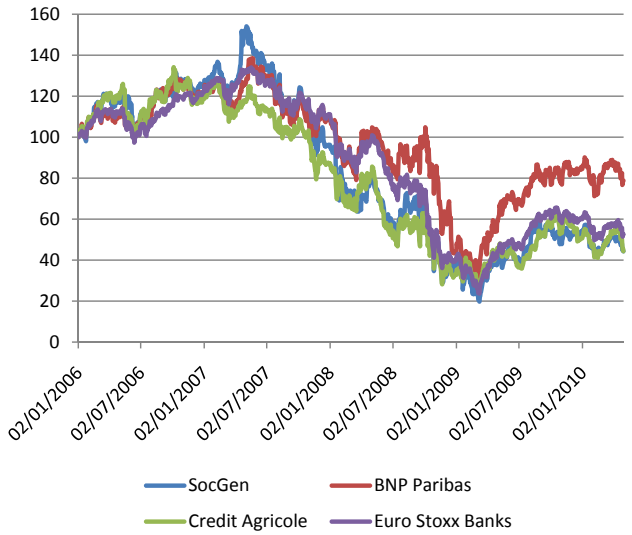


Chart: Share prices of SocGen, BNP Paribas and Credit Agricole compared with Euro Stoxx Banks index, all rebased to 1 January 2006 = 100[18]

However, the second chart, looking in more detail at a shorter time period, just the first two months of 2008, with all figures rebased to 1 January 2008 = 100, shows that SocGen did suffer a significant fall in share price when the Kerviel event became public knowledge in late January, but that the share price recovered to rejoin its peer group within just over a week.

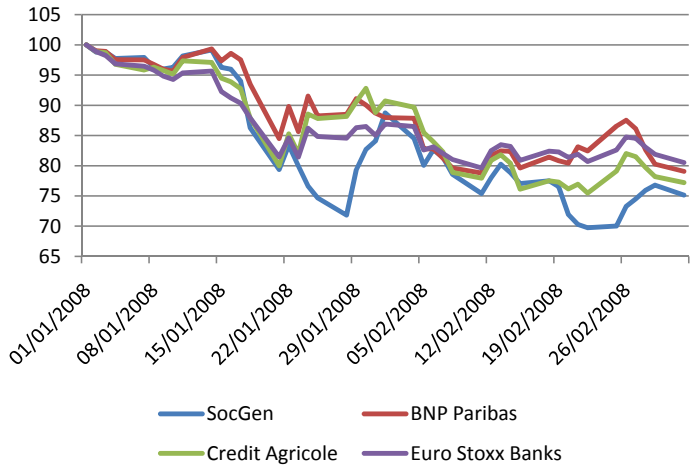


Chart: Share prices of SocGen, BNP Paribas and Credit Agricole compared with Euro Stoxx Banks index, all rebased to 1 January 2008 = 100[19]

SocGen had to raise €5.5 billion through a rights issue (at a near 40% discount) in February 2008 to recapitalise the bank after the sub-prime-related and unauthorised trading losses.

On 15 February 2008, Standard & Poor's cut SocGen's credit rating from AA to AA-, with a negative outlook, citing risk management deficiencies: 'While

SocGen's loss was caused by the fraudulent behaviour of one of its traders, we consider that significant deficiencies in the bank's risk management framework made possible the magnitude of the loss. Risk control was too oriented toward market risk, at the expense of operational risk and fraud risk in trading activities.' [20]

SocGen said that it expected to spend as much as €100 million in 2008 on improving its risk management systems. Daniel Bouton said that 'if the financial market had believed that our systems were diseased or rotten, it would have been over' for the bank.[21]

Although Chairman and CEO Daniel Bouton's resignation in January 2008 was initially rejected, but he was replaced as CEO in May 2008 and left the bank altogether in April 2009.

b. Consequences for market generally

European stock markets fell about 6% on 21 January 2008, which was followed by an emergency cut in the federal funds rate by the US Federal Reserve Board – but direct links with the SocGen situation are denied. The three days of forced selling by SocGen may have played a 'minimal' role in the market's decline (Kerviel's position was 5% or less of overall market activity).

Regulatory responses include:

In December 2008, the FSA announced plans to introduce fit-and-proper testing for City's proprietary traders. This testing will look at drug and alcohol abuse as well as financial credentials. 'The approval of proprietary traders on its own may not deter or stop rogue traders but when combined with effective supervision it may assist to detect and mitigate issues before they crystallise.'[22] The FSA estimated that the clampdown on proprietary traders would cost the industry £1 million and admitted that the expenditure could not be justified on its usual cost-benefit basis, but conceded that existing controls had not prevented rogue traders.

Role of insurance in loss containment, compensation and remediation

The risk manager for SocGen confirmed that SocGen had fraud insurance;[23] mar ket sources suggest that it probably had cover of about €200 million. However, the cover would only pay out if the fraudulent act was carried out for personal gain, which did not appear to be the case in the SocGen incident.

Unauthorised trading coverage was launched by Lloyd's in 1997 (after rogue trader Nick Leeson bought down Barings Bank), but buyer interest was very low, because of the high deductibles and lack of meaningful capacity.

On 12 March 2008, a US law firm Cohen Milstein Hausfield & Toll filed a class action lawsuit on behalf of a group of around 100 SocGen shareholders, alleging that the bank misled investors about its activities and exposures in the subprime mortgage market, and its lack of sufficient controls and failure to act on information it had regarding the unauthorised trades handled by Kerviel.[24]

The lawsuit also alleges insider trading by Robert Day, a SocGen US executive and board member, who sold shares worth more than €95 million on 10 January 2008 (two weeks before the subprime-related and unauthorised trading losses were revealed to the public).

A Paris-based lawyer, Frederik-Karel Canoy, representing about 150 small shareholders, issued a criminal complaint of swindle, breach of trust and forgery. [25] He has said that he is in talks about joining the US lawsuit.

Kerviel's supervisor filed suit as a civil plaintiff because he had 'suffered moral harm because he was duped by the fake documents produced by the trader'.[26]

Comparison with similar risk events/companies – rogue traders

Person, Company, Type of trades, Approximate losses, Year discovered

- Nick Leeson, Barings Bank in Singapore, Nikkei futures, $1.3 billion and collapse of Barings Bank, 1995
- Toshihide Iguchi, Daiwa Bank in New York, Bonds, $1.1 billion, 1995
- Peter Young, Deutsche Morgan Grenfell in London, Shares, £350 million, 1996
- Yasuo Hamanaka (Mr Copper), Sumitomo Corporation, Copper futures, $2.6 billion over ten years, 1996
- John Rusnak, Allfirst Financial, US subsidiary of Allied Irish Bank, Foreign exchange options, $691 million, 2001
- Team of four traders at National Australia Bank in Melbourne and London, Foreign currency options, $185 million, 2004
- Team under Chen Jiulin, CEO at China Aviation Oil in Singapore, Jet-fuel derivatives, $550 million, 2004
- Richard 'Chip' Bierbaum, Calyon London subsidiary of Crédit Agricole, Credit derivatives, €250 million, 2007
- Evan Dooley, MF Global in Memphis, wheat derivatives, $141.5 million, 2008
- Matt Piper, Morgan Stanley in London, Credit-index options, $120 million, 2008
- Boris Picano-Nacci, Group Caisse d'Epargne, Derivatives, €600 million, 2008
- Alexis Stenfors, Merrill Lynch in London, Currency derivatives, £302 million, 2009

The following large trading losses are perhaps better described as 'bad calls', with the trades not necessarily being hidden from management (but they suggest a failure in risk management):

- Brian Hunter, Amaranth, Gas futures, $6.5 billion, 2006
- Howie Hubler, Morgan Stanley, a single CDS trade , $9 billion, 2008

Risk management lessons and conclusions

Preliminary report by panel of three non-executive directors published 20 February 2008 and final version in May 2008. Key findings:

1. Management ignored warning signs

There were 75 alerts between June 2006 and the beginning of 2008 that should have warned Kerviel's managers of his unauthorised trading.[27] For example:

a. A trade with a maturity date that fell on a Saturday
b. Bets without identified counterparties
c. Trades with counterparties within SocGen itself
d. Trades that exceeded the limits of counterparties
e. Missing broker names and large increases in broker fees
f. Differences of up to €1.1 billion during reconciliations of Kerviel's trading books with SocGen's online derivatives broker
g. Seven false emails found that Kerviel sent to explain his trading and counterparties.

When the hierarchy was alerted, it didn't react.

2. **Compliance did not inform managers of anomalies**
   Risk control procedures were followed correctly, but compliance officers rarely went beyond routine checks and did not inform managers of anomalies, even when large sums were involved. Nor were follow-up checks made on cancelled or modified transactions.

   When any of Kerviel's trades had been challenged, he had just said it was a mistake and cancelled it. No initiative was taken to check Kerviel's assertions and corrections, even when they lacked plausibility.

3. **Supported Kerviel's claim that he acted alone**
   The panel found no evidence that of embezzlement or internal or external complicity. Some bank officials had claimed that Kerviel could not have managed his thousands of trades without assistance.

The report from PwC[28] said that the trading team developed a 'strong entrepreneurial culture based on trust', and that the team's rapid growth 'was accompanied by the emergence of unauthorised practices with limits regularly exceeded and results smoothed or transferred between traders'. Other findings included that:

- The internal control systems were 'slow to react and urgently remediate the most sensitive issues, respite some of the weaknesses in internal exploited by the trader [Kerviel] had been identified by the general inspection department as an area in need of remediation'.
- The middle and back office teams lacked both the resources and seniority to hold traders in check. Their priority was ensuring that trades were properly executed rather than within the rules.
- Control functions were split between different units, and it was difficult for control staff to understand the significance of any identified discrepancies.

Additional lessons

1. **Senior management should pay attention to the control of upside risk, not just downside risk**
   Management can appear to be happy as long as activities are profitable – and do not question too closely how profits are being made, as long as the bonus pool is getting bigger. Kerviel told investigators that such practices are widespread and that getting a profit makes the hierarchy turn a blind eye.

2. **A company needs to have a clear risk appetite and inculcate a strong risk management culture**
   Senior management need to possess and inculcate a strong risk management culture within banking operations. Attention also needs to be paid to the status of compliance staff and risk officers. Albert 'Pete' Kyle, University of Maryland, has noted that 'traders on the front line are paid far more than risk managers and have much more power'.[29] One former SocGen floor inspector complained that traders were never punished and the inspection team was treated with disdain on the trading floor. Risk managers are often perceived, Kyle says, to be overly analytical and statistically oriented, and not to 'get' the big picture or understand market conditions and trading strategy, but to operate in a narrow technology box.

3. **Compliance should be more proactive and follow through**
   Compliance monitoring is about more than just reactively checking forms – it should be proactive and investigative, and not accept verbal explanations for any deviant activity at face value.

4. **Special considerations when managing traders**
   Beware of traders who don't let other traders take over their positions, invariably work late, come in at weekends and never take holidays (applies to all employees for fraud prevention in general). Towards the end of 2007, SocGen's Human Resources pointed out that Kerviel had not had any vacation for eight months,[30] but Kerviel explained that he wanted to be at the office through January 2008 and not be on his own, because it was the anniversary of his father's death.

The psychology of rogue traders

A study by Nigel Nicholson of the London Business School into the mind of the trader, reported in the Financial Times on 5 March 2002,[31] drew the following conclusions about the psychology of the rogue trader:

- The roots of rogue trading – the pressures and the opportunities – are present on all trading floors. The big numbers (Kerviel said 'One loses the notion of scale when one works in this field – it is easy to get carried away' [32]), the high-wire deals and drama, and super-bright individuals in a motivational system dominated by the driving forces of greed, egotism and fear.
- Some individuals are more prone to deviant behaviour than others. Few rogue traders appear to have been driven by personal greed (unlike fraudsters in general); in most cases, the more powerful driver appears to have been egotism – the search for stardom in a star culture. Fear only kicks in, particularly of loss of reputation, once the trader starts making losses.
- All rogue traders share a susceptibility to fantasy, folly and fakery. The fantasy is the dream of distinction in their highly competitive world. The folly is misplaced confidence in their own abilities and then a kind of snow-blindness in the face of blizzards of bad news. The fakery is the tipping point when individuals slide into acts of deceit (with the concealment of losses, secret deals and invented trades). Kerviel again, 'From August to December 2007, I win every day. That creates a sort of addiction. A good day for a normal trader is a profit of €30,000 to €40,000. For me, a €1 million day is rubbish. I take crazy risks. And I make astronomic profits which sometimes give me an orgasmic pleasure.' [33]
- Good management, rather than watertight regulation, is the ultimate safeguard against rogue trading. This includes watching out for:

    - Traders who excessively crave success and recognition.
    - False beliefs – traders who attribute success entirely to their own strategy, rather than some element of luck, and believe that they are masters of the market. Potential rogue traders tend to be semi-autistic and, if pushed, obsessive and oblivious to any criticism.

- Fuzzy values – people who bend rules and do not have rigorous boundaries in professional conduct can easily slip into deviant conduct.

However, just selecting 'safe' traders is not the answer; some of the best traders are those who need the most attention, and hence the best people management.

The role of technology

Information technology (IT) and risk management systems are often regarded as the front line in preventing fraud and rogue trading, but IT can also create false confidence – in fact, IT systems usually play an essential role in any fraud or rogue trading incident. Rogue trading often involves trading thousands of contracts, creating false hedging trades and/or subverting risk control systems – all of which cannot be done manually. IT lessons to be learnt from the SocGen case include:

- Increase basic password security, change passwords regularly and use biometric devices for key systems. Kerviel told investigators that he had used the login and passwords of colleagues in both the trading unit and technology section to make trades, and to eliminate controls on trade sizes and counterparty credit limits.
- Both IT systems in general and risk management systems tend to be developed within business units, effectively creating silos and a lack of standardisation and integration. This can create several problems:
    - Red flags raised in one system may not be escalated appropriately by other systems within the overall organisation.
    - Data recorded in one system (say trading) may not be shared by other systems (say risk management) in a timely manner, or may not be capable of being shared at all.
    - SocGen's CEO Daniel Bouton told the French parliament's finance committee 'The fraud doesn't put into question our risk management systems because they were hidden positions […] The controls existed. What we lacked was cross-checking of controls, something manual that would have shown that one trader was annulling a lot of positions. That's something we lacked and now have.' [34]
- Adopt an Enterprise Risk Management (ERM) approach, taking a broader, more integrated view of risk, with IT systems that cover compliance credit risk, fraud detection and prevention, market risk management and operational risk (to protect against losses resulting from inadequate or failed internal processes, people and systems, or from external events). One computer software security supplier noted 'SocGen had purely market-driven risk controls. They could check to see if they were winning or losing but not how much they bet.'[35]
- Within any organisation, the Chief Information Officer (CIO) and Chief Risk Officer (CRO) need to work in close collaboration. The ideal is a single IT platform and workflow tools, which facilitates risk management controls and enables data-mining to detect patterns across many databases and applications. Or at least as one consultant put it 'connect the dots' by ensuring that all warnings, aberrations and red flag alerts throughout the company are routed to one central monitoring function.

- Christian Noyer, governor of the Banque de France, the country's central bank, described Kerviel as a 'computer genius' [36] and that he had somehow managed 'to breach five levels of security', but in reality, Kerviel's computer skills were hardly exceptional, but he did have some knowledge of SocGen's systems from working in compliance and the middle office as a trader's assistant. Further investigation revealed that rather it was SocGen's controls that were flawed. SocGen's Head of Investment Banking said 'I think our control systems work. The fact that he [Kerviel] got around them shows that they can be improved.'[37]
- The development of complex financial instruments (such as CDOs) has tended to run ahead of the risk management technology used to assess the embedded risks of such instruments.
- To manage operational risks, SocGen had maintained since 2003 a database of 'all internal operating losses […] this common database is used to analyse losses (by type of event, cause, activity, etc.)'[38] and each quarter a report of internal losses was submitted to General Management. However, this database only recorded losses, not all transactions, and controllers had been instructed to monitor only the net, rather than the gross risk exposure of traders' activities. Since Kerviel was ahead at the end of 2007, and he covered every real loss with a fake hedge, no losses showed up in this database.

1. The Sunday Times, 15 February 2009, Jérôme Kerviel: Tricks of the trader, by Philip Delves Broughton, http://business.timesonline.co.uk/tol/business/industry_sectors/banking_and_finance/article5716179.ece
2. Société Générale, General Inspection Department, Mission Green: Summary report, May 20, 2008, p. 5 and Focus no. 10: The departure of JK's former manager coincided with his starting to take massive fraudulent positions, p. 44, www.nivra.nl/readfile.aspx?ContentID=38112&ObjectID=356620&Type=1&File=0000022253_SocGen_report_part3.pdf
3. Mission Green, op cit, p. 5
4. Mission Green, op cit, p. 2
5. The Sunday Times, 15 February 2009, op cit
6. Mission Green, op cit, pp. 6 & 8
7. Mission Green, op cit, pp. 31-32
8. Mission Green, op cit, p. 32
9. Mission Green, op cit, pp. 2 & 8 and Focus no. 5: JK used forged emails on seven occasions, p. 30
10. Mission Green, op cit, p. 34
11. Mission Green, op cit, p. 2
12. The Sunday Times, 15 February 2009, op cit
13. Mission Green, op cit, p. 3
14. The Sunday Times, 15 February 2009, op cit
15. The Sunday Times, 15 February 2009, op cit
16. Mission Green, op cit, p. 2
17. The Observer, 27 January 2008, Sarkozy plan to carve up fraud-hit SG, by Richard Wachman, www.guardian.co.uk/business/2008/jan/27/banking.stockmarkets
18. Calculated from daily data from Datastream
19. Calculated from daily data from Datastream
20. Forbes, 17 February 2008, Société Générale long-term CCR cut to 'AA-' with negative outlook - S&P, www.forbes.com/feeds/afx/2008/02/17/afx4665077.html
21. The New York Times, 9 April 2008, Société Générale to spend as much as €100 million to improve risk management by Nicola Clark, www.nytimes.com/2008/04/09/business/worldbusiness/09iht-socgen.3.11817511.html
22. Financial Services Authority, CP 08/25, The approved persons regime – significant influence function review, December 2008, www.fsa.gov.uk/pubs/cp/cp08_25.pdf
23. Business Insurance Europe, 11 February 2008, SocGen affair ups demand for 'rogue trader' coverage, by Adrian Ladbury, www.businessinsurance.com/cgibin/article.pl?articleId=24039
24. Strategic Risk, 13 March 2008, SocGen shareholders file lawsuit in US, www.strategicrisk.co.uk/story.asp?storyCode=370187
25. Guardian, 28 January 2008, Société Générale faces lawsuit, while Kerviel turns spotlight on fellow traders, by David Gow, www.guardian.co.uk/business/2008/jan/28/europeanbanks
26. The Times, 22 April 2008, SocGen rogue trader Jerome Kerviel could be sued by manager, by Adam Sage, http://business.timesonline.co.uk/tol/business/industry_sectors/banking_and_finance/article3792287.ece
27. Mission Green, op cit, Focus no. 14, pp. 56-68
28. PricewaterhouseCoopers, Société Générale: Summary of PwC diagnostic review and analysis of action plan, 28 May 2008, www.nivra.nl/readfile.aspx?ContentID=38112&ObjectID=356620&Type=1&File=0000022252_SocGen_report_part2.pdf
29. Subprime Mess: What Role Did IT Play?, Laton McCartney, www.ciozone.com/index.php/Case-Studies/Subprime-Mess-What-Role-Did-IT-Playu.html
30. Mission Green, op cit, p. 7
31. Financial Times, 5 March 2002, What lies at the roots of roguery, by Nigel Nicolson
32. Financial Times, 24 January 2009, They bet the bank, by Stanley Pignal, www.ft.com/cms/s/0/caeef190-e9b9-11dd-9535-0000779fd2ac.html#axzz1L6wz9nTy
33. The Sunday Times, 15 February 2009, op cit
34. Subprime Mess, op cit, Part 2
35. Subprime Mess, op cit, Part 5

36. New York Times, 25 January 2008, Fraud Costs Bank $7.1 Billion, by Nicola Clark and David Jolly, www.nytimes.com/2008/01/25/business/worldbusiness/25bank-web.html
37. Subprime Mess, op cit, Part 1
38. Société Générale Group, Annual Report 2003, p. 123, http://web3.cmvm.pt/sdi2004/emitentes/docs/fsd7831.pdf

Case study title	United Kingdom Passport Agency
Main risk event category and brief description	**Management failure – new IT system** This involved management failures associated with a replacement computer system leading to a 51-day delay in issuing passports. The backlog cost the government £12.6 million, including £161,000 in compensation to irate would-be holidaymakers and business travellers. Two major investigations revealed inadequate risk management, contingency planning and crisis management.
Key company details	The United Kingdom Passport Agency (now renamed the Identity & Passport Service) is an executive agency of the Home Office. At the time of the event, it employed 1,800 staff in offices in Belfast, Glasgow, Liverpool, London, Newport and Peterborough.
Main activities	**Providing passport services to British Nationals in the United Kingdom.**
Date of event	1998/9
Risk event	In 1989, the Agency had introduced a previous computerised passport processing system. That project was not well planned, resulting in serious delays to the service and criticism of the management, including that of lack of contingency planning. A decade later, in October 1998, the Agency installed a new computerised passport processing system to replace the now ageing system with the aim of improving efficiency and security. The intention was to introduce the new system initially in the Liverpool office and then the Newport office. It would then be quickly rolled out to the other offices. The new system (PASS) was developed in conjunction with Siemens Business Services and involved significant changes to the clerical and administrative processes as well as computerisation. Although the specification for the new computer system broadly mirrored the processes and functions of the existing system, it did incorporate more sophisticated software and technology. Most elements of the system development had been completed successfully prior to launch, but project delays meant that the productivity of PASS was not thoroughly tested by the Agency prior to going live. It quickly became evident that there were problems with PASS and staff also were experiencing major difficulties changing over to the new system. As a result, productivity fell dramatically. Far fewer passports than expected were being processed (400,000 fewer over the next nine months) and a serious backlog was created.

The Agency's roll-out timetable was short and allowed little room for manoeuvre should problems arise. The Newport office went live despite the Liverpool office failing to meet the criterion of output for continuing the roll-out.

The Agency then halted the roll-out to the other offices, but it had no contingency plan to deal with the implications of this decision. As a result, the backlog continued to grow, a situation made worse by a recent change in the law requiring child passports, substantially increasing demand.[1]

Nevertheless, the Agency still believed that it would be able to deal with the growing backlog using 'routine solutions', i.e. increasing overtime and hiring casual staff. Calls from the Public and Commercial Services Union for the immediate recruitment of more, permanent, staff were unheeded.[2] Output did improve, but the backlog continued to escalate as the holiday season approached.

By March 1999, the delays started to attract Parliamentary and media attention. The Agency therefore agreed with the Home Office that it could recruit extra staff to deal with the crisis. However, it remained reliant on staff and managers working longer and longer hours to cope.

As a desperate measure, staff were then withdrawn from answering telephones and moved to processing passports. At peak periods, the telephone service was virtually in shutdown – 3.5 million calls were unanswered. At this stage, the Agency introduced a recorded telephone message to advise worried applicants to write to the agency and they also provided a fax number. However, the Agency was totally unable to cope with the large number of written queries that resulted.

The feeling of panic among frustrated would-be holidaymakers and business travellers grew and there were queues of thousands outside the offices – many camping overnight on the pavement. The weather was wet and so the Agency purchased umbrellas and luncheon vouchers for those waiting to be seen.

At the peak of the crisis in June, there were about 565,000 applications awaiting processing, causing delays of 51 days compared with the targeted ten days.[3]

As the summer advanced, the Agency gradually recovered by taking further emergency measures:

- Outsourcing calls to a 24-hour centre.
- Providing a user-friendly website and system for handling email enquiries.
- Fine-tuning the passport issuing software.
- Increasing opening hours and appointment availability.
- Using appointment-only counter services.
- Providing premium and fast-track services.

In December 1999, the Agency announced the deferral of the planned roll-out of the PASS system for another year pending satisfactory working in Liverpool and Newport. It said it would also be increasing total capacity by 25% with the recruitment of 600 extra staff, adding a third to the price of a passport. The Agency subsequently strengthened its project management, private sector relationship management, risk management and contingency planning.

The reputation of the Agency gradually recovered and, by 2004, it was highly ranked for overall customer satisfaction in the CompariSat survey of public and private sector organisations, with a 97% approval rate.[4]

Management response

The management's actions before and during the crisis were rightly criticised. They followed a familiar pattern: failure to learn from past mistakes, lack of project planning, little if any risk management and contingency planning, complacency, denial, lack of leadership, desperation, poor stakeholder communication contributing to panic and radical measures being introduced only at a very late stage.

After the crisis, the Agency did take firm action to improve its management, and its reputation recovered over the next four years.

There were two major investigations into the crisis:

1. **National Audit Office (NAO)[5]**
   In October 1999, NAO published a highly critical report on the crisis. It stated that the Agency had failed to plan and manage the project adequately:

- It failed to assess and test the time needed by staff to learn the new system. For many staff, it meant a transition from paper to computer screen.
- There was insufficient contingency planning in the event that implementation might not go to plan.
- The introduction was extended from Liverpool to Newport before the problems had been solved.
- The agency failed to communicate effectively with the public, both at the personal level in dealing with calls from the public to its telephone enquiry bureau, and more generally with the media.

2. **Parliamentary Public Accounts Committee[6]**
   In June 2000, this Select Committee issued a damning report on the crisis, which it blamed on 'deplorable mistakes made by officials'. The Chairman said 'We saw fiasco turn to farce as the summer progressed.' The Report highlighted:

- Failure to learn the lessons of the flawed introduction of the earlier computer system in 1989 and the Agency's wholly inadequate planning.
- Slow response to the build-up of the backlog.
- Praise for the Agency staff for coping with the chaos but criticism for managers and Home Office officials for allowing the situation to develop in the first place.
- Criticisms of the way contracts were drafted with Siemens for the installation of the system.
- Criticism of the Home Office decision to increase passport fees to cover the cost of clearing the backlog.

Consequences of risk event

There was considerable disruption to the public. Compensation of £161,000 was paid in respect of 500 cancelled holidays, but the real number of cancellations and deferrals undoubtedly was very much higher. The cost of additional measures taken by the Agency was around £12.6 million, including £6 million for

extra staffing, £500,000 for additional advertising – and £16,000 for umbrellas![7]

Siemens Business Services were required to pay a penalty of £69,000 for their failures under the PFI contract. A further £275,000 was waived.[8]

Role of Insurance in loss containment, compensation and remediation

Not insured.

Comparison with similar risk events/ companies

Air Traffic Control Computer installation, West Drayton (2004).
National Insurance Recording System (1998).

Risk management lessons and conclusions

This was a public sector event, but it might equally have occurred in the private sector. The main lessons include the following:

1. **Management must learn lessons from the past**
   Ten years is a long time in management, but the Agency appeared to ignore the fact that problems had occurred in the installation of the previous system. Turnover of senior management must not destroy the corporate memory.

2. **Change programmes must be planned thoroughly**
   The introduction of PASS was more than a simple project; it was a major change programme. Staff were expected to change the way they worked and there was to be a roll-out to a number of different locations. Management clearly underestimated the complexity of what they were trying to do and, as a result, the planning was deficient in almost every aspect:

- In the original specification of the software and technology, i.e. the relationship with Siemens.
- Lack of risk management.
- Lack of contingency planning.
- Lack of crisis management.
- Lack of communications management.

This is an extreme example of what can go wrong when a change programme is not thoroughly managed from start to finish.

3. **Beware of risk aggregation**
   The change in law relating to child passports was known when project decisions were made. However, it did not appear to be taken into account in terms of risk aggregation.

4. **Take action early – don't rely on an event managing itself**
   Management needs to be completely honest with itself when dealing with an impending crisis and to be prepared to take radical action early. The Agency gave every impression of the classic progression of complacency, denial, lack of leadership and desperation.

5. **Keep the stakeholders informed throughout a crisis**
   The lack of a consistent communication for dealing with the public and the media undoubtedly made the situation much worse. The information void caused panic and people rushed to apply for passports well in advance, so adding to the backlog. The decision to take staff away from answering the telephone at the height of a crisis can only be described as bizarre.

6. **If organisations survive a crisis, they can rebuild their reputations over time**
   This time, the Agency really did learn its lessons and introduced more robust management processes. After four years, its reputation had recovered to such an extent that the Agency was being rated highly in a customer service survey.

   However, it should be noted, that if the Agency had not been a state sector monopoly, it might not have survived at all.

1. BBC News, 27 October 1999, Passport fiasco cost taxpayers £12m, http://news.bbc.co.uk/1/hi/uk_politics/486821.stm
2. BBC News, 3 September 1999, Passports: normal service resumed, http://news.bbc.co.uk/1/hi/uk_politics/436834.stm
3. BBC News, 3 September 1999, op cit
4. The Design Council Magazine, Issue 4, Summer 2008, The passport agency uses service design to stop infuriating customers.
5. National Audit Office, The United Kingdom Passport Agency – The passport delays of Summer 1999, HC 812 1998 b-1999, www.nao.org.uk/idoc.ashx?docId=F999CACE-5D1B-4E57-81DD-E3D22B8B6687&version=-1
6. The Select Committee on Public Accounts HC 812 1998-99, The United Kingdom Passport Agency, www.parliament.the-stationery-office.co.uk/pa/cm199900/cmselect/cmpubacc/65/
7. The Independent, 27 October 1999, Passport Fiasco cost £13m, with a £16,000 bill for umbrellas, plus 500 spoilt holidays, by Ian Burrell, www.independent.co.uk/travel/news-and-advice/passport-fiasco-cost-pound13m-with-a-pound16000-bill-for-umbrellas-plus-500-spoilt-holidays-739213.html
8. UK Passport Agency Press Release, 27 Oct 1999, The United Kingdom Passport Agency: The Passport Delays of Summer 1999, www.nao.org.uk/whats_new/9899/9899812.aspx

APPENDIX B
OBSERVATIONS ON CRISIS MANAGEMENT DRAWN FROM THE CASE STUDIES

When a crisis strikes, crisis control and business continuity planning yield their fruit. Without them, good crisis management is far more difficult to achieve.

In the cases we studied, crisis management (including public relations activity) was not always conducted well. This tended to amplify direct economic damage to the firms concerned and also indirect losses, including reputational harm.

For example:

- When the **Potters Bar** and **Hatfield** rail crashes happened, Railtrack and Network Rail did not always handle the situation well. Their managements made some elementary errors of crisis management. Even though there was recent history of train crashes, they did not seem to appreciate how much more vulnerable their record of mishaps had made them. Even their decision to impose speed limits right across the network in the wake of the Hatfield crash could be questioned – on the grounds that it drove more traffic onto the motorways, which led to small but statistically significant rise in motorway deaths in the relevant period.
- When the **Buncefield** oil depot exploded, it was some time before the majority operator in the joint venture, Total Oil, realised the extent of the impact on its neighbours. Until Total did so, it met increasing hostility. To its credit, once it understood what its neighbours were feeling, its management took action, at a meeting shortly before Christmas 2006.
- The **Buncefield** explosion also highlighted the importance of business continuity planning. Many of the small companies affected were ill prepared or had not tested their plans. Others were better prepared and far better able to cope with the consequences. Perhaps the biggest surprise was Heathrow Airport's dependence on Buncefield for 40% of its aviation fuel. The disruption in supply is thought to have cost airlines almost £250 million.
- When the **EADS Airbus A380** project ran into (possibly IT-related) production difficulties, causing long delays in the commercial launch of the giant aircraft, the handling of the crisis was characterised by an unwillingness to admit problems and the piecemeal release of information, an approach that typically builds distrust. This was poor crisis management.
- **Northern Rock's** actions were indecisive and showed a lack of good crisis management. It is possible that decisive action on 13 September 2007 – the night before the run on Northern Rock began – might have stopped the run in its tracks. Instead, the media's enquiries were handled by the CEO's deputy, who was unable to deal authoritatively with the questions he faced.
- **Arthur Andersen's** crisis management, executed from high levels, was a text book example of how not to deal with a crisis and, probably, the primary cause of the firm's downfall. It showed a lack of understanding of what companies most look for in an auditor – including the unblemished reputation for probity that makes an audit certificate worth paying for.
- When **Shell** underwent its oil and gas reserving crisis, the company made four announcements of progressively greater reserving errors – before giving 'golden goodbyes' to those who had been most closely involved. Giving out bad news in dribs and drabs saps confidence; and the golden goodbyes were seen by many as a reward for error.
- When **Firestone** came to deal with its second major tyre recall (2000), its management seemed not to understand the importance of the company's reputation, the toxicity of its previous history of tyre quality problems or the importance of tyre defects to its reputation – let alone how to make decisions and best communicate in a crisis. Nor, it seems, did the Firestone management appreciate that keeping consumers in the dark about potential defects in something so safety-critical as tyres – let alone appearing to cover up the problem – would do the company no favours.
- In the **Cadbury Schweppes** salmonella crisis, the company delayed its contacting of the Food Standards Agency for five months. This was not a good beginning, whatever the reasons for the delay. Cadbury was only able to recover substantially from the forced product recall that followed by drawing on the 'reputational capital' it had in the bank.
- In the course of **Land of Leather's** 'toxic sofa' crisis, the company's management showed a poor understanding of how to deal with critical issues in the 'core' area of product safety, as well as an inability to deal properly with insurance claims.
- **Maclaren's** initial handling of its pushchair 'finger amputation' crisis in the UK got off to a shaky start when it treated UK consumers differently from US consumers. The firm quickly realised its mistake and recovered, but only after a short, sharp dose of criticism.

- The UK's National Audit Office criticised the **Passport Agency** for failing to plan or manage its major IT project adequately. Given its botched handling of the project when it went off the rails, it seems unlikely that the Passport Agency had a clear strategy to deal with a crisis either.

Other cases provided examples of good crisis management:

- Coca-Cola's handling of the **Dasani** launch problems in the UK showed excellent crisis management. In 2004, Coca-Cola intended to launch its 'Dasani' product in the UK. Dasani is, effectively, purified tap water with minerals added back. It was sold as 'pure' water, which provoked a storm of criticism in the UK. Headlines read 'Coca-Cola sells tap water for 95p'. To make things worse, routine testing revealed over-specification levels of bromate, a known carcinogen. The company's rapid decision to stop the launch of Dasani in the UK showed good judgement and implied a clear crisis strategy.
- BP's immediate response to the **Texas City Refinery** explosion was sound and well-received. The firm showed understanding and humanity towards those affected, pledged full co-operation with investigations into the cause of the disaster and promised to prevent a recurrence. Action proved harder to deliver than words.
- Following the **Buncefield** explosion, the operators' crisis response was led by the site lead operator Total Oil. Total made a shaky start, but recovered some initiative once its management came to appreciate the strength of feeling among the local population.
- **Société Générale's** response to the disaster caused by the trader Jérôme Kerviel's dealings was decisive. It put a trader in a private room and instructed him discretely to liquidate the book. Until he had done so, no one other than the Société Générale leadership and the firm's regulators was aware of the crisis.

APPENDIX C

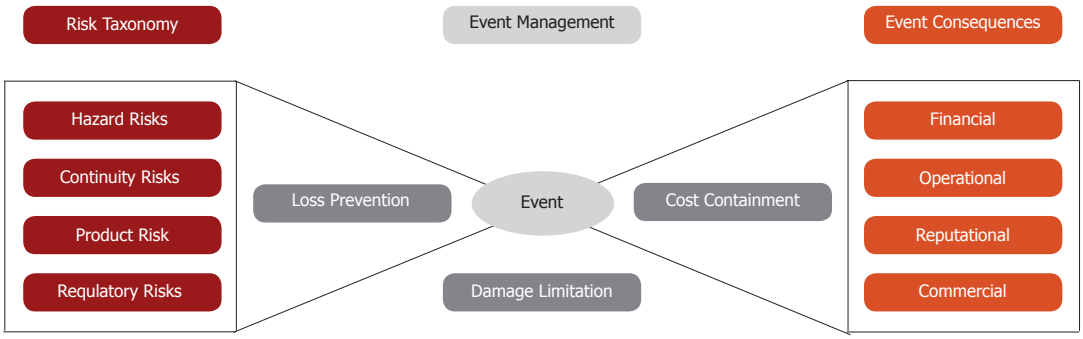
CLASSIFICATION OF RISK EVENTS, METHODOLOGY AND PROPOSALS FOR FURTHER RESEARCH

In this section, we briefly discuss classification systems for risk events and the methodology we have employed. We also include a brief note on proposals for further research.

Classification of risk events: the 'bowtie' methodology

The term 'risk event' is not a scientific concept or term of art but merely a useful expression to denote a crisis, disaster or adverse happening that has a significant impact on a firm or organisation: as we have seen, our case studies cover several different types of crisis or event. Analysis and comparison of a number of such events can best be achieved within a common framework. The 'bowtie' methodology provides a useful point of departure here. It is a qualitative method of analysis that combines the cause(s) of a risk event (or fault tree) with the consequences (or event tree). When the fault tree is drawn to the left and the event tree to the right, with the risk event represented as a 'knot' in the middle, the resulting diagram looks rather like a bowtie, as shown in Figure 1.

Figure 1 – The 'Bowtie'



Unravelling the 'bowtie'

In order to apply the 'bowtie' framework effectively to different risk events, we should ideally employ:

1. a standardised taxonomy (classification) of causes;
2. a standardised classification of risk events; and
3. a standardised classification of consequences.

Achieving this is not easy. Each classification or taxonomy is considered briefly, in turn.

The classification of causes

Causation is a notoriously slippery concept. Determining 'the cause' (or causes) of a given risk event and constructing an objective framework through which different risk events can be compared according to their origins is rarely simple. This is so for a variety of reasons, including the following. First, the causal pathways that lead towards a risk event are often not only numerous but interrelated in complex ways that defy any simple analysis. Furthermore, such pathways can sometimes be traced back almost ad infinitum. For example, an industrial accident might be attributed initially to the negligence of an employee – but what conditioned that negligent behaviour? Was it perhaps inadequate training or supervision, or a defective recruitment policy? And what allowed that? Was it management incompetence or an inadequate regulatory framework? To take just one illustration drawn from our case studies, the immediate cause of the Great Heck train disaster was a vehicle that came off the road and rolled down an embankment, becoming lodged on the railway line in the path of an oncoming train. However, this event was blamed on the car driver, Gary Hart, who had fallen

asleep at the wheel. This, in turn, was attributed to his having not slept the night before, which itself was a consequence of his having spent that night talking to a woman who he had made contact with via the Internet.

This leads on to a second point, which is the subjective nature of causation. It has often been observed that our views on the true cause(s) or any event depend on the purpose of our enquiry. For example, insurers are always interested in finding the 'proximate cause' of losses for which they are asked to pay, but consider only the perils listed in the policy (included or excluded) as potential candidates. Other causes, no matter how strong, are irrelevant for their purposes. On the other hand, police, prosecuting authorities and would-be civil claimants tend to focus exclusively on human behaviour as a potential cause of accidents – because their only wish is to establish whether the blameworthiness of the people involved is sufficient to support a prosecution or civil action (this being the main motivation in the case of the car driver held responsible for the Great Heck crash). Yet again, engineers of various types are much more likely to identify structural or mechanical defects in buildings, plant or equipment as key causes.

The perspective for the purpose of our study is mainly that of the risk manager, who will want to take a fairly holistic view of what brought about a risk event, or what might do so in future. Our risk manager will then wish to allocate resources towards prevention and towards reducing the vulnerability of the firm, to the extent that resources are available. However, this is likely to present a difficult task in balancing the competing views of a variety of 'experts' as to what went wrong, or what might go wrong, and how the money should best be spent.

All of the events in our case studies are, at least to some extent, 'man-made' – in the sense that some human failing caused or at least contributed to the crisis, or its effects, or both. In one or two cases, these human acts are wholly or largely exogenous to the firm. For example, in the case of the Great Heck rail disaster, a complete stranger, acting entirely beyond the control of the rail firms affected, triggered the sequence of events that led to the disaster. Again, in the Land of Leather case, the sachets of toxic chemicals were placed inside leather furniture by human hands in the factories of the Chinese suppliers, but these were actions that Land of Leather and other buyers could not have anticipated very easily. In many of our case studies, on the other hand, it was human behaviour – especially at management level – within the firm that led to the crisis or at least made the firm more vulnerable. In cases such as this, it proved impossible to separate the corporate response to risk events from their origin (as was originally envisaged in this research) because the causes of the events were found in many cases to be integral to and inseparable from the consequences.

The classification of risk events

The purpose of our study is to assess the impact of various types of risk events through a series of case studies. Classifying risk events poses a number of problems, because no universally accepted classification system is available.

However, before we even consider this problem, we need to clarify what is meant by 'risk event' in the context of our study. In fact, this term is most apt to describe sudden traumatic incidents that are clearly identifiable and that happen at a definite point in time. Obvious examples include train crashes (such as those in our study), traumatic work accidents and fires and explosions (such as the Texas City Refinery fire and the Buncefield explosion covered in our study). Occurrences such as these provide a sharp central focus for a corporate crisis. Referring to our 'bowtie' figure, they result in a small tight 'knot' that clearly separates the two wings of the tie – the event leading up to the casualty and the consequences that flow from it.

On other occasions, a company can encounter a severe problem that lacks any such clearly delineated critical event, or hinge point (to use another metaphor). The disaster may emerge gradually though a diffuse series of events with no obvious trigger point. Alternatively, there may be several trigger points or critical moments spread out over time. In cases such as these, the 'bow' is loosely knotted, with a less than sharp distinction between causes, 'events' and their consequences. Examples include corporate crises arising from problems with defective products (there are several such examples in our case studies), gradually developing disease or gradual pollution. In all of these instances, there may be an identifiable tipping point (such as an adverse court decision or media activity) that converts a containable situation into a disaster. However, in this case, the occurrence that marks the tipping point (such as the court decision) is not really a 'risk event' in the sense that an explosion is, rather it is a 'trigger' that signals a more rapid phase in an ongoing process of deterioration. Equally, it might be viewed as both a cause (of new problems) and a consequence (of existing ones). This makes for a rather slack and untidy 'bowtie'.

Cases where regulatory intervention triggers a sharp decline in the fortunes of a firm are analogous to the examples given above in that such intervention is not so much the 'risk' or 'hazard' or 'event' itself as the occurrence that brings an ongoing problem to a head. Again, it can be characterised both as a causal factor in the firm's decline and as a consequence of existing problems. Yet again, prior to the intervention of the regulator, there may be several trigger points that administer successive jolts to a company that is already in difficulty, such as successful litigation against the firm or a downgrade by a rating agency. A number of our case studies involve 'diffuse' events of one kind or another, as discussed above.

Besides the fact that some events are 'sudden' whereas others are 'diffuse', there is a further complication in that it is almost impossible to design a clear, objective taxonomy of exclusive risk event categories – i.e. a system that allows any given corporate crisis to be fitted neatly into one of the categories, and only in one of them. However they are chosen, the categories themselves will often lack clear boundaries and will tend to overlap. As already discussed, the classification we have used is a simple one based on categories that will be familiar to risk managers. We readily acknowledge that even within such as simple system, a number of our case studies inevitably spread across several categories.

The classification of event consequences

The object of this classification system – represented in the right 'wing' of the 'bowtie' – is to provide a consistent framework for analysing, quantifying and comparing the impact of risk events on the companies covered by the case studies. This, in turn, should assist us in assessing the relative robustness of the firms concerned in the face of a crisis.

The consequences we have sought to analyse are the various forms of loss, damage and impairment inflicted on the firm by the risk event, together with any changes in the firm or its ownership that are a consequence of that damage and that signal an inability on the part of the firm to meet its strategic objectives or reflect a need to reset those objectives.

These forms of harm vary in terms of their tangibility (e.g. damage to material property vs. loss of goodwill or reputation) and immediacy or directness (some losses occur instantaneously with the risk event, whereas others emerge gradually over time). Some losses are capable of almost immediate objective valuation (e.g. the cost of restoring physical property), whereas others will crystallise into a known value over time (e.g. the cost of settling lawsuits and paying fines). Some losses are objective and certain in amount (such as the cost of a fine) whereas others contain highly subjective elements: for example, movements in a firm's share price will reflect the sum total of investors' perceptions of the firm's prospects at a given point in time after the event, which may be highly volatile. Yet again, some losses stand in isolation from each other whereas others will be linked, one being a consequence of another or several others.

However the categories are chosen, there is likely to be some overlap and also a complex interplay between them. The concept of 'damage to reputation' comes to mind here. A firm's reputation derives from the quality of many different types of assets possessed by the firm, and damage to reputation can be both a consequence of those assets being impaired and a source of damage to them.

It is difficult to build a classification system that is free from so-called 'category errors' (placing in the same class things that are different in nature and so cannot be compared properly).

The initial classification system used in our 'bowtie' above, with added example, illustrates this problem:

1. Financial, e.g. reduction in share price and loss of market capitalisation, loss of revenue and direct costs of the event (insured and uninsured)'
2. Operational, e.g. change of board or executive committee membership, change of company ownership, loss of licence and ability to trade
3. Reputational, e.g. damage to reputation or brand value
4. Commercial, e.g. loss of opportunity because of lack of funds, reduction in earnings per share, loss of market share

It is easy to see that these classes overlap to a considerable extent.

Perhaps the simplest basic classification of consequences for a firm that suffers a risk event, and the one mainly used in this study, starts with a distinction between the (relatively) direct costs of the crisis and the costs or effects that are indirect.

Direct losses

The classic 'insurance' framework of loss classification provides a useful tool for analysing direct losses, which can include loss or damage to material property (including both real and movable property), financial losses that flow directly from such damage (including lost production and sales) and other financial losses that flow directly from the event (including compensation payable to those who suffer loss in connection with the event for which the firm is legally responsible, i.e. liability claims). Other direct costs include money necessarily spent on mitigating the effects of the loss event and reducing its impact (e.g. the cost of recalling products known or feared to be defective or pollution clean-up costs). Some of these direct costs will be incurred immediately, whereas others will spread over time. The latter might include damages payable to victims of the event who contract gradually developing diseases or suffer pollution damage that manifests itself many years after the event – i.e. the classic 'long-tail' claims. Many of these losses are coverable by common forms of insurance, whereas others (such as product recall costs and liability for gradual pollution) are less commonly insured. Yet others (such as criminal fines and penalties) are virtually uninsurable. In any event, the direct financial impact of the event will obviously be mitigated by whatever sums are recovered via a firm's insurance programme.

Indirect losses and effects

Other losses and effects can arise, not directly from the event itself, but from the actions of stakeholders in the business and other third parties taken in the aftermath of the crisis and in the light of information about the firm that the event has revealed. These include actions based on views concerning the extent to which the firm has been damaged by the event and perceptions regarding the quality and safety of the goods and services it produces, its ethical standards and the competence of its management in handling the crisis.

Such stakeholders and third parties might include:

- *Customers and potential customers* who desert or shun the firm in the wake of the event, damaging its revenue streams
- *Existing or potential investors* who react adversely to the impact of the event or the management's (poor) handling of it, weakening the firm's share price and increasing the cost of its borrowing
- *Regulators* who withdraw or restrict the firm's licence to do business or, in an extreme case, force it to cease trading
- *Rating agencies and financial analysts* who downgrade the firm, making its operating environment more difficult
- *The media* that comment adversely, prompting negative reactions in others

- *Employees (including management)* who desert the firm in the aftermath of the event or work on with lower morale, thus reducing the value of the firm's human capital
- *Suppliers, distributors and other business associates* that cut their links with the firm in order to reduce their own losses or preserve their reputation
- *Competitors* that take advantage of the firm's difficulties to increase production and take market share

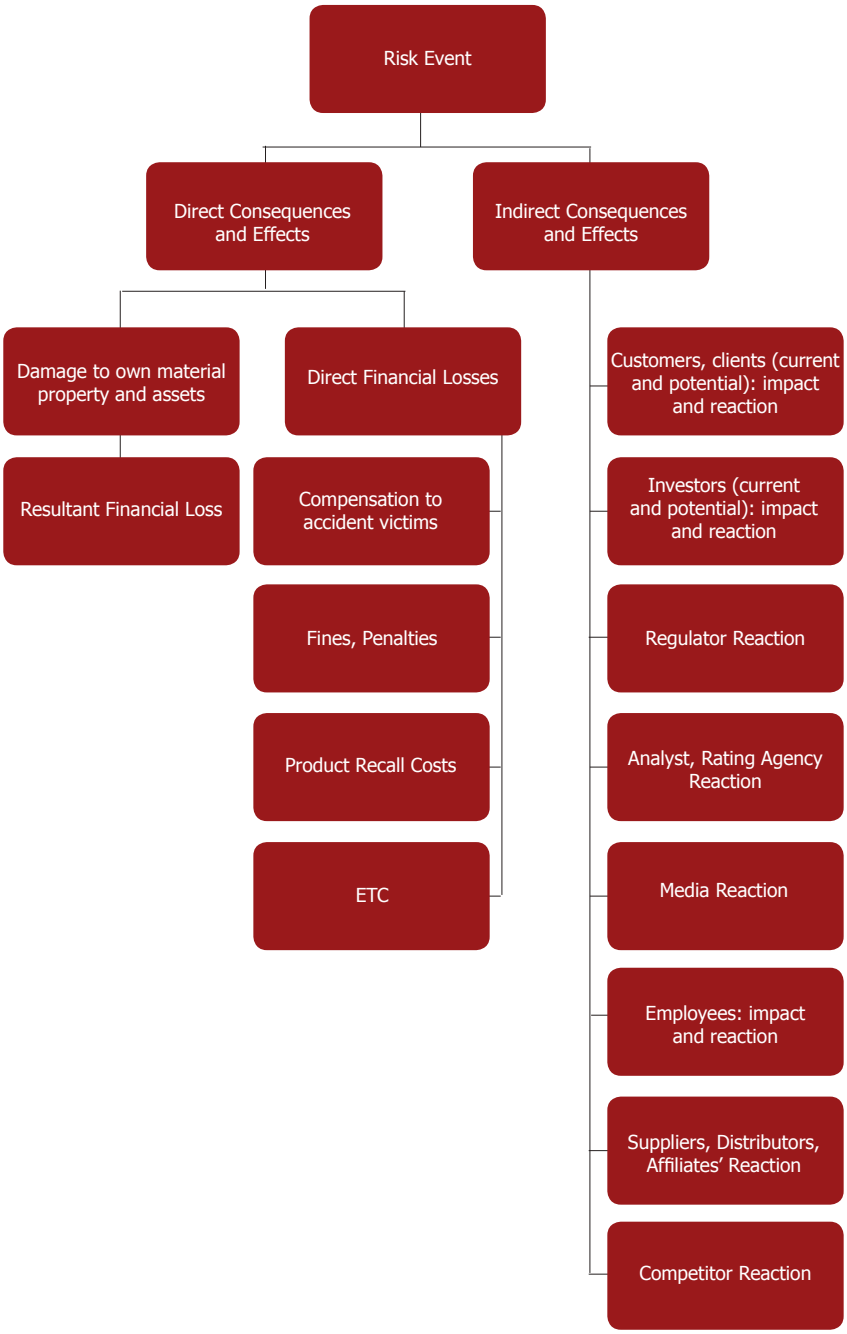
See Figure 2 overleaf for a simplified representation of this classification system.

A number of the resulting losses might be classified also as 'reputational', especially if they stem from adverse perceptions as to the ethos or competence of the firm's management or the quality of its products. In other cases (for example, severe damage to a firm as a consequence of natural events that are beyond the firm's control), the firm's business could be badly damaged without its reputation being impaired – the firm being a victim of bad luck rather than bad management.

It is also important to recognise that the indirect effects of the risk event may be positive rather than negative. If the firm manages the crisis skillfully, limits its effects and overcomes its problems quickly, the reaction of the various parties listed above could well be positive rather than negative, enhancing the reputation of the firm and strengthening its trading position.

Finally, we should note that the impact of a risk event upon the firm may have repercussions that go well beyond the firm itself, causing damage to parties who have little or no legal redress and have to bear the loss themselves. A number of the parties in our list are likely to suffer in this way, including investors who lose dividend payments and see an erosion in the value of their investments, suppliers and customers who are denied the money or goods that are due to them and employees who lose their jobs or earning power.

Wider damage may also be inflicted on government and society at large, for example through loss of income and corporation tax revenues, increased social security payments, loss of local employment opportunities and degradation of the natural environment. Of course, all of this is may impact further on the reputation of the firm concerned, further reinforcing some of the effects described above.



Methodology

The methodology employed in our study was relatively simple. The case studies were written first. All the information contained in them was taken from the public domain, although it was necessary to draw on a wide range of sources in order to achieve a reasonably consistent level of detail throughout. We have taken care to verify the information contained in the case studies and are reasonably confident of the facts as we have reported them. However, there remains the possibility that press reports or other sources used may contain errors that we have not been able to identify.

We then analysed the case studies, looking for common features and common patterns of behaviour among the firms studied in order to identify and isolate what we subsequently described as 'underlying risks'. Our approach was to define categories to fit the risks identified, using an iterative approach to refine the description of the risk categories. By the end of this phase, we had identified 24 risk categories. In writing the report, we reduced the number of categories to seventeen, which we then organised under seven broad headings. Risks arising from poor crisis management and poor crisis strategy were also analysed and discussed separately.

Limitation of our study and proposals for further research

We readily acknowledge a number of limitations in our study. We have already noted that some common categories of event (such as natural catastrophes and events leading to environmental impairment) are missing, and we have supplied reasons for their omission. It could also be argued that the number of events studies – 23 in total – is not large enough to form a sample from which robust conclusions can be drawn. Objections could also be raised on the grounds that some of the events studied (and, indeed, types of firms involved) are incommensurable – i.e. so different in nature that they cannot be compared meaningfully. There is some force in all these criticisms, and our study could certainly be improved by the addition of further studies to eliminate the gaps identified and fill out some event categories (e.g. IT-related crises) that are thinly populated. While this would produce a more robust (and much longer) piece of work, we believe, nevertheless, that our conclusions from the existing study are of value, because they focus on what we have described as 'underlying risks' – risks that are common to all businesses and that can manifest themselves in many different types of crises.

Our analysis of the consequences of the risk events studied is simple in every case. For example, while we have commented on share price movements of afflicted firms from time to time and included some share price charts,[1] we have not attempted to conduct more sophisticated 'event studies' of the type that are commonly found in the economics and finance literature. (An event study is a statistical method to assess the impact of an event on the value of a firm by finding the abnormal return attributable to the event in question. This is done by adjusting for the return that stems from the price fluctuation of the market as a whole.) It is acknowledged that studies of this sort are potentially useful in that they offer a more precise way of measuring the impact of a risk event on the stock market value of the firm in question. The inclusion of event studies might add some value to any future research of this type. However, their value is clearly limited in relation to what we have described as 'diffuse' events (i.e. those without a sharp focus in time) and they would add little to the study of events that end in the spectacular collapse of the firm concerned (e.g. Independent Insurance, Enron and the like). Again, an event study could not be conducted at all in the case of organisations (such as Maclaren, Arthur Andersen and the Passport Agency), which, for a variety of reasons, are not quoted on stock exchanges.

In addition to the possibility of broadening and deepening our study in the ways described above, we would offer another, more radical, extension in our work, already discussed in the concluding part of Section 3. In the light or our findings, and in the course of that discussion, we suggested that four developments are necessary:

1. The scope, purpose and practicalities of risk management will need to be rethought from board level downwards in order to capture risks, such as those we have identified, that are not identified by current techniques.
2. At least some risk professionals will need to extend their skills so that they are – and feel – competent to identify, analyse and discuss risks emerging from their organisation's ethos, culture and strategy, and their leaders' activities and behaviour.
3. The role and status of risk professionals will have to change so that they can confidently report and discuss all that they find on these subjects at all levels, including board level.
4. Boards, and particularly Chairmen and NEDS, need to recognise the importance of risks that are not captured by current techniques. They also need to focus on how to ensure that the missing risks are captured.

We have already acknowledged that how this can best be achieved is a question beyond the scope of this report, but suggest again that the work involved in these four areas, and particularly the first two, would be a natural development of our work and would repay further study.

1. Thanks are due to Zhao (Henry) Gang of Cass Business School for assistance in producing the share price charts.

6 Lloyd's Avenue London EC3N 3AX
www.airmic.com