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PREFACE

The object of this monograph is to extend the general insurance element of the actuarial examination course into the area of the London market, primarily for the use of candidates studying the general insurance subject at the specialist level. It is, however, probable that the material will also be of interest to other categories of reader.

In particular, I believe it would be useful background material for qualified actuaries who have never studied this special aspect of general insurance, but who find employment opportunities in London market organisations, either in a consultancy role, or as employed actuaries. Also, it could be of considerable interest to London market employers who have no experience of actuarial expertise, and little idea of what an actuary may be able to do to help them solve specific problems.

In its role as a text book the work assumes prior study of the majority of the other parts of the actuarial syllabus, in that it treats the actuarial analysis of London market business as an extension of those ideas employed in the more traditional domestic general insurance markets. It is important that examination candidates reading this monograph should appreciate that the London Market is a sector of the overall general insurance market, albeit a sector with some very unusual characteristics. As a consequence, it is subject to similar techniques and approaches, although naturally, as in any actuarial investigation, it is vital that any methods used take full cognisance of the details of the environment concerned.

The monograph is basically an edited version of previously published papers concerning actuarial work in this challenging insurance market. It has been produced with considerable assistance and support from members of the London Market group, an unofficial body which includes virtually all actuaries with London Market experience. As such, the group also includes the majority of the authors of the papers on which the monograph is based; I should like to acknowledge their agreement to allow me to edit their work. Such editing, for which I take sole responsibility, has been necessitated by passage of time since the original publication, the need to summarise material to give a reasonable coverage of the overall subject-matter within the confines of a text whose length is restricted by the need to balance the overall general insurance subject with other specialist subjects, and the desire to avoid duplication with other parts of the general insurance course.

The papers to which I refer were mainly published by the Institute of Actuaries, The Institute of Actuaries' Students' Society, or the General Insurance Study Group. Details are included in the bibliography; readers wishing to pursue particular areas of the subject in greater depth are recommended to read some or all of these papers.

CHAPTER 1

THE STRUCTURE AND SCOPE OF THE LONDON MARKET

What is the London Market?

The London Market forms an important part of the world reinsurance market, and as such is a major source of UK invisible earnings, being the principal medium through which overseas insurance business is brought into this country.

The terms London Market and London Reinsurance Market appear to be virtually synonymous, although not all the business involved is, in fact, reinsurance. The principal distinguishing feature of the London Market is that business is generally placed by means of the Lloyd's "slip" system, described below. Nevertheless, there is undoubtedly a 'grey area' of business placed wholly with individual London Market companies rather than on the traditional "slip", but this is not a significant part of the total, and will not be discussed further.

Market Size and Composition

The whole London market is, in essence a 'club'. Reputations are made and jealously guarded. The broker will present his client's case in the best possible light but must paint an honest picture. There is a whole background of opinion, based on tradition and experience, modified by current results, on which the underwriter arrives at his judgments.

The London Market is centred around Lloyd's and includes the majority of the business written by Lloyd's syndicates, although not all, since the UK personal lines business written by a few Lloyd's syndicates cannot strictly be termed London Market business.

The Lloyd's syndicates (over 400 in number) had a premium income capacity of around £10000m in 1987 and it is estimated that actual London Market premium income written by them was of the order of £7000 - 8000m. In addition, there are considerable number of companies active in the London Market. These fall into a number of categories:-

(a) A small number of large professional reinsurance companies, both of United Kingdom origin and of European origin, writing through UK branch organisations (e.g. Mercantile and General, Victory, Munich Re.)

(b) The "Home Foreign" or reinsurance departments of UK composite companies. "Home Foreign" business consists of business written in London, where the risk originates from overseas; thus it is virtually synonymous with the London Market. Increasingly these departments are being 'hived off' as subsidiary companies. Such companies include Home and Overseas (Eagle Star), British and European (Commercial Union), as well as those whose names immediately relate to the parent company (e.g. General Accident Reinsurance Co. and Royal Reinsurance Co.).

(c) A large number (possibly 120) of UK subsidiaries (or branches) of overseas insurance or reinsurance companies. To an increasing extent the branches are being converted into subsidiaries and there now remain very few active branches. The parent companies are extremely widespread geographically but there are considerable concentrations in United States, Japan, Scandinavia and the EEC. Most (but not all) such companies are designated (Parent's Name) Insurance Co. (UK) Ltd. In some cases the parent company is state-owned in the country of origin.

(d) Captive companies owned by UK or overseas industrial or commercial companies. Examples of this type include Athel Reinsurance Co. (Tate & Lyle) and GTE Insurance Co. (GTE Corporation, US).

(e) Small professional reinsurance companies set up by (or acquired by) large broking firms for the specific purpose of transacting London Market business. Such companies include River Thames (Sedgwicks), Sphere Drake (Howdens) and Sovereign Marine & General (Willis Faber). Following the move to separate broking and underwriting concerns under the new Lloyd's Act, at least one major broking firm has started selling off its insurance company subsidiaries, and this may spread further.

(f) Pools, or companies partly owned by a group of insurance or reinsurance companies. The parent companies may be UK companies as in the case of British Aviation Ins. Co., or overseas insurance companies (e.g. Scan Re Ins. Co.) or a mixture of the two.

In addition, a certain amount of marine business is written by Protection and Indemnity (P & I) associations or clubs, which are effectively mutual insurance associations for groups of shipowners. These organisations specialise in marine liability insurance, including the provision of indemnity against damage to harbours and the cost of removing wrecks.

The overall number of underwriting units participating in the London Market is probably around 700, but this figure should be taken in the context that a large proportion of all risks are shared on the 'slip' basis, with some slips including well over 100 underwriting units, possibly including some overseas organisations without underwriting facilities in London, but added to the slip by the broker following cabled agreement with the company's overseas representatives.

The degree of involvement in the London market is not directly related to the size of the underwriting organisation concerned - for some of the smaller ones, the London Market is their only source of business, whereas, for some of the larger ones, only a very small proportion of their overall business emanates from this source.

Managing Agencies

Some of the companies active in the Market are represented by managing general agents who underwrite for a group of companies, usually as a single entry, each company in the group bearing a fixed proportion of the total "stamp" on each risk on which the managing agent participates. The companies involved are generally those in categories (c), (d), (e) or (f) above. The number of companies covered by a managing general agency generally varies between 2 and hundreds.

In this way, small companies are able to participate in the London Market without undergoing the expense of having to set up an independent organisation. However, it is noticeable that, in general, business written by managing general agencies is less profitable than most other business, with average loss ratios appearing to be rather higher than those in the overall market.

Lloyd's

Lloyd's is a Society incorporated by Act of Parliament in 1871. The Society of Lloyd's provides a market place and regulatory framework within which individual members or "Names" may underwrite insurance risks on their own account. For this purpose, Names provide no initial capital but instead accept unlimited personal liability and thus must pledge the whole of their wealth to support the underwriting undertaken on their behalf. In addition, they are only admitted if they satisfy tests regarding adequacy of wealth (the means test) and deposit some of their wealth in "trust funds" from which withdrawals can only be made to meet underwriting liabilities.

Premium limits are imposed on "Names" according to a scale determined by reference to proven means and the deposit made. Various scales apply depending on the category of member and these scales have been subject to gradual tightening in recent years. For the 1988 underwriting year, the minimum levels of means and deposit are as follows:

CATEGORY OF MEMBER	MINIMUM MEANS £	MINIMUM DEPOSIT £	GROSS PREMIUM LIMIT £
UK RESIDENT & DOMICILED	100,000	20,000	100,000
NON-UK RESIDENT & DOMICILED	100,000	28,000	100,000
CONNECTED NAMES	30,000	22,500	75,000
IF WORKING IN LLOYD'S MARKET	MAY BE WAIVED	12,000	30,000

In broad terms, means of £100,000 will support higher premium limits than shown above provided increased deposits are made. Beyond that, additional means also need to be proved. The maximum permissible premium limit is £ 1.3m.

Lloyd's deposits must comprise wholly owned, non-assigned assets, and there are limits on the proportions which are represented by individual Stock Exchange Securities.

The possibility of accepting corporate bodies as underwriting members has come up for discussion, but there is no likelihood of this occurring in the foreseeable future.

For practical reasons, 'Names' do not underwrite individually, but band together in syndicates (comprising anything from 2 or 3 'Names' to over 5000), although each Name's legal liability is strictly limited to his own share of a syndicate's business; in other words, a syndicate is not like a partnership in which the partners have joint and several liability for partnership debts. "Names" are represented by "Members Agents", otherwise known as "Names Agents" who manage their affairs within the Lloyd's market and provide all the required administrative support. In addition, there is a second type of Lloyd's agents known as "Underwriting Agents" who manage one or several syndicates, providing technical, underwriting and administrative services, including the employment of underwriters and their teams.

Names usually participate in several syndicates, operating in different "markets" (marine, non-marine, motor, aviation, short-term life) within Lloyd's in order to spread their risks. They do so by allocating their premium limit between the syndicates involved.

CHAPTER 1

Lloyd's Slip System

All business underwritten by a Lloyd's syndicate must be channelled through an officially approved Lloyd's broker who acts as agent for the insured. No business may be sought or written except through a Lloyd's broker. Underwriters (except in motor) are not allowed to deal directly with the insured, so Lloyd's brokers effectively represent the marketing arm of Lloyd's.

The broker prepares a Lloyd's Slip, on a standard form (see Appendix A). It is prepared, with terms in full, conditions and rates shown, and then discussed usually with one underwriter (known, as far as that risk is concerned, as the 'leading underwriter'). Background information is supplied at the same time, usually verbally. Terms, including the premium rate, may be altered, perhaps requiring reference back to the broker's client for agreement.

When terms are agreed, the leading underwriter decides what percentage of the risk he will underwrite at the agreed premium rate, stamping and signing the Slip accordingly.

The broker will then go round to other syndicates, to underwriting companies in the U.K. and, if necessary, to underwriting companies in other parts of the world, until the risk has been underwritten completely. Normally, it is written for a total somewhat in excess of 100 per cent to assist in the continuity of placing the risk in future years, and then 'adjusted' by reducing all percentages proportionately. This process is known as "signing down" or "closing", and the resulting premium is the "signed premium" whereas the premium before signing down is the "written premium". The final result is known as the 'market' for that risk.

Types of Business Involved

Underwriters tend to specialise in particular sectors of the overall market, but not usually to the exclusion of all other business. This specialisation is usually by class of business, but can be made more specific by geographic area.

The business placed in the London Market originates from all parts of the world and the physical locations of risks are likewise spread across the world and even beyond (e.g. satellite insurance).

A large proportion of the overseas business is in the form of inwards reinsurance, the London Market providing the additional capacity required beyond that available in the local market. Naturally, in view of the distribution of insurable values, a large proportion of the business arises from the western industrialised countries, particularly from Europe and North America, but there are also quite substantial premium volumes arising from some third world countries.

As a result of the multinational nature of the business, there is a similar spread of currencies. Chapter 7 refers to the currency problem and a couple of particular aspects with an actuarial content.

Classes of Business

The principal class of business divisions used by most London Market underwriting organisations are broad ones as follows:-

(a) Marine
(b) Non-Marine, which embraces the traditional fire and accident (or property and casualty) classes and includes the majority of the more esoteric covers placed in the London Market. In this context property business encompasses the UK statutory class of property and consequential loss after fire, the remainder of non-marine business being casualty. Non-Marine is usually further segregated between property and casualty, although there is inevitably a grey area where business is not readily identified as specifically property or specifically casualty. Non-marine business is also traditionally divided between US and non-US business, the former tending to be of a longer-tail nature. There is, in fact, an increasing trend, as in the domestic market, for packaged deals which embrace more than one major business category.
(c) Aviation

Within each of these classes, it is usually considered most important to segregate between:-

(i) Direct business
(ii) Facultative Reinsurance
(iii) Proportional Treaty Reinsurance
(iv) Non-proportional Treaty Reinsurance

There are grounds for considering that Line Slips (not to be confused with the Slips used for placing normal business) and Binders, under which a number of direct business insurances are written under special authorisation by an outside agent of the underwriter and accounted for as a group, should also be considered as a group on its own, although traditionally they have been considered as part of the direct business.

Reinsurance classes include reinsurance of reinsurers as well as direct insurers. Such reinsurance of reinsurance business is generally known as retrocession business. Retrocession treaties, particularly of a quota-share nature, may cover a whole amalgam of inwards business: direct, facultative reinsurances, proportional and non-proportional treaties.

Within Lloyd's audit categories are laid down as a means of analysing the business for reserving purposes, and as this information is always available, it has become a principal means of analysis.

Special Classes

In addition to the classes of business normally found within the portfolio of a UK domestic insurer, there are, as suggested above, some more unusual insurances which fall into three main categories:-

(i) Classes which arise from the nature of the London Market as a part of the world reinsurance market. These include catastrophe insurances of various kinds and London Market Excess of Loss business (LMX) whereby London Market underwriters reinsure each other. However, it should be emphasised that not all underwriting organisations write LMX business, any more than they all write any other type of business.

(ii) Classes in which the London Market has established a reputation as the leading, if not the only, world market. These include insurances on new technological advances such as satellites and oil rigs, insurances of a political nature such as war, riot and 'kidnap and ransom', and the more esoteric insurances such as film stars' legs and golfing 'holes-in-one'.

(iii) Classes of overseas business which arise out of the different administrative and legislative frameworks found in other countries. Here, in particular, the United States has several classes of business which are relatively unimportant in most other countries, although there is a tendency for at least some of them to spread elsewhere. Classes such as medical malpractice insurance and Directors' and Officers' Liability have their roots in the litigation-conscious USA.

CHAPTER 2

ACCOUNTING

Accounting bodies

The majority of London Market underwriters subscribe to one of the three corporate accounting bodies:-

Lloyd's Policy Signing Office (LPSO)	-	for Lloyd's syndicates
Institute of London Underwriters (ILU)	-	for Marine & Aviation business written by company underwriters, who are members of ILU, which is an organisation representing the interests of its members throughout the marine and aviation insurance market. Membership conditions include stipulation of capitalisation requirements.
and Policy Signing and Accounting Centre (PSAC)	-	mainly for non-marine business written by company underwriters, but including a certain amount of marine and aviation.

These three bodies take the 'slip' entries on behalf of their subscribers, and translate them into a computerised record which provides the basic source of accounting and statistical data, using the coded reference written on the slip by each subscribing underwriter alongside his signature, and the percentage of the slip written.

The normal procedure is for the LPSO, ILU and PSAC to produce the required accounting and policy documents and then to provide a varying degree of basic statistical information on the medium of either punched cards or magnetic tape. There is currently a move towards setting up an electronic network to improve the speed of dissemination of this information for London Market Underwriters by unifying the accounting of the three bodies and ultimately to bring claims notification into the same system.

It is then left to the underwriting organisation to make their own arrangements for any more sophisticated statistical analysis using their own computer facilities or an outside data processing bureau.

CHAPTER 2

Accounting by currency

Lloyd's and many of the London Market companies keep their accounts in three currencies, sterling, U.S. dollars and Canadian dollars. Business transacted in other currencies is converted, usually to sterling, but sometimes to US Dollars for accounting purposes. This "convertible currency" business is not readily reconverted back to original currency, since each transaction may be converted at a different exchange rate. However, some of the London Market companies have considerably greater number of settlement currencies.

At this stage, no further comments will be made on the impact of currencies in the London Market and the problems of exchange fluctuations, in view of the section on currencies in Chapter 7.

Funded Accounting (otherwise known as Underwriting Year Accounting)

The London Market, both Lloyd's and Companies, operates for the most part on the basis of what has become known as "funded accounting". In essence, the figures are segregated entirely by underwriting year or year of account and remain attached to that year irrespective of when or how the accounting proceeds. Each year is then tracked indefinitely in order to trace its run-off results.

In the Company Market, the underwriting year depends on the date of inception of the Risk or, in the case of treaties, on the date of renewal. Exceptionally some Risks, for example Contractor's All Risks insurances run for more than 12 months, usually as long as three years and even then subject to extension clauses.

Hence a treaty running, say, from 1.1.88 to renewal on 1.1.89 can cover insurances incepting any time from 1.1.88 to 31.12.88 and running on till 31.12.89 or, exceptionally, even later.

In Lloyd's the year of account is determined by the date on which the first transaction is "signed" at LPSO. "Signing" at LPSO involves the broker notifying the market via LPSO of the premium involved, and automatically leads to the cash transaction on a defined date after the signing. All later transactions for the same risk are automatically related back to this first signing, and hence premiums and claims should always be in harmony with each other. However, both premiums and claims may be signed into a year later than the year of inception of the risk - on the odd occasion several years after the risk inception. This can be caused by problems with the business concerned, but is more often due to an oversight on the part of the broker not being picked up by the underwriter. It should become less of a problem in future in that, in 1987, for the first time, provision has been made for the existence of a slip to be recorded centrally before the signing date. This is known as the Slip Registration Scheme and involves the lead underwriter in completing a form at the time of entering his line on the slip. In addition, there has been a certain amount of discussion about the possibility of the introduction of "inception accounting" under which the year of account would be defined by the date of inception of the risk although no decision has yet been made to adopt this approach.

Premiums

As a result of the second or third hand nature of reinsurance and of the effect of treaty reinsurances, as indicated above, considerable delay occurs in the recording of premiums due. At the end of the first year, it is common for only some 30% to 35% of premiums ultimately advised to be recorded in the books of the office concerned. At that stage it is difficult to say with any accuracy what the figure will ultimately be.

By the end of the second year, premiums recorded may reach some 90% of the ultimate figure. Thereafter additional amounts and adjustments may arise over several years.

In the case of direct insurances and facultative reinsurances premiums are normally recorded when they are known, on an individual basis.

In the case of Proportional Treaties, Line Slips and Binders it is usual for quarterly advices to be rendered. The basic ingredients are premiums, settled claims and outstanding claims, resulting in a treaty balance but in the case of proportional treaties very complicated arrangements are usual, including possibly premium reserves (usually but not always, 40% of the gross premium) portfolio transfers of premiums and claims, loss reserves and profit commission payments.

In the case of Non-proportional treaties, the initial premium is usually payable in instalments (but recorded in full immediately) followed by adjustment premiums at the year-end and often by "reinstatement premiums" or "burning-cost" adjustments dependent on the loss experience on the treaty.

In the domestic general insurance market, it is normal to record premiums both gross and net of brokerage but in the London Market the net premium received is much more important than the gross and indeed Lloyd's records only the premium net of brokerage and other deductions.

Claims

Claim amounts are attached, both for accounting and statistical purposes,to the underwriting year to which they relate and not, as in the case of direct-writing companies, to the accident year. In the case of business written on a "claims made" basis this means that the claim record is attached to the underwriting year in which the claim is reported.

Generally, but not always, claims are recorded when first notified, the amount being carried in memorandum form as an outstanding claim for an estimated amount which is adjusted regularly as more up-to-date advices are received. In the case of proportional treaties, smaller claims are often covered under "block outstanding" amounts, being updated either on the quarterly accounting presentation or annually.

Lloyd's Syndicates often do not record outstanding claims if their individual value is below a "noting limit", Marine Syndicates in particular recording large claims only although notification and recording is steadily improving under pressure from underwriters.

In the case of reinsurances outwards, outstanding claim recoveries may arise from both inward claim settlements and inward notifications. It is important that not only are both these elements included in the advices received from cedant companies and syndicates, but that they are consistent with each other with regard to timing. Advices often lack in precision in this respect but in this case also, the situation is steadily improving.

<u>3 Year Accounts</u>

In the light of the relatively long-tail nature of much of the business written in the London Market, as explained above, a great deal of it is accounted for on a 3-year basis, to allow results to mature.

Under 3-year fund accounting as applied in the corporate market, premiums, less expenses and claims relating to a particular underwriting year (but not investment income) are accumulated over time in a "fund". At the company's year end, the development of the current and previous underwriting year is reviewed in detail to identify whether, taking reasonable estimates for outstanding claims and IBNR, the premiums received or receivable are sufficient to meet the estimated ultimate liabilities of the account. If they are inadequate, then additional resources must be transferred to the fund. Only at the end of the third year is it permissible for any surplus of income over outgo in respect of the underwriting account to be withdrawn by way of profit for shareholders. Although this method of accounting represents no more than an accounting convention, it is given statutory force through the requirements generally imposed on marine, aviation, transport and non-proportional reinsurance to be accounted for in DTI Returns on a funded basis.

'Open' and 'closed year' accounting

Some of the large professional reinsurances offices who receive substantial amounts of proportional treaty business directly from the reinsureds and can therefore reasonably expect rather more rapid reporting, effectively operate on a two year accounting basis by dividing their treaties into two groups for accounting purposes:

(a) Those where further quarterly returns are still expected in regard to premium income.

(b) Those treaties where the fourth quarterly return has already been received, the accounting then being closed for that particular treaty by means of portfolio transfers which may be advised by the reinsured under the terms of the treaty or are effectively set up by the reinsurer subsequently.

These two groups do not necessarily conform precisely to the first and second year of development of the account and in practice it is often necessary to apply some somewhat arbitrary assumptions at the end of the second year of development to close accounts on which there has been insufficient reporting.

Lloyd's Accounting

In the case of Lloyd's, a variant of 3-year accounting is the norm. Since there is some change in the 'Names' constituting a continuing syndicate every year, the accounts of each syndicate must be kept quite separate for each underwriting year. They are held open for three years and are then closed by reinsuring the balance either with the equivalent syndicate for the next underwriting year, or elsewhere in the Lloyd's market. The estimated amount of the future liabilities for the year being closed (including any prior years which have been reinsured into it) is known as the "reinsurance to close". It is effectively the premium required to assume the run-off. For example, the 1988 account of a syndicate will be held open until 31 December 1990 and is then normally closed by reinsuring to the 1989 account. When that year is closed, the residue of both will be reinsured to the 1990 account, and so on.

The underwriting profit or loss, together with investment income and capital gains and syndicate expenses, is then divided between the 'Names' in proportion to their stakes in the business.

The essence of the system is that not only does it involve keeping the account 'open' to the end of the third year, but the fortunes of each underwriting year's business are analysed separately, either to extinction of all outstanding claims or at least for several years. In the case of Lloyd's, this procedure is essential as the equity in the business of each underwriting year is owned by a different group of 'Names'. Reinsurance companies started to follow the same system for the depth of insight it provides into the fortunes of the underwriting policy. The statutory accounts become a summation of the 'movements' in the year concerned, on each underwriting year's business. Hence, for analysis purposes, the accounts become meaningful only when presented in the usual form adopted by reinsurance companies and, even then, are not very explicit beyond the third year, although the detailed figures are generally available internally to the underwriters.

Open Years

There is an alternative to reinsuring the balance into the next year of the same, or some other, syndicate. This is to keep the account "open". This option results in the year of account, which may include previous years of account from which the liabilities have been assumed, being kept separate from all the following years of account. The disadvantages of such an approach is that it extends the period for which the Name's affairs remain uncertain.

As a consequence, such a course of action is not embarked upon lightly. The main reason why an agency may find itself with little option but to keep a year open is that there are major uncertainties in the estimated future cost of the run-off, although there may additionally be the need for such an option for a syndicate which is in decline. If such uncertainties are sufficiently material as to make estimation of a reasonable premium for the reinsurance to close impossible, the agency may consider that leaving the account open is the lesser of the available evils.

Estimation of the Reinsurance to Close

The Lloyd's solvency rules for the reinsurance to close requires that the highest of three amounts be used:

(a) A stated percentage depending on class and audit category applied to the net absolute premium advised (i.e. net of all commissions, brokerage and taxes collected at source and of approved reinsurances but gross of transfers to premium reserve).

(b) 'The total of the estimated outstanding liabilities.... which must include an element to take care of un-noted and unknown liabilities'. How this requirement is to be quantified, however, is not set out.

(c) The premium paid to reinsure the run-off of the account.

It is interesting to compare the effect of these requirements to the results produced by the analysis described in Chapter 6. The percentage of premiums suffers from the inherent defect that, if the premium is too low in the first instance, so also will be the reserve. In fairness it must be stated that Lloyd's can and sometimes does vary the percentage for a year, known to be showing better or worse results than previous years, but in practice such changes are not often made. Also the percentages are essentially a minimum basis, designed to apply to a Name's participation in Lloyd's as a whole rather than to the idiosyncrasies of the business of any one syndicate.

It should also be noted that the calculation is made by reference to premiums received rather than the projected ultimate premium. The minimum percentages are based on Lloyd's long-term past experience and assume this market experience to be applicable to an individual syndicate. The incidence of management expenses in the first year effectively adds a margin of prudence to the calculation. It is not usually appropriate to apply these percentages outside the context of the Lloyd's solvency test.

It is not easy to pass judgement on the levels proposed for the first and second year as any other method, based on claim analysis, can give only very tentative results at that point in time.

'Lloyd's percentages', that is the reserve, covering both known and unknown outstanding, calculated as a percentage of the net premiums advised as at 31 December 1986 were as follows (with some additional qualifications in a few cases):

AUDIT CATEGORY	YEAR 1	2	3	4	5	6	7	8	---	17
Marine Liability	95	85	75	60	50	40	30	20		-
Time	75	45	28	16.5	11.5	7.5	6	3		-
Voyage	55	25	10	5	3	-	-	-		-
War	35	15	5	-	-	-	-	-		-
Yachts	85	40	15	5	3	2	6	3		-
Aviation Short Tail	52.5	20	10	2.5	1.5	-	-	-		-
All others	90	78	63	48	32.5	20	12.5	8	---	1
Non-Marine Short Tail	65	25	7.5	3	1	0.5	-	-		-
All Others U.S.$	95	90	85	70	57.5	48	35	28	---	5
£ or Can $	90	75	60	50	42	32	27	20		-
Motor UK	65	30	16.5	9	5	2	-	-		-
Direct Overseas	82.5	45	27.5	17	12	9	7	5		-
Can $	80	22.5	12.5	10	8	5	3	-		-
Employers Liability UK	90	75	50	37	23	12	10	7		-
Livestock	50	20	5	2.5	1	-	-	-		-
Financial Guarantee	90	75	30	-	-	-	-	-		-

Since 1984, however, syndicate accounts have had to give a "true and fair view" on the account being closed. As this can result in a direct conflict with the minimum audit percentages, there has now been a further clarification of the rules regarding the reinsurance to close. It is now effectively considered in two contexts as follows:

(i) In the first instance, the reinsurance to close is the amount of the reinsurance premium required to transfer equitably the balance of the liabilities on the account being closed into the accepting syndicate and thus the figure required to calculate the underwriting profit or loss which is to be distributed to the Names on the closed year of account. In this context, the reinsurance to close is equivalent to the technical reserves required for the Companies Act accounts of an insurance company. For this purpose, the minimum audit percentages are not true minima, in that the syndicate auditors can, if they are satisfied that the reinsurance to close is adequate, simply report to Lloyd's that the figure included in the accounts is below that which would result from application of the minimum audit percentages. This will probably only arise in years of account and audit categories where the loss ratio is expected to be below 100%.

(ii) In the second situation, the reinsurance to close is effectively an estimate of the liability being transferred into the <u>accepting</u> year of account - the Estimated Future Liability. In this context, the reinsurance to close more closely resembles the technical provisions shown by an insurance company in the statutory returns under the Insurance Companies Act. In this context, the minimum audit percentages are absolute minima.

The impact of this differentiation can be that a Name on the account being closed may receive a profit from that account, only to have to put up additional deposits on the open year if they are also a Name on that year of account.

<u>Auditors</u>

Auditors involved with either Companies or Lloyd's are dealing with a highly specialised type of accounting and hence need to be aware of the special nature of the work.

All syndicates at Lloyd's must be audited by a firm of auditors who are registered for the purpose by the Council of Lloyd's auditors. Such firms include (but are not restricted to) the major worldwide accounting firms. The auditors involved generally have divisions which specialise in this area, involving specialised knowledge of the legislative and commercial environment concerned. Many of the returns which have to be submitted to Lloyd's in respect of the syndicates in the market are actually prepared and submitted by the relevant auditors on behalf of the syndicates which they represent.

CHAPTER 3

THE REGULATORY ENVIRONMENT AND DATA AVAILABILITY

Statutory Returns - Companies

The regulations in force in the United Kingdom with regard to Department of Trade and Industry returns are embodied in statutory instrument 1980 No. 6 entitled 'The Insurance Companies (Accounts and Statements) Regulations 1980' and came into force on the first day of any account period commencing on or after 1st January 1981.

Insofar as a reinsurance company is concerned, these regulations are a great improvement on those applying prior to 1st January 1981 for they recognise that a reinsurance office exhibits unique factors and they include special forms for funded accounting.

The forms that will be required to be completed by a reinsurance office not conducting any direct business are:

Form 10	Statement of solvency	
13	Analysis of assets	
15	Analysis of liabilities	
16	Statement of other income and expenditure - i.e. virtually the profit and loss account	
24/25	All funded business	
26	Treaties on a funded basis	
27/28	Proportional treaties on a two year basis	
29	Treaty results by underwriting year	
30	Reinsurance outwards	
34	Analysis of premiums	> facultative reinsurance only
35	Further analysis of claims	>
36	Currency rates (only if forms 34/35 are completed in foreign currencies for overseas business)	

Reinsurance companies fully on a funded basis are generally allowed to use forms 24-26 for proportional treaties in place of forms 27/28.

One result of the more specialised approach is that reinsurance offices on a funded accounting basis do not have to calculate an unearned premium reserve for form 20 but it can arise on forms 27/28 if proportional treaties are handled on an 'open' and 'closed year' basis. There are furthermore a few specific requirements viz:

Premium portfolio transfers must be shown separately from premiums.

Loss portfolio transfers must be included with premiums and not with claims.

The returns have to be split across ten classes:

1.	Accident and Health		
2.	Motor vehicle, damage and liability		
3.	Aircraft, damage and liability	>	Covering the old
4.	Ships, damage and liability	>	Marine, Aviation
5.	Goods in transit	>	& Transport Group
6.	Property Damage		
7.	General Liability		
8.	Pecuniary loss		
9.	Non-proportional treaty reinsurance		
10.	Proportional treaty reinsurance		

There are, however, some aberrations (probably resulting from the requirements of some of the larger direct-writing offices who write M.A.T. business). All treaties, both proportional and non-proportional, that relate to classes 3, 4 and 5 are to be included in those classes and not in classes 9 or 10. It appears that statistics produced from the returns will be less effective than would have been the case if, for example, each of the forms 20 to 28 were required to be split both by class 1 to 8 and by:

Direct and facultative business
Non-proportional treaty business
Proportional treaty business

The split between UK/Non-UK business required on some of the forms has partly followed previous practice. As a result it is awkwardly defined and involves two distinct approaches:

(a) The split for form 25 is effectively, for a reinsurance office operating entirely through brokers in the UK, as follows:

Direct and facultative business	- All UK (location of the contract of insurance)
All treaty business	- domicile of the head office of the cedant insurance company

(b) The split for forms 34 and 35, which cover direct and facultative business only, depends on the definition of "Home-Foreign" business since "Home-Foreign" business is regarded as a separate 'country'.

In the case of a reinsurance company not having branches outside the UK the effect is a split between UK and non-UK business on the following basis:

Class 3, 4, 5 business (M.A.T.) - All UK

Classes 1, 2, 6, 7, 8 - Location of the risk

The premiums and claims analysis on forms 34 and 35 is much simplified for a reinsurance company. Not only is it required solely for direct and facultative business but the number of claims is not required and the year relates to the underlying underwriting year and not to the claim occurrence year.

A calculation of unearned premium reserve is no longer required in respect of accounting which is purely on a funded basis. Control of a Company in the London Market is now exercised through the solvency margin requirements originally set out by the E.E.C. in the same way as for direct-writing Companies.

While the cushioning of the solvency margin may provide some degree of safeguard in the open years, the Auditor will still be required to provide a "true and fair view" audit certificate and that will require some evaluation as to whether or not there are any indications that the fund will be insufficient to meet liabilities in those years.

Potentially of equal importance is the effect of form 29 where the run-off results of each underwriting year are required to be tracked indefinitely. When the form first came into force, it did not require a separation of figures between underwriting years prior to 1983 but from 1983 onwards the DTI will be able to monitor the extent to which reserves set up are sufficient to cover run-off liabilities for treaty business.

The separation of classes of business may follow the pattern set out in the Regulation (No. 469 of 1983) or may be determined by the Company but should include a separation out of long-tail business and, once chosen, cannot be altered.

Since completion of the return will usually require amalgamation of amounts converted from different currencies, the "funds brought forward" may differ from the "fund carried forward" at the end of the previous accounting periods, but any difference will be covered by revaluation of assets held in those currencies provided liability amounts in each such currency are closely matched by covering assets held.

Unearned Premium Reserve

Although the calculation of an unearned premium reserve (UPR) is no longer required for Lloyd's syndicates and Companies operating under the funded system of accounting, it will still be required under legislation in other countries where no distinction is made in regard to accounting returns between direct-writing Companies and Reinsurance companies or companies writing marine, aviation or transport business.

Hence it is instructive to consider the underlying rationale of UPR and its possible application to reinsurance business, even if the method used in practice may be somewhat arbitrary or may follow that used by direct-writing companies without considering its ambiguities.

In the case of a reinsurance office there is no need to use a ratio such as 40%, which represents a mean 50% calculated on the gross amount of premiums less allowance for 20% front-end expenses. The reinsurance office knows the amount of the premiums net of all external expenses, all of which are front-ended, and by ignoring the underwriting expenses can use 50% or the eighths methods or preferably the twenty-fourths method calculated on the premium income net of all expenses, charges and taxes deducted by the broker.

Thereafter, however, unlike the position in the case of a direct writing office where premiums are recorded virtually immediately, the UPR becomes much more difficult to quantify. Consider an example:

A facultative reinsurance with date of commencement of say, 1.9.87, is underwritten some time during August. Suppose that the broker forwards the main closing for the premium on 15.4.88 and it is entered into the books of account by 1.6.88. A further small additional premium arises and is entered on 1.10.88.

Consider the position on 31.12.87. No premium has been entered and, provided there is no unexpired risk reserve, no net liability can exist.

By 31.12.88 all risks under the policy have expired but there is no net liability only if all claims have been advised on time and there is no IBNR. Any additional premium, unless it has arisen due to an extension of the period, will also cover a policy on which all risk has expired. On the other hand, if claim advices are delayed to a similar extent to premiums, there can be said to be some UPR existing, provided similar consideration is given to the need for IBNR.

If the whole pattern of premiums and claims is delayed, say, nine months, the calculation operates as if the date of inception had been 1.6.88 and the UPR as at 31.12.88 is 42% (i.e. 5/12) of net premiums but the rationale of the UPR calculation depends on the operation of a stochastic process. Once a bias enters into the picture, then the rationale breaks down.

Herein lies the rub. It is the whole portfolio of business, or an individual cell of risk groups, that one is considering: not a single risk. In practice the delay in notification of claims tends to be less than it is for premiums. It is all a matter of cash flow. If money is due to the reinsured, it is understandable that priority in processing will be given to claims as against premiums, where the cash flow is the other way.

Furthermore, an unearned premium reserve can obviously arise only in respect of premium income that has already been entered into the books. It belongs to the concept of UPR that it arises as a portion of the premium that has already been taken into account as income and for which claims are still to arise. It cannot cover premiums that are in the pipe-line via the broker or have not yet been advised by the ceding office. It cannot even cover premiums advised by the broker but not yet entered into the books of the office, for the net liability expectations on such amounts are obviously 'nil'. Indeed, the premium income involved may have a small net asset value, underwriting expenses having already been incurred.

The position is somewhat different, however, in the case of an unexpired risk reserve, URR.

Statutory Returns - Lloyd's

Individual Lloyd's syndicates are not required to submit returns to the Department of Trade and Industry (DTI) under the Insurance Companies Acts. A certain amount of information is, however, required by the DTI on an overall market basis. The return provided is in nothing like the degree of detail required to be submitted by insurance and reinsurance companies.

In essence it shows, by audit category and underwriting year of account, the net premiums and net paid claims for the market. Given that the information has been in similar depth for several years, this permits the production of paid loss development ratios on a year-by-year or cumulative basis.

One point of detail should, however, be noted. Premium information is only produced for the first three years of development. Thereafter the premiums are assumed to remain unchanged. On the other hand the claims paid information is 'pure' net claims paid for the first three years and thereafter become "net settlements" defined as net claims paid minus net premiums.

Such information is provided by the auditors to Lloyd's who collate it for the market return.