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NORTH AMERICAN CASUALTY BUSINESS WRITTEN IN THE LONDON MARKET

by

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CONTENTS

CLAIMS MADE VERSUS OCCURRENCE COVERAGE

LEGAL CONSIDERATIONS

- Joint and Several Liability
- Punitive Damages
- Workers Compensation
- Future of Tort Liability

CLAIMS ADJUSTERS

- Claims Expenses
- Industrial Disease Claims

EXHIBIT 1

- Errors due to Change in Patterns
- Change in Reporting Patterns

EXHIBIT 2

- XYZ Ltd - Products Liability

OBJECT

The object of this paper is to provide some background material for actuaries working with US Casualty business written in the London market. The purpose of the paper is to provide an indication as to the type of problems involved and how US Casualty business differs from other types of business that the non-life actuary might encounter. It is by no means an exhaustive list of the problems, with which the actuary needs to be familiar. Furthermore, they are only treated in outline as full treatment would necessitate a book or more accurately books. There is no substitute to obtaining experience in this area. While all actuarial work requires experience so that the actuary can make the necessary judgements, it is possibly more true in the US casualty market than any other field of actuarial endeavour. To the extent that this paper starts the actuary off in the right direction, it will have achieved its object.

SCOPE

It is not the intention of this paper to discuss actuarial techniques generally for estimating outstanding claims reserves or calculating premium rates, but simply to provide some of the more necessary background against which actuarial methods can be used to analyse US casualty business written in London. There is a brief section in the paper which covers some of the more useful techniques, but a full scale discussion is outside the scope of this paper. It should be emphasised that any non-life actuarial work is subject to considerable error, due to random fluctuations and the impact of future contingent events. This is particularly true of US casualty business written in London which can be especially long tail business. It should therefore be stressed that any tables or patterns used in this paper are for illustrative purposes only and should not be used in any specific actuarial project. Given, the particularly long tail nature of the business, what is appropriate for one account may well be totally different for another.

In many cases for simplicity, the terminology used is North American and this tends also to be the terminology of London Underwriters specialising in US business.

The views expressed in this paper are those of the author and do not necessarily reflect those of his firm or colleagues.

DATA SOURCES

The first starting point in any investigation is obviously the company's own data. This needs to be broken down into as fine detail as possible, but often this is not sufficiently statistically credible for the actuary to rely on it, on its own. He therefore needs to use some industry data. Although there is very limited data available to the actuary, there is at least some.

The other major problem arises out of the very long tail of the business (at least 25 years for many covers). Consequently any company writing this business would need to have started writing prior to 1960 to be able to evaluate the tail based on its own data. Clearly, even in the case of such a company or syndicate, conditions have changed very substantially during the period the data is analysed. Consequently, one is dependent on other sources of data. Indeed the valuation of the tail factor is possibly the most important decision an actuary does have to come to, in determining ultimate claims values. While conditions have undoubtedly changed over the last 25 years, past history is at least a convenient starting point in trying to discuss this problem. There is one that arises particularly frequently in this area, because of the large number of companies and syndicates who started writing US casualty business in London in the 1970's and 1980's. These are totally dependant on outside data sources to determine appropriate tail factors.

RAA Data

One of the most important sources of information is the booklet produced by the Reinsurance Association of America (RAA). The latest study published towards the end of 1985 comprises of data up to and including accident year 1984. The data is sub-divided into a number of broad classes, such as automobile liability or general liability. The study has been produced biennially. Since the mid 1970's the analyses have gradually become more detailed, but of necessity are very broad based and consist of some very hetrogeneous data. Nevertheless it is one of the few benchmarks that is readily available for companies writing long tail US casualty business. The later studies do make an attempt to separate out the impact of industrial disease on reporting patterns. It also separates out some of the medical malpractice data, but since medical malpractice claims were not reported as a separate line on the US annual statement prior to 1976, it has not been possible to separate out the medical malpractice for the older years.

Occurrence and claims made forms are mixed together, as are direct reinsurance companies as well as those who obtain their business through brokers. The number and type of contributors have been changing with probably increasing emphasis on the smaller companies and broker orientated companies who did not contribute to the earlier studies. This may have some impact on the apparent lengthening of tail. The booklets produce some graphs showing comparisons of the derived reporting patterns from earlier studies and the current one. For most classes there is a lengthening of the tails, though not necessarily uniformly. For full details the interested reader should refer to the RAA booklets. Indeed they are essential reading for anybody seriously interested in US casualty business written in the London market. However, to provide some indication of the extent of change in reporting patterns and the impact that would arise from using the wrong data is illustrated in Exhibit 1.

Clearly, there is some judgement involved in determining the length of the tail and so the projected reporting patterns are not entirely factual. The pattern shown in Exhibit 1 is a mixture of automobile liability and general liability. Different results are shown in the paper for each of the separate lines and different combinations in the mix of business would materially alter the results in Exhibit 1. Each block of business should be analysed separately for this. However the exhibit indicates the need for both judgement and caution.

It should also be noted that policies like umbrella covers are more widely written in London than in the States. There is some evidence that, with at least the larger industrial companies, risk managers have been reporting claims faster. There is also some evidence that the case estimates as set up for London are possibly more realistic now than they were a few years ago. Certainly the underwriters are putting more pressures on attorneys to come up with realistic estimates. Nevertheless the underlying trends shown in the RAA studies will apply in the London market. Very considerable care is required in actually interpreting these trends and they must be interepreted in the light of each company's or syndicates data. Consideration also needs to be given to levels of attachment points of the various risks which change over time.

It should be observed that the RAA data is all on an accident year basis, as is required for annual statement purposes. Since inevitably much reinsurance business is conducted on an underwriting year basis, there must be some apportionment, in putting these numbers together. In any event since most analyses of US casualty business written in London will be based on underwriting year development patterns, (as opposed to actuarial studies on the underlying US risk which are more likely to be on an accident year basis) adjustment is required to the RAA factors in order to utilise them for underwriting year purposes. This can be done by a simple lagging process to (re)convert from an accident year to a policy year basis. Some further adjustment is probably appropriate due to the impact of the broker and the time delay in notifications crossing the Atlantic. Modern communications and jet travel have not yet fully revolutionised claims reporting processes! This is particularly marked in the very short report periods, where a simple lagging process is not adequate. However, since in most cases the RAA data will be used to calculate tail factors, this is probably a less serious problem than would appear to be the case at first sight.

The RAA data consists of incurred, i.e. paid + outstanding, at each development point, on an accident year basis as contributed by most of the US reinsurers. Since the data is on an accident year basis, there is no premium development. No paid claim development patterns are produced. The data is compiled by a leading firm of US consulting actuaries on behalf of the RAA, so that no one company has access to any other reinsurers data. This is an idea that could usefully be adopted in this country.

Best's Data

Best's produces by line, data for incurred losses and paid losses, on both an accident year and a calendar year basis, including the company's own estimates of IBNR. Earned premium data is also available. Best's also produces development triangles based on schedule P data (the longer tail lines). This is an important source of data, where primary reporting patterns are required. Again this includes all companies although there are sub-divisions into direct writing and other companies, stock agency and mutual companies. This is country wide data and so may not necessarily be appropriate for a company or

block of business heavily concentrated in one particular state. Nevertheless, it is of considerable value when looking at primary patterns. The data is available on both a paid and an incurred basis. Loss adjustment expense is also separated out. This allows separate estimates to be made for loss adjustment expense. Best's also produces an annual volume showing the schedule P's of the major companies. This is likely to be of more interest for analysing individual companies results, rather than using it as a primary data source. Obviously the annual statements themselves are a useful source of data.

Other Data Sources

Individual rate filings can be a useful source of information as all the supporting documentation for a rate increase is required to be included and then becomes available for public inspection. Depending on the State, it is usually possible to obtain the rate filing information, although a certain amount of work may be required if this is required on an extensive basis. In many cases country wide data would also be included. In most states, companies are required to file ratemaking data with a statistical agent. Most of the workers compensation rates are filed and data collected by the National Council for Compensation Insurance (NCCI). They have voluminous information on individual states and aggregate data. Some of the major states such as California or New York use other bodies.

Insurance Services Office (ISO) is one of the leading non-workers compensation ratemaking bodies and statistical agents, will also make available certain information on payment of a fee. ISO member companies can of course obtain the information direct from ISO.

There is no direct data source available in the UK. Such information as can be gleaned from DTI returns is useless. People with experience in this field will obviously have their own sources of data based on work that they have carried out. These are not generally available to the public. It would be worthwhile the UK market considering setting up a study for US casualty business written in the London market on the lines of the RAA data.

ACTUARIAL TECHNIQUES

Detailed discussions of actuarial techniques as such are outside the scope of this paper. It is however particulary important that any actuarial techniques used for US casualty business be soundly based. Due to the size of the tail, as well as the substantial variation from sub-class to sub-class, distortions can easily occur. The underlying claims size trends tend to be higher than with most other types of business. The scope for error is therefore particularly large.

Most actuarial investigations into US casualty business, whether they be of a reserving or a ratemaking nature, will involve the analysis of some past data which will include reserving of past claims to ultimate, even in a ratemaking study. Simply analysing paid and outstanding claims it will not be sufficient for a ratemaking study. Apart from the usual problems that one encounters in any actuarial analysis of non-life business, often the two major issues as far as US casualty business written in London is concerned, are the determination of the appropriate tail factor and the impact of changes in the mix and handling of the business.

A choice of tail factor is important because usually no one company or syndicate has sufficient experience that is credible, to determine the appropriate tail factors on its own account. Even the market leaders in this type of business in London do not (at least in the author's view) have sufficient information to determine appropriate tail factors on the basis of their data alone. This may not necessarily be because they have not been in the business for a long enough period of time, but simply that their own book of business has changed significantly, to prevent the appropriate analysis being valid. The RAA study is a good starting point to determine a benchmark for tail factors. However, the following are practices that would need to be taken into account:-

Faster reporting of claims
More conservative case estimation
The impact of the reinsurance programme
Policy limits
Differences in layer and attachment points
Introductions of limited number of reinstatements

The above is not an exhaustive list. In addition it is important to consider changes in the mix of business. Most underwriters in London do not put their data in a detailed a form as one would like, at least for claims reserving. This invariably means that adjustment has to be made for changes in the mix of business. Changes arise due to changes in underwriting policy, arising from different underwriters or changes in market conditions. Changes in demand for coverage in the States also changes, as does the competitive situation. Clearly limits are required to change over time with inflation, these do not usually happen uniformly and index clauses are uncommon in this sort of business. Often an underwriter's policy as to he would like to his books is influenced by market conditions. It is the author's experience that underwriters often overestimate the extent to which they can change a book in a short period of time. It is usually, therefore, necessary to examine underwriting slips at least on the larger risks, if a detailed breakdown of the information is unavailable. In some cases this can, of course, be obviated by having a reinsurance programme in place that picks up a lot of the adverse development. There are significant variations between different types of the same class of business, e.g. architects and engineers and D&O cover is different from lawyers and this might be considered in any analysis. It is worthwhile stating the obvious fact that adding heterogeneous data together is likely lead to less credible triangles rather than more credible triangles. It is one of the commonly held fallacies in the London market that it is necessary to have reasonable volume of data to draw any conclusions. It is the authors experience, as well as general actuarial theory that it is better to seperate out heterogeneous data even if the data is sparse. Consequently the bankers business should where possible be seperated from general liability business. If it is not possible to do so then the actuary must make the necessary adjustments judgementally.

Trends

Contrary to much popular belief, the trend in underlying primary US claims severity cost are remarkably stable, given the legal environment. Over the last thirty years or so the annual increase in Medical Malpractice claims size has averaged between 15 and 25%, during which period the US CPI has varied from virtually no inflation to inflation rates well into double figures. Frequency has varied much more but is easier to measure at the primary level rather than on the data available in London. Much of the business written in London is not primary, but higher layer. Trending factors based solely on primary or basic limits data are unlikely to be appropriate. The trend factors for higher layer claims tend to be greater than for basic limits data and so additional trend factors need to be built into a higher layer of business. They will have to be estimated on what data is available as well as general market knowledge, mathamatical trending techniques and whatever econometric data is available.

It goes without saying that the actuary would need to adjust for an increase in frequency due to claims going above a limit point whereas previously they fell below it. This is however standard rating practice.

Reserving

Given the high rates of inflation and the long time taken to settle claims it is particulary important not to fall into the howler of assuming that savings on settlement on closed claims in a particular year mean that the open claims are consistently reserved. With all branches of insurance and all territories, closed claim analyses need to be conducted and interpreted with some considerable care, for all the text book reasons. Unfortunately using savings on settlements on closed claims is a common pitfall that many London underwriters make. On this type of business one would probably need savings on closed claims to be well in excess of 60% before one could hope that there would not be any significant adverse development, though this is not really a meaningful statistic.

The usual conventional projection techniques for claims reserving can of course be used. In many cases paid claim development can be particulary difficult to analyse because of the very long time it takes to pay claims. Consequently not to use the case estimates is throwing away an extremely important source of information that the actuary can ill afford to do. However trends in development factors and changes in the mix of business are something that have to be handled extremely carefully. Simply to take average development factors is unlikely to be a satisfactory process.

The very low percentage of claims expected to be paid or reported at the end of the first two years means that very little credibility can be given to projected estimates in this area. It is therefore essential that loss ratio techniques are used to check the reasonableness of results. The Bornhuetter-Ferguson method is particularly appropriate and will usually be the recommended technique of most casualty actuaries. The Bornhuetter-Ferguson method as described in the paper is essential reading for any actuary practicing in this area. (PCAS L1X 1972, p.181). The recent Student Society paper on Claims Reserving Methods totally misrepresents the method.

Since there are unlikely to be many paid claims or outstandings or estimates of expected losses except possibly in an actuarial study carried out prior to the risk being placed or on the underwriters judgement, it is often appropriate to use an iterative technique whereby projected methods are used for the older years and the subsequent projected ultimate loss ratios adjusted in the light of one's knowledge of market trends using the Bornhuetter-Ferguson method. There are no standard or market loss ratios in the London market though of course there are in the States. These could be used as a starting point for movements in trends but there are very often very substantial differences from one year to the next. Indeed use of RAA published loss ratios are not very often a good starting point for London business. Anybody with a wide knowledge of the market would of course build up their own expectations as to likely loss ratios. Lloyd's percentages are of course based on this approach but the problem of their use is the too wide a data base to which it is applied.

It has been the author's experience that curve fitting techniques are not the most appropriate to this type of business because the marked sensitivity of results to very slight changes in the mix of business. However these are the two-way first difference methods, which effectively combines a Bornhuetter-Ferguson and a projection method, can sometimes be a way of producing results when the underling data is not broken down in detail into all the necessary sub-categories. It is extremely important to emphasise that the actuary must be able to adjust the results of the technique chosen for changes in the mix of business, often judgementally.

Rating

For rating purposes, one usually needs to go back to the various classification and rating territorial differentials for the primary business where these are appropriate for the portion of the business written in London. Where primary data is relevant to the case concerned there are usually sources of US data and standard US claim making techniques are normally appropriate. These are described in more detail in the US actuarial literature. In order to make the impact of the various layers simulation techiques often are appropriate. The log normal distribution provided it is adjusted for any nuisance claims and any truncation aspects due to policy limits is normally appropriate. Care should be taken in any one particular case to ascertain its relevance. Simulation techniques can often be useful for ascertaining the impact of changes in limits for deductable levels, attachment points etc. It is also extremely important to ascertain the impact of any underlying aggregate deductables. It is not uncommon for a US Casualty risks to appear to give no losses at all for four or five years but a proper analysis could demonstrate loss ratios well in excess of five hundred, simply by looking at the underlying data. In all these cases it is essential to look at the experience from the ground up or at least from levels significantly below the attachment point and not just look at claims going above the attachment point. While this point is relevant to all types of business, it is particularly so with US Casualty because of the higher claim severity, the long time to settlement, and the high trend of claims costs.

In any rating exercise, where there is any claims experience, it is essential to develop that claims experience to ultimate. Even five years experience is much too short for virtually all casualty lines and substantial allowance needs to be made for further development. This is particulary important when considering the higher layers because, in general, it will be the larger claims that are reported and settled last.

METHODS OF PLACEMENT

Reinsurance Covers

Virtually all the business placed in the London market comes through brokers and very little is placed direct. In order to place business at Lloyds it is necessary to use a Lloyds broker, in order to satisfy their regulations, as well as to enable premium and claim settlements to take place. In many cases this may well be done on a subcontracting basis, whereby the business is obtained by one party, who basically does most of the work but arranges for the settlement in Lloyds through a Lloyds broker. In theory there is no reason why business needs to go through a broker to anybody operating in the company market. In practice some of the major players in the US casualty market in London will only write business through Lloyds brokers. The brokers themselves obtain business from their contacts in the States which may well be other US insurance brokers or directly from the insured or from various managing general agents who may well have some underwriting and claims handling authority. In the case of the larger risks, these will be normally handled individually but in the cases of the smaller risks then they may well come through some packaging process, e.g. line slips. In a number of cases the business will be some form of excess cover over self insured or a retention or through some captive insurance company including association captives and mutuals, such as some of the doctors companies.

Most of the larger US companies get their business through general agents who will act on the lines of brokers that will normally only represent a few companies, say perhaps only half a dozen, rather than placing business round the market. The business in many cases belongs contractually to the agent rather than the company.

Managing general agents are also common. They have considerable underwriting and claims handling authority. In many cases these will be representing personal lines areas in certain geographic areas but in many cases will represent specialist lines and specialist expertise.

Much business finds its way into the London market by way of reinsurance. In some cases this will be whole account coverage or covers of a significant part of a book of business of a US primary company. If it is on a non-proportional basis, and the majority of the exposure is casualty, then there will probably be unlimited reinstatements but with limits per claim. Where there is a significant property element then there may well be a limited number of reinstatements. This a matter that needs to be watched carefully, as unlimited reinstatements can give rise to very substantial exposures under the contract. This is in direct constrast to direct or other forms of business, where nearly always there are fairly tight limits on the actual number of claims. Unlimited cover is not normally available in the USA on a preliminary basis. Given the tightening of the market most casualty contracts will have some limit on the number of reinstatements but for reserving purposes the question of unlimited reinstatements will need to be considered for at least the next 25 years!

Line Slips

In order to reduce the costs of acquisition, much business that comes to London is via a line slip or cover or binding authority, whereby an agent in the States is appointed, who is allowed to bind the London underwriter according to the terms and conditions laid out in the cover. The discretion given to the cover holder will vary significantly. In some cases, very strict conditions will be laid as to the rating and types of risk that can be accepted. On the other hand there are very loose forms of covers, where the cover holder virtually has carte blanche to do what he likes. Clearly, in rating and reserving this sort of business knowledge is required, not only of the underlying business, but also the integrity and skill of the underlying cover holder. Typically, these covers will be given for a period of time and will only be cancellable after a fixed time period has elapsed, which could be even as long as 3 years. During that period of time the agents will have to report reasonably frequently. There may also be some considerable delay before money in part to provide a cash float for paying claims has to be forwarded to the reinsurer.

When analysing such a contract, it is important to analyse details of the underlying cover. The terms under which covers issued may be vague. There may only be the broadest description of the type of business to be written, e.g. all forms of umbrella business. This may therefore be on a claims made or occurrence basis and the terms of the underlying policies may be 1 year or 3 year. As an example on a 3 year cover, which also issues 3 year policies, it may be 6½ years, allowing for some odd time, from the date of the inception of the contract before all exposure under the contract ceases. Clearly, it will be many years after that before all the claims have emerged. Since it is possible to include that particular cover in one particular underwriting year, one underwriting year could actually have exposures for 6½ years. The odd 5 year policy is not unknown and this could extend the liability further. If a proper evaluation including reserve of the estimate business is required often the only practical way of carrying it out is to visit the cover holder personally.

Insurance Programs

Many specialist risks are covered by a specialist organisation, e.g. roller skating rinks may be insured under a specific program. If one is heavily involved in this type of operation it is necessary to understand the underlying business and compare the results with other programs.

REGULATION OF INSURANCE

An understanding of US regulation is important. Firstly, insurance is regulated on a state by state basis and therefore there are very marked differences in operating conditions in a particular state. Each state has its own laws, and to some extent policy conditions. There is some attempt at standardisation. This is in part carried out by a co-ordination body The National Association of Insurance Commissioners (NAIC) which meets regularly and forms sub-committees to tackle specific problems.

Each company is required to file a statutory return in each state. This is also co-ordinated through the NAIC to avoid dual accounting systems, although there are minor but sometimes significant changes from state to state. The forms are broadly speaking on the same lines as DTI returns in the UK, though in detail there are many significant differences. Indeed, the extent is such that it is possible for a company that is solvent in the UK to be insolvent in the States by considerable margin and vice versa. Indeed, an insolvent company can appear to be solvent under both sets of regulations and again vice versa.

Many states require the detailed filing of policy forms, rating conditions, rating changes and in some cases prior approval is required before rate increases can be implemented for certain lines of business. Many states will impose restrictions on rating variables, e.g. banning the use of sex or age or marital status as a rating variable. These issues can be important when considering the rating of a particular block of policies or excess coverage on them.

There may well be non-cancellation laws or compulsory renewal laws which will vary from state to state. Some knowledge of conditions in each state is necessary if one is going to be heavily involved in this state, e.g. New Jersey will tend to be a very problematic state, whereas somewhere like Arizona will be much more relaxed. Clearly, also some states have very much larger insurance departments than others. New York tends to be one of the pioneers in this field and also has extremely complicated regulations. Indeed to such an extent that many companies will have a separate company in New York, and another one operating throughout the remaining States because of the difficulties of the regulations in New York.

EXCESS AND SURPLUS LINES MARKETS

Many states require that risks be placed with the admitted or authorised market wherever this is possible. Many states, then provide that if a market is not available in the State in respect of certain coverages or for certain insureds, then it is permissible to insure in the excess and surplus lines market. This will tend to be for the more difficult and, higher hazard risks. These are normally handled by specialist excess and surplus lines brokers or agents and it is normally much of this sort of business that eventually finds its way to London. The volume of business available to the excess and surplus lines market is a function of the availability of insurance in the primary market and therefore the volume of business available to London will vary with the state of the US insurance market and the US underwriting cycle.

COVERAGES

Analysis of the various coverages on the underlying policies are important in all aspects of the non-life insurance. This is particularly true of North American business. Indeed it is one of the author's criticisms of the general insurance content of the actuarial examinations, that not enough emphasis is placed on coverages. Anyone becoming involved in North American casualty business must familiarise themselves with the basic forms in use. In the following the object is to describe the more basic casualty coverages.

Automobile Coverages

Unlike the UK, these are essentially sold on two forms, liability and physical damage. The liability coverages are sub-divided into property damage liability and bodily injury liability. Automobile physical damage business is naturally very short tail and is mainly covered by primary insurers and not materially in the London market. Because of the relatively small sums the property damage liability, is also much less important as far as London is concerned. The major area is thus the bodily injury liability. It should be noted that there is not any significant no claims discount given. Consequently, the rating structure is extremely different than in Europe.

Coverage varies from state to state. It is often written on a no fault basis. This is in itself provides different reporting patterns and in some cases means that the US reporting pattern is faster than in other parts of the world, though not as fast as probably in the UK. Much varies according to the state. The limits vary significantly from one state to another and in some states there are very high limited or unlimited medical benefits, other unlimited cover is not usually available. Thus the tail of the business and size of claim varies materially by state. Claims development patterns and excess points, average size of claims and claims distributions will vary significantly from state to state according to the laws in force in that state at the time. This variation is over and above the variation described in attitudes to Courts in that particular state.

For the reader who requires more information, there is a good summary of state laws and regulations provided of the various coverages in each state published by the American Insurance Association.

Not all states require compulsory insurance but many operate assigned risk plans or similar facilities which need consideration for underwriting or rating this business.

Other Personal Lines

Other personal lines, apart from the auto personal lines are normally not of great interest as far as the London market is concerned. The liability exposures under the Homeowners packages are very much greater than on this side of the Atlantic and may occasionally feature in some programmes.

General Liability

The basic form is the (Commercial General Liability) CGL form. This appears in two versions. Firstly, there is a current form and secondly there is a claims made form. The claims made form is a recent introduction and is described in more detail on the section on claims made. Prior to its introduction coverage was on an occurrence basis. The broad form covers are produced for Manufacturers and Contractors. The other common form is an updated version of the Owners, Landlords and Tenants (OLT) forms. The updated M&C form has a completed operations endorsement, which gives rise to the products liability claims. These various forms can be ad apted for particular specialist operations. For further details of these forms the interested reader should refer to one of the US manuals.

All these prior policies have limits per event and in some cases annual aggregates. Increased limits are available, the basic limits are almost invariably placed in the US market and the exposure from London normally arises on the increased limits or higher layers.

Professional Indemnity Liability Covers

There has been an enormous growth in the claims for professional liability in recent years in the States. The previous underwriting cycle crisis in the mid 1970's in large part arose from medical malpractice claims or claims in respect of professional negligence by doctors and physicians, para-medical professional personnel and hospital management. These are normally covered on special forms. Some policies are on an occurrence basis although there has been a strong move towards claims made coverage since 1976 and at this point in time occurrence coverage is probably impossible to obtain in London. Any analysis of this business does require breakdown between occurrence and claims made forms.

Other forms of professional indemnity are also common. Architects and engineers, lawyers, and accountants are important sub-groups. Virtually all the latter are on a claims basis, but again coverage details and limits should be checked.

A new area of growth in recent years is errors and ommissions coverage for company employees as well as directors and officers, to cover negligence by such people. Some care is required in interpreting these forms, since in some cases they have been involved in claims that were not originally envisaged, e.g. where a bank sues one of its directors of its subsidiaries and makes a claim under its D&O policy for negligence in respect of making bad loans. The reporting pattern varies quite considerably from the type of cover and sub-group and it is important that some understanding of these is obtained.

Banker's Business

There is a significant amount of Banks' business written in London, although recent experience has been extremely poor. These consist mainly of Bankers Blanket Bond where the other various bonding requirements of the banks. These are normally written on a discovery basis and therefore are relatively short tail (3-5 years).

Umbrella Covers

These are important in the London market and are excess-type policies bought either by individuals, small businesses and the very large US corporations and provide a broad form of liability cover which effectively sits excess of any of the other liability covers that the insured might have. Since the purchaser is normally an industrial cover or a person, it is in fact a direct policy, not a reinsurance, although it does have some of the characteristics of reinsurance. Much of the larger US umbrella business is written and rated in London, and London is a extremely important market for it. The smaller risks are normally placed in London through covers or line slips but the larger risks are placed direct.

Other Covers

These include special multiple peril contracts which are package policies combining property and liability. There are a number of property forms though these are of much less interest to the actuary.

CLAIMS MADE VERSUS OCCURRENCE COVERAGE

Much professional liability business is long tail. Historically, much of the business was written on an occurrence basis, which provides the fullest form of cover to the professional. Under this basis the policy covers all claims which arise out of incidents occur during the policy period, i.e. with all claims all covered, whenever they are made against the insured, provided they arise out of incidents that occur during the policy period. From an insureds point of view this is a good form of coverage, (subject to adequate limits) in that a doctor practicing for 12 months in the State of Michigan will be able to buy the appropriate policy covering him in Michigan. Should he subsequently leave or cease business, he does not have to purchase any further insurance. This also means that he is paying for his insurance coverage as his exposure occurs and as he is charging fees to his patients and he does not have any further expense once he has ceased his practice. Against this there is the problem of inflation that needs to be considered as the claims may take a very long time to be made. In the early 1960's a $25,000 basic limit would have been common which is hopelessly inadequate given the current levels of awards.

From the insurers point of view, the problem arises from the very long time lag, before some of these claims are made. For medical coverage, symptoms may well arise after a very long period after the operation or treatment took place. For example an operation may have appeared successful at the time but may have in fact been badly carried out, but problems do not arise until many years later. The statute of limitations would normally start running from the date on which it would be reasonable for the patient to have been aware of the problem. It should also be realised that in the case of birth defects the child will be assumed not to be able to sue until they reach the age of 18 and so the statute of limitations in the case of the child (though not necessarily the parent) will begin running for 3 years after the child reaches the age of 18. On top of this there would then naturally be the length of time before any legal settlements etc., take place.

The long reporting pattern makes occurrence forms extremely difficult to price, since one is going to have to wait some 25 years before one has all the claims in from that particular underwriting year, and given the inevitable impact of inflation, including social inflation, on levels of court awards, this can make pricing extremely difficult. Furthermore, from the insureds point of view, the policy limits may well be inadequate. Whereas $25,000 might have seemed a fairly sizeable sum in the mid 1950's it is not nearly so adequate now. Consequently, the insured could suffer from inadequate policy limits under an occurrence form. Thus, there has been a tendency in recent years for the claims made form to come in. Here the underlying policy only covers claims made during the policy period and there may well be a 1 or 3 month reporting clause. Thus, on a 12 month policy with a 1 month reporting clause, by definition after 13 months, there can be no IBNR claims. This significantly simplifies the pricing of the business and the insured has benefited being able to more adequately assess the limits he requires.

Given the fundamental nature of the different coverages, it is extremely important to ascertain whether the business is written on an occurrence or claims made basis. Particularly with medical malpractice, both types of forms have been in use in recent years. The London market is now saying that it is going write business only on a claims made basis and not on occurrence. There are two schools of thought as to whether London will in fact stick to this when easier conditions return to the market.

From the insured's point of view there is now a potential gap in coverage, in that should the insured not renew his policy he may well find himself uninsured in respect of losses or liabilities which he has actually incurred (although he is unaware of them). If conditions have changed significantly he may well not be able to afford the price of the coverage. The ISO in introducing its claims made form is guaranteeing to provide tail coverage. Consequently, when an insured is retiring or ceasing business practice he will be able to purchase the tail coverage after a period of time, perhaps having to buy 1 or 2 or even 3 claims made policies for the first 3 years of retirement and then, tail coverage to cover him for the gap between claims paid and occurrence. The ISO is guaranteeing the availability of this coverage and is guaranteeing not to charge more than twice the claims made rate for it. This has been described as some of the agents as "a licence to print money", but more likely it could well lead to some very significant liability for the companies in future.

The London market is being very much less generous in this respect and in some cases is not guaranteeing any tail coverage at all, or when it is offered is on a fairly limited basis. While London is undoubtedly getting away with it in current conditions, it is not going to be able to get away with it (at least in the author's opinion) when a greater sense of normality returns to the market. The situation is very much in a state of flux at the moment, London has limited experience in this area and there are undoubtedly going to be very considerable problems in the next few years.

Consequently, any actuary involved in this area will need to determine the situation very carefully. It is also appropriate to note here that it is that it is possible under a binding authorities to have both claims made and occurrence forms issued under the same binding authority, without having any idea of the proportions of each.

Some care needs to be taken when one is writing excess coverage over a claims made policy, because then the definition of claims made will normally revert to the underlying policy. If it does not, then there will undoubtedly be gaps in coverage and this will be something that needs to be considered. If not there will be a significant pure IBNR on coverage excess of claims made, where the definition of claims made is in relation to the underlying primary policy.

It should also be noted that there is often very considerable development on a primary claims made policy. This is something that is very often unappreciated by London underwriters. To illustrate the importance of it Exhibit 2 shows a triangle of what might be regarded as a typical primary claims made product liability incurred claims. There is nothing particularly of interest or significance in the triangle and it is probably not appropriate to any one particular case, but is only included to illustrate the importance of being aware of the development of this type of business.

I have devoted a fair amount of length to the relative merits of claims made and occurrence forms. I have done this deliberately because I think that it is a matter of some very considerable importance from an actuarial point of view.

LEGAL CONSIDERATIONS

The fact that the tail on US business is so long is in part due to the legal background. While, as with most territories, most claims are actually settled out of court, the legal background obviously has a very major importance on results. Many cases are of course settled on the court steps. There are a very large number of lawyers in the States and their numbers have been expanding rapidly. This has meant that lawyers have been available and keen to develop an insurance claims practice. The lawyer supply/demand situation should not be entirely overlooked in the increase in recent claims litigation. It is not without significance that there was a surge in general liability claims, including professional liability, in the mid 1970's which was not anticipated by the insurance industry. It is the author's view that this was, at least in part, induced by the fact that much litigation work disappeared due to the introduction of automobile no fault laws in a number of States and it therefore lead the lawyers to look for other areas in which to practice.

There are a number of facts of the US legal system that lends itself towards high awards and claims. Firstly juries can award damages. As is the case with Ireland, juries provide much greater levels of awards than would be expected if a Judge only were making them. There is a system of appeal and many of the headline hitting awards are reversed on appeal. However it undoubtedly has a significant impact on the level of awards and also expenses.

The contingent fee system also has a significant impact on the legal scene. Unlike the UK, lawyers are allowed to accept cases with their fee contingent on their success in the case. Thus for example a lawyer may take on an individual case and agree to charge no fee, but to take as his fee an award which may be around one third of the damages awarded to the victim. This system does have some considerable merits from the point of view of the victim. There are undoubtedly cases in this country where victims are forced to settle out of court or not make a claim at all, because they are unwilling, or indeed unable, to fund the legal fees necessary to pursue a claim. This situation does not arise with a contingent fee system. In itself, the contingency fee system will therefore mean that victims who are unable to afford legal fees will make more claims. From the point of view of society as a whole, this

must be regarded as a fairer system. The problem in the USA lies in its abuse. It is not uncommon for a lawyer to receive very very large sums for a seriously injured victim. Cases, where awards for seriously injured victims can run into several millions of dollars means that lawyers fees can also run into millions of dollars. This may produce rewards to individual attorneys which are disproportionate to the effort involved. It also gives rise to nuisance claims. Since the cost of defence is expensive in the States, it can often make sense for the insurer to settle out of court. While in recent years, there have been one or two cases of damages or costs being awarded to the defendant (out of malicious law suits), it is most unlikely. Any form of defence is likely to run into significant sums of money even if successful. Anyone who has been on the receiving end of a US law case will know that, it can make sense to settle for the odd $25,000 rather than risk a court hearing. This approach is encouraged by a contingent fee system since the lawyer is effectively only investing his own time in trying to get a nuisance award. It should be noted of course that nuisance awards are not unique to the United States; it is just that they are more significant because of the size of legal costs and the contingent fee system.

It is probably fair to say that the US population is more litigious than the European. It varies very considerably from State to State and this is something that an actuary needs to consider when looking at reserves or rates. Incidents that will lead to law suits will be much more common, for example in New York than in Arizona.

The concept of class action is also one that leads to increasing awards and has proved a fertile ground for the legal mind. In this a lawyer may make a claim on behalf of an individual or a few individuals who belong to a much wider class. In the event of the case being resolved all other members of that class may participate in the settlement. This would not in itself prevent them from pursuing a case in their own right by not accepting the agreed settlement. However it does allow them to participate in a settlement that provides them with reasonable compensation without having to go to the effort of initiating a new law suit. Again this is a concept that has some merits in social justice in terms of the smaller claim, where a large corporation has behaved badly and has taken advantage of individuals as a whole but no one individual has suffered a large loss. In a UK environment,

the company would "get away with it". No one individual could afford to sue a large corporation for a few hundred pounds. An example of such an action is the recent settlement in respect of British Airways Pan American and TWA. However this does lead to significant additional claims as far as the insurer is concerned. It needs to be considered for any one of the larger corporations dealing with the public and is also an explanation as to why US liability costs are greater than elsewhere.

Joint and Several Liability

It is possible to sue or enjoin any one of a number of names to a suit and if found liable they can then be asked to pay the full amount of damages due. They are then entitled to recover from other parties if possible. In practice this means that a victim will sue the person from whom he is most likely to obtain recovery and who is capable of paying the highest awards. This often means the person with the highest insurance coverage. An insurance policy is a discoverable item in the USA. Extensions on these lines can lead to some imaginative "variations to this concept". In particular the Sindell case in California which lead to liability being imposed on a set of drug manufacturers in accordance to market share. The case arose out of a birth control pill and where it was not possible for the victim to demonstrate which company's pill was at fault in this case.

Other extensions of this type of award occur on industrial claim cases where liability can be determined on a number of separate bases.

Punitive Damages

Punitive damages can be recovered in a court action in which the defendant has been deemed to have acted maliciously or fraudently with wanton reckless disregard to the rights of the victim. Damages are not awarded in an ordinary negligence action but only where the former is proved. The concept of punitive damages is that it provides an additional deterrent against defendants acting in this way. For this reason there is some lack of clarity as to whether punitive damages are recoverable under a policy of insurance or not.

The extent of amount of punitive damages varies from State to State and in some cases there is an established ratio between compensatory damages and punitive damages. It should also be noted that vicarious liability for punitive damages can arise. An employer could be liable to punitive damages where one of his employees is liable for punitive damages, e.g a driver is deemed to be driving in a gross or reckless manner in a motor vehicle collision case. Again this will vary from state to state. The precise format of the policy needs to be looked at to see whether there is any liability in this respect. Obviously in the case of punitive damages, the amount of the award is somewhat uncertain and this must be taken into account in assessing case reserves. Furthermore it is common in most court cases to ask for very substantial punitive damages. This does not mean that there is any likelihood of actually obtaining them. Consequently multi-million dollar claims for damages could easily not be founded or settled for a few thousand dollars.

Workers Compensation

All states have some form of workers compensation legislation. This effectively provides for compensation in the event of injuries at work on a no fault basis. In lieu of the right to sue in court and to avoid the necessity of so doing the insured is entitled to damages. However the amounts are limited by statute. There has been some tendency in recent years for employees to try and sue outside the workers compensation laws where they feel that there is a good case because almost invariably if they are successful they will obtain very much higher awards. This is an aspect that needs to be considered with some risks.

Future of Tort Liability

Given the problems in the market place much discussion is going to emerge in the near future of tort liability. This is not too dissimilar though coming from a different starting point that led to the introduction of No Fault Auto Insurance. However the insurance industry and London, in particular, should not blame US courts for poor underwriting practice and the tort system does have many points in its favour.

CLAIMS ADJUSTERS

Because there has been a much greater history of actuarial involvement in the States, the case estimator tends to take a somewhat different view to the role than is often seen in the UK. Particularly the adjuster or estimator is only trying to estimate on the facts available to him. He is not trying to make good any of the IBNR where there is case development. Clearly, where it is apparent hat the insured will become a quadraplegic then that will be reflective in the case estimate, but no specific allowance is normally made for the 1 in 1,000 part chance that the claim will turn bad. This is normally included in the IBNR reserve, using IBNR in the broader sense of the word. Because of this, it is important to recognise that one will need to set up reserves over and above case reserves on most of the longer tail lines of business. Because of the length of the tail of the business, incurred claim projections, including case estimates are important aspects of any actuarial techniques. Clearly, it is of considerable importance in this that the case reserves are set up consistently or where they are not the actuary is aware of any changes. In many cases it will therefore be necessary to relate to claims personnel to ascertain any changes on indeed in some cases independent investigations can be required by the actuary in his endeavouring to carry out a claims reserve review.

Claims Expenses

Claims handling and settlement expenses are very much greater in the US than in most other parts of the world. US statutory statements separate out the three items; indemnity payments, allocated claims expense and unallocated claims expense. The allocated claims expenses can be allocated to the individual case files, e.g. adjusters and attorney's fees. For a long tail US casualty line they can amount to as much as 30-40% of the claims cost. Indeed on the asbestosis settlements expenses are running about 70% or 80% of indemnity payments, but this amount will probably fall somewhat as more claims get settled and the facility reduces claims expense somewhat.

In any analysis, it is necessary to ascertain whether claims expenses have been included in the data provided and if not make appropriate adjustment. With unallocated claims expense, almost certainly, no respreading will have taken place in the actual triangle, although the US annual statements do provide formulae for companies to spread unallocated expense.

Even more important is the way claims expense impacts on policy limits. It is essential that the actuary looks to the individual forms to see what is happening. Until recently claims expense, including all attorney's fees and adjusters fees were normally outside the policy limit. Some of the earlier Lloyds formulae are a little bit vague on this issue, but in general it can be assumed that claims expenses will be outside any policy limit though this point should always be checked. One of the changes that it is currently occurring in the market is that, in most cases, claims expenses are now much more likely to be included in any policy limits. This aspect has very important implications, not only as it is an extra item that needs to be provided for, but also as to how the company handles defence cost, when it appears that the policy limit is likely to be exhausted on indemnity payments. Virtually all primary policies do have a "duty to defend" clause in them, or implied in them. When the policy limit is exhausted then normally that "duty to defend" may cease, but not necessarily. Where the US primary company is reinsured into London, care may need to be taken as to when any claims settlement expenses become a liability of the reinsurer. The sums involved can be very significant indeed and therefore, this is an area which should not be neglected.

Industrial Disease Claims

Industrial disease claims are a major factor in the London market. By far the most important one is asbestosis, but significant claims also arise out of DES and to a lesser extent Agent Orange. In the case of the latter much has now been settled or at least future liabilities are reasonably clear, and its main impact is the distortion caused to the triangles. The sheer size and length of time that these claims take to report, mean that they are a major problem. The problem is particularly acute as far as the US casualty business is concerned, partly because of the very long time lags of the US legal process and partly because of the generous interpretations that the US courts put on

insurance coverage. The level of awards are also much higher than on corresponding UK claims and therefore the problem is much greater. In almost all cases, it is necessary to consider the industrial disease aspect separately from other issues. Any triangle or claims development patterns will undoubtedly be affected by asbestosis claims and it is essential that these be handled separately.

Each company or syndicate takes a different approach to reserving industrial disease claims and discussions will be required as to which approach has been taken. Since there are at least three, bases for setting up reserves, the manifestation basis, exposure basis, the 'triple trigger' basis. On a manifestation basis the claim is deemed to arise when the disease first manifests, or it becomes apparent that the victim has the disease. On an exposure basis the claim is deemed to occur throughout the exposure period and therefore each policy that is in force during the period of exposure to the substance is liable to contribute to the claim. Finally there is the triple trigger theory, which was first annunciated in the Keene case and which essentially shows deems that all insurance coverage will contribute either on an exposure or a manifestation basis and periods of self-insurance can be excluded for this purpose. A full scale analysis of this is outside the scope of this paper and the actuary is referred to the legal background in order to comment on these.

Most companies or syndicates predominantly believe in either a manifestation or exposure basis largely according to which minimises their liability! In most cases the reserves will be put up on the most conservative basis. It should be noted that in most cases the notified outstandings will be reasonably up-to-date where the claim has been notified, but the reinsurance aspects and future claims are not included.

Because of the uncertainty in certain legal situations, supplements can have the impact of swinging liability from a whole set of underwriting years to early years or vice versa, and the actuary must be aware of the consequences of this. In order to reduce some of this an asbestosis facility has been set up to reduce the uncertainty and reduce legal costs.

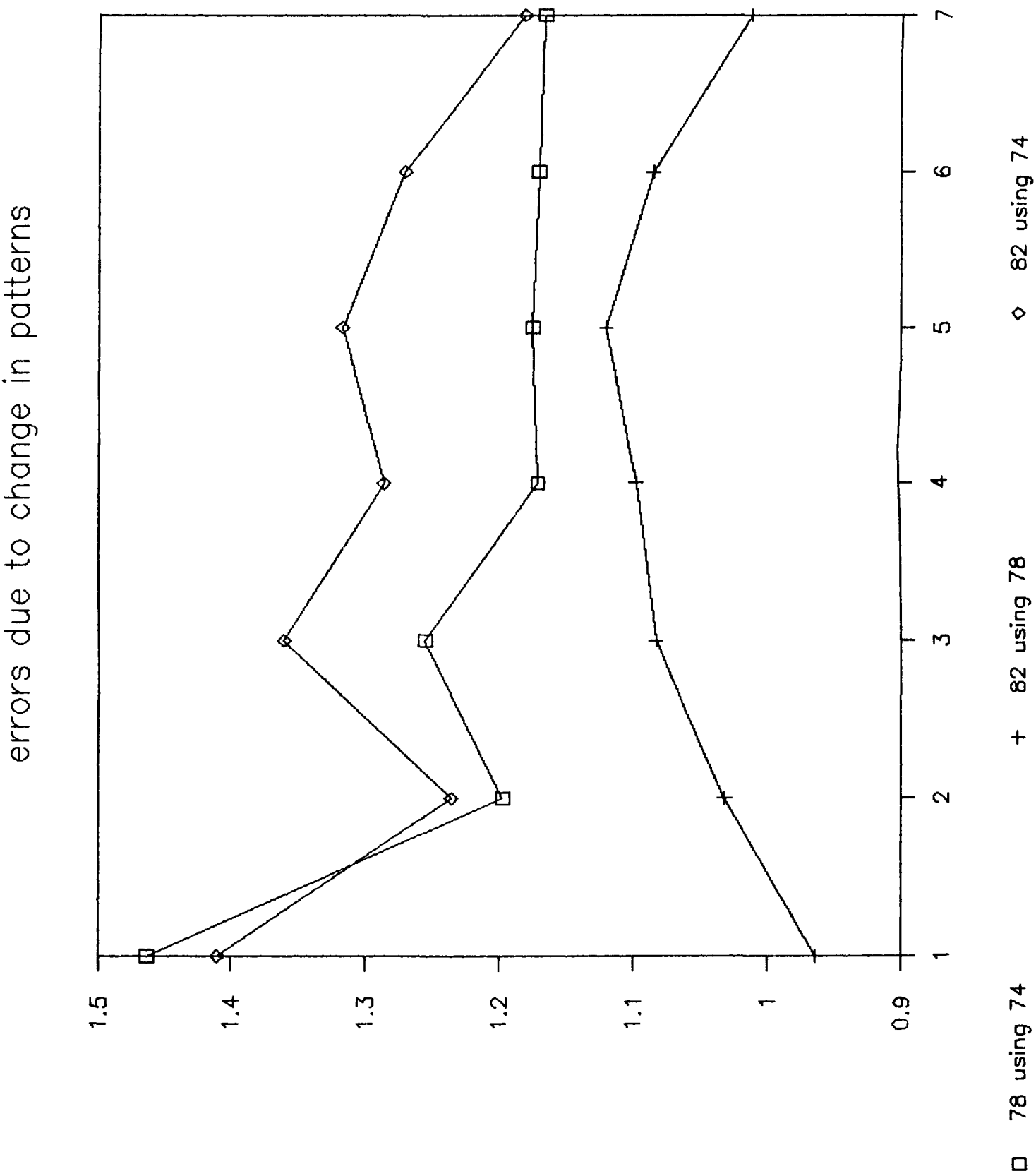
The asbestosis facility should significantly reduce legal complications, though it is not yet certain whether every organisation will join the facility as one or two major players have not yet done so, though it is quite possible that they will. The introduction of the facility should have the impact of speeding up claims payments, though reducing claims expense and also hopefully leading to more favourable claims settlements. It also has the impact of putting greater liability on the reinsurers in higher layers who may not otherwise have been involved. The workings are complex and a full scale study of the impact of the facility is beyond the scope of this paper.

As far as reserving is concerned, it is important to realise that where claims arise under a direct or umbrella policy, then there will be a finite limit to any one particular contract, because of the underlying policy contract. Most US policies are not for unlimited cover. Where cover arises under reinsurance contracts then there may well be very large amounts of a liability to come, most excess of loss contracts will have unlimited reinstatements and consequently where one is the reinsurer of a major US insurer with large exposures in this areas, then very considerable claims are possible.

One of the major ways one can make some form of estimate of the liability is to take one of the various estimates of the total liability of asbestos claims is to consider the likely emergence of those claims over time and consider the way the account one is looking at, has been exposed in relation to that. This will show that some check on the estimate has been made in relation to case estimates etc. Each case needs to be looked at on its own merits and the actuary needs to consider likely projections when one is coming to the total.

On individual risks it is possible to obtain some idea of the potential liability, at least in very broad terms. This applies to all industrial disease claims and it is possible by means of mathematical or demographic modelling to determine the possible emergence of claims. Essentially, one is using demographic techniques and these are not too dissimilar to the basis on which some of the various industry studies have been put together. In order to carry out this sort of exercise, it is necessary to make estimates of those exposed to the disease and the incidence rates of the disease together with the likelihood of making a claim. This approach can also be used to obtain some handle, albeit a very loose one, on the total liability of particular syndicate or company. Carrying out such projections is, of course, time consuming and therefore expensive and may not necessarily be justified in very many cases.

EXHIBIT 1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1.4
1.3
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5
6
7
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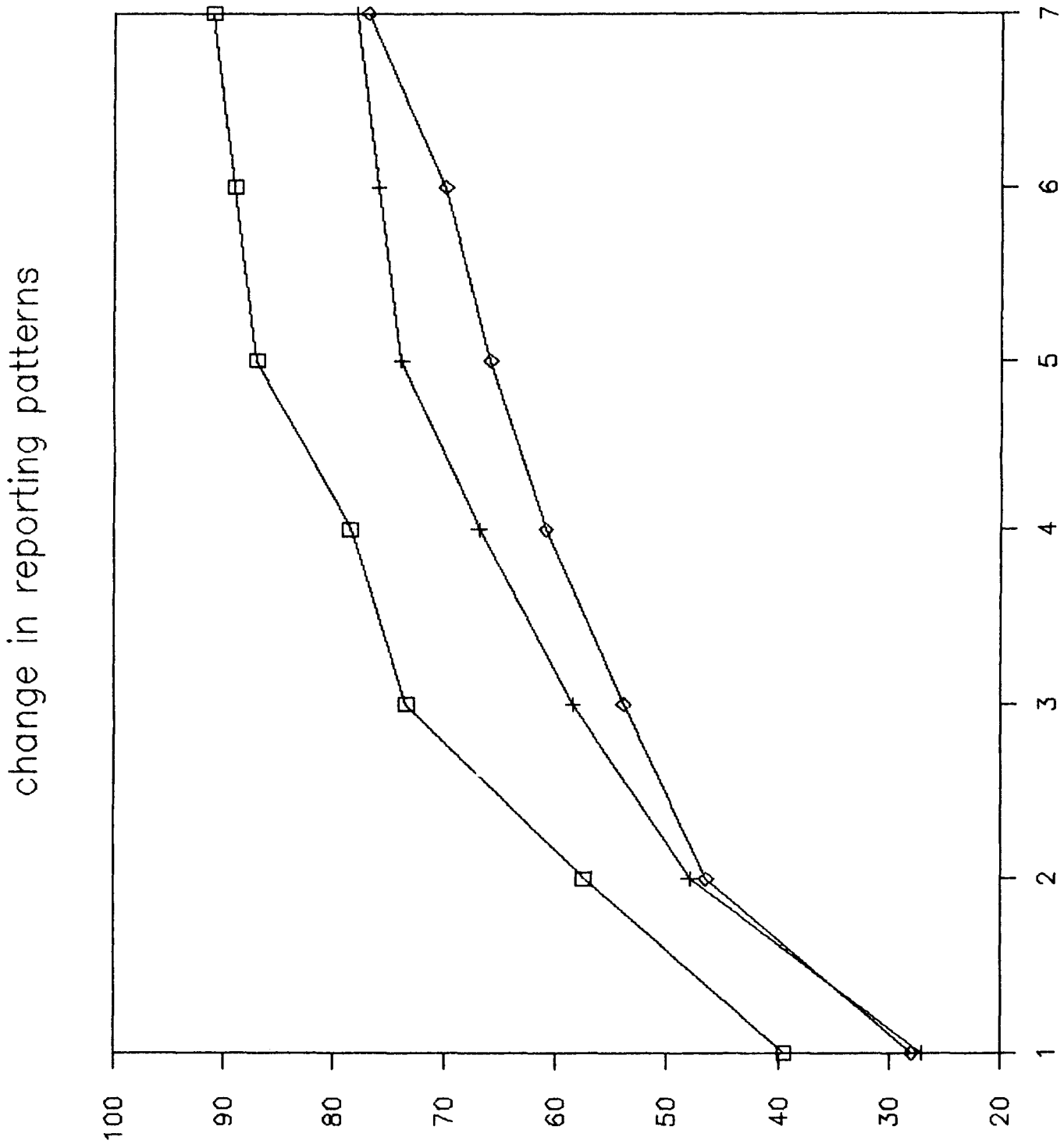
82 using 74

EXHIBIT 1


change in reporting patterns
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90
80
70
60
50
40
30
20
1
2
3
4
5
6
7

EXHIBIT 2

XYZ Ltd

Products Liability
(Millions)

Report Year	Earned Premium	Incurred Losses @ 12	24	36	48	60	72
N-5	10.0	5.0	7.0	8.4	9.6	10.3	10.3
N-4	12.0	6.0	8.4	10.1	12.9	12.5	12.5*
N-3	14.0	7.0	9.8	13.8	15.1	15.4*	15.4*
N-2	16.0	8.0	13.8	15.8	18.5*	18.9*	18.9*
N-1	18.0	12.0	15.6	19.3*	22.6*	23.1*	23.1*
N	20.0	13.0	18.7*	23.2*	27.2*	27.7*	27.7*

SIX YEAR ULTIMATE = 107.9*

SIX YEAR CASE BASIS = 82.3*

IBNR = 25.6*

* Projection.