

Insurance Company Failure

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Summary

The aim of this paper is to provide the reader with a strong insight into the reasons why insurance companies fail. No company can be considered beyond the possibility of failure and for insurance companies, whose business is covering the risks of others, this is particularly true.

By drawing upon previous research, combined with case study analysis, the paper provides a comprehensive appraisal of the reasons for insurance company failure. These reasons arise out of the internal operations and the external environment in which insurance companies compete; both are explored at length.

As with all good pieces of actuarial work, having looked backwards at the historical reasons for failure, the paper finishes by exploring the future. What are the danger signs that will identify those companies at risk? What can be done to prevent future failures? Why should actuaries care about the failure of insurance companies?

The views expressed in this paper are those of the working party and do not necessarily represent the views of any organisation with which any member of the group is, or has been, associated.

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1. Introduction

The focus of this paper is insurance company failure. This definition covers both insurance and re-insurance, property and casualty companies. In line with much of the historic research, the paper tends to focus on the US and Western Europe. The main reasons for this are because these markets are well developed, large, and information is freely available; they have also experienced a huge number of recorded failures. In the US alone there were over 640 insolvencies during the 30-year period 1969 – 1998.

Failure can be defined in many ways. In terms of this report the definition of failure is that of insolvency. In simple terms, a company has failed when its capital has been eroded to the point where it is likely that it will be unable to meet its insurance liabilities.

Reasons to care about failure

There are many reasons why the insurance industry, and those associated with it, should be concerned with the failure of insurance companies. The failure of a company has an impact on:

1. The policyholders at the time of the failure

If they have an outstanding claim it may not be paid, or paid in full. Even if there is a market scheme to pay claims in such a situation, it may not pay the full value of the claim. In addition the policyholder may not get all the unexpired premium back, and even if they do, they will probably have to take out a new policy before they get the money.

2. Other insurers

Other insurance companies can lose out if:

- They were reinsured by the company, since they may not be able to get their claim paid in full,
- Fewer people buy insurance because of a lack of trust in insurance companies,
- The failure leads to increased regulation,
- They have to pay levies to meet the shortfall in claims.

3. The staff and any contractors or consultants

Staff will suffer a loss of wages, perhaps some for work they have already done but all future wages until they can find re-employment. For some more senior people that may be made more difficult if there is any stigma attached to having worked for a failed insurance company.

4. Other creditors of the company
Creditors are unlikely to get back all that they are owed.
5. The shareholders of the company
The shareholders lose out on future dividends and their capital. It is interesting to consider where this capital has gone. Assuming fraud is not an issue, it may well have gone to policyholders in the form of lower premiums. In some senses failure can be thought of as distributing capital from shareholders (arguably the richer in society) to the more general public.
6. The general public and the economy
The general public could suffer from higher taxes used to fund increased regulation, higher taxes to pay unemployment benefits, higher premiums to pay for levies on insurers to pay the shortfall in claims and higher premiums because of the reduced competition in the market place. There can also be a general cost to the economy. This has been demonstrated recently in Australia. HIH was the second largest general insurer; it collapsed in 2001. As a result of this, many small businesses and community organisations have been unable to get cover or have had very large premium increases. Without cover, many organisations are unable to continue operating.

In summary, the failure of other companies costs money. So it should be a concern of every company both to identify potential failures and so to minimise the financial impact of such failures. Actuaries are well placed to do a lot of this work. From a public interest point of view they also might have a role to play in preventing and minimising the cost of such failures to the public.

2. The Role of Market Forces

In a perfectly competitive market, the risk-adjusted returns are just large enough to be acceptable to the owners of the company. If the returns were any larger there would be new entrants to the market, which in turn would drive returns down. Whilst not being perfectly competitive, property and casualty insurance markets tend to have few barriers to entry and are very competitive. The ease of entry and the implications of competition are highlighted in the following quotation:

“The reinsurance business has the defect of being too attractive-looking to new entrants for its own good and will therefore always tend to be the opposite of, say, the old business of gathering and rendering dead horses that always tended to contain few and prosperous participants.”

- Charles T. Munger, Chairman, Wesco Financial Corp.
(extract from the 1986 Annual Report)

The very nature of insurance means that the market needs to experience several years of profit to pay for the occasional really bad year. Following a succession of good years, the markets may be perceived as offering returns that more than outweigh the risks involved. This attracts new entrants to the market. The increased level of competition for the same pool of business drives premiums down, which results in lower levels of profitability.

In their study into economic and market predictors of insolvencies, Mark J. Browne and Robert E. Hoyt found a strong positive correlation between the number of companies in a market and the frequency of insolvencies. From this we can conclude that an increased level of competition not only reduces profitability for the entire market, but it also increases the number of insolvencies.

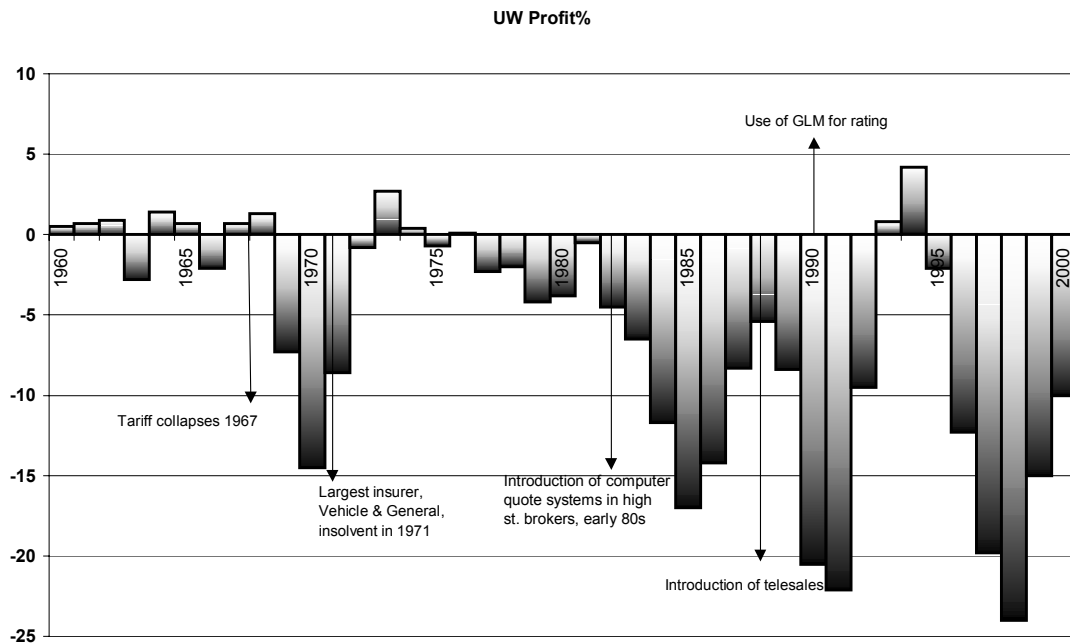
It makes sense to expect lower levels of market profitability to result in a higher frequency of insolvencies. When profit margins are thin it leaves little room for error in the running of a company. The quality of the management team and the management controls in place are critical to the company's survival. If this is not the case for a particular company, its weaknesses will soon be exploited by market forces, resulting in worse than market results and an increased probability of insolvency.

The UK Motor Insurance Market

The UK Motor Market provides a good example of a very competitive insurance market. Up until 1967 premiums in the motor market were controlled by a cartel of large companies. There were several large companies not part of the cartel but their premium rates stuck closely to the tariff set by the cartel. In this uncompetitive environment, underwriting profits hovered around 0% and the market generally made a profit through investment returns. By 1967 several companies had broken away and

were under-cutting tariff premiums in addition to offering higher levels of commission to brokers for introducing larger volumes of business. The result was that underwriting returns plummeted, leading to the failure of several companies including F.A.M (Fire, Auto & Marine) and the mighty Vehicle and General. With companies exiting the market the competition in the market reduced and underwriting results improved.

The early 1980's saw the introduction of computer quotation systems into the offices of high street brokers. This technological innovation enabled brokers to compare the premiums charged by several companies with little effort and introduced 'the winner's curse'. That is, by winning the business, a company's premium must have been the cheapest. By being the cheapest, either the rest of the market must have over-priced the risk or the 'winning' company must have under priced it. The quotations systems introduced a new level of competition to the market and underwriting returns headed South again.

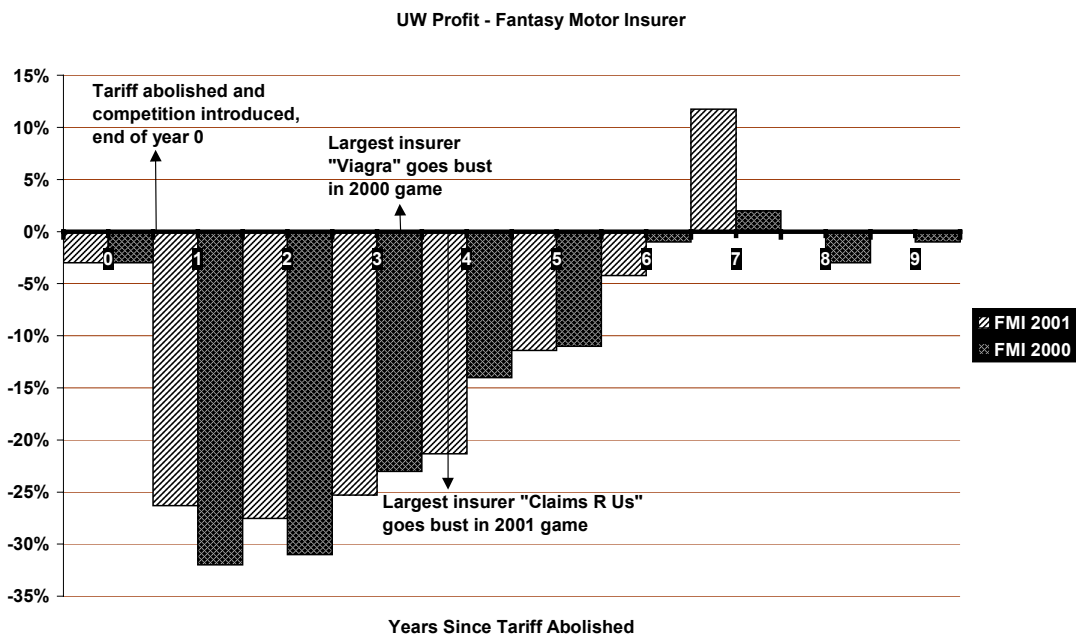


Source: B&W Deloitte

The introduction and then popularisation of tele-sales in the late 1980's followed by the use of Generalised Linear Modelling (GLM) techniques for pricing meant changes in the way that companies competed. These again drove the underwriting results for the whole market downwards.

Fantasy Motor Insurance Challenge

B&W Deloitte have run the Fantasy Motor Insurance Challenge (FMI) for two years. The challenge involves teams from different companies competing in an artificial motor insurance market, the aim being to outperform the other companies. Historically the artificial market has been regulated by a premium tariff. Year 1 sees the removal of the tariff and the introduction of price competition. This encourages buyers to shop around for a better deal. For both years that the competition has been run, the results have followed a very similar pattern. The introduction of price competition has caused the underwriting results for the entire market to plummet before gradually recovering to acceptable levels over a period of six or seven years.



Both the UK Motor Market and the B&W Deloitte Fantasy Motor Market demonstrate that the introduction of competition, or a new way of competing, can be expected to result in a period of reduced underwriting returns and thus an increased likelihood of individual companies failing.

A very interesting feature of the Fantasy Motor competition is that for both the 2000 and 2001 competitions, the largest insurer has gone bust in the 4th year after the removal of the pricing tariff. In 1971 when the mighty Vehicle and General failed, this was also 4 years after the UK market abolished its unofficial pricing tariff.

3. The Role of Regulation

Regulation is key to defining the level of competition in a market. It may restrict who is able to provide cover through requiring evidence of suitability ('fit and proper people'), licensing and capital requirements. It may also restrict how companies compete through minimum policy requirements, restrictions on pricing, and how products are sold.

This means that those who determine the regulatory environment have the power to determine the fortunes of the market and the companies within it. Less regulation leads to greater competition, with the consequence of a larger number of company failures. Those setting regulation need to balance the need for competition in improving the efficiency of the market with the cost of companies failing as a result of competition.

In the UK, the Financial Services Authority (FSA) regulates insurance. The Financial Services and Markets Act sets the FSA four statutory objectives:

- market confidence: maintaining confidence in the financial system,
- public awareness: promoting public understanding of the financial system,
- consumer protection: securing the appropriate degree of protection for consumers, and
- reduction of financial crime: reducing the extent to which it is possible for a business carried on by a regulated person to be used for a purpose connected with financial crime.

Following the failure of an insurance company, both market confidence falls and consumers suffer. Reading the above objectives, one may then conclude that it is the job of the FSA to guard the public from insurance company failures. This is not the case. In its report, 'A new regulator for a new millennium', the FSA clearly states, "The regime that the FSA follows is not intended to be one of zero-failure", but one which minimises the impact of failures.

The Choice of Regulatory Environment

There are various differences between the regulatory regimes in different countries. Appendix B provides a summary of the regulation in some of the key insurance markets.

The globalisation of insurance, and reinsurance in particular, means that companies have some flexibility to choose their regulatory environment. This is particularly true for new entrants. The regulatory environment is just one consideration to be taken into account when deciding where to base a new company, but there is a risk that new entrants will be attracted to the less well-regulated environments. Just as electric current finds the path of least resistance, new entrants will seek out regulatory

environments that offer least resistance. This lower resistance may be in the form of easier and quicker authorisation, lower regulatory costs, lower capital requirements and less onerous on-going requirements to meet approval.

Globalisation would suggest that unilateral changes to the way one particular country is regulated will simply result in business being diverted to a different regulatory environment. Put another way, more stringent regulation in one country may reduce the number of company failures in that particular country, but it will not prevent the failure from occurring; it will just take place somewhere else.

The trade press has frequently mentioned Bermuda as a domicile that is currently attracting new companies, at the expense of the London market. In the six months following the terrorist attacks on the World Trade Centre, there were 11 new Bermudan companies formed and an estimated \$14 billion of capital was attracted to the market. The difference in the way companies are regulated is often cited as one of the main reasons for this.

The regulatory environment can have a significant impact on insurance company failure rates, and changes in that environment can also result in exceptional changes in the level of insolvencies. As an example, recently introduced legislation in Australia has already resulted in 10 general insurers entering run-off. Although, by our definition, this is not the same as failure, it is very often a first step towards liquidation.

4. Predicting Company Failures

The probability of a company failing depends upon many factors; the state of the economy, the level of regulation and competition in the market, as well as company specific factors. Developing a model that captures all this is far from a simple task. Along with an absence of data to model, the fact that many companies that may have failed are prevented from doing so clouds the analysis. An ailing company may be prevented from failing by action from its parent company, the regulator, or from an 11th hour rescue by another company.

The statistical approaches that have been used in the past have focused upon the firm specific financial data that is available publicly. The methods used include:

- Ratio analysis,
- Multiple regression models,
- Multiple discriminant analysis (Altman z-scores),
- Neural networks.

Ratio Analysis

This is the simplest and most commonly used approach. Regulators in most countries use this approach as an early warning system to identify companies that need to be looked at in more detail. In the United States the same ratios are calculated for every insurance company. This ratio analysis is part of IRIS (Insurance Regulatory Information System) which forms part of the FAST (Financial Analysis Solvency Tools) used by state regulators and the NAIC (National Association of Insurance Commissioners). Within IRIS 15 ratios are calculated; if a company falls outside the acceptable range for 4 of these ratios, they are identified as being at risk. The details of IRIS are publicly available on the www.naic.org.

Multiple Regression Models & Multiple Discriminant Analysis (MDA)

These two approaches are related. With both approaches, statistical models are fitted to historical data. The result is a model, that given several inputs, provides an expected failure frequency for a particular company.

Altman z-scores are based on MDA and are used in practice by credit analysts to establish default probabilities on corporate loans.

Neural Networks

In 1994 research into the usefulness of neural networks as a tool for predicting insurance company failures was carried out by the University of Texas. This research project was partly funded by the Society of Actuaries. The results of the research

suggested that predicting insurance company failures was an ideal application for neural networks. Even in the simple experiments carried out, the neural network model outperformed both IRIS and MDA.

11th Hour Rescues

Back in the good old days there was an understanding between many of the larger players in the market. This understanding, as this was all that it was, said that if any of the smaller insurers ran into difficulties, the larger insurers would take it in turn to 'bail them out'. This agreement was never formalised.

The arrangement started as a result of bad publicity in the late 60's, when a number of insurers became insolvent, leaving policyholders unprotected. The arrangement was run through the ABI, then British Insurers Association (BIA) and ran through the 70's. This meant that there was some cover for those insurers who faced insolvency, without there being a risk to consumers.

This arrangement stopped in the seventies in the UK, although it has been continued on the continent, it is also dwindling there, as markets become much more experienced. It has also been used in the US, Homestead Insurance Company of Philadelphia being one such rescue. The company was set up in 1969 specialising in "niche" programs. Homestead ran into financial difficulties in the early 90's, due to a combination of poor management, high dividend payments and rapid growth. In October 1995, an investment fund bought Homestead's parent holding company in what could be deemed as an industry buyout. The thoughts are that these types of rescues are also dwindling in the US.

The idea of such 11th hour rescues in the UK has arisen recently, in discussions about:

- Solvency II - the EU project looking to try and better match solvency requirements to the true risk encountered by an insurance undertaking and also to encourage insurers to improve their measurement and monitoring of the risks they incur. These objectives parallel those of the revision of the Basel Accord for banks.
- Tiner Project – the FSA's review of regulation of insurance, covering life and non-life insurance including friendly societies and Lloyd's.

It is highly unlikely that this type of arrangement will be reinstated in the future due to the competitive nature of the industry. Such a scheme requires a 'live and let live' environment from the larger companies. The greater awareness of shareholder power and the constant quest for superior performance means there will be few companies who would wish to be associated with an acquisition that may be perceived as an 'act of charity'.

Rumours

There is some anecdotal evidence that rumours of problems at an insurance or reinsurance company can be a first sign of the impending demise of the company.

It is, however, important to recognise that, in an industry that relies on its reputation and its ability to make payments at some future date, the rumour itself can be a factor in the impairment of the company's viability. This is on the basis that policyholders or prospective policyholders who are aware of the rumours would be unlikely to buy from the company, except at bargain basement prices. Thus, the company would be likely to lose significant elements of its more profitable business, adding to the pressures it faces.

There is a parallel in the credit ratings provided by the rating agencies, in that the down-grading of a company by the rating agency can result in their reduced rating being unacceptable to some insurance and reinsurance buyers, with consequent effects on the volume and profitability of their on-going business.

We are aware of a number of examples of the demise of a company being preceded by rumours over a period of weeks, months or even years. Two specific cases are outlined below.

Insurance Corporation of Ireland was a small Irish company, which expanded into the London Market in the early 1980's. This was at a time when premium rates were low and falling, and many underwriters were trying to be as selective as possible in their writings, to avoid suffering the worst of the losses, which were rife in the market. It soon became noticeable that the Insurance Corporation of Ireland was attracting long queues of brokers, most of whom went away happy in having found a home for some of their more problematic risks. The London Market being such a close-knit community, it was not long before rumours started to spread that Insurance Corporation of Ireland must be sustaining heavy losses given how active they were in the market. It was, thus, no great surprise when they became insolvent in 1985.

It would be interesting to know whether a culture of "whistle-blowing" would have assisted in changing the way in which this company's fortunes developed. It is conceivable that early recognition of the problem could have saved it altogether, whereas later (albeit pre-1985) intervention may have resulted in an earlier but smaller insolvency.

The Weaver's companies, now known as KWELM (Kingscroft, Walbrook, El Paso, Limestreet and Mutual Re) were major players in the London market through the 1970's and 1980's, writing large amounts of casualty business, especially emanating from the USA. This was a period when such business has proved particularly unprofitable, largely as a result of the exposure to asbestos, pollution and health hazard claims which has heavily impacted these years.

As other participants in this market suffered the losses resulting from such exposures, some of them to the extent of becoming insolvent, comments started to be made as to why the impact on the Weaver's companies appeared to be so limited. At the same time, they were continuing to write a substantial book of business sometimes at premium rates which other market participants considered to be uneconomic, sometimes substantially so. One particular case was a \$5m bottom layer on an aggregate medical malpractice programme for a group of New York hospitals which they priced at 30% on line, whereas others participating on the programme considered it to be virtually certain to be a total loss. In fact the fifth layer of the programme was also priced at 30% on line!

As a result of these factors, some Lloyd's and London Market underwriters stopped buying reinsurance from these companies on the basis that, for long-tail business, there was a significant risk that they would be insolvent by the time the claims fell due for payment. Nevertheless, the companies survived a further five years or more before they eventually failed in 1992.

A small number of companies appear capable of surviving rumours even longer than this without (to date) becoming insolvent. It appears undesirable that we should name them, as we do not wish to be guilty of exacerbating the situation.

Qualitative Approaches

Quantitative analysis of publicly available data will never capture all of the factors affecting the risk of failure. This is recognised by the rating agencies who make use of qualitative analysis in arriving at Insurer Financial Strength Ratings and it has also been acknowledged by the FSA.

On the subject of proposed regulatory changes, FSA Managing Director John Tiner said:

"Our overall approach for the financial services industry is to update and achieve greater cross-sector harmonization in reporting in line with the FSA's new risk-based approach to supervision. Our objectives include gaining a clearer understanding of the risks in the business that could give rise to consumer detriment. This may require more qualitative rather than quantitative data. We will also aim to use different means of collecting information - for example, fewer pre-set forms and using and building on data which firms already hold for other purposes. We also want to develop a framework to allow firms and others to tell us privately of activity conducted by others that may have negative regulatory or consumer implications."

In an environment characterised by emerging businesses, globalisation, increased consolidation and heightened competition, the organisational boundaries of insurers are continually changing. Insurers need to adapt to changes in their external environment and align their internal structures accordingly. A strong qualitative model is required to analyse these factors.

Leavitt's Diamond model (1965) (Appendix C) classifies organisations in terms of 5 fundamental qualitative subsystems:

- Control Subsystem
- Technical Subsystem
- Human Subsystem
- Management Subsystem
- Political Subsystem

This has been upheld by more recent concepts of

- Organisational Architecture: This views organisations in terms of work, people, informal and formal arrangement (Kochan & Useen 1992)
- High Performance Work System: This optimises people, work technology and information for strategic fit (Nadler 1992)

The variables in the Leavitt Diamond are not static. For a company to succeed in a changing environment, the relationship between the subsystems must be fluid. Change in one subsystem usually results in a compensatory or retaliatory change in at least one other subsystem. Failure to understand the inter-relatedness of the subsystems leads to a mismatch and causes operational deficiencies. 90% of recent financial disasters can be attributed to operational deficiencies (Wall Street Systems). A false view of the external environment is exacerbated by a lack of fit between the internal subsystems. Therefore recognition of the need to maintain a dynamic equilibrium is key to the success of a company.

Control Subsystems

Fundamental issues with control have contributed to the demise of insurers:

- Giving away the underwriting pen
- Lack of appropriate regulation
- No control over exposures
- Inadequate internal controls

As managing general agents (MGA's) write business on behalf of an insurer, handle claims and organise reinsurance but also obtain commission for the business they write, classic agency problems arise causing an inherent conflict of interest between quality and quantity. Maintaining control over a managing agent is therefore critical. The insurer- agent relationship requires that regular audits of the agent be conducted to

prevent abuse of the delegated authority vested in the agent. Examples of misuse of the system are Bellefonte, Transit, Integrity, and the Mission. Transit delegated its authority to 17 MGA's. A distinct lack of internal audit, accounting and control systems gave the MGA's a license to write business beyond the scope of Transit's usual risk portfolio. Transit did not employ any actuaries and neither were regular external actuarial reviews conducted. The regulators did not require Transit to be audited independently and therefore the opportunity for regulatory arbitrage (profiting from regulatory loopholes) was exploited.

Regulatory loop holes arise from various sources. In the US, regulatory requirements vary according to jurisdiction and are dependent upon whether an insurer is authorised to do business in that jurisdiction. Unauthorised companies are not licensed or regulated by the state. One of Transit's MGA's operated an unregulated captive reinsurance company, Lafayette, from the Caymen Islands and the Isle of Wight. The MGA handled funds for both Transit and Lafayette despite a conflict.

Writing risks with little underwriting or claims control amplifies the risk exposure. The LMX (London Market Excess of Loss) spiral is a clear example of this with insurance and reinsurance risks in Argentina, Russia, Far East etc. and little control over the exposures, with the risks being reinsured repeatedly within the same market.

The NAIC reports under reserving as a key component cause of company failure. One of the factors leading to under reserving is the absence of adequate internal controls. For example if a company had a low claims threshold of (e.g. £10k), above which the claim would have to be reported to the CEO, this could develop into a reluctance to establish reserves above the £10k threshold. De minimis amounts or large reductions are likely to be entered, leading to under reserving. Solid reporting criteria are necessary, coupled with a no blame culture to engender trust and encourage realistic reserving. This demonstrates the complex nature of managing a company in a changing market. It emphasises the interdependence between the management subsystem, tasks subsystem, human subsystem and control subsystem. It illustrates the influence of different organisational interests between management and staff and emphasises the impact that different stakeholders have on a company. What is clear is that a lack of fit between the subsystems can cause a company to fail.

Technical subsystem

Boundary management is particularly poor in companies which have failed. Their lines of reporting are often abused. Whilst there is little duplication of effort, these companies are characterised by inadequate internal support systems and ambiguous job designs.

Minzberg proposes a model of organisational structure in terms of workflow which is composed of 5 distinct parts:

- The strategic apex
- The operating core
- The middle line
- The technostructure
- The support staff

In companies like Transit, Integrity and the Mission, this structure was not apparent due to their heavy reliance on managing agents, where the roles and responsibilities became very blurred. Job designs for managing agents were non-existent and did not therefore prevent the conflict which arose from their activities.

Integrity of data and consistency of information is dependent both on the input and the basis of holding the information. Fragmented information systems lead to double counting and inadequate controls. The absence of a uniform platform for recording reserving information creates opportunities for companies to obscure levels of reserving, reinsurance and the basis of claims estimates. If the systems are automated and the roles distinct, it is more difficult to override inputting of claims estimates. Yet this points to a broader issue of management control beyond the boundaries of the business units which will be discussed later.

In an industry dependant upon accurate analysis and evaluation, the use of appropriate technology underpins the efficiency of an insurer. Recognition of this drove Dr Savundra at Fire Auto and Marine Insurance to align with IBM and develop a system to evaluate risks and produce “instant policies”. The system was flawed, as it was incapable of storing a sufficiently wide data set to calculate accurate premiums. It calculated low premiums for all risks. In a push to undercut the competition, this was ignored. Implementing a system which provided strategic fit with FAM’s quest for market share and rapid growth, proved disabling as it bypassed the need for accuracy and control.

FAM displays a number of discrete information, operations and strategic objectives. It is evident that Dr Savundra allied by computer experts, promoted his operational view of the situation at the expense of accurate information, quality and long term growth. The investment in new technology was an opportunistic approach to managing the business. It was characterised by narrowly specified, short-term objectives. At the heart of the problem as with other companies like Transit, Integrity and the Mission was the misguided strategic choice of rapid growth and short term financial gains. While the technology appeared to match the organisational needs, the organisation itself was headed in the wrong direction. Contingency theory offers valuable insight to the strength of strategic fit between the business environment and the structuring of roles within FAM. A strong coalition between Dr Savundra and his computer expert rendered a narrow technicist view of the world, biased further by the need to gain rapid market share.

The key to future technologies used by insurers is first to develop appropriate strategic choice aligned to the business environment and then to seek to informate rather than just automate (the theory of informing is to automate a process and by doing so, also provide core data that can be used for another process). Zuboff (1988) states that a mechanistic approach to technologies of automation can be used but this takes an insurer no further than the 19th century machine operating system. What is required in today's environment is the same technology which not only automates a process but also provides deeper transparency to activities which had previously been opaque and allows aggregation of data to build knowledge and ultimately enhance the quality of the product offering.

Human & Management Subsystems

Insurers often present contradictory requirements for both centralised power and decentralised power. On the one hand there is a need for centralised strategic choice and vertical information flow of reserves and claims estimates reporting so that trends can be anticipated. On the other hand there is a need for decision making to be decentralised and devolved to business units or divisions for hands on technical decisions. Leavitt argues that the two bases of power must be aligned with each other and the other subsystems in order for an organisation to be effective.

Most insurers are bureaucratic in structure, which implies formalism, hierarchical compartmentalisation and specialism. The advantage of such a structure is that it maintains vital elements of predictability and control and thus aims to stem uncertainty, which is important when the core of the business is in taking on risk exposures of other entities. Reducing uncertainty means routines and procedures which are well established. None of this was evident in the Mission, Integrity or Transit because of the ad hoc nature of the managing agents.

The downsides of bureaucracies are that they block innovation and prevent flexibility. This can cause rigid behaviour patterns which are misguided. Historically some insurers have issued demanding annual targets to their underwriters. The emphasis would have been on volume rather than value, enabling the companies to take on greater exposure for the same level of prior premium income. The overall risk portfolios would have seen a deterioration in quality. The strategic choice of increased market share and rapid growth would have been implemented by hard target setting. The staff would have been locked into these new behaviour patterns to the extent that they would have become the norm, because of the controls that would have been set. Lewin (1951) characterises this intervention and direction at the individual and organisational level in a three-phase model of unfreezing, changing (target setting) and refreezing (lock-in through controls). The existence of low thresholds for claims estimates is a prime example of a lock-in control, the unintended consequence of which would be the establishment of lower claims estimates.

Leadership & Political Subsystems

It is important that senior management establishes behaviour changes in support of new procedures or processes that flow from a shift in strategic choice. A number of the insurers cited in this section were aiming for rapid growth and arguably would have been well advised to ensure alignment between all the subsystems and their chosen strategy before implementation. Failure to grasp the significance of this point can lead to “people problems” and technical incongruities that stem from behaviour patterns. Establishing support and developing stakeholder commitment against a framework of strong corporate values and integrity is essential.

Whilst champions of strategic shift often create a critical mass in favour of their vision for the future through rewards and salary packages designed to incentivise commitment, little attention is given to appropriate organisational value structures to prevent abuse of the systems.

Evidence shows all too often that lack of attention to building a value driven culture encourages agency behaviour, where individuals operate to improve their own position even if their actions are contrary to protocol. At the more senior level this raises questions of power and personality along with agenda setting. The way in which leaders leverage political power is based largely on their strategic interests. The keener the interest in rapid expansion and/or radical strategic shift, the more likely that the leadership style will be directive, in the form of a machine bureaucracy (high level of control), or strongly positioned to build a dominant coalition with a favourable expert.

Dr Savundra of Fire Auto and Marine demonstrated a prime example of the latter. At the descriptive level the case shows how advances in technology provided opportunities to attract huge market share through low premiums for all. At a deeper theoretical level the case demonstrates the ways in which more advanced theories of power and political process can provide insights to the impact that coalition building can have on the future of a company. It was the coalition between Dr Savundra and his IBM computer expert that enabled Dr Savundra’s vision for rapid growth to be realised.

Within the arena of power & political process, management is viewed as a series of turning points during which leaders make key strategic choices. These choices are often contested or negotiated with other key organisational stakeholders. It is the process of strategic choice and negotiation which shapes the direction that the company takes. The absence of this process can create bias in the decision making process.

Willcocks and Mason (1987) provide a definition of power which lends itself to the leadership styles of Dr Savundra, Michael Bright and senior people at the Transit and Mission MGA’s:

“Power is the capacity to get decisions and actions taken and situations created which support one’s interests and preferred outcomes where their rationalisation is dependent on the agency of another”

This offers a framework from which power is derived:

- Formal authority
- Alliances and informal networks
- Control of resources
- Control of uncertainty
- Use of rules
- Control of knowledge
- Setting the agenda
- Symbolism and meaning

Key players in positions of power are likely to try to defend or extend their positions and this is borne out by the allies they make or bodies of expertise they do not employ in the company.

If short term strategies of rapid growth dominate, the strategic interests underpinned by the directive status quo can be threatened by players who exercise expert knowledge. Actuaries exert a large degree of control over reserving. Such expert knowledge at a senior level suggests that their active agreement is required for strategic decisions. Actuaries also exercise a significant measure of symbolic power which is derived from specialist knowledge. Thus they present a formidable threat to any leader with short-term interests. Agenda setting to therefore exclude actuaries from decision making, by not employing them, or including them to support certain interests is a feature of companies which have failed.

The pluralist view of power, which assumes that all stakeholders play on a level playing field, is misplaced in the insurance industry. Rather, the industry presents a strong case for radical theories which argue that the balance of power is unequally distributed.

5. Rating Agencies – Insurer Financial Strength Ratings

Insurer Financial Strength Ratings (IFSR) were first introduced around 30 years ago. The IFSR is a benchmark rating which represents the rating agencies' current opinion of the financial security characteristics of the insurance organisation with respect to its ability to pay under its insurance policies and contracts in accordance with their terms. If ratings are allocated accurately by rating agencies then it is reasonable to expect a close correlation between the current rating of a company and its likelihood of failure in the near future.

There are several companies providing rating services. These include Moodys', Standard & Poors, Fitch and A.M. Best. The rating agencies make their money by selling their rating services to companies who want a rating. Additional revenues may also be earned from analysis and research carried out on the rating information held.

The ratings themselves follow the same grading structure (this varies by rating agency) as the ratings attached to debt instruments, but the two should not be confused. The rating category attaching to debt represents the default risk attaching to a particular issue. It is perfectly normal for an insurer to have an IFSR different from its debt rating.

There are two basic types of IFSR, a public (pi) rating and a full rating. Whilst a pi rating is based solely upon public information, a full rating is far more intensive. A full rating will involve a combination of both quantitative and qualitative analysis. This research will include analysis of:

Qualitative	Quantitative
Market position	Capitalisation
Brand	Earnings Capacity
Distribution	Reserve Adequacy
Ownership	Operating Performance
Management quality	Investments
Quality of strategy	Gearing
Attitude to risk	Liquidity

Source: Moody's

The final rating for a company is usually a committee decision, with extensive discussion and comparison with the company's peers.

Because pi ratings are based upon less comprehensive information, they tend to be more conservative. By obtaining a 'full rating' a well run company could be expected to obtain a better rating. This does apply some pressure for companies to obtain a rating.

The Importance of Ratings

When a company obtains a full rating it is a signal that it has nothing to hide, and it is prepared to be scrutinised by an independent body. The availability of an IFSR enables investors, policyholders, intermediaries and regulators to benchmark the company's financial strength against that of its competitors.

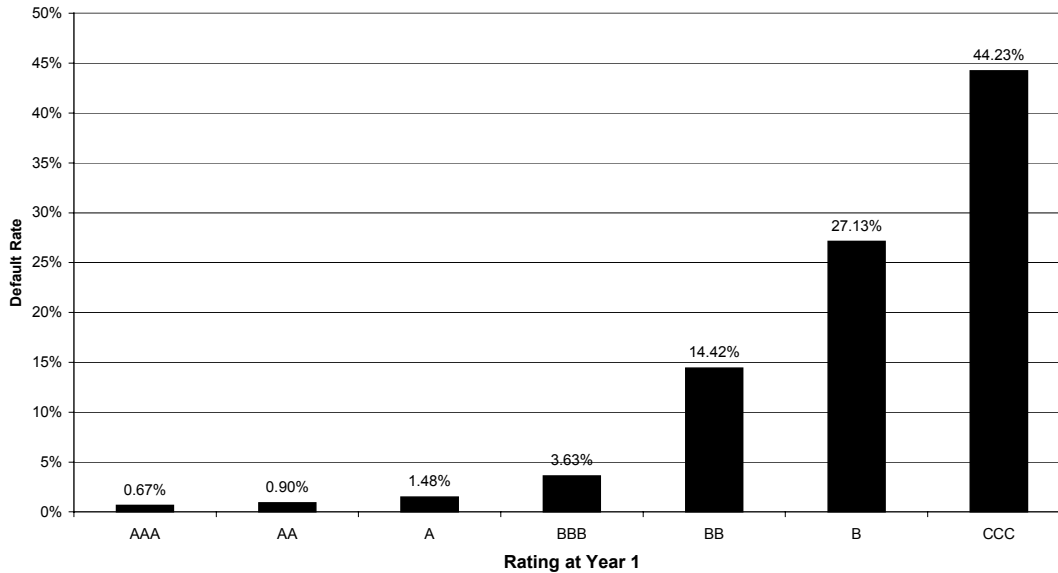
The importance of IFSRs has increased over time, especially since the large number of insolvencies in the US during the late eighties and early nineties. Brokers use the ratings to determine which insurers they will use, similarly, insurance companies use ratings to determine which companies they will place their reinsurance with. Given this, a company's rating can play a major role in determining the company's fortunes. A company that is downgraded to the extent that it cannot attract business is unlikely to remain in the market without re-financing or re-structuring. In this respect a company's rating may have a self-fulfilling property. A poor rating results in lost business, which may result in poor performance through expense over-run; thus justifying a poor rating. Similarly, the self-fulfilling property may also apply to companies with excellent ratings. The excellent rating means they can pick and choose the business they take on, and should be able to charge a premium for the excellent rating. This being the case, they should produce superior results, which would further strengthen the company, justifying their excellent rating. There is, however, very little evidence of a strong correlation between price and security.

The importance of a rating to an individual company depends upon how relevant the rating is to those the company is dependent upon. For a reinsurer, a rating is critical since it determines the type and amount of business attracted. For a Direct (telesales) insurer a rating is far less important since it does not rely on intermediaries to introduce business and its customers are individuals who are probably not even aware that such ratings exist.

The Predictive Qualities of Ratings

Standard and Poors's produce information relating to historic default rates for each rating category, for different durations. The graph below shows the average 10-year default (or failure) rates.

10 Year Default Rates by Rating Category



Source: Standard and Poor's

What the default rates represent is the percentage of insurers that have failed within 10 years, which originally had a particular rating. For example, for those companies that were rated 'A' in year one, on average 1.48% had failed by the end of year 10.

In addition to default rates, S&P also produce information relating to the average time to default by rating category. As would be expected, the average time to default increases the higher the initial rating category.

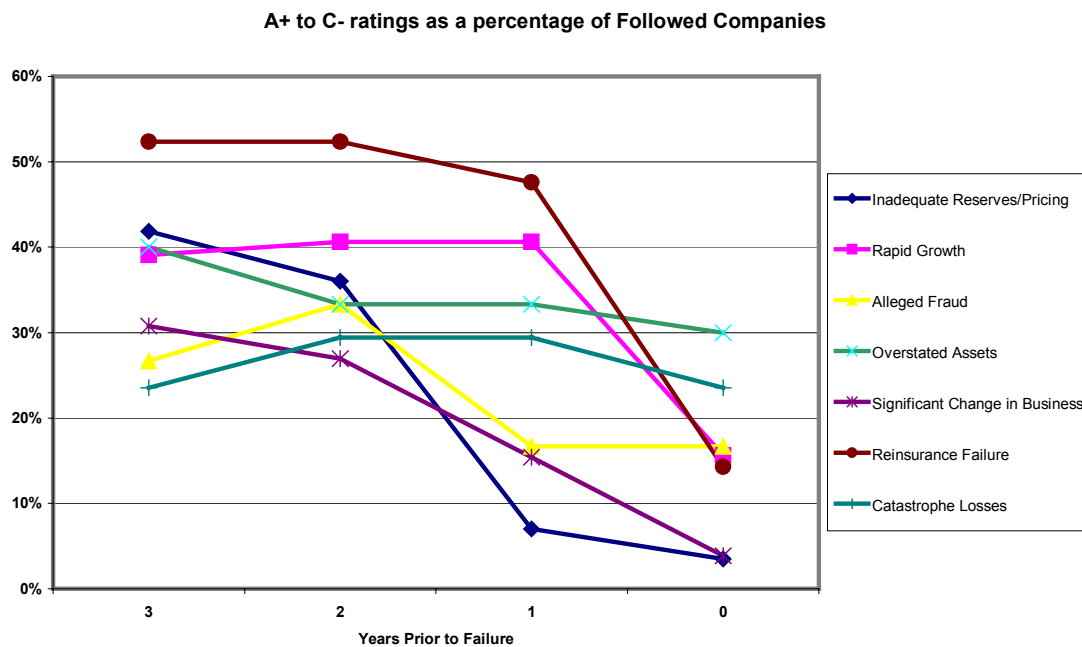
Original Rating	Default (Units)	Average Years to Default
AAA	3	8.0
AA	9	8.3
A	23	8.2
BBB	48	6.6
BB	175	4.7
B	348	3.4
CCC	37	3.2
Totals	643	4.3

Source: Standard & Poor's

How useful are Ratings as a Predictor of Insolvency?

Default rates and average times to default would suggest that a company's rating category is a reasonable indicator of its probability of failure. The rating agencies' ability to identify the risk of failure from different causes does however vary greatly. This subject was researched by Redman and Scudellari in their 1992 paper.

In June 1991 A.M.Best produced a report on the insolvency of property and casualty insurers in the US. Best examined the 372 property and casualty failures that occurred between 1969 and 1990, and where possible, identified the principle causes of their insolvencies. Redman and Scudellari used these results and attempted to estimate how good the ratings were at predicting insolvencies for different causes of failure. Their approach was to monitor the percentage of companies with an A.M.Best rating of A+(superior) to C-(fair) for the 3 years prior to failure. By doing this for each cause of loss separately it was possible to identify how well A.M.Best were able to identify causes of loss prior to failure. Early identification would result in the percentage of A+ to C- ratings falling over time. The graph below displays their findings.



Source: Redman & Scudellari

The graph shows that failures due to inadequate pricing / reserving and significant changes in business were recognised well before failure and were reflected in rating down grades. Failures due to rapid growth and reinsurance failure were also well identified, but only in the year immediately prior to failure.

Failures due to catastrophes, over-stated assets and alleged fraud were not well identified and didn't result in significant rating downgrades.

By acting as an early warning system IFSRs have been credited with reducing the number of insolvencies. They are however only as good as the information (both qualitative and quantitative) upon which they are based.

6. Trends in Company Failures

As part of our research, we built up a database of as many failing insurance and reinsurance companies as we could identify from various public sources. This database contains:

- Identifying details of the company (e.g. name and AM Best reference number),
- Country of domicile (and for US companies, state of domicile),
- Types of insurance written (where available),
- Current status, as far as is known,
- Dates of entering various states of impairment (e.g. rehabilitation, liquidation),
- Reason for failure, in the small minority of cases where this is available.

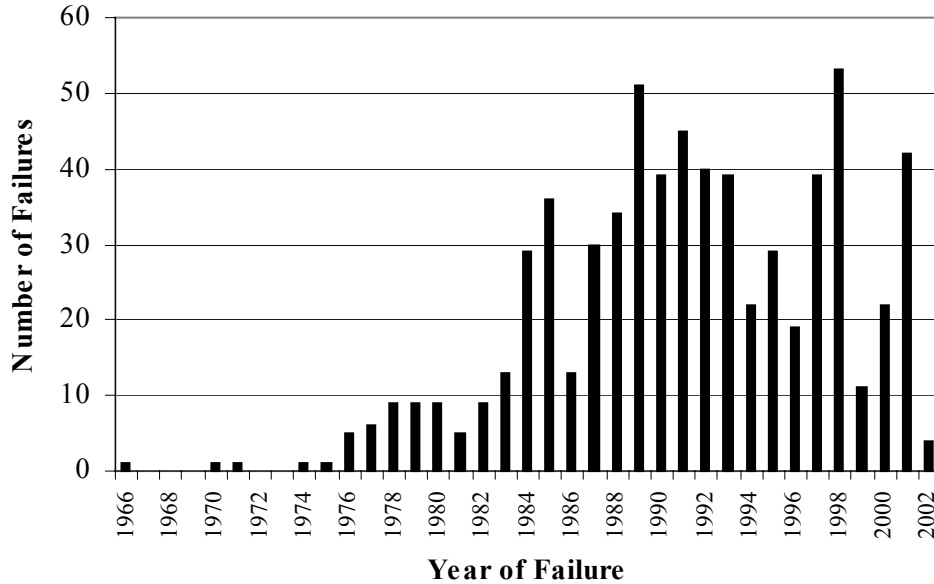
We had a preconception that company failures would be more prevalent at the bottom of the underwriting cycle and as the cycle started to improve, rather than at the top of the cycle or when results started to deteriorate. This was on the basis that at the top of the cycle, most companies should be profitable and able to build free reserves against the deteriorating results, which were to follow. It would only be when the losses became sufficiently extreme as to eradicate the established free reserves that the company failures would occur.

The reference in the previous paragraph is to the underwriting cycle rather than the economic cycle, as we believe that this is the feature most relevant to insurance company profitability. However, there is, for many classes, (e.g. burglary, professional indemnity, directors' and officers' liability) considered to be a strong correlation between the underwriting cycle and the underlying economic situation, so for these classes, in particular, the two cycles are likely to be in close harmony.

We had initial support from a study carried out by AM Best in 1991, which had indicated that insurance and reinsurance company insolvencies did, indeed, follow the cycle. It also produced evidence that larger insolvencies occurred at the bottom of the cycle. A very recent update (publicised in June 2002) by AM Best identifies that the level of insolvencies in 2000 and 2001 are at a very high level at 30 in each year. This compares with equivalent figures of 18 in 1998 and only 7 in 1999.

Our database contains records for approximately 700 failed companies, for a few of which dates of failure have not yet been identified. The companies are from many different domiciles all over the world and may, as a result, be subject to local political or economic influences. The failures cover the last 35 years or so but our sources appear to pick up only a small minority of the cases before the mid-1980's. Our analysis therefore concentrates on the figures over the last 15 years or so, which should reflect 2 or 3 full insurance cycles. The full failure data is illustrated in the following graph:

Yearly Pattern of Failures



Ignoring the earlier years, it appears that we have peaks of failure activity in 1985, (which is just before a major hardening of the market in late 85/early 86), 1989 (which requires explanation), 1993, (which is just before the next major hardening of the market) 1998 (which requires explanation) and 2001 (when, again, the market was at the beginning of a strong up-turn).

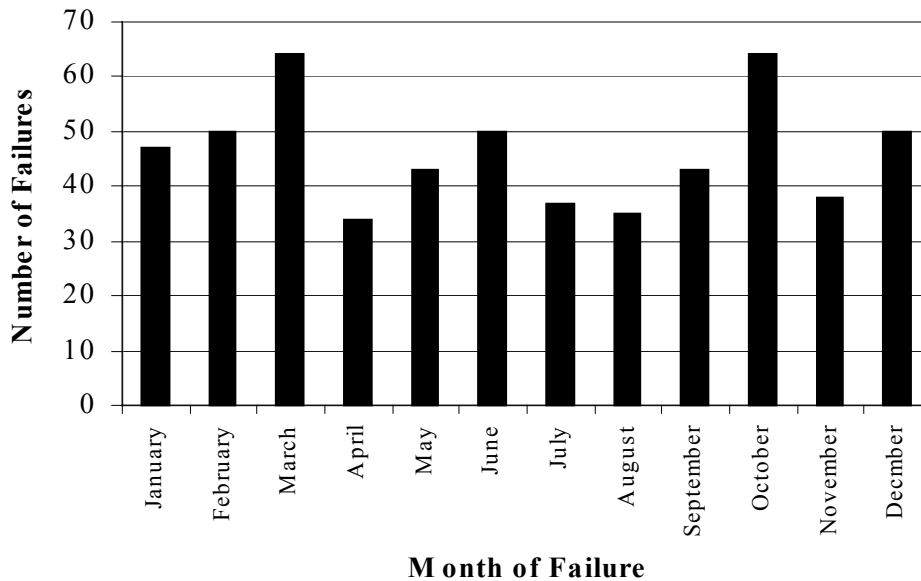
The high figures for 1989 are heavily concentrated in USA and may, we believe, be distorted by a number of groups of companies failing at this time, each company in the group being recorded separately on our database.

The high figures in 1997 and 1998 are distorted by large numbers of failed captive insurers from the Channel Islands, Ireland, the Isle of Man and Luxembourg, where the failures nearly all seemed to occur in these years (or possibly we have not picked up the equivalent failures from other years). Removing these from the above data reduces the numbers to 19 in 1997 and 23 in 1998, resulting in the elimination of this (artificial) peak.

The remaining peaks are all at very similar stages of the insurance cycle, albeit generally a little later in the cycle than suggested in our introduction. This suggests that when a significant number of failures occur the remaining market is very quick to react in respect of the terms on which it is prepared to take on the subsequent business, taking very prompt advantage of the significant reduction in the capital base and the reduced competition resulting from this.

We also reviewed the data to determine whether there was evidence of a seasonal pattern in the failures of insurance and reinsurance companies. The data available for this exercise was somewhat more restricted in that we were not able to identify the month of failure for a number of the companies. For those where the data was available, the results are shown in the following graph:

Seasonal Pattern of Failures



This does not appear to provide a great deal of evidence of a seasonal pattern although there are two months (March and October) where the numbers are fairly significantly higher than the norm. In the case of March, it is suggested that this may be a direct impact of the completion of the company's year-end audit, which may identify the problems giving rise to the failure. It is less obvious why there should be a peak in October.

7. The Reasons for Company Failures

Identifying an individual cause of failure for a company is often not possible. More likely than not failure occurs due to a combination of factors and these may, or may not, be visible to external parties during the months or years preceding failure. There is however one factor that appears common to most failures, and that is the adoption of poor management practices.

The most comprehensive research into why insurance companies fail has been carried out by A.M.Best. In their 1999 special report, they published the findings of their research into the failure of 640 US companies. These failures took place in the years 1969 – 1998. Of the 640, they were unable to identify the primary cause of failure in 214 of the cases. The table below summarises their findings.

Primary Causes	Number of Companies	% of Total Identified
Insufficient Reserves	145	34%
Rapid Growth (Under Pricing)	86	20%
Alleged Fraud	44	10%
Overstated Assets	39	9%
Catastrophe Losses	36	8%
Significant Change in Business	28	7%
Impaired Affiliate	26	6%
Reinsurance Failure	22	5%
Total Identified	426	100%

Source: A.M.Best

What is stated as the primary cause of failure may just be the observable symptom of a less visible factor. For example, the rapid growth may have been part of a flawed strategy, it may have been due to under-pricing, or a lack of underwriting controls. Overstated assets may be because of inappropriate asset valuation regulations or just incorrectly stated figures.

The A.M. Best study considers only US failures. The differences between the US and other insurance markets mean that the results may not be transferable to other markets. For example consider Germany. The working party was only able to identify one German insolvency.

Why have there been so few German Insolvencies?

There are various theoretical reasons why there have been so few German insolvencies.

In Germany the market is much less diverse than in the US, or here in the UK. The main bulk of the market can be defined as Munich Re, Gerling and Allianz plus smaller players. Munich Re itself is shrouded in mystery:

- After both World Wars it survived huge recessions as well as the hyperinflation that followed World War II,
- At the end of World War II it bought most of Munich, and this 'asset' has been booked at cost until recently, so it has had hugely under-stated assets.

Under-stated assets has been a general feature of German accounting. This was changed four years ago, when the companies were required to disclose the market values of assets. For German insurers this made a huge difference to their declared solvency ratios. The estimate of the change to the average solvency ratio for German insurers, was an increase from 75% to 160% for the 1998 year. This is well above the average UK solvency ratio of 116% for 1998.¹

Munich Re and the other players in the German market have various cross holdings, and operate under informed competition. This means that they operate under a system which can set rates to their preferred level, whereas this would not be possible in the US or UK.

The tax regime in Germany is also favourable to insurers in that it does not penalise those who wish to over reserve. Reserves are built up out of pre-tax earnings.

The reinsurance contracts written by the major players are almost exclusively proportional, it was actually Munich Re that invented Quota Share with event limits. This means that they are not hit by top layers of XOL business, or catastrophe reinsurance.

In summary, there are many features of the German market that may be associated with a low level of insolvencies. Namely, under-stated assets, little competition, a tax-regime that encourages prudent reserving and products that have exposure limits.

The remainder of this section provides a comprehensive list and discussion of the primary causes of failure. Where possible we have provided examples of companies that have failed due to each cause. Case histories of these companies are included in Appendix A.

¹ Source: SIGMA No 1/2000

Catastrophes

Exposure to a catastrophe is one reason why an insurance company might fail. A catastrophe could either be a large number of claims from one event (eg lots of small property claims due to a hurricane) or a small number of large claims (eg the destruction of a large building in a fire). The actual failure of the company may arise because of a number of different factors or a combination of them:

- An unexpectedly high exposure to the catastrophe,
- The failure of the company's reinsurers because of their exposure to the event,
- Cashflow problems caused by having to pay out on claims before recoveries can be made.

The high exposure to the catastrophe might arise because:

- The company did not know its actual exposure,
- The company knew its exposure but ran the risk anyway,
- The event was unforeseen.

For example a UK domestic insurer may not have known that it had a concentration of risk in the south-east of England because it insured a high proportion of the houses there. A windstorm tracking across that part of the country (similar to those in 1987 and 1990) would cost the company far more than it might have expected.

Earthquakes, volcanoes, storms, flooding, windstorms and hurricanes are examples of natural catastrophes, and can result in catastrophe related insurance losses. A great deal of work has been done over the past 10 years or so to better model exposure to, and the effect of, such events. This has been made possible by the increased computing power that has become more readily available. Reinsurers have often done much of this work both so that they can understand their own exposure and so that they can demonstrate the need for reinsurance to their customers.

The sorts of models that are available can, for example, take large volumes of data and map it in such a way as to show concentrations of risk in an easy to understand format. Other programs are available that model the effect of past or possible future events on an insurer's book of business and can work out the sort of costs that might be incurred. Application of these techniques may have saved St Helen's Insurance which stopped writing new business as a result of losses from Hurricane Betsy in 1965.

This has made it much less likely that insurers will fail because of natural catastrophes. Although it is still possible that a company might not do the work necessary to understand its exposure, or that an event might be of a nature that was not foreseen.

Whilst this work has been going on the insurance industry has perhaps overlooked the possibility of man-made catastrophes. Warren Buffet, in his letter accompanying Berkshire Hathaway's 3rd quarter 2001 results, wrote the following about the September 11th terrorist events: "A mega-catastrophe is no surprise: One will occur

from time to time, and this will not be our last. We did not, however, price for man-made mega-cats, and we were foolish in not doing so. In effect, we, and the rest of the industry, included coverage of terrorist acts in policies covering other risks – and received no additional premium for doing so. That was a huge mistake and one that I myself allowed.”

This failure has already caused the Taisei Marine & Fire Insurance (TMFI) company to file for court protection, this will in turn have a knock-on effect to its cedants. TMFI cited unforeseen and massive claims stemming from the terrorist attacks as the cause. There are likely to be other casualties before the resolution of the claims from those attacks.

It is safe to assume that this will not be the last large event to cause failures.

Rapid expansion

An insurer that is expanding rapidly can be on dangerous ground. The easy way to grow quickly is to charge less than everyone else. So this cause of failure is closely linked with under-pricing, which is another cause of failure. The problem with this strategy is that charging less than everyone else probably means making a loss on the business. If a long tail class of business is written then the size of the losses may not be apparent for a number of years.

On the other hand, this may be a sound business strategy. It may be that the company has found a niche in the market and can charge less than others and still be profitable. Or it may be a sound plan to take on a lot of business and bank on building a long term relationship with enough of the clients to be able to recoup the losses over time. However, the market in the UK is so competitive that the scope for following either of these strategies is limited.

As well as the losses that can come from such a strategy there are other problems. For example, the infrastructure of the insurer may not be able to cope well with the rapid increase in the volume of business. The IT system might not be designed for large volumes and there may not be enough staff to issue policies and handle the claims. These sorts of problems can hide the true scale of losses as delays in dealing with the claims mean that the claims data is not reflecting the true position. A slower development pattern may not be picked up by those people doing the claims projections, further compounding the problem and leading to under-reserving.

So rapid expansion may mean large volumes of unprofitable business, poor information about exactly how much the losses are and under-reserving. In extreme cases this may lead to insolvency.

Even if the growth is the result of writing more profitable business it may weaken the company, because the asset base will not grow as quickly as the risks being taken on. In an extreme case this could lead to insolvency.

The other way to expand rapidly is to merge with, or acquire, other businesses. This is a good way to grow a lot, relatively quickly. A bulk purchase of a whole company can look simpler than having to expand staff numbers and infrastructure at the same time as finding a way to sell more business at profitable rates.

There are also great dangers in growth through acquisition. Doing a big deal will often be more exciting than business as usual. The thrill of clinching a deal, or of being in charge of a bigger business, can easily lead to a loss of focus on the financials of the deal. The need to do a deal becomes the prominent thought and the reasons for growing in the first place are lost.

These deals are often done very quickly and that means that the due diligence work can be rushed. That leaves the possibility of nasty surprises further down the line.

An area for further study might be to look at some of the mergers and acquisitions that have happened over the past five years to see how many of them have truly added to shareholder value and whether or not it was the best use of the capital.

Rapid expansion has been a factor in the collapse of many insurance companies. FAM is an example of one such company.

Outsourcing and delegated management authority

An insurance company can be thought of as being made up of a number of different functions, e.g. underwriting, claims handling, reinsurance placement, reinsurance collections etc. To some degree these functions can be managed and run independently. It is therefore possible to outsource some, or nearly all, parts of the running of the company. This may look very attractive; the company can be run with a skeletal staff and the cost of the outsourcing may be low.

However, there are huge dangers awaiting the unwary. Among them are that the third party to whom the business is outsourced:

- May not have the skills to do the job properly,
- May not have the resources to do the job properly,
- May have a conflict of interest with the insurer,
- May not be able to give the management information that is required to monitor their performance or that of the business,
- May act fraudulently or negligently.

These are all problems that the insurer may have if it runs the functions itself, but having the business outsourced means it is one step removed from the day to day management and this makes it harder to spot and correct the problems. There may also be delays in receiving information from the third party. These issues are compounded if the insurer does not manage the links carefully and closely.

New regulations that have been brought in by the FSA have put the delegated sector under the spotlight. The need for compliance and quality controls has had a direct impact on the recruitment and training of staff within these schemes.

The situation can be made much worse if the contract with the service provider is badly thought out. It may lead to the insurer having great difficulty in regaining control of the business and getting compensation.

Perhaps the worst case scenario is when the remuneration of the third party is poorly structured. For example, suppose that claims handling is outsourced and the service provider is paid a flat fee, up front, for each claim that they handle. This causes a number of problems because the third party:

- Is being paid the same amount to handle a small routine claim as it is to handle a large, contentious claim that may take many years to deal with,
- Has no incentive to minimise the claim settlement,
- Is incentivised to settle the claim as quickly as possible which may not always be the best solution.

If the insurer decides that a particular claim or set of claims is being handled badly and decides to take back control of them then because it has paid the handling fee up front it will end up paying twice to handle the claim.

Again, these problems are compounded if the insurer does not monitor the performance of the third party.

In the main, it is unlikely that outsourcing would actually be the direct cause of the failure of an insurer although it may be a contributing factor. The exception to this is where the actual underwriting is delegated. This has been a major source of companies failing in the past. Two such examples are Transit Casualty which failed in 1985 and Taisei Marine and Fire in 2001.

It is not uncommon for an insurer to allow a third party to write business for it (this is commonly referred to as giving away the underwriter's pen). Usually limits will be put on the size, type and volume of risks written. If these controls are not formally agreed, or not adhered to, then the third party could quickly write large amounts of loss-making business. If the third party is rewarded by being allowed to take a cut of all the premiums then it has every incentive to write a lot of business and no incentive to write good quality business.

One particular area of risk is where the person who decides what and where to outsource to actually has a financial interest in a service provider. There is then a large conflict of interest and the potential for corruption.

Reinsurance

A mistake that has led to insolvencies in the past has been over-reliance on reinsurance. A company can operate by writing risks and then passing the majority of each risk on to reinsurers. This works particularly well if the market is at a point in the cycle where reinsurance is cheap. The company is left with a small part of each risk and no potential for large losses. It looks like a situation where the insurer cannot lose!

This strategy falls apart when, for some reason, the reinsurers start refusing to pay. The insurer will quickly mount up huge debts and as they passed a large proportion of the premiums to the reinsurers there will be no money to pay the claims.

The reinsurers may fail to pay for a number of reasons:

- If they themselves are insolvent,
- They may claim that the insurer did not write the sort of business they were expecting, or had agreed or did not tell them everything they should have,
- A simple refusal to pay, as it has in the case of Chester Street Insurance Holdings recently,
- Their retrocessionaires are not paying claims as they fall due.

The latter may happen where the insurer has used reinsurers who are based in countries where regulation is poor or practically non-existent. There will then be little opportunity to recover money from them. Such reinsurers may be the ones to provide the cheapest rates and they therefore appear very attractive at the point at which the reinsurance is placed. Over-reliance on reinsurance was a major factor in the demise of Mission Insurance Company.

As well as there being dangers from over reliance on reinsurance there are also risks from buying too little. An insurer might leave itself exposed to a very large claim or from losses due to one particular claim event. In some cases there may be a mismatch with the reinsurance not covering the risks taken on by the direct writer. For example, in the US, the NAIC has refused to let insurers under their regulation remove terrorism cover from homeowners and motor insurance, but their reinsurers, who are not subject to state regulation, have almost universally excluded terrorism from their contracts. Drake is a good example of a company that cut back its reinsurance program and subsequently became insolvent.

Most catastrophe reinsurance programmes have limited numbers of automatic reinstatements. If they are exhausted it potentially leaves the company without cover.

It only takes one or two large events near the start of a year for this to be a real risk. Following a couple of catastrophes that happen close together, any company looking to purchase more cover would be charged a fortune, assuming that cover can be found. This was the case following the January and April UK windstorms in 1990.

Some reinsurance arrangements are extremely complicated. It is possible that with such arrangements there will be disagreements at the stage when a claim is made as to whether or not it is covered. Complex agreements may also be used deliberately to hide something.

Unforeseen claims

The World Trade Centre terrorist attack is a good example of how a claim event can lead to insurance company failures. A terrorist attack on such a huge scale was unforeseen by many, if not all, in the insurance industry and was not allowed for in the premiums charged. Some companies face huge losses and already there has been at least one insolvency, the Japanese insurer Taisei Marine and Fire Insurance.

As well as single events, failures can also occur as a result of multiple claims from the same source. Thirty years ago most people thought that asbestos was a safe material to use. Today, many millions of pounds of claims are paid out regularly to people who have had exposure to it and have developed any one of a range of diseases. Because there can be a long delay between exposure and the onset of the diseases, this has all happened many years after the business was written and long after the companies had the premium for the business. Asbestos is likely to be the biggest source of claims the insurance industry has ever seen, outstripping the cost of September 11th and pollution claims in the US. In many cases companies have been able to use excess capital or profits from current business to be able to keep paying the claims. However in some cases it has caused the collapse of the company as it did in the case of Chester Street Insurance Holdings in 2001.

Under-reserving

An insurer needs to set aside enough of the premiums to allow fully for the cost of all the claims that will arise from that business. This means setting an adequate reserve for each claim that is reported and allowing for claims that have not yet been notified (the IBNR reserve – Incurred But Not Reported reserve). If these figures are deliberately or accidentally set too low then the insurer will look to have made more profit than it actually has. This extra profit may not then be available when the claims are required to be paid and can lead to the insurer becoming insolvent.

There is often pressure for an insurer to declare good results. Senior management can put a great deal of pressure on those people setting the reserves to keep them to a minimum.

On classes of business such as liability where the claims can take some time to emerge and be notified and where a claim can take many years to settle it can be extremely difficult to set the reserves.

These two factors demonstrate that insolvency due to inadequate reserves is not a remote risk. It is probably a factor in most insolvencies to a greater or lesser extent.

Fraud, reckless management and greed

In many ways the insurance industry is easy to enter. You do not need to have a big building, lots of staff or any machinery. All you need to do is satisfy the regulatory authorities to let you start a business, part of which will include having sufficient capital. Then it is simply a case of convincing people to give you money on the promise that you will pay their claims. The cash comes in up front and paying the claims may be years away.

There is great scope within this for dishonest and corrupt individuals to extract money from the premiums and direct it to their own personal wealth such that the claims cannot be paid when they come in. The sums involved can be huge. Hundreds of millions of pounds of premiums can be collected by relatively few people and even siphoning off a small percentage of this is a lot of money.

Cutting prices can quickly generate large volumes of business. If reserves are understated, deliberately or not, profits can appear large. It is not difficult to see how someone running an insurance company, who has a personal financial interest in it, could be motivated by greed to follow this course of action. This will be exaggerated if the individual does not have a concern for the long-term health of the company and the policyholders.

Following the collapse of Fire, Auto and Marine in 1966, one of the key players was jailed for 10 years. Currently, the Serious Fraud Office are investigating the collapse of Independent.

Under-pricing

Under-pricing is a contributing factor in many failures to a greater or lesser degree. A sustained period of charging too little for each risk will over time erode the free capital of the company. Eventually the company will have insufficient capital to support the business.

Under-pricing is often coupled with some of the other causes that we have considered. For example:

- Under-pricing is often coupled with rapid expansion,
- Unforeseen claim events or causes are by their nature not adequately allowed for in the price,
- Where underwriting is delegated to a third party and they do not set adequate rates.

There is a great danger with under-pricing that it leads to a vicious circle of under-reserving and further under-pricing. If it is not appreciated that prices are too low then it is easy to set the reserves too low. This adds weight to the belief that rates are adequate and will lead to continued low rates or even further price cutting. The cycle could continue for some time before the scale of the losses becomes clear.

Under-pricing was one of the reasons for the failure of Transit.

False reporting

The compiling and reporting of results and regulatory returns for an insurance company is a complicated affair. There is great scope for mis-reporting the results either deliberately or accidentally. Other parties, including the regulator, judge the solvency and performance of the company using this data.

Although false reporting is not a cause of failure, it may compound the problems. A company that is close to insolvency or even actually insolvent may be able to hide the fact and continue to trade normally, writing more business at inadequate rates and making the scale of the insolvency even bigger.

Accounts and regulatory returns may need to be audited, but if someone is determined enough to hide the problems then they will probably be able to find a way of doing it that keeps discovery at bay for a while. Uncovering the problems may take even longer if the auditors are not as professional as they might be. This will always be a temptation where the company pays the auditor, especially if the company also gives the auditor other consultancy work.

There is also an issue with how useful insurance company accounts actually are. They are only an annual snapshot of the health of the company and they are not difficult to manipulate to show the desired picture – even within the law.

Gross incompetence

Insurance is a complicated business. Although some policies are relatively simple, some are much more difficult to understand clearly. Even some of the concepts, such as the methodology for computing IBNR reserves, may be hard to grasp. Therefore there is great scope for companies to go wrong simply through sheer incompetence. This could be at a senior or a junior level.

For example, it is easy to give the message to staff to grow the business. It is much harder to understand all the ramifications of that message and whether or not profitable growth will be possible. A simple message to grow may kick off a chain of events that will cost the company dearly.

Another example would be one single risk, incorrectly understood and poorly priced, or badly worded policy, that gives a company a far higher exposure than it thought it had to a risk. Alternatively there might be an accumulation of risk that the company might not be aware of and hasn't bought reinsurance for (eg a predominance of properties in one area that might be hit by a freak weather event).

Investment failure

Most of the reserves and free capital that an insurer holds will be invested. In deciding where to invest the funds the insurer has to balance the desire for greater expected returns with the need to limit the investment risk. The danger is that the value of the assets drops to below that of the value of the liabilities. This risk is exacerbated if an insurer has limited free capital to start with.

A sudden drop in asset values (eg a stock market crash) could significantly affect solvency. A concentration of assets in any one particular class is particularly prone to this problem. If one asset forms a high proportion of the portfolio then a drop in the value of that asset (or even the total failure of that asset) may have serious consequences for solvency.

An insurer also needs to be concerned with the liquidity of its assets. It will need to pay claims and if there is a particularly large loss it may need to have a large quantity of funds available. If the assets cannot be turned into cash quickly then the insurer may not be able to pull together enough cash to pay the claims. Another possibility is that selling the assets causes their value to drop, which in turn means that the insurer has to liquidate more assets.

Expansion into new products or areas

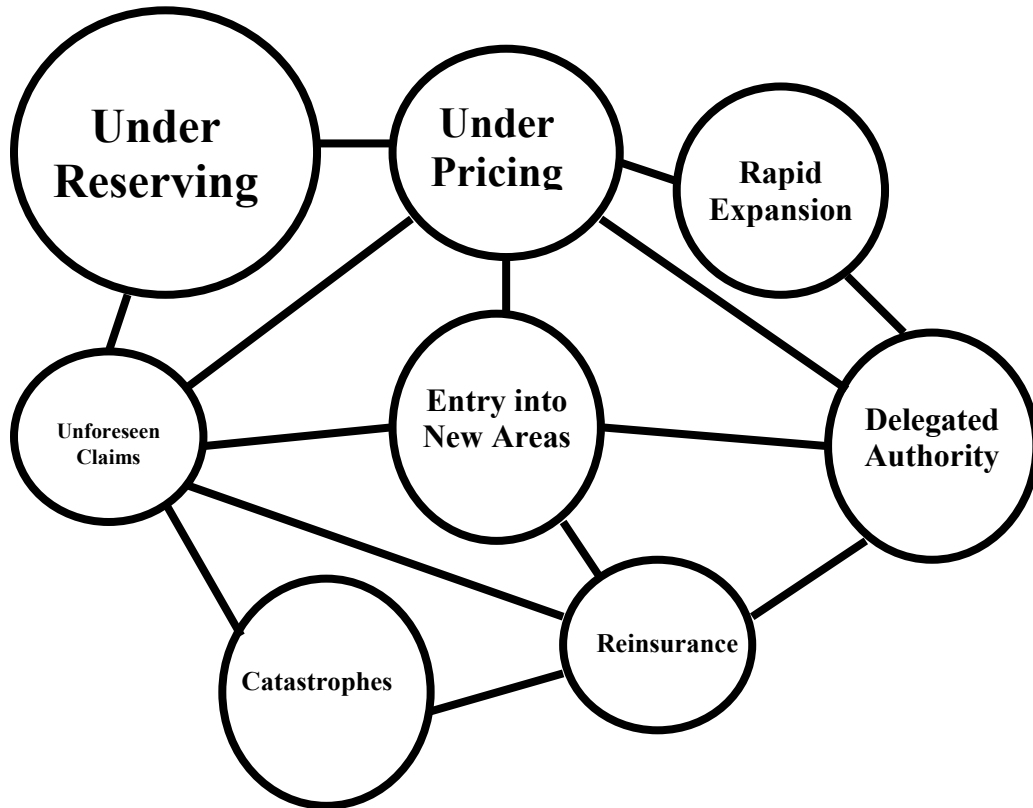
Many an insurer has been brought to its knees by trying to expand into areas other than the ones in which it has expertise. This may be into new products or geographical areas or even diversifying into business other than insurance.

The danger is that the insurer does not have enough expertise or knowledge to be able to successfully do business. Unless the expansion is carefully controlled then it can quickly escalate out of control. A lot of business could be written before it becomes clear how large the losses are.

The Independent expanded into the London Market shortly before its demise and the Mission was a well established company that decided to embark on writing business outside its expertise. In both cases this business contributed heavily to the failure of the companies.

8. Conclusions

We have identified some common causes of insurance company failure supported by both recent and past failures. In addition to the fraudulent activities and management incompetence, which may be found in any industry, there are many closely linked factors that are more specific to insurance company failures. The "Atomium of Failure" attempts to show the relative importance of the common factors and the links between these factors.



The Atomium of Insurance Company Failure

Having looked backwards at the reasons for past failures, we have used the remainder of the paper to answer forward looking questions. Namely, who will be next to fail?, what part can be done to prevent future failures?, and what part do actuaries have to play in all of this?

Who will be the next to collapse?

This will always be a common question. In an effort to keep our lives trouble free we have not quoted any names but merely the methodology for finding likely candidates.

The sorts of questions to ask spring directly from the causes of failure:

- Who is expanding rapidly?
- Who is entering new areas?
- Who cedes very little premium to reinsurers?
- Who cedes a high proportion of their premiums to reinsurers?
- Who is run by a larger than life director who has a flamboyant lifestyle?

And so the list could go on. This will not pick up every failure but if a company falls into a few of these categories they might be worth keeping an eye on! Much of the information necessary to keep track on these factors is publicly available but some of it may come from market rumours.

What can be done to prevent future failures?

Before we can answer this question we need to ask ourselves whether or not we want to prevent the failure of insurance companies. As we pointed out earlier in the paper, there are good reasons for wanting to prevent failures but in a free market it may be healthy to have a certain level of failure. The FSA has said that it is not aiming to prevent all failures. To do so may be too expensive a process and it would probably require unnecessarily tight restrictions on companies. That may well be more detrimental to all concerned than allowing a few companies to fail. If regulation is too tight, then the risk is that companies will quit the market and set themselves up somewhere that the regulation is more to their liking.

That said, it is desirable to prevent too many failures. Two ways of doing this are:

- To ask the question who might be next and then keep an eye on them,
- Change the regulation of companies to prevent the factors ever becoming an issue. Simply by the regulator publicising what will attract attention, it may be able to deter certain actions.

The former of these is useful but potentially dangerous because you might be too late. Some examples of the latter method are as follows:

1. Catastrophes

There is little that can be done to prevent the actual catastrophes from happening, and there will always be the possibility of the unthinkable happening. But it is possible to think of some things that the regulator could do to try to prevent catastrophes causing the failure of insurance companies. For example, each

syndicate at Lloyd's has to provide a return showing the impact of a number of different realistic disaster scenarios. This could be more widely implemented.

2. Rapid expansion

If rapid expansion can cause problems then maybe companies should be limited as to how quickly they can expand. The regulator could set limits each year per class. Measuring this by premium income would not work well as it would tempt companies to keep prices low in order to be able to take on more risks. Some sort of exposure measure for each class may work better.

3. Under-reserving

The obvious action to take here is to require the actuarial sign off of reserves. We have commented more on this in the next section.

4. Unforeseen claims

Claims that arise many years after cover was written, such as those caused by asbestos exposure, are a real problem. The question is whether or not it is fair for the insurers who wrote the business to have to pick up the costs for something they could not have envisaged at the time. What ends up happening is that those companies that are still writing a sizeable amount of new business charge their current customers for the claims and those without new business eventually run out of money and collapse. For some areas of business their claims may also be picked up by levies on ongoing insurers (who in turn will be charging their current customers again). Perhaps there should be a time-bar on claims, e.g. claims reported more than 20 years after the exposure period are not covered. These claims could then be picked up by a government-led initiative and the costs met by a combination of levies and general taxation. This might keep insurance companies going for longer but in the end the same people (the insurance buying public) will be the ones that pick up the tab.

5. Under-Pricing

One potential idea to combat under-pricing is to require sign off of the rates in a similar fashion to the way that reserves might need signing off. Perhaps actuaries should be required to say that the rates are reasonable according to some set of criteria.

6. Gross Incompetence

Tighter regulations on directors and senior managers might help to prevent the collapse of insurance companies due to the incompetence of those who run them. Perhaps anybody, at a senior level, that has been involved in a failed insurance company should be prevented from having a senior position with another insurer.

7. Expansion into new areas

An easy way to help make sure that this does not cause a problem is to make it compulsory for a company to submit a detailed business plan and demonstrate that

it has the infrastructure and expertise to enter a new area. The company would have to pretty much stick to the plan to ensure that they did not get carried away and expand rapidly into the new area.

A recent newspaper article warned of the dangers for insurers of expanding into the credit derivatives area. Insurance companies have effectively been providing cover against a company defaulting on its debt. Insurers have taken some big hits recently on the collapse of Enron, K-Mart and Railtrack whilst many banks have walked away mostly unscathed. The article raised the possibility that banks were exploiting naïve insurance companies.

For some of the causes there is probably not much more that can be done to stop failures. For example if someone is determined to defraud the company then they will always find a way to do it no matter what regulations are put in place. Maybe the best that can be done is to try to spot where fraud might be an issue and nip it in the bud. One accountant who deals with fraud recently said that he still preferred the old way of spotting fraud ie by looking for the director with the new Rolls Royce and the fountain being installed in his garden!

What part do actuaries have to play in all of this?

A final question is the issue of what actuaries can do in all of this. This was covered in some depth in the recent Faculty and Institute paper on Financial Condition Reporting. As mentioned earlier, one possible involvement would be a formal role in signing off the reserves. This has been widely debated by the Faculty and Institute and we have not repeated that here.

An actuary could have many other roles in helping to prevent the collapse of insurance companies. An actuary could have a part to play in many of the ideas mentioned above. It could be argued that as a professional with a public interest responsibility, a senior general insurance actuary should take these issues very seriously.

A number of questions arise out of some of the recent failures:

1. How independent is an external actuary?

On the face of it, it can seem quite worthwhile to have an independent actuarial report drawn up. But it is only independent if the actuary is beyond the influence of the senior management of the company. It is hard to see how an employee is very different to an outside firm. If the firm is looking for or has other consultancy work from the insurer, then there will be a great temptation to come up with the 'right' results. If there is, as in the UK company market, no statutory actuarial role, then it is likely that the terms of reference under which an insurer retains external actuaries will be entirely at the discretion of the insurer. Their claim to have used the services of independent actuaries may then be of little value, especially if:

- The terms of reference are restricted, or,
- The actuarial findings are not used or not used in full.

An internal actuary in a senior position may have the opportunity to push results that an external actuary does not. Opinion wordings are important and they need to be clear and unambiguous. Subtle changes of wording over time may not be good enough to give senior management the right message.

2. Do independent reports work?

It is easy to see how external actuaries would not have all the information necessary to be able to perform the work as well as internal actuaries. For example, if a firm was not putting all the claims onto the system, the internal actuaries may be aware of it but it would be easy to hide it from external actuaries. The latter may not have the depth of knowledge of a company necessary to do the reserving work. On the other hand, independent actuaries do have a wide market knowledge which can be useful and which internal actuaries probably do not have.

If an independent review is only performed once a year, then warning signs and problems may be discovered too late. An internal actuary may well perform reviews more frequently and so be able to spot problems earlier.

3. How do you peer review independent reports?

There has been a lot of discussion recently about peer reviewing formal actuarial reports. The suggestion has been that internal reports must be reviewed by an external firm but that independent reports can be reviewed by others in the same consultancy. For all the reasons above, this would not help one bit to provide an independent check on the report. It also suggests that independent actuaries would act more professionally than internal ones in the face of the pressures identified above.

A few suggestions for improvements are:

- Independent actuaries should be seconded to their clients for periods to get a much closer look at the company,
- Reviews to happen at least six monthly,
- A review of wordings to make sure they are clear in the message they are trying to put over,
- Compulsory presentation of reports to the board and a review of the follow up,
- Widen the scope of the reports to include data checking,
- Peer review of reports by a totally independent third party,
- The writer of an independent report cannot provide other services for a set period after the report.

It is clear that these changes would increase the cost of the work, and it is not likely that the client would wish to pay for these additional costs.

Appendix A - Case Histories

Fire, Auto and Marine Insurance Company

Dr Emil Savundra formed Fire, Auto and Marine in 1963. At that time anyone who could demonstrate that they had a capital of £50k could set up a motor insurer. The money only had to be available and did not need to be invested in a specific way or deposited anywhere. There were no checks on the background of the people setting up the company and no prior experience of insurance was required. Even worse was the fact that new companies did not have to demonstrate the required solvency margin of £50k for two years!

Savundra also benefited greatly from how easy it is to start an insurance company. The distribution network of brokers was easy to access and little infrastructure was needed immediately. All he did was to offer brokers higher commission than other insurers and charge lower premiums. The money soon started to roll in and then there were sufficient funds to set up the limited infrastructure that was needed.

The growth was rapid. Within weeks more staff and new premises were required to deal with all the premiums coming in. People with no insurance experience were taken on in the rush to expand.

The official role of Savundra varied over the history of the company but it is clear that it was he who actually controlled much of what went on. His offices were lavishly furnished and he had a flamboyant lifestyle. He spent a lot of money on designing, building and racing powerboats. At one point Savundra had a Rolls-Royce, two Aston Martin DB5s and a 3.8 Jaguar in the garage of his home on a street known as Millionaires Row.

There was much talk in the market about whether or not the company would survive and although the regulator had suspicions, they were unable to act. In March 1965 the order was given to restrict claim payments to £10,000 each week.

FAM was put into liquidation in July 1966. 400,000 UK motorists were left without cover. In those days there was no Policyholders Protection Board and so many people did not get their claim settled in full.

Savundra was eventually jailed for 10 years for fraud in relation to the collapse of FAM. One of the things he did was to falsify the assets held by the company to make it appear solvent when it was not. The premiums from the business were channelled, through a complicated route, to Savundra, in the form of a personal loan.

So, of the reasons for failure that we identified earlier in the paper, the following would appear to be the major factors in the case of FAM:

- Rapid expansion,
- Fraud, reckless management and greed,
- Under-pricing.

In addition to these reasons gross incompetence and false reporting also played a role.

St Helen's Insurance

This company was founded in 1952, ceased writing new business in 1966, and was placed into Creditors Voluntary Winding-up in 1989. It suffered large losses from Hurricane Betsy in 1965. However, it also wrote large lines on layers of long-tail business. In the late 80s these were hit by sizable asbestos claims.

The reasons for its collapse, in terms of those we considered earlier, were probably a mixture of the unforeseen asbestos claims and a lack of reinsurance to protect against the hurricane losses.

Mission Insurance Company

Mission was a California domiciled company that had a good reputation as a writer of workers' compensation business. It expanded in the early 1980's by writing large volumes of commercial property and casualty business. It wrote both reinsurance and direct lines. It did so primarily through a couple of Managing General Agents. They wrote business in Mission's name and reinsured the bulk of it round the world. Mission ended up with small net retentions but benefited from commission payments made by the reinsurer. Mission had about 600 reinsurers; many of them were unregulated. The MGA's had limitations as to what they could write but they were ignored. The MGA took on business at rates lower than those offered by the rest of the market. The market was at the bottom of the cycle and so was under-pricing risks anyway.

No IBNR reserves were held for property business. If a policy was greater than 50% property then it was coded entirely as a property policy. For casualty business a five year straight declining balance formula was used. To compound the problems the calculations were performed on the wrong data.

As the claims started to come in, many of the reinsurers had already failed or refused to pay out. This left Mission with large losses in 1984 and 1985. In 1985 the California Department of Insurance instigated its triennial examination. It discovered a large deficiency in the reserves and the company was liquidated in 1987.

The main causes of the failure were the over-reliance on reinsurance, expansion into new areas, a lack of management control of the (delegated) underwriting and the

under-pricing of risks. The reserves were wholly inadequate, there was plenty of false reporting and some accounting gimmicks were used.

Transit Casualty

To a large degree the collapse of Transit was very similar to that of Mission. The difference was that the levels of management incompetence, excessive reinsurance and reckless expansion through MGAs far exceeded that of Mission. At the time the receiver termed it the ‘Titanic of insurance company insolvencies’.

Transit was licensed in all fifty states of the USA. Its primary business was providing cover for motor transportation risks. In 1979 it decided to embark on a program of expansion into other areas. By using MGAs to write the business and then reinsure nearly all of it back out, Transit realised the underwriting risk was minimal, yet it could benefit from being paid a fronting fee. Amazingly the MGAs were given virtually no guidelines about what they could and could not write and they were hardly monitored at all.

The Dingell report contains an excellent description of what was really happening: “Transit gave away its pen and chequebook and said, in effect, ‘go write’. Basically, the company handed its future and its solvency to a large band of uncontrolled and uncoordinated salesmen driven by the desire to earn commissions on their sales volume.”

Some of them were pretty corrupt and channelled the premiums into their own pockets with no intention to pay the claims.

The number of policies written by Transit went from less than a thousand at the end of the 70’s to tens of thousands in the early eighties. It could not cope with this rapid expansion and the financial statements ended up being incomplete, inaccurate and outdated.

By the end of 1985 Transit was in liquidation but it was really insolvent at least a year earlier and possibly two or three years earlier.

The main reasons for failure were:

- Rapid expansion,
- Delegated management authority,
- Excessive reliance on reinsurance,
- Gross incompetence,
- Expansion into new areas.

The false reporting and fraudulent behaviour of some of the MGAs was not so much a cause of the collapse of Transit, but more a consequence of the gross incompetence of the management.

More recent failures

We have covered some brief details of more recent collapses below. It will be some time before all the details emerge as to why these companies failed and at the moment there is only a limited amount of publicly available information. We are also limited by the desire not to end up in court! Nevertheless it is worthwhile to consider the information that is available and we have presented some of this and drawn conclusions.

Drake Insurance

Drake was a small motor insurer that had separated from its parent, Sphere Drake, in 1994. It had around 200,000 policyholders and a premium income of about £50m, making it one of the top 20 motor insurers. In May 2000 the FSA ordered Drake to stop writing new business and a few days later it was put into liquidation.

Motor insurance was a tough business to be in during the late 1990s. The market had made only small underwriting profits during the mid-1990s and was only making a profit through investment income. In the late 1990s the market started to make large underwriting losses and these were not covered by investment income.

Drake last made an underwriting profit in 1994 (as did the market as a whole). However, this was almost wiped out by some hefty dividend payments and a large tax bill. In 1995 it made an underwriting loss and the losses got bigger each year.

As a relatively small insurer Drake had a substantial reinsurance program. This was drastically cut back in 1996. This may well have been done in an effort to save money. However it probably contributed to the large underwriting losses (£17m in 1998) that followed. These losses gradually eroded the capital of the company. The FSA stepped in because Drake was not maintaining a high enough solvency margin and the American owner refused to inject more capital. The FSA had been monitoring the declining solvency ratio for several years and there were many questions in the press about why it did not act earlier.

One other factor that may have played a part was delegated underwriting. After the collapse some delegated business was discovered that did not seem to be known about prior to the collapse.

Rapid expansion did not play a part in the collapse of Drake. The book remained relatively constant over the final four years of its life. The main reasons for the collapse look to be under-pricing and not enough reinsurance being purchased.

There is also the issue of whether Drake was under reserved. If it had been adequately reserved then the run-off would have been solvent. However, the Policyholders' Protection Board did get involved.

Taisei Marine and Fire Insurance

Taisei, a Japanese insurer, filed for court protection on 22nd November 2001. It was hit by huge claims stemming from the September 11th terrorist attacks.

Taisei part owned a US aviation reinsurance agency called Fortress Re. It reckoned that total debts would exceed the assets of the company by over £229m. The company's net exposure was over one-and-a-half times its capital base.

Taisei's president said that "I feel the responsibility but it was unforeseeable. You might say I lacked foresight but it couldn't be helped." He also said that the company could not predict the risk from a major incident because he could not understand it.

Taisei's situation was not helped by the poor stock market performance over the past few years.

The main reason for the failure of Taisei was the unforeseen nature of the September 11th attacks. However it appears that investment failure and delegated authority (in the risks that Fortress Re wrote) played a part in the collapse. Also, Taisei had not purchased adequate reinsurance protection and therefore was not protected from large losses.

Chester Street Insurance Holdings

Chester Street Insurance Holdings owns the run-off of pre-1990 liability business for Iron Trades. It was transferred to Chester Street as part of a restructure in the early 1990s. It has a large exposure to UK asbestos claims from, for example, the shipbuilding industry.

In January 2001 provisional liquidators were appointed for Chester Street after the directors received preliminary information from the company's actuary that led them to conclude that the company was insolvent.

A lot of publicity was generated on this issue because it was feared that people dying from asbestos related diseases were not going to be fully or promptly compensated.

An early day motion was put forward in the House of Commons that said: “This House is extremely concerned to learn that thousands of asbestos related disease sufferers and other industrial injury victims may be unable to claim compensation because the Iron Trades insurers hived off the company’s pre-1990 liabilities into a separate company registered as Chester Street Insurance Holdings Ltd that recently went into voluntary liquidation, suggesting that it may well have been launched with inadequate resources; and calls on the insurance industry to give an undertaking that it will settle all current claims not covered by the company’s assets.”

The provisional liquidators decided not to pursue the directors for a recovery because it had been almost impossible for them to gauge accurately the required reserves. The uncertainty had been noted in the accounts but the directors had taken a figure at the lower end of the possible range of values.

It looks very much as if the collapse of Chester Street was due to an unforeseen exposure to asbestos and under-reserving.

Independent Insurance Company

Independent Insurance Company was formed in 1986 by Michael Bright. It was floated on the stock market in 1993. It was a popular company within the stock market. It delivered good profits year after year and its share price rocketed to eight times the floatation level.

In the late 1990s it expanded into France, Spain and the London Market. It grew rapidly especially in 2000. Michael Bright was the Chairman and Chief Executive. He owned three houses and a yacht and had a pension scheme that is believed to have contained £11m. He won an achievement award at the 1999 British Insurance Awards.

On 18th June 2001 Independent went into liquidation leaving 500,000 individuals and 40,000 commercial customers without cover. The Serious Fraud Office is investigating the collapse.

The French regulator claims to have warned the FSA about dubious practices at Independent and alleges that the FSA failed to act on them. Certainly in 2001 there were rumours in the market of potential trouble at the company. It is alleged that a senior manager instructed staff to delay paying out on claims and to take claims holidays. Also subsequent to the collapse allegations emerged of liability claims that were not recorded on the systems.

Great uncertainty surrounds some large reinsurance contracts that were purchased at the end of 2000. There was speculation that these contracts were basically acting as loans and also that Independent was effectively reinsuring itself. The board of directors denied knowledge of the contracts.

Reasons that led to the collapse may include:

- Under-pricing and rapid expansion,
- Expanding into new areas (in particular the London Market),
- False reporting (if claims were not on the system),
- Fraud (if indeed the SFO finds evidence of this).

Appendix B – Regulatory Environment

The Choice of Regulatory Environment

There are various differences between the regulatory regimes in particular countries, some of which are detailed in the following section. These differences include the format of the calculation for solvency capital, how assets are reported and taken account of, reserving standards, guarantee funds held and any policyholder protection mechanisms in place.

Reasons for solvency control

Insolvencies result from the effect of competitive markets and the aim of regulation is to protect consumers from:

- Losses which may put consumers into severe financial difficulties,
- Lack of transparency which may be addressed by disclosure of information requirements,
- The moral hazard posed by the existence of a guarantee fund.

The current European solvency regulations were introduced in 1973, and the third generation of directives (1994) abolished price and product controls throughout Europe, replacing it with solvency control. The regulations are currently being revised - Solvency II, the lack of asset-risk considerations underlying the main criticism of the current system.

The US introduced their solvency control in the form of risk based capital models in 1994 – see following section. This RBC system is used alongside the Insurance Regulatory Information System (IRIS) designed to support the minimum capital requirements in the individual states. The inadequacy of the IRIS system on its own became apparent in the mid-80's when the number of insolvencies began to mushroom.

What can companies gain?

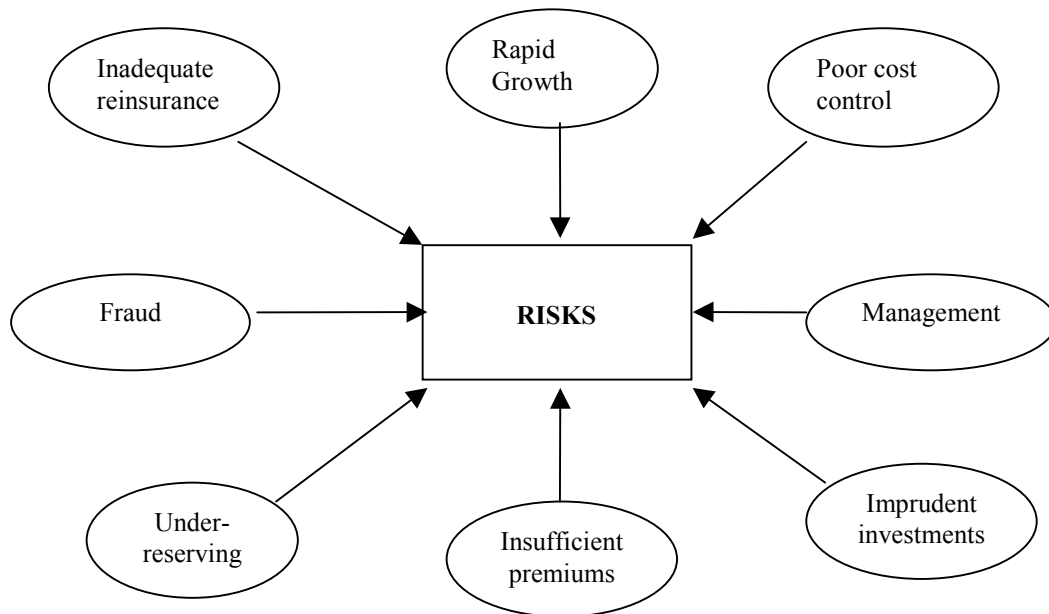
Currently we are finding a trend in companies being set up in locations with less stringent regulatory control, e.g. Bermuda. This is mainly due to the reduced cost associated with setting up the company, and because of the lower levels of capital adequacy standards.

How the approaches of different EU regulators differ?

There have been several European Directives over the last few decades to try to harmonise the form of regulation applied across Europe, but no attempt has been made to harmonise the regulation with those outside Europe.

The areas under prudential supervision cover assets, liabilities, capital adequacy, accounting, derivatives and reinsurance. Any Member States are allowed a certain degree of freedom in establishing more stringent rules than the minimum requirements laid out in the directives. This flexibility has meant that some countries have a solvency regime that is stronger than others.

The key factors behind insolvency of non-life insurers can be thought of as:



Various types of models are used, the most advanced countries being those where the regulator has suggested the use of such models. For countries where modelling is encouraged, the experience is detailed below.

The main types of model used are:

Statutory Minimum Solvency Margin

In the European Union the Statutory Minimum Solvency Margin is determined as a proportion of the business written based either on premiums received or on claims incurred.

The advantages of this approach are:

- it takes into account each company's individual experience,
- it is simple to administer.

The disadvantages are:

- it penalises companies that hold adequate reserves and/or those that charge adequate premiums compared with those that do not,
- it does not distinguish between companies that write similar volumes but different mixes of business,
- it does not distinguish between insurers and reinsurers.

Risk based capital

An alternative method is to consider the risk profile of the business written. This is the risk based capital (RBC) approach, where the solvency margin is calculated as a proportion of the volatility of past profits. The advantages of this approach are:

- it recognises the volatility inherent in the business,
- it will penalise companies that hold inadequate reserves or that write business on inadequate rates.

The disadvantages are the practical difficulties of deciding:

- the definition of profit,
- the definition of volatility (e.g. does it refer to observed variation in experience from the company's own average or the variation about the industry average?),
- the period over which volatility is measured,
- how to allow for reinsurance and the security of the reinsurers used,
- whether the same proportion should be applied to the volatility of all companies.

The following section describes the models used by various countries:

Australia

Only a small number of non-life insurers use internal models to monitor their solvency. The regulators use a RBC approach, the Minimum Capital Requirement (MCR). The total capital charge is split into 4 distinct capital charges: investment risk, outstanding claims liabilities, premium liabilities and concentration risk. The method is consistent with stage 2 of Pillar I of the new draft Basel accord.

The New Basel Capital Accord is the proposal to replace the 1988 Capital Accord for banks. The proposal is based on three mutually exclusive pillars that allow banks and supervisors to evaluate properly the risks that banks face. The New Basel Capital Accord focuses on:

- Minimum capital requirements which seek to refine the measurement framework set out in the 1988 Accord,
- Supervisory review of an institution's capital adequacy and internal assessment process,
- Market discipline through effective disclosure to encourage safe and sound banking practices.

Canada

Canada also uses a RBC approach, the Minimum Capital Test (MCT). This forms part of the regulatory tests for financial soundness of companies. The MCT framework more closely relates capital requirements to the degree of risk that an individual institution assumes. The approach used is consistent with that used for deposit taking institutions and life insurers.

USA

The property-casualty RBC model used takes account of four types of risk: asset risk, credit risk, loss reserve risk and written premium risk. A factor is assigned to each component of the risk categories to determine the risk capital.

European Union

Every insurance company in Europe must hold a level of solvency, which is currently calculated on a fixed ratio approach. The differences between each country tends to lie in the following areas:

- bases used for outstanding claims,
- statistical methods used,
- whether discounting of reserves is used,
- provision for unearned premiums,

- equalisation reserves,
- unexpired risk provision.

Within the European Union there also exist differences between the approach to reinsurance supervision which could have an impact on the overall effectiveness of the regulators. Some of the approaches used are detailed below:

Country	Approach to reinsurance supervision
Finland	Reported information: <ul style="list-style-type: none"> • Names of reinsurers and exposure • Details of reinsurance arrangements by class Quality and appropriateness verified via ratings
France	Desk top and on-site audits, during which reinsurance program is analysed.
Netherlands	Details of reinsurance policy reported in annual returns. Ratings of reinsurers examined. Developments of reinsurance policy are analysed over time in relation to risk profile.
Italy	Companies are required to report information as follows: <ul style="list-style-type: none"> • Specific details of 5 principal treaties • Economic & financial profile of other treaties • Names & exposures to principal reinsurers
Spain	<ul style="list-style-type: none"> • The following are analysed: reinsurance plans, reinsurance result, reinsurance recoveries and market factors which affect reinsurer solvency.
UK	Information on reinsurance program is found in the returns. Reliance on auditors for reinsurance recoverability. Market and rating agency information is also considered.

Objectives of regulation in the UK

The Financial Services and Markets Act sets the FSA four statutory objectives:

- market confidence: maintaining confidence in the financial system,
- public awareness: promoting public understanding of the financial system,
- consumer protection: securing the appropriate degree of protection for consumers, and,
- reduction of financial crime: reducing the extent to which it is possible for a business carried on by a regulated person to be used for a purpose connected with financial crime.

Regulatory Reporting: details of proposed changes

FSA Managing Director John Tiner said:

"The current reporting regime for both life and non-life insurers has become over-complex and voluminous. There is too much focus on historic financial information in the returns and it is difficult even for expert users to understand them. The options we are looking at support our move to smarter and more proactive regulation to identify key risks earlier on. The reporting structure we are looking for would be more streamlined and more frequent than once a year. It would capture less raw data but more and better quality information on a wide range of relevant areas. This will help us as regulators and also professional analysts, financial advisers and consumers of financial products to understand what is really going on."

"Regulatory reporting has traditionally been associated with monitoring the financial soundness of firms but the proposed new framework will also aim to cover firms' dealings with their customers and to give a better understanding of who is selling what to whom and how."

"Our Discussion Paper examines the issues relating to a new regulatory reporting format for all FSA-authorized firms. But the need for reform is most urgent in the insurance sector as we said in our Report to the Treasury last December and we intend to implement new arrangements for this sector in 2004."

Key elements of the new regulatory system are likely to require insurance firms to:

- provide more information on the operational risks facing the firm,
- provide more analysis of the asset side of the balance sheet,
- disclose more information about holdings in, or transactions with, affiliates,
- give more information on key performance indicators relating to a firm's dealings with its customers, and,
- explain more about reinsurance and financial reinsurance arrangements.

Minimum requirements for due diligence – Authorisation Procedures

The FSA applies the 'fit and proper' test to:

- Firms,
- Applicants for Part IV permissions,
- Approved persons,
- Candidates.

The purpose of the test is to set out criteria to consider when assessing the fitness and propriety of a candidate for a controlled function, or to be an approved person.

The FSA can withdraw its approval if it thinks that the person in respect of whom the approval was given is not fit and proper to perform the controlled function to which the approval relates.

The FSA will have regard to a number of factors when assessing the fitness and propriety of a person. The most important being:

- Honesty, integrity and reputation,
- Competence and capability, and,
- Financial soundness.

The FSA will also take account of the activities of the firm, the permission held by the firm and the markets in which it operates.

Main Assessment Criteria

In determining a person's honesty, integrity and reputation the FSA will have regard to:

- Whether the person has been convicted of a criminal offence,
- Whether the person has been subject to any adverse findings in a civil proceeding,
- Whether the person has been the subject of any existing or previous investigations or disciplinary proceedings, by the FSA or other regulatory bodies, clearing houses, professional bodies, or government bodies,
- Whether the person is or has been the subject of any proceedings of a disciplinary or criminal nature,
- Whether the person has contravened any of the requirements and standards of the regulatory system,
- Whether the person has been the subject of any justified complaint relating to regulated activities,
- Whether the person has been involved in a company, partnership or other organisation that has been refused or had revoked, registration, authorisation, membership or a licence to carry out a trade, business or profession, or has been expelled by a regulatory or government body,
- Whether, as a result of the removal of the relevant licence, registration or other authority, the person has been refused the right to carry on a trade, business or profession requiring a licence, registration or other authority,
- Whether the person has been a director, partner, or concerned in the management, of a business that has gone into insolvency, liquidation or administration while the person has been connected with that organisation or within 1 year of that connection,
- Whether the person, or any business with which the person has been involved, has been investigated, disciplined, censured or suspended or criticised by a regulatory or professional body, a court or Tribunal,

- Whether the person has been dismissed, or asked to resign and resigned, from employment or from a position of trust, fiduciary appointment or similar,
- Whether the person has been disqualified from acting as a director or disqualified from acting in any managerial capacity,
- Whether, in the past, the person has been candid and truthful in his/her dealings with any regulatory body and whether the person demonstrates a readiness and willingness to comply with the requirements and standards of the regulatory system.

In determining a person's competence and capability, the FSA will have regard to any factors including, but not limited to:

- Whether the person satisfies the relevant requirements of the Training and Competence sourcebook in relation to controlled functions,
- Whether the person has demonstrated by experience and training that the person is able, or will be able if approved, to perform the controlled function.

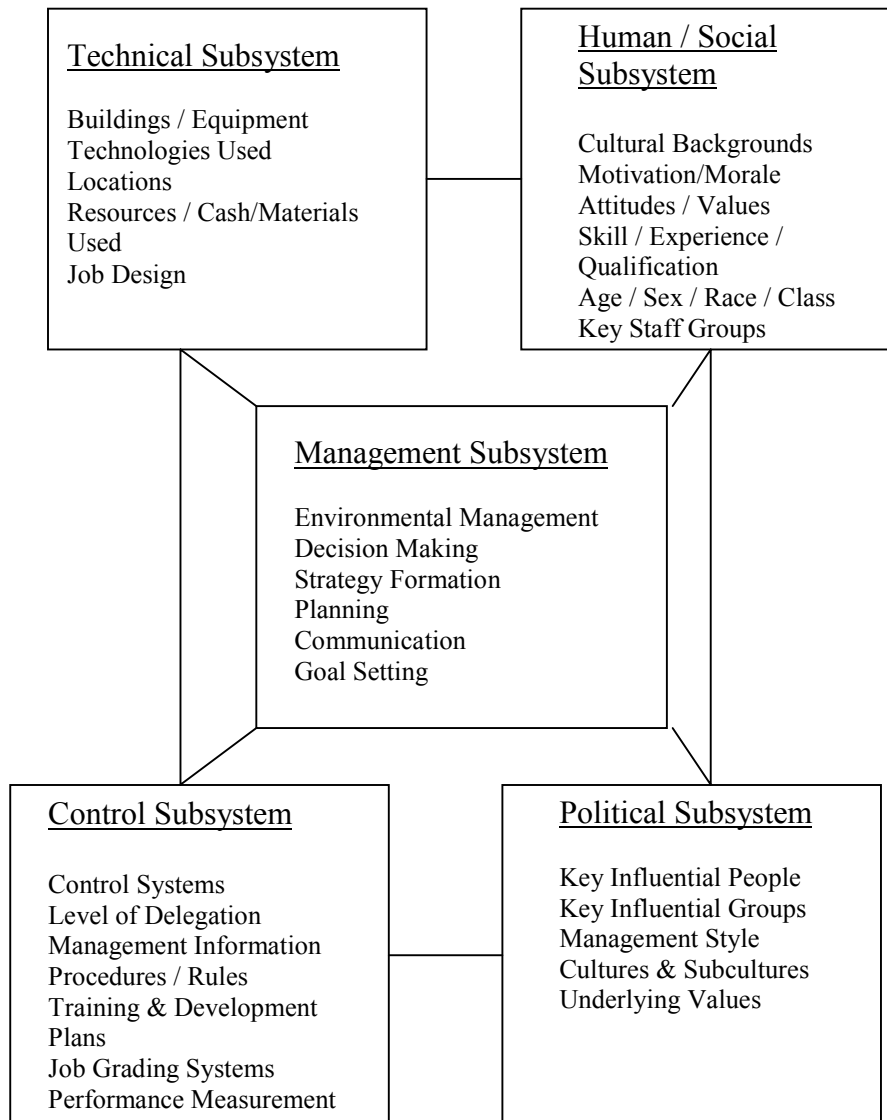
A person may have been convicted of, or dismissed or suspended from employment for, drug or alcohol abuses or other abusive acts. This will be considered only in relation to a person's continuing ability to perform the particular controlled function for which the person is or is to be employed.

In determining a person's financial soundness, the FSA will have regard to any factors including, but not limited to:

- Whether the person has been the subject of any judgement debt or award, in the UK or elsewhere, that remains outstanding or was not satisfied within a reasonable period,
- Whether, in the UK or elsewhere, the person has made any arrangements with his creditors, filed for bankruptcy, been adjudged bankrupt, had assets sequestrated, or been involved in proceedings relating to the above.

The FSA will normally require the candidate to supply a statement of assets or liabilities. The fact that a person may be of limited financial means, will not, in itself, affect his suitability to perform the controlled function.

Appendix C – Framework for Organisational Diagnostics



Appendix D – Useful Sources of Information

Competitive Advantage – Michael E. Porter

This book explores the underpinnings of competitive advantage for a single firm, and introduces a whole new way of understanding what a firm does.

The Dingell Report

Compulsory reading for anyone looking into insurance company failures is the report written by a Subcommittee of the US House of Representatives. Colloquially known as the Dingell Report after the Chairman of the committee it is titled: ‘Failed Promises: Insurance Company Insolvencies’ and was published in February 1990.

The report is plain speaking and highly informative. It contains such gems as, “The regulatory system must anticipate and deal effectively with the activities of the pirates and dolts who inevitably will plague an attractive industry such as insurance, where customers hand over large sums of cash in return for a promise of future benefits.”

The Subcommittee spent 18 months looking into the reasons for insurance company insolvencies. It came on the back of a number of high profile failures that were projected to cost the public more than \$5 billion. They examined in detail a number of the failures amongst which there were many similarities.

Financial Condition Assessment – BAJ 2001, Volume 7, Number 4

The paper explores an approach to assessing the adequacy of capital resources for non-life insurance companies. It examines the range of risks faced by these companies and the factors that influence the analysis of their impact on an organisation’s financial condition. The paper considers how the actuarial profession may contribute to this process, with particular reference to the regulatory regime envisaged in the United Kingdom.

Fraud: The Amazing Career of Doctor Savundra

This is book written by Jon Connell and Douglas Sutherland. It outlines the life of Dr Savundra culminating in the collapse of the Fire, Auto and Marine Insurance Company in 1966. It is a very entertaining read and leaves you amazed that a man with Dr Savundra’s track record could be allowed to set up an insurance company, let alone one that grew so rapidly.

It is interesting to read about how lax the regulation was at that time. Yet there are obvious parallels with many insolvencies that have happened since then.

Insolvencies / Guaranty Funds - Insurance Information Institute

This paper is focused on the regulatory approach in the US. It claims the action that has reduced the risk of insolvency the most is the fact that the NAIC have insisted upon state regulators meeting minimum standards. This involves the state regulators obtaining accreditation every 5 years.

Insurance Regulatory Information System (IRIS)

IRIS is part of the NAIC's Financial Analysis Solvency Tool-kit. This paper describes it. Basically IRIS calculates 15 ratios from the statutory reports produced by P&C companies. If more than 4 out of 15 of the ratios are outside of the allowable range then the company is investigated in greater detail.

KPMG: European Commission Solvency II Report

This is the report commissioned to undertake a study to inform the Solvency II project. It reviews the differences between the regulation in various European countries and also further afield.

A Neural Network Method for Obtaining an Early Warning of Insurer Insolvency - University of Texas in Austin

The paper proposes a Neural Network tool to replace IRIS. Applied to historic data it was shown to be more predictive than IRIS.

A New Look at Evaluation of the Financial Condition of Property and Casualty Insurance and Reinsurance Companies: Redman, T.M. and Scudellari, C.E. : CAS Discussion papers 1992

This paper surveys some studies which were performed looking at historical solvencies. They look at 29 companies which were declared insolvent and analyse these to try and identify the causes of their failure.

Report of Reinsurers Security Working Party (1990)

Many insurance firms have some form of committee to look at the security of reinsurance companies. This paper examined the workings of such groups. This is probably the most relevant of the papers written by past working parties.

The paper looks at some of the factors that affect the risk of a reinsurer being unable to pay claims. These are the mostly the same sorts of factors that could lead to any insurance company becoming insolvent. It also gives some case histories of failures.

Should the Feds regulate Insurance Company Solvency? (Spring 1991)

General discussion on the Dingell report - produced by an insurance specialist, rather than a government funded committee.

Sigma 1/2000: Solvency of non-life insurers: Balancing security and profitability expectations

How much capital do insurers hold and how much should they hold? These are the key issues addressed in the latest Sigma study published by Swiss Re. It examines the statutory regulations in force in the US, the EU and Japan, and places them in the context of the effective capitalisation and the standards imposed by rating agencies. In addition, the report highlights the balancing of solvency regulation, rating agency requirements and shareholders' demands for high returns. Detailed figures on current solvency ratios in the regions covered in the study form the foundation of the report.

The most important findings of the study were:

- Insurance companies in Europe and the US normally exceed by several times the minimum solvency requirements imposed by supervisory authorities. Government regulations thus result in hardly any effective cost to the insurer.
- The capital requirements of rating agencies are substantially tighter than regulatory solvency regulations and restrict many insurers in optimising their capital base.
- In recent years, the capitalisation of insurers in Europe and the US has risen at a considerably higher rate than premium volume. The reason for this overcapacity was an exceptional stock market boom in combination with relatively good technical results.
- Simulations of insurers' capital funds have shown that, despite an increased asset risk, a significant stock market correction would not jeopardise the solvency of the average insurer. The same is true for major catastrophic losses.
- Current levels of overcapitalisation may conflict with high return-on-equity targets. In the future, the importance of hybrid capital as a means of capital management should increase, as it allows the insolvency risk to be reduced systematically at lower capital costs.

- In the EU in particular, amendments to current solvency regulations are pending. Canada and some US states are gaining experience with additional dynamic cash flow models. The introduction of supplementary regulations for financial conglomerates is under discussion in the EU and the US; these will take into account the increasing convergence between the banking and the insurance sectors.

Warren Buffet: Letter to shareholders discussing 2001 3rd quarter results for Berkshire Hathaway. <http://www.berkshirehathaway.com/qtrly/web1101.html>

Contains some interesting thoughts.

Various other journals

From time to time articles or whole issues of journals are devoted to insolvency. A couple of recent ones that we have found useful are various Sigmas (Swiss Re's publication) and articles from A.M. Best.

Appendix E - Unanswered Questions and Thoughts for Further Research

1. Is one actuary in a company a danger sign?

There are a couple of reasons why this may be the case. If a company identifies a problem with under-reserving and has no internal actuary, this may prompt them to think about recruiting one.

If the problem of under-reserving is identified by an external actuary, management may not accept or believe the problem is as severe as suggested. If bonuses and underwriting credibility are under threat they may look to recruit an in-house actuary with the sole purpose of defending a less prudent reserving position.

More generally, is there a correlation between the number of actuaries in a company and failure?

2. What are the risks of ART and of captives?

The arrangements are often complex – are they understood? What are the risks faced by the insurers involved with their issue and the purchasers of the products?

Similarly, what are the risks faced when setting up and running a captive? Captives are often associated with little capital, heavy reliance on external expertise, inexperienced staff etc..

3. Will there ever be a need for a Pricing Licence?

In some markets there is now a requirement for a qualified actuary to sign-off the reserves. Will this ever be the case for pricing? After all, ‘nobody ever dies of AIDS’, they die of illnesses contracted as a result of AIDS. In order to price a book of business a good understanding of expected claims development is required. If a company is under reserving there is a strong possibility that they are under pricing.

4. Have the reasons for failure changed over time?

Appendix F - Thanks

The working party would like to thank all of those who helped to pull this paper together. Particular thanks go to Omni Whittington and A.M. Best for their assistance in constructing the database of failures and to Moody's Investor Services for providing so much useful information.