The Frequency and Cost of Corporate Crises[1]

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This paper sheds light on the pattern and consequences of crises experienced by corporate Australia during the last decade.

Crises are defined here as a single incident or issue with consequences that threaten the organisation's viability; thus, this study observes 55 corporate crises in Australia between 1990 and 2001. Half were operational crises; the prevalence of extortion and product recall made wholesale and retail trade the most crisis-prone industry. In Australia, over a quarter of companies affected by crisis did not survive.

Direct costs typically exceed $10 million, with a quarter costing over $100 million. Because many crises are due to systemic deficiencies in industries or companies, their causes are often apparent (at least in hindsight).

Introduction

The literature on corporate crisis management is extensive and growing. It is dominated by case studies of prominent industrial accidents (e.g., Starbuck and Milliken, 1988); analysis of the frequency of financial crises (e.g., Bordo *et al.*, 2001) and natural disasters; and – more recently – by normative outlines of ideal crisis preparation and response (e.g., Heath, 1998).

Most studies of corporate crises assume crises are infrequent and complex, often unique, events. Thus the emphasis is on avoidance through sound risk management, and flexible response through robust crisis management plans. As a result, risk management studies are concerned with the mechanics of crises; best practices in crisis plans and management teams and summaries of learnings from well-publicised crises. As Loosemore (1999: 9) noted succinctly: ''[the crisis literature] has been dominated by the search for improved strategies of prevention and anticipation.'' Harvard Business Review (HBR, 2000) contains eight wide-ranging papers, and Boin and Lagadec in Journal of Contingencies and Crisis Managment (JCCM, 2000) provide as many again on management of crises. Hwang and Lichtenthal (2000) and Stead and Smallman (1999) describe the way that corporate crises develop.

The topic of corporate crisis management is well developed in the public relations literature: an extensive bibliography is provided by the Institute of Crisis Management (ICM, 2003), and Burnett (1998) describes the current state of thinking. McDonald and Härtel (2000b) describe the Australian experience, and McDonald and Härtel (2000a) report on consumer attitudes towards crises. Hoger and Swem (2000) discuss differences between lawyers and PR specialists in their attitudes towards crises.

There is also considerable coverage in the medical and psychology literature, particularly of natural disasters. An indication of the potential psychic disruption came from research by Krug *et al.* (1998) on suicide rates after major natural disasters in the United States between 1982 and 1989. When compared to national figures, the suicide rate in affected counties was 63 percent higher in the year after an earthquake, 31 percent higher in the two years after a hurricane, and 14 percent higher in the four years after a flood. Steinglass and Gerrity (1990) studied families relocated after natural disasters in the United States and found significant short-term symptoms which abated after about 18 months.

On the other hand, Barling, Bluen and Fain (1987) encountered more robust survivors in their study of an explosives factory in Johannesburg after a disaster in 1985 killed 14 workers and injured another 14. They found no differences in job satisfaction, organisational commitment, marital satisfaction, or psychological distress between 40 workers who had been physically exposed to the explosion and similar sized control groups from a different area of the same factory and from a similar, but separate, site.

Although Flin (1998) argued that crisis literature broadened from concentrating on the effects of operating disasters in the 1970s and early 1980s (Bhopal, *Challenger*, Piper Alpha, Seveso, Three Mile Island and the like) to examining their causes, there has been virtually no analysis of their economic impacts. One of the few exceptions

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is by Skidmore and Toya (2002) who examined the long-run economic impact of natural disasters and found they tend to increase growth because assets require rebuilding, but the overall economy's productive capability is not degraded.

As discussed below, insured losses from man-made disasters equal about one percent of global GDP with as much again lost in shareholder value: they are a significant business issue. However, as described by Spillan and Crandall (2001) and Penrose (2000), the literature has treated man-made crises lightly and with an observational bent.

The sparsity of empirical data is an important gap. The most obvious reason is that population-based statistics are essential to guard against cognitive biases such as over-reliance on personal experience or optimistic expectations. This has been termed the inside, or organisation-based, view by Lovallo and Kahneman (2003) who argued it yields a much less accurate projection than the outside, reference-class view. Objective data also guard against risk evaluation which develops extreme scenarios of unlikely disasters and holds them out as probable outcomes.

In terms of global disasters, listings are provided by Swiss Re in its annual publication *Natural catastrophes and man-made disasters* (Swiss Re, 2002) and in the Université Catholique de Louvain's *International Disaster Database* (EM-DAT, 2002). Munich Re (2003) also provides annual data on the cost of natural catastrophes.

Swiss Re (2002) estimates that annual insured costs from disasters around the world since 1987 lay in the range \$US (2001)10-60 billion, with an average of \$6 billion for man-made disasters and \$14 billion for natural catastrophes (largely storms, earthquakes and floods).

Table 1 summarises Swiss Re's recent data on global disasters. It is interesting to note that– while the larger number is man-made–natural disasters cause far greater damage (whether measured as insured loss or as loss of life).

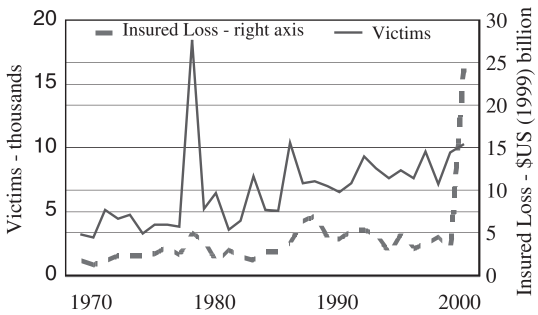
The first figure plots Swiss Re data on man-made disasters and shows a statistically significant ($p < 0.01$) increase from around 90 per year between 1970 and 1985 to about 180 since 1990 (an unspecified portion of the increase follows better reporting, especially from developing countries). Despite wide fluctuations, the number of victims and the total payout of insured losses matched the doubling in incident frequency (the cost of 9–11 is included as \$19 billion US; a burst dyke in India killed 15,000 people in 1979).

Applying the Swiss Re criteria for catastrophe (damage in excess of \$US20 million or more than 20 fatalities, 50 injuries or 2,000 made homeless) to the EM-DAT list, there were 1,163 disasters in the last 15 years, with half since 1996. The total cost was \$US24 billion, with over 50,000 casualties. (As an aside, the disparity between Swiss Re and EM-DAT lists is indicative of the poor data on crises).

The data on the frequency of corporate crises is also limited, and little has been compiled with academic rigour. In their survey of 114 *Fortune* 1,000 companies, Mitroff, Pauchant and Shrivastava (1989) estimated that large American corporations face 10 crises a year. ICM (2002) found the frequency of crises in the United States stayed roughly constant during the 1990s at around 7,000 per year (both define 'crisis' as 'any problem or disruption which triggers negative stakeholder reactions and results in extensive public scrutiny'). There was an increase in crises resulting from class actions, product recalls and workplace violence, whilst those arising from environmental issues, mismanagement and white collar crime diminished. According to one UK survey of disasters, companies suffered a major Information Technology (IT) crisis every six years (Price, 2000). Spillan and Crandall (2001) questioned 189 small and medium sized businesses (with less than 500 employees) in Guatemala on their experience in the previous three years and found that most had suffered a crisis such as a major industrial accident (25 percent of respondents), management corruption (18 percent), boycott by consumers (12 percent), product recall (11 percent), product

Table 1: Swiss Re Global Catastrophes and Disasters 1995–2001

	Natural Catastrophes		Man-made Disasters	
	Global	Australia	Global	Australia
1995	127	0	164	0
1996	129	1	212	1
1997	122	0	226	0
1998	123	3	219	1
1999	138	2	188	1
2000	121	1	230	3
2001	111	0	204	0
TOTAL	871	7	1 443	6



Source: Swiss Re (2002) data

Figure 1: Global Man-Made Disaster

sabotage (9 percent), or major natural disaster (11 percent).

Share prices are directly impacted by crises which typically trigger an immediate drop of up to ten percent. After that, the share price of companies whose management demonstrates talent in responding to the crisis rises to be about ten percent above the pre-crisis price at the end of two months; conversely the share price of firms where management responds poorly lose an average of about 15 percent (Pretty, 1999; Hooker and Salin, 1999). Viscusi (1993) reported that fatalities in major incidents such as airline crashes and hotel fires were valued by stock-markets at around $US50 million per death, presumably because disasters raise doubts about the total exposure and management's ability.

It is clear from a review of the crisis literature that there is a significant unfilled niche, namely the frequency and cost of crises which affect corporates. Pearson and Clair (1998: 73) put it succinctly: ''The crisis management literature, although replete with speculation and prescription has undergone scant empirical testing.''

The balance of this paper quantifies the nature of corporate crises. The following section uses various data sources to quantify the frequency of corporate crises in Australia; whilst the last section provides a summary and conclusions.

Australian Corporate Crises 1990–2001

Turning the focus to Australia, Swiss Re (2002) data show that it is a low risk continent. Since 1995, the world has had 2,314 disasters (871 natural and 1,443 man-made): if these disasters had been distributed according to population or GDP, Australia would have suffered between 20 and 50, and many more if distributed by land mass. But Australia experienced just 13: the frequency of natural disasters is under half the expected value, whilst the frequency of man-made disasters is a quarter of the expected value.

These global insurance data are interesting, but tell us relatively little about corporate crises. Although the latter lacks an accepted definition, let us assume that a *corporate crisis* involves a single incident or issue which escalates uncontrollably and causes such serious damage to the assets, reputation and performance of an organisation that its viability is threatened.

Thus serious incidents do not necessarily become crises. But when crises do occur, they are described that way inside and outside the organisation; control is always lost; and they hurt customers, employees and communities. Crises frequently lead to corporate collapse.

Using the definition above, there have been six types of corporate crises in Australia

i. Product defect or contamination
ii. Operational failure, mostly fires and explosions
iii. Financial crises, including trading losses and unwanted takeovers
iv. Organisational crises, including labour disputes and whistle blowing
v. Regulatory and legal crises, including action by government authorities
vi. Threat and extortion, including blockades

Table 2: Swiss Re Record of Disasters in Australia 1996–2000

Date	Incident	Fatalities	Damage ($A Mill[1])
April 1996	Port Arthur murders	35	
September 1996	Hailstorms in NSW		100
January 1998	Townsville Floods	2	100
January 1998	Katherine floods	2	70+
July 1998	Wollongong floods		200
September 1998	Longford gas plant explosion	2+	2000
April 1999	Sydney hailstorm	1+	1500+
December 1999	Cyclone John off Western Australia		300+
December 1999	Glenbrook train collision	12+	
January 2000	Brisbane heat wave	22	
May 2000	Loy Yang plant failure		100+
May 2000	Brisbane fireworks accident	1	
December 2000	Refugee boats sink	163	

Table 3 Australian Corporate Crises 1990 to 2001

	1990–1992	1993–1995	1996–1998	1999–2001	TOTAL
Type of Crisis					
Product Defect	1				1
Operational	2	7	9	11	29
Financial		1	1	2	4
Organisational		2	2	2	6
Regulatory/Legal	1	2	2	1	6
Threat/Extortion	2	2	2	3	9
Industry Involved					
Agriculture		1	2		3
Mining & Resources		4	1	2	7
Manufacturing	4	5	7	5	21
Wholesale & Retail		1			1
Transport	1			5	6
Banking & Finance		1	1	2	4
Services	1	2	5	5	13
TOTAL	6	14	16	19	55

Reflecting the dearth of statistics on crises, there is no listing available on Australian crises, so one was compiled by following event history analyses (Yamaguchi, 1991). This involved searching the on-line databases of the two major Australian publishers, Fairfax and News, using the keyword 'crisis', and testing each hit involving a corporate entity against the definition above. This gave a total of 55 crises between 1990 and 2001: full details are set out in the Appendix and are summarised in Table 3.

A number of interesting conclusions can be drawn from this data:

i. Corporate crises were infrequent in Australia until 1992–3 brought a wave of product recalls, extortion threats, and operating disasters. Since then, their frequency has been roughly constant at around five each year.
ii. Over half of all crises are operational when some aspect of plant or process fails and leads to an incident or product defect. The annual frequency is increasing.
iii. Most years saw an extortion threat serious enough to reach the media. This is probably somewhat less than the total given that there were 13 cases of extortion or threats in Australia between 1990 and 1993 [Burbury (1993)], but only four were reported. Although irritating for researchers, this is understandable given the industry's determination to play down such incidents. This is to guard against copy cats as extortion attempts tend to spawn imitators (Meade and Fife-Yeomans, 1997) and impose a burden which industry estimates is costing Australians $A10 million each year (Crittle, 2000).
iv. Many crises are extortion attempts and product defects which directly impact wholesalers and/or retailers, and make this sector the most prone to crisis.
v. No industry is immune from crisis; and they can occur well outside normal activities. Canberra Hospital, for instance, was embroiled in an operational crisis when its demolition went wrong and a spectator was killed.
vi. Crises tend to cluster, with sequential impacts within companies and industries. Their frequency has fallen in the resources sector, but grown in transport and services.
vii. Almost half the crises involved large companies (defined as members of the Business Council of Australia).
viii. At least 14 of the 51 companies involved in crises have gone out of business through liquidation, sale or takeover; or else lost their identity in a merger. In Australia, a staggering 27 percent of companies did not survive a crisis.
ix. Of the 37 companies that survived, four faced years of rolling crises.

The trend in media reporting of crises is shown in figure 2 which plots the number of times the phrase 'crisis management' appeared in newspapers and magazines published by the Fairfax group. In keeping with the frequency of actual crises, their management was a minor issue in the late 1980s, but grew in interest to become one of the fastest growing business topics.

The most obvious consequence of a crisis is financial. Of the crises in Table 1, an estimated cost was published for 25 and they are broken down in the table below.

Not surprisingly, financial crises are the most expensive followed by operational crises and product defects: these typically cost over $A100 million, and inevitably come back as higher

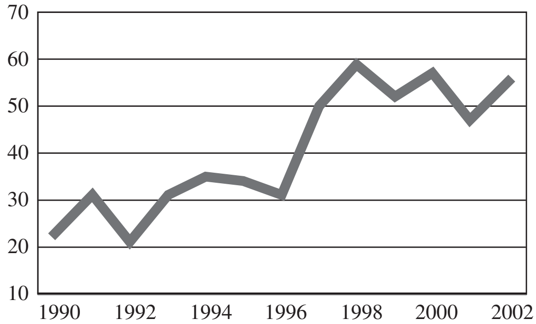


Figure 2: Australian Media Mentions of 'Crisis Management'

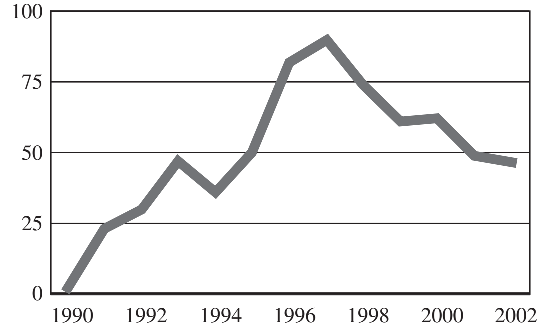


Figure 3: Australian Media Mentions of 'Food Contamination'

insurance premiums. Moreover, the direct costs of a crisis are usually shaded by consequences from loss of reputation and weakened confidence in management. This can translate into reduced sales and tighter scrutiny by media and regulators; and can complicate recruiting and retention of good staff and service providers.

Moreover, crises do not respect geography and the internationalisation of Australian companies has brought crises offshore following political turmoil (such as in Indonesia and Papua New Guinea), environmental incidents, and illegal activities.

Discussion

Selecting crises from the hundreds of possible choices has inevitably left gaps. First, reliance on media reports makes it hard to assess the extent of internal problems; and details of costs are often vague, or – especially in the early stages – wildly overstated. Second, there are a number of incidents – particularly reputational attacks, takeovers, company collapses and strikes – which may appear to many observers to be crises, but only rarely fit the definition used in this survey. The third source of gaps is limited reporting of incidents.

Table 5 shows the frequency of product recalls which were voluntarily advised to the Australian Competition and Consumer Commission. Although there have been nearly two recalls each working day over the last five years, less than half of one percent of recalls turn into a 'crisis'.

An important feature of Table 5 is that the trend of recalls is increasing ($p < 0.01$). This matches the conclusion from Table 3 that the frequency of operational crises is rising, and is consistent with the increases in global man-made disasters noted earlier. What could be causing this rise? First, the trend may be spurious. For instance, there is considerable fluctuation in frequencies from one year to the next, and the rise might be only a cyclical upturn. Second, the increased frequency may be due to changes in data reporting, particularly more comprehensive coverage. Because there is no consistent yardstick to calibrate disasters, crises and voluntary recalls, the rising trend could be due to a lower threshold, perhaps coming from heightened sensitivity to public and consumer interests.

Finally, there is the possibility that – despite all the efforts by legislators and corporate governors – there has been a real increase in the frequency of serious incidents. Given that the trend has occurred over a relatively short period, it is unlikely to be due to structural changes such as new technology or market shifts. Thus the causes are probably to be found in quicker acting changes: possible examples include organisation restructuring and cost-cutting. Although my data do not support a detailed explanation of the apparent rise in incident frequency, this should be a fruitful area for further research.

The Australian experience shows that crises roll on and on when their root causes are systemic. This typically occurs in high risk conditions such as those created by: financial pressures which push resources and people to their limits; external shifts such as deregulation which take everyone's eye off the main game; and restructuring, takeover or change which weaken expertise and continuity. Moreover, crises attract unprecedented attention which can identify parallel problems or magnify otherwise minor incidents. And inevitably the distraction of a crisis and its stress on people and resources exacerbate smouldering problems.

Thus it is not surprising that crises can become endemic. For instance BHP was considered one of Australia's best corporate performers for a decade until the mid 1990s when everything started to go wrong: 20 workers were killed in two years; a debilitating class action commenced; and the company suffered Australia's worst oil spill (Howarth, 1995). A similar fate befell Pacific Dunlop a few years earlier after its strategies were routinely doubted amidst embarrassing

Table 4: Costs of Australian Corporate Crises ($A (2001) million

	Number	Average	<10	10–50	51–100	>100
Product Defect	9	76	1	6	1	1
Operational	6	97		3	1	2
Financial	2	215				2
Organisational	2	35		2		
Regulatory/Legal	1	30		1		
Threat/Extortion	5	42	1	3	1	
TOTAL	25	80	2	15	3	5

Table 5: Australian Voluntary Product Recalls

Year to June	1998[1]	1999	2000	2001	2002	TOTAL
Therapeutic goods	124	164	141	172	261	800
Motor Vehicles	56	128	87	117	94	454
Food	20	38	55	36	70	209
Agricultural & veterinary chemicals	0	0	0	2	4	6
Consumer products	96	76	95	110	209	538
TOTAL	296	408	378	437	638	2155

[1]Annualised
Source: www.recalls.gov.au/recalls_stats.cfm

product recalls (Shoebridge, 1995). And Qantas experienced a string of maintenance problems after one of its 747s overshot the runway in Bangkok in late 1999 (Mercer, 2000).

Similar sequential crises befall whole industries, too. The accompanying chart shows the number of mentions of ''food contamination'' in Australian media. In January 1995, a young girl died and several hundred others were poisoned by *mettwurst*, a form of fermented meat, made by Garibaldi Smallgoods in South Australia. Almost overnight the issue of food contamination exploded as one incident after another hit the headlines. Only in the last year or two has the issue subsided.

Perhaps the most interesting industry-wide series of crises occurred during 1998 with disastrous failures at three utilities in the Australian region: contamination of Sydney's water supply; an explosion at Esso's Longford plant which cut natural gas supplies to Melbourne; and failure of Mercury Energy's electricity network to Auckland. Each had been previously reliable but suffered process failures that lasted weeks and paralysed a major city.

As a caution, hubris can trigger travails. Just before the Garibaldi crisis, Australia's food monitors bragged about their achievements (de Silva, 1994):

''In Australia food is now so safe that the scientists who regularly test it for contaminants are finding it difficult to plot their results. The latest survey of foods by the National Food Authority - the 1992 Australian Market Basket Survey - shows that Australian food is safer than ever… Levels of contaminants were now so low or non-existent that the authority was having great problems presenting the survey results.''

It is hard not to conclude that a shared system of the wrong values within an organisation or industry predisposes it to the multiple defects that precede serious failures.

An important implication of this paper's definition of corporate crisis is that serious incidents and issues can occur without escalating into crises. As noted in Table 5, recalls of defective or contaminated products are relatively common; but few become crises. This can also be noted about white collar crimes and employee thefts, which are usually handled quietly. Anecdotal evidence shows that deliberate falsification of financial and operating reports is relatively common, but rarely makes the news.

A good example of an incident with crisis potential is containment failure involving radioactive material. Although there have been at least six leaks of radioactive material from Australia's operating uranium mines since 1994, none escalated into a crisis. Other examples include industrial fatalities under questionable circumstances, financial scandals such as insider trading, botched operations and collapses of computer systems.

Perhaps the most glaring non-crisis relates to the way Australians die. Transport accidents and suicides cause nearly two percent of all deaths each (1,750 and 2,500 per year, respectively); over 400 people die each year through workplace accidents (ABS, 2001). Other famous non-crises are chronic failures of desktop computers which means these basic tools operate as reliably as cars did in the 1980s and are crying out for the same blowtorch of redesign.

Relating the Australian experience to the crisis literature confirms that corporate crises are infrequent and complex, and probably represent only the most serious of multiple lesser incidents. The direct cost of corporate crises in Australia has averaged $A(2001) 80 million, roughly equal to $US50 million today, which is consistent with international experience.

In summary, there is a corporate crisis in Australia every few months: their direct costs are measured in the tens of millions of dollars; and one in four organisations which is impacted by a crisis does not survive. Most companies could have seen (or did in fact see) the crisis developing; but – as hubris is a common feature of crisis-prone organisations – the response was typically inadequate.

Successfully managing a crisis involves tapping others hard won experience; and depends upon delivering a response that meets stakeholder expectations, rather than providing a technically excellent solution. Although best practice organisations are continually alert to risks, even perfect risk management cannot prevent every crisis. Thus it is essential to maintain practical, up to date plans to manage crises and preserve business continuity.

Notes

1. This article is based on a presentation given in Perth to the 2002 National Conference of the Association of Risk and Insurance Managers of Australasia. I thank the organisers for their support, and acknowledge valuable input to the paper from conference delegates and numerous colleagues.

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Appendix

Appendix—Australian Corporate Crises between 1990 and 2001

Date	**Company**	**Incident and Outcome**	**Est Cost ($A[2002] million)**	**Reference**
March 1990	Dow Corning	Breast implant litigation involving about 3,000 Australians. Settled in 1998 for $30+ million	70+	*The Age* 11 September 2002
April 1990	Boral	A tank at Boral's LPG storage site in the Sydney suburb of St Peters exploded in a fireball and forced the shutdown of Sydney Airport and evacuation of surrounding suburbs	80+	*Sydney Morning Herald* 1 April 1990
August 1991	Colgate-Palmolive	Cyanide extortion threat involving products around Australia		*Australian Financial Review* 20 August 1991
August 1991	Terminals Pty Ltd	Coode Island explosion – fire burned for two days in chemical storage tanks near Melbourne. Terminals was sold in 2002	50	*Australian Financial Review* 22 August 1991
May 1992	Heinz WA	Threat made in Western Australia to poison jars of baby food with cyanide		*Sydney Morning Herald* 5 May 1992
November 1992	Mayne Nickless Limited	Trade Practices Commission commenced action alleging price fixing in the freight industry which Mayne agreed to settle for $8 million in 1994. Commenced a decade of fines and turmoil.	30+	*Sydney Morning Herald* 7 December 1994

Appendix—Continued.

Date	Company	Incident and Outcome	Est Cost ($A[2002] million)	Reference
June 1993	George Weston Foods Adelaide	Big Ben pies made at a Sydney factory were found to contain cyanide. 40 types of meat pastry products were withdrawn from sale for up to three months	15+	*The Age* 6 July 1993
1993	Westpac	$2 billion operating loss for 1992 after extraordinary write downs following poor house lending practices		*Australian Financial Review* 27 November 2001
After August 1993	Catholic, Anglican and Uniting Churches	Start of litigation where the Churches ultimately faced hundreds of paedophilia allegations and charges involving employees	20+	*The Age* 15 August 1993
August 1993	The Smith's Snackfood Company	Sewing needles found in packets of Samboy crisps and CCs in Tasmania – company was sold in 1997		*Sydney Morning Herald* 18 August 1993
March 1994	Exicom	400,000 Touchfone telephones found unsuitable for tropical use were recalled from northern Australia. Exicom collapsed in 1996	40	*The Age* 2 February 1995
May 1994	BHP	PNG landowners launched a $4 billion class action following Ok Tedi mine's contamination of Fly River system. It was settled for $500 million in 1996, but ushered in a decade of crises and turmoil leading to BHP's merger with Billiton in mid 2001		*Australian Financial Review* 25 September 2000
August 1994	BHP	A gas explosion at the Moura coal mine in Queensland led to 11 fatalities and closure of the mine		*Australian Financial Review* 9 August 1994
October 1994	Beef Producers	The worst of a series of incidents where export beef was found with pesticide residues and cut sales to Japan, South Korea and USA		*Australian Financial Review* 21 November 1994
December 1994	Pacific Dunlop	Worldwide recall of Telectronics heart pacemaker after faulty leads were detected. US litigation settled for $145 million. Division subsequently sold but this began years of turmoil for PacDun as its strategies were questioned.	400+	*Business Review Weekly* 2 April 1995
January 1995	Garibaldi	One killed and 150+ people poisoned by contaminated *mettwurst* – company was liquidated and directors charged	20+	*The Age* 27 March 1995

Appendix—Continued.

Date	**Company**	**Incident and Outcome**	**Est Cost ($A[2002] million)**	**Reference**
May 1995	Ampolex	Mistake in wording relating to convertible notes slashed company's value and contributed to its acquisition in a hostile take over	300+	*Australian Financial Review* 31 March 1996
July 1995	BHP	Australia's worst oil spill when *Iron Baron* ran aground and left a 30 kilometre slick. The ship was scuttled	40+	*The Age* 31 July 1995
September 1995	Coles Myer	After Coles sacked its CFO Philip Bowman, evidence emerged over questionable financial transactions and began a long period of Board turmoil		*Sydney Morning Herald* 31 May 1996
October 1995	CSIRO	Escape of calicivirus from secure island laboratory off South Australia		*Time Magazine* 11 December 1995
February 1996	Cattle Council of Australia	Alleged market manipulation following collapse of cattle prices		*Australian Financial Review* 29 February 1996
April 1996	Port Arthur Historical Site	35 people killed by gunman in Broad Arrow Cafe and surrounds		*The Sunday Age* 19 April 1997
2 June 1996	Kraft Foods	Peanut butter contaminated by mouse droppings caused salmonella poisoning of 1000+ people. Led to Australia's first successful class action	$50+	*Business Review Weekly* 1 September 1996
June 1996	ICI	Series of leaks over several weeks at Botany gas plant near Sydney led to major fire. ICI plc subsequently sold its interest in ICI Australia		*Sydney Morning Herald* 30 March 1997
January 1997	Macquarie Bank	Employee charged with insider trading, followed by several financial scandals and high profile lawsuits		*Australian Financial Review* 5 December 2002
February 1997	Arnotts	Extortionist sent letters threatening to lace biscuits with pesticide unless police underwent lie detector tests	40+	*The Age* 8 June 2000
March 1997	World Hot Bread Bakery, Melbourne	700+ people affected by salmonella contamination in pork rolls	5	*The Age* 27 October 1998
May 1997	Cotton Australia	Criticisms that water and pesticide use practices are leading to land degradation and harming public health		*Sydney Morning Herald* 19 May 1997
July 1997	Royal Canberra Hospital	Bungled demolition led to death of spectator. Demolition company went into liquidation		*Australian Financial Review* 3 March 2000
October 1997	Pacific Dunlop	Recall of Ansell condoms and litigation over latex allergy caused by its rubber gloves		*Australian Financial Review* 22 October 1997

Appendix—Continued.

Date	Company	Incident and Outcome	Est Cost ($A[2002] million)	Reference
March 1998	Patrick Stevedores	Protracted dispute over manning and work practices on Australian ports	50+	*Illawarra Mercury* 05/09/1998
July 1998	Sydney Water	Contamination of water supplies with parasites required water users to take precautions for two months	40+	*Sydney Morning Herald* 24 March 1999
July 1998	Sanitarium Health Food Company	Extortion attempt involving soy milk and juices around Australia	3+	*Illawarra Mercury* 18 July 1998
September 1998	Esso Australia	Explosion at the Longford gas plant supplying Melbourne caused two deaths and major disruption to Victorian domestic and industrial gas consumers	300+	*Australian Financial Review* 28 June 1999
September 1998	Femcare	Therapeutic Goods Administration issued a safety alert in September 1998 in relation to failure of Filshie Clip sterilisation device, and in October 1999 Queensland women commenced litigation against 25 hospitals		*The Age* 7 October 1999
December 1998	Sydney-Hobart Yacht Race	Poor weather advice was followed by death of six yachtsmen		*Sun Herald* 13 August 2000
March 1999	Knispel Fruit Juices	Contamination of fruit juice with salmonella affected 500+ people	20	*The Age* 14 April 1999
From early 1999	North Limited	Head office blockades by anti-uranium protestors, and rolling protests at mine sites. North was subsequently taken over by RIO plc		*The Age* 29 March 1999
July 1999	Australian Red Cross	An eight-year-old girl contracted HIV through a blood transfusion during surgery and threw the safety of blood supplies back into doubt		*Sydney Morning Herald* 29 July 1999
3 August 1999	Shell	Tanker *Laura D'Amato* spilled nearly 300,000 litres of crude oil into Sydney Harbour	10+	*Sydney Morning Herald* 17 March 2000
September 1999	Qantas	Series of aircraft incidents after a Qantas Boeing 747 overshot Bangkok runway	100+	*Sydney Morning Herald* 20 May 2000
[October] 1999	Australian Bankers Association	Cash-for-comment issue when John Laws and others were accused of accepting payments to make favourable comments on radio in breach of broadcasting regulations		*Australian Financial Review* 8 February 2000
December 1999	Mobil Oil Australia	Contamination of avgas led to grounding of 5,000 light aircraft around Australia for several weeks – Mobil Australia was	40+	*Australian Financial Review* 18 January 2000

Appendix—Continued.

Date	Company	Incident and Outcome	Est Cost ($A[2002] million)	Reference
		acquired by Exxon Corporation in a global merger		
22 March 2000	Herron Pharmaceuticals	Extortion attempt after two people were hospitalised by capsules poisoned with strychnine	50+	*Sydney Morning Herald* 9 December 2000
April 2000	Oceanis Australia	Legionnaire's disease killed two people at the Melbourne Aquarium and infected over 110 others in the world's second worst outbreak. A year later the Aquarium was named Victoria's best major tourist attraction		*The Age* 8 May 2000
31 May 2000	Whyalla Airlines	Aircraft crashed into Spencer Gulf killing eight people: company ceased operations six months later		*Sydney Morning Herald* 1 August 2000
June 2000	AFL and Colonial Stadium	Melbourne's new Colonial Stadium was unserviceable at the start of the season with unstable ground surface and poor crowd facilities		*The Sunday Age* 11 June 2000
June 2000	GlaxoSmithK-line	Voluntary recall of Panadol after two people were poisoned with strychnine in capsules	100	*The Age* 14 June 2000
24 June 2000	Palace Backpackers' Hostel	Resident deliberately lit a fire which killed 15 backpackers		*Sydney Morning Herald* 18 July 2001
September 2000	Royal Adelaide Show	Four people were injured in the collapse of the Spin Dragon ride and hospitalised for up to two months		*The Age* 4 September 2000
September 2000	Qantas	Sudden death of a passenger heightened awareness of threats from DVT following long haul flights		*Australian Financial Review* 18 July 2001
April 2001	Ansett	Airline fleet was grounded by CASA over maintenance concerns – Ansett subsequently went into liquidation		*Business Review Weekly* 21 March 2002
August 2001	Maintrain	Seven week maintenance strike after unions targeted it in national campaign to establish union controlled trust for allowances		*Illawarra Mercury* 28 August 2001
September 2001	National Australia Bank	Wrote off $3.9 billion against Homeside Lending Inc in Australia's second largest (until then) writedown. Questioned NAB's strategic capabilities		*Business Review Weekly* 25 July 2002
September 2001	Pasminco	Major losses in currency hedging and commodity trading – went into voluntary administration	130	*Australian Financial Review* 21 September 2001