REINSURANCE ASSOCIATION OF AMERICA

HISTORICAL LOSS DEVELOPMENT STUDY - 1991

LONDON MARKET GROUP OF ACTUARIES WORKING PARTY - MARCH 1993

Members:

Paul Martin

Kathryn Morgan

Haidee Pickton

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1. Introduction and Purpose

The Working Party was formed in order to produce a discussion paper that would enhance the London Market Actuaries Group's (LMG's) understanding of the contents and construction of the Study.

Much of the contents of this document will repeat issues raised in the Study but are included for completeness. Those familiar with the Study may wish to initially read only from section 4 onwards.

This document should not be used in any way in isolation from the actual Study.

Whilst the Working Party accept all responsibility for the views expressed, we should like to acknowledge the valuable contribution from John Buchanan, Tillinghast, who is partly responsible for the production of the RAA Study.

The views expressed in this paper do not necessarily reflect those of our employers or colleagues, the LMG or the Institute of Actuaries.

At the time of writing the latest Study is the 1991 edition.

2. Scope of the Study

The Loss Development Study produced every two years by the Reinsurance Association of America (RAA) has proved a valuable aid to actuaries and other loss reserving specialists in the UK when they have been required to estimate the general insurance claims reserves for an insurance or reinsurance company or a Lloyd's syndicate.

In particular, the Study has been used as a guide for estimating potential claim development beyond the historic claim development triangles of the individual company or syndicate which might only be available for a limited period of time.

The RAA states that the purpose of the Study "is to reinforce awareness of historical loss development patterns:

a. In companies writing casualty excess reinsurance business, and

b. In primary companies writing high deductible or umbrella insurance."

The RAA makes it clear that it is not publishing development patterns but is purely informing others of the length of tail seen in historic claims data. Users are encouraged to analyse the data themselves. A diskette containing the data in Lotus spreadsheets is available from the RAA to assist the users in creating their own patterns. The diskette also contains the report to report development factors but does not show any weighted averages.

The 1991 edition covers accident years 1956-1990 with data as at 31 December 1990.

Historic loss development patterns are shown graphically as estimated percentage reported to ultimate against report period.

Composite, ie overall average across all participating companies, development patterns are shown for the following classes of business:-

a. Medical Malpractice.

b. General Liability excluding asbestos-related and environmental losses.

c. Workers Compensation.

d. Automobile Liability.

These classes of business are similar to NAIC classifications, as detailed in Appendix G (where available).

For each of the above classes there are comparisons with the following.

a. Primary company development from data available from Bests (although this may be distorted, for the General Liability class, by the inclusion of asbestos and environmental losses in the primary data).

b. Previous RAA Studies (changes in the historical emergence of development patterns).

c. Business accepted on a facultative basis as against treaty business.

d. For Automobile Liability and General Liability excluding asbestos-related and environmental losses there are comparisons between business accepted on an individual facultative basis and that accepted on an automatic facultative basis.

50% and 75% confidence patterns showing company variations are also shown around the composite patterns for the four main classes of business.

A further comparison between General Liability excluding and including asbestos-related and environmental losses is also included, along with the emergence of asbestos-related and environmental losses by calendar year.

3. Data

Data Requested by the RAA

The data request form for the next Study (1993) is shown in appendix E and the form for the 1991 Study is in appendix F.

The Study is made up of contributions from 33 companies who submit biennially loss development triangles of net incurred claims on an accident year basis.

None of the contributing companies is a failed or closed organization. However, where a failed company has been taken over by, or merged with, an on-going organisation then the data may still include the failed company's experience.

The data requested are only for US casualty excess reinsurance business. There may, however, be an element of foreign business contained within the data. The data are also only requested for true excess business.

Companies contribute data based on their own definition of excess business. The data may include direct, reinsurance and retrocessional business. It is not clear how the data splits between these categories.

The RAA definition of incurred claims excludes any Incurred But Not Reported (IBNR) claim reserves that may be held by the contributing companies. It does, however, include additional case reserves which are held on top of the amounts reported from the ceding companies if these are considered appropriate by the individual excess carrier.

The incurred amounts are defined to include indemnity amounts and allocated loss adjustment expenses. Principally the expenses are those of the primary insurer which are a component of the reinsurance losses under the reinsurance contract.

The effect of aggregate provisions on the claim developments is asked to be removed (where possible). This means that claims are included as if there was no aggregate deductible.

Commutations (both ceded and assumed) are removed from the historical data (where possible).

Portfolio treaties are also removed from the historic data. These are not portfolio transfers as seen in the London Market where monies are transferred forwards. In the US, a portfolio treaty is when a company reinsures out a book of business.

Asbestos-related and environmental losses have been excluded from the General Liability data as far as possible.

For each Study, companies are provided with their historical data and are requested to amend the historic data, if this has changed, possibly owing to commutations, and then complete the new diagonals. Therefore, each Study commences with a new set of triangles.

Data Problems

There is considerable volatility shown in the data and this may be attributable, in part, to several problems encountered in the data construction which include those listed below.

a. The distinction between treaty and facultative business involves some grey areas.

b. Some companies have to make an estimated allocation of claim amounts to accident years, eg in instances where claim information is received by bordereaux submissions.

c. There is a little confusion as to whether the RAA's data request for the 1991 Study was supposed to exclude all commutations, both assumed and ceded. This will be clarified for the 1993 Study in order to ensure that both types are excluded.

d. Some companies present data on an underwriting year basis. These companies are removed from the development triangles.

e. Not all companies were able to separate the Medical Malpractice data from the General Liability data prior to 1975 and, therefore, the earlier years contain an element of Medical Malpractice losses.

f. Some companies indicated they could not exclude asbestos-related and environmental losses from their General Liability data and these companies were excluded from the analysis.

Data Limitations

Perhaps the most important limitation relates to the underlying retentions of the ceding companies or entities. These can vary dramatically between companies from as low as $25k or up to $5m, $10m, $20m etc.

Each reinsurance company's net retention will also vary considerably which will also contribute to the volatility shown in the data. Furthermore, net retentions have probably increased over time.

The data request asks for aggregate claim data, so there are no details of individual claims. Therefore, it is not possible to tell whether movements, particularly in the older years, relate to single claims, or whether they are a result of new claim notifications or changes in existing claim estimates.

The introduction of claims made coverage is likely to have an important effect on development patterns, particularly for Medical Malpractice and to a lesser extent General Liability. An attempt was made to split the Medical Malpractice between occurrence and claims made business but this was not successful since only a few companies could provide such information.

The gradual change from contributory to comparative negligence, through the 1960's, 1970's and 1980's, where it has become easier to sue those parties who are only partly liable, may have impacted on the Medical Malpractice, the General Liability and the Automobile Liability classes.

The change in guest statutes during the 1970's, where previously a private passenger could normally only sue the driver of a vehicle if there was gross negligence, may have impacted on the Automobile Liability class.

Other contributory factors affecting observed developments either overall or between companies will include:-

a) size of reinsurer;
b) variations in underwriting rules;
c) geographical marketing;
d) direct writer or broker driven;
e) changes in legal climates;
f) changes in social and economic inflation;
g) changes in mix of business;
h) reserving practices;
i) introduction of index clauses;
j) late reporting clauses;
k) loss ratio caps;
l) sunset clauses;
m) commutation clauses.

4. Methodology

The basic method is a variant of the chain ladder technique.

Composite data

The data used are combined for all companies that provided data in the required format (shown in appendix F) for all accident years.

The more recent calendar years of development factors are considered with a procedure in place to cap any development factors that are more than a certain number of standard deviations away from the mean.

There is no allowance for deterioration beyond the latest development period in the triangles constructed.

Treaty and Facultative

The data used are based on those companies which could provide data in the required format for all years requested. This means that fewer companies have contributed to this analysis than for the composite analysis.

Initially an all year volume weighted average is taken which is then normalised to the composite pattern. This makes the weighted average of the final treaty and facultative factors equal the composite factors.

Confidence Intervals

Initially an all year volume weighted average is calculated for all companies that provided enough data in the required format. These are then normalised to make the weighted average equal to the composite pattern.

Individual companies are then ranked around the composite pattern. The confidence intervals are then chosen so that 50% of the companies lie within the 50% interval and 75% of the companies lie within the 75% intervals.

5. Comparisons with Previous Studies

Comparisons with previous Studies in the 1989 and earlier editions, have assumed no further development beyond the available data at the time of the Study. However, in order to make the historical patterns from previous studies more comparable, the 1991 Study assumes that all past patterns, for each class of business, have the same development beyond 25 years (16 for Medical Malpractice) using only the most recent Study. Clearly this is an attempt to remove the distortions of the absence of tail information in the older years in previous Studies.

Since the early 1980's there has been a general lengthening of tail seen for all classes of business except Medical Malpractice. The recent Study showed a shortening of the tail for the General Liability excluding asbestos-related and environmental losses probably owing to the fact that this was the first Study that excluded environmental losses.

More specific elements are mentioned below in the sections relating to specific class analyses.

6. Facultative vs Treaty

Companies were requested to split the data between automatic facultative, individual facultative and treaty business.

However, the data in the Study only show the Automobile Liability and General Liability excluding asbestos-related and environmental losses facultative data split between automatic and individual.

Automatic facultative business contains those risks that meet certain criteria set between the ceding company and their reinsurer which are then automatically accepted for cover by the reinsurer.

Not all companies could provide this split of the data so that the combined triangles are greater than the sum of the facultative and treaty triangles.

Companies split the data according to their own interpretations and internal practices. Therefore, some facultative data probably included business that more closely resembled treaty business.

The data for this split were not available for the full 35 years, so when the data started to run out on the facultative part the Study assumed that the treaty and facultative curves met in the tail.

Before the data were analysed there was discussion within the RAA as to the likely behaviour that might be seen. Opinions varied with one school of thought being that the facultative business tends to be more hazardous possibly leading to more tail activity, whilst another that facultative business is much more scrutinized with more attention being paid to it. It appears that these factors may be offsetting each other.

Another rationale for the similarities in the development patterns could be in the distribution of attachment points. The majority of the business covered is treaty and is likely to cover the whole scope of attachment points, say $25k up to $20m. Automatic facultative may, however, attach down a little lower resulting in the slightly faster loss development observed in the Study. The individual facultative business maybe attaches a little higher, on average, but overall the patterns are the same between the treaty and the individual facultative.

Currently, however, there are no data to support the above attachment point distribution.

Comments relating to specific classes of business are given below.

7. <u>Analysis of Classes of Business</u>

Medical Malpractice

Details of business mix are included in Line of Business 11 in appendix G.

Because 1964 was the earliest year for which separate Medical Malpractice data were available the data were supplemented with the data from the General Liability Study for those years that included some Medical Malpractice data (1975 and prior). The supplemented data were used to estimate the 18th development period as 88% reported. So, the shape of the composite curve is based on Medical Malpractice data only but the scale and end point are estimated with the aid of the General Liability data. Use of these data may misstate the pattern for Medical Malpractice.

Composite patterns

Analyses of incurred claim development factors in groupings of accident years and calendar years for the Medical Malpractice class are shown in appendices A1 and A2 to this paper. The former analyses indicate a clear distinction between developments observed in the most recent five to ten accident years and earlier periods, with the more recent experience appearing considerably shorter tail. The analyses by calendar year also support this observation.

The above observations can possibly be attributed to the introduction of claims made policy wordings. Such wordings were first used in the United States during the mid 1970's and there was a gradual increase in their use until the mid 1980's at which time claims made policy wordings became much more widespread within the market. The proportion of claims made business written by companies contributing to the Study is unknown but it is likely to have increased over time and this appears to be borne out in our analysis. We do, however, caution that the data are particularly sparse prior to the 1970's.

The implication of the observed changes in incurred claim development patterns is that projections of ultimate claims using the RAA curves are likely to be inappropriate.

Therefore, for this class of business for claim projections it appears to be necessary to look to another source for market data, if available, and to understand the split of claims made to claims occurrence business in the company's or syndicate's own data, if separate projections are not possible, and then look to factor in changes in the proportions of such business over time.

Treaty vs Facultative patterns

The analyses in appendix A3 to this paper compare incurred claim development factors for the composite class to those observed on the treaty and facultative subclasses. There does not appear to be any material difference between these patterns although it is important to recognise that the data available for the subclasses are relatively limited and, therefore, these comparisons may not be reliable.

General Liability including asbestos-related and environmental losses

It is clear that the exclusion of asbestos-related and environmental losses has a significant impact on the pattern of incurred claim developments. In the opinion of the Working Party, it is highly unlikely to be appropriate to use patterns of development including such claim types and we would discourage their use (this curve has been used by some companies and syndicates as a method to project losses to ultimate value where the notified losses contained an element of asbestos and pollution reserves).

Clearly the somewhat arbitrary and, in certain cases, still to be resolved trigger of coverage for these losses and the calendar year effects of precedent setting legal decisions make projection to ultimate using curves of this nature wholly inappropriate.

The purpose of the inclusion of the curve within the Study is to show the impact that these losses have had on this class of business.

It is the view of the Working Party that asbestos-related, environmental losses and other latent claim liabilities should, wherever possible, be considered separately in the reserving process. We highlight that, in our opinion, any other latent claims are unlikely to exhibit the same pattern of emergence as that relating to asbestos-related and environmental claims (which themselves exhibit different patterns of development as compared to each other).

General Liability excluding asbestos-related and environmental losses

Details of business mix are included in Lines of Business 17 and 18 in appendix G.

The business written in this class contains product liability and professional indemnity.

Composite patterns

Analyses of incurred claim development factors in groupings of accident years and calendar years for the General Liability excluding asbestos-related and environmental losses are shown in appendices B1 and B2 to this paper.

These analyses may indicate heavier initial development for more recent accident years, although one might expect to see considerable volatility in these early periods. The older accident years have slightly higher development after 6 years and this may indicate a general shortening of the tail for the recent accident years. The trend is considerably less distinct than that observed for the Medical Malpractice class but may be indicative of the possible effect of claims made policy wordings.

However, the analyses by calendar year shows a continual deterioration in the development factors with recent calendar years showing larger development, especially in the years earlier than the mid 1970's.

We have also observed that:-

Asbestos-related losses were first removed in the 1987 Study whilst environmental losses have been removed for the first time in the 1991 Study.

This class may be particularly affected by other latent type claims (eg DES, Agent Orange) and again this may contribute to the volatility, especially in the tail area.

There are no material incurred claim developments subsequent to development year 25, although the data are particularly sparse in the tail.

The levels of incurred claim developments on the older accident years in calendar years 1980 and, in particular, 1981 appear to be out of line with the experience observed in other calendar years. This may be a result of asbestos-related or environmental claim developments which have not been excluded from the data.

The tail of incurred claim developments might be impacted by the inclusion of Medical Malpractice claims in earlier accident years.

We note that the impact of Savings and Loans claim developments included within the Study is not known and care should be taken in this respect when using the report.

The use of the RAA Study's composite pattern should, therefore, take the above observations into consideration. The changes within observed developments are, however, less marked than those identified for the Medical Malpractice class and, therefore, the use of the RAA developments is less likely to be inappropriate. This comment is made with the overriding condition that proper allowance should be made for the actual experience observed on the specific account being considered.

Treaty vs Facultative patterns

The analyses in appendix B3 to this paper compare incurred claim development factors for the composite class to those observed on the treaty and facultative subclasses. There does not appear to be any material difference between these patterns although we again note the potential problems in making these comparisons given the absence of significant volumes of data.

Individual vs Automatic Facultative patterns

The analyses in appendix B4 to this paper compare incurred claim development factors for the individual and automatic facultative subclasses. The automatic facultative business appears to be slightly shorter tail although the volume of data included within these subclasses is particularly small and, therefore, these comparisons are not likely to be reliable.

Workers Compensation

Business written in this class includes employers liability.

This class is considerably affected by discounting of outstanding claim reserves, state by state variations where certain states have Workers Compensation laws that provide escalating benefits to claimants, others where structured settlements are of growing importance and others where individual losses are limited by pooling arrangements (geographical marketing may be a key element of any reporting patterns).

Composite patterns

Analyses of incurred claim development factors in groupings of accident years and calendar years for the Workers Compensation class are shown in appendices C1 and C2 to this paper. The calendar year analysis indicates that the length of tail has continued to increase over time as more diagonals are added to the triangle. However, there appears to be no clear difference between successive accident year bands.

We note that this class of business appears to be particularly long-tail although it is difficult to assess the extent to which the observed developments relate to true claim movements, the effect of unwinding the discount from discounted reserves (for previously notified claims for life pensions cases), the expansion of occupational disease coverage or liberal interpretation of statutory claims (along with adverse trends in medical inflation, outdated mortality assumptions, optimistic rates of remarriage and advancements in medical technology).

Given the above observations the Working Party would recommend extreme caution in the use of the RAA Study. In particular, care should be taken regarding:-

the extent to which incurred claims on the account under consideration include discounted reserves for notified outstanding claims; and

the spread of inwards business by State.

Treaty vs Facultative patterns

The analyses in appendix C3 to this paper compare incurred claim development factors for the composite class to those observed on the treaty and facultative subclasses. The data available for the facultative subclass are, however, particularly limited and, therefore, these comparisons may not be reliable.

Automobile Liability

Details of business mix are included in Line of Business 19 in appendix G.

In our experience, the Automobile Liability section of the RAA Study is not extensively used and so we have only spent a limited amount of time considering this class.

Composite patterns

Analyses of incurred claim development factors in groupings of accident years and calendar years for the Automobile Liability class are shown in appendices D1 and D2 to this paper. There are reasonable volumes of data from the early 1970's. Although there is little movement beyond development year 15, there has been an apparent increase in the length of tail in recent Studies (shown in the calendar year analysis) as more diagonals are added, which might be attributable to rising medical expenses under unlimited no fault benefits or changing social attitudes towards settlements contributing to inflation.

Treaty vs Facultative patterns

The analyses in appendix D3 to this paper compare incurred claim development factors for the composite class to those observed on the treaty and facultative subclasses. There does not appear to be any material difference between the observed developments.

Individual vs Automatic Facultative patterns

The analyses in appendix D4 to this paper compare incurred claim development factors for the individual and automatic facultative subclasses. There does not appear to be any material difference between the observed developments.

General

As a general point, it should be noted that only reinsurance companies which remain in business are included in the RAA Study, although there may be an element of failed companies in the data if they have been taken over by, or merged with, an on-going contributing company. Reinsurers of US excess writers which have exposures to companies which have stopped writing should therefore consider the relevance of the RAA developments to their book.

We also note that the RAA data include ACR's (Additional Case Reserves). It is our impression that these are not generally adopted in the London Market.

8. Adjusting for Underwriting Year Basis

Almost all London Market organizations account on an underwriting year basis. Therefore, there is a slight mismatch between the underwriting account year of the London Market to the accident years on which the RAA Study is based.

It is common, in the London Market, to assume that on average one would expect an underwriting year to be one half year less developed than an accident year. So that if the organization requires a grossing up factor to ultimate for an underwriting year from development year n, the factor is read from the applicable RAA graph at development point n-1/2. This will generally lead to a higher estimated ultimate position than reading the development point of year n.

Ideally before this assumption is accepted a review of the inception dates of the actual policies should be undertaken, if possible. It may be, for direct business, that the inception dates of the policies will be evenly spread over the year in which case the half year lag may be reasonable.

However, for treaty reinsurance, written on a risks attaching basis, it may be that the theoretical lag is greater than the six months above. Even where the inception dates of the underlying policies are evenly spread throughout the year, the distribution of the reinsurance policies, although possibly weighted towards the beginning of the year, may lead to a greater lag.

Where treaty reinsurance is written on a losses occuring basis if the inception date of the treaties is weighted towards the beginning of the year then perhaps no lag is required as the policies tend towards an accident year basis.

Presumably the triangles are dominated by the largest players who would tend to have greater amounts of non-brokered business because these companies would have direct access to their clients. This may imply development for brokered companies will be longer tail.

It might even be expected that London Market companies and syndicates would tend to write higher layers of the direct programs and also tend to be more predominantly reinsurance. The required lag should then be greater than the theoretical one determined by the distribution of the underlying policies. The next study may contain additional information regarding the impact of varying layers.

9. Other Development Studies

Other studies covering historic loss development include the following.

a. ROA/LIRMA.

Premium, paid and incurred claim statistics are published by LIRMA for proportional treaty property, proportional treaty casualty, non-proportional treaty property, non-proportional treaty casualty (further split into short tail, motor and long tail), facultative non-marine, marine proportional and non proportional and aviation proportional and non proportional. Each class of business is split between UK companies, US companies writing sterling business and overseas companies writing sterling business.

b. GAD - run off patterns available through GISG.

c. Bests.

Bests publish a Casualty Loss Reserve Development Series (compiled from "Yellow Perils") which provides ten years of reserving patterns for the largest US companies (200 leading carriers). Separate volumes are available covering Homeowners, Commercial Multi-Peril, Personal Automobile Liability, Commercial Automobile Liability, General Liability, Medical Malpractice, Workers Compensation, Special Liability and a summary of all lines combined. There is also a separate volume on reinsurance companies.

It is not entirely clear to us exactly what information is contained in the volumes, ie whether there are patterns for all companies combined for each class of business. So it may be useful if a further working party could examine the information available and what use it may be to members of the LMG.

d. ISO.

This is a rating organisation in the US that publishes loss development patterns to its members, which are mainly primary companies. However, we understand that affiliate membership is open to reinsurers, for a fee.

We are still awaiting a response from this organisation as to the availability of any patterns.

10. Conclusion

a. We recommend that the Study is not used in isolation without regard to the actual experience of the company's or syndicate's data.

b. We also consider it important to analyse the data included in the appendices to the Study in order to understand the trends underlying the patterns seen in the main body of the report and make appropriate adjustments for the company's or syndicate's actual experience.

c. We believe it is important to introduce monitoring procedures which compare actual to estimated experience to both monetary amounts and to the appropriateness of the loss development pattern underlying the projections. To the extent that the emerging experience differs from the assumed patterns these findings can be factored into future analyses. Increasing reliance can gradually be placed on the actual experience to date.

d. Lagging for underwriting year, as compared to accident year, although appropriate, should take into account the distribution of the underlying policies. Regard should also be made with respect to the layers written, the mix of direct and reinsurance business and any adjustment appropriate for the effect of brokered vs non-brokered business.

e. Care should be taken when interpreting differences between the facultative and treaty graphs.

f. We would discourage anyone from using the General Liability including asbestos-related and environmental losses graphs for estimating ultimate claims.

g. Extreme care should be taken in interpreting the Medical Malpractice graphs as there appears to be very significant changes in the development patterns in recent years, probably owing to the influence of claims made coverage.

h. An understanding of how discounting is treated within individual company's or syndicate's data and in the Study is needed before interpreting the Workers Compensation graph.

11. RAA Future Plans

The new data request form is shown in appendix E and the form for the 1991 Study is in appendix F.

The 1993 Study is being prepared to look additionally at the following issues.

a. Differences between automatic facultative, individual facultative and treaty.

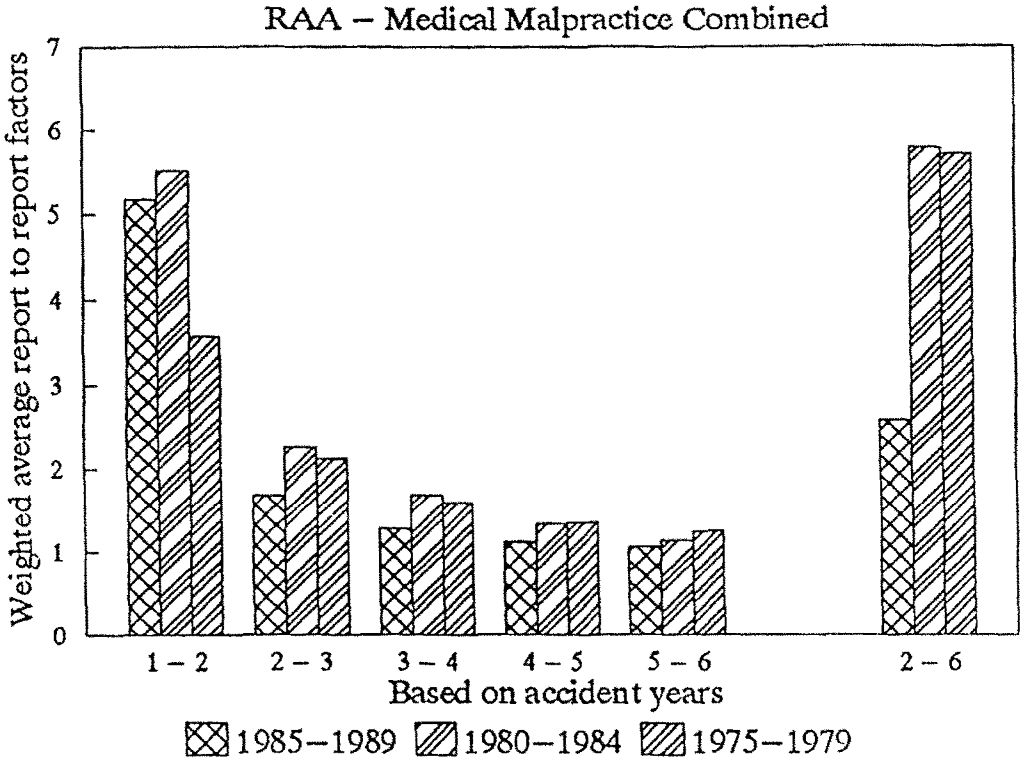
b. The impact of varying layers. Losses are being requested to be allocated to a particular layer determined by the attachment point. The layers are split into five banding groups (with a sixth group for losses that cannot be allocated) and within each group the attachment points vary by accident year, in order to reflect the changing values of claims over time.

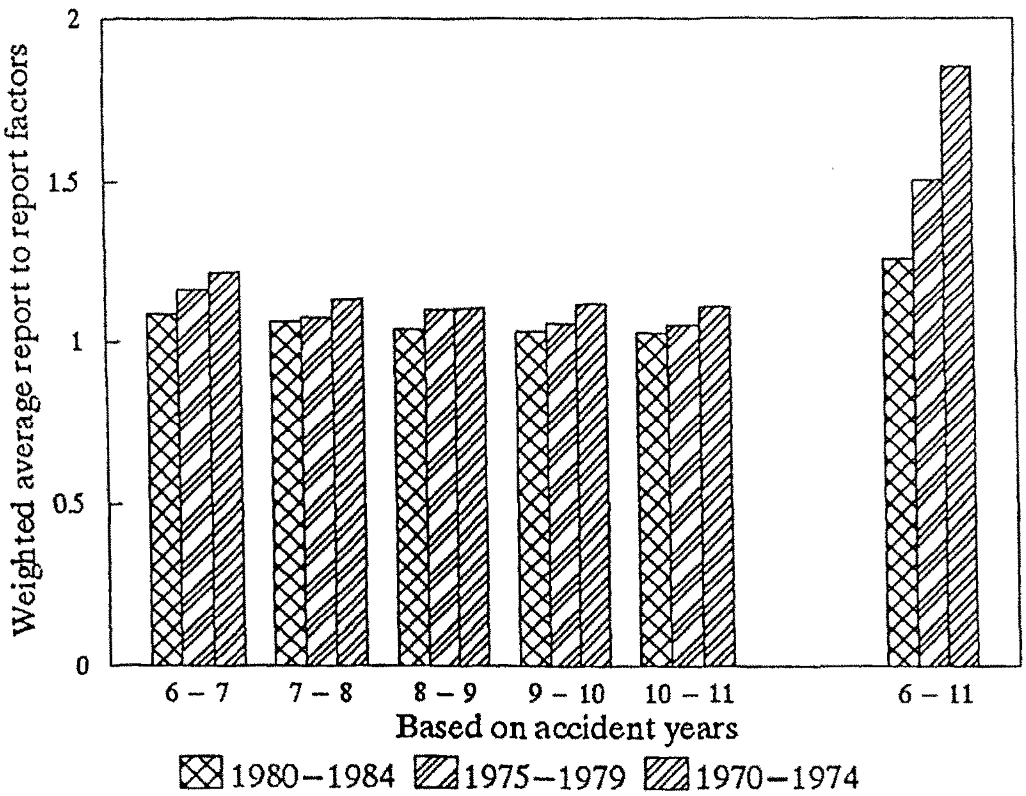
   Appendix E gives several examples of how this process should work.

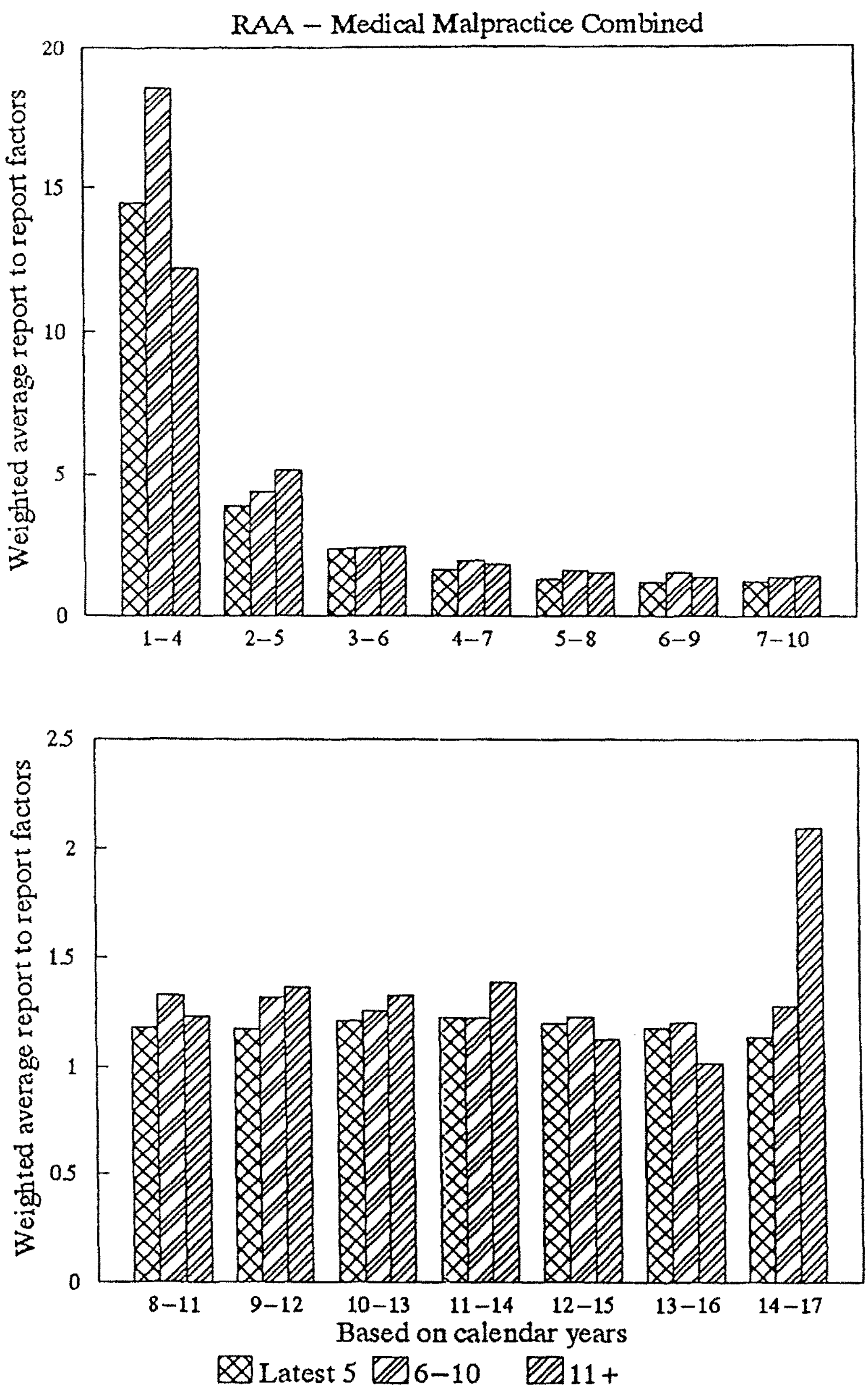
c. The data request again asks contributing companies to split the Medical Malpractice claims into those where the underlying coverage is occurrence, claims made (including tail coverage) or mixed.

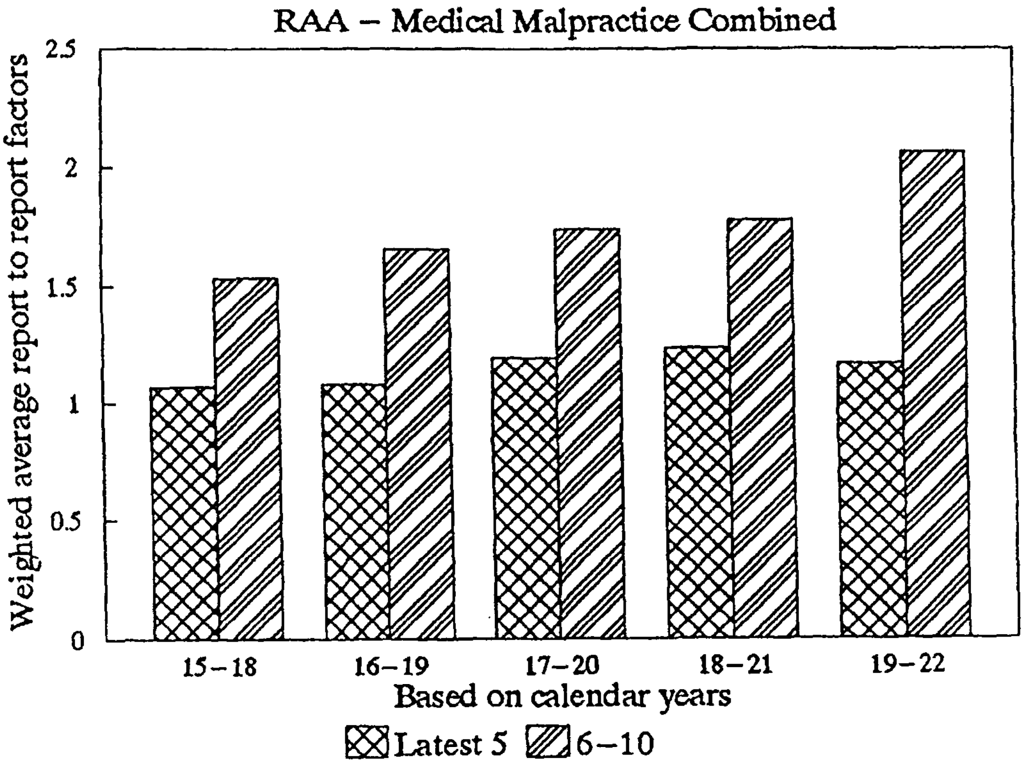
d. The Study is to limit the data to the latest 16 diagonals.

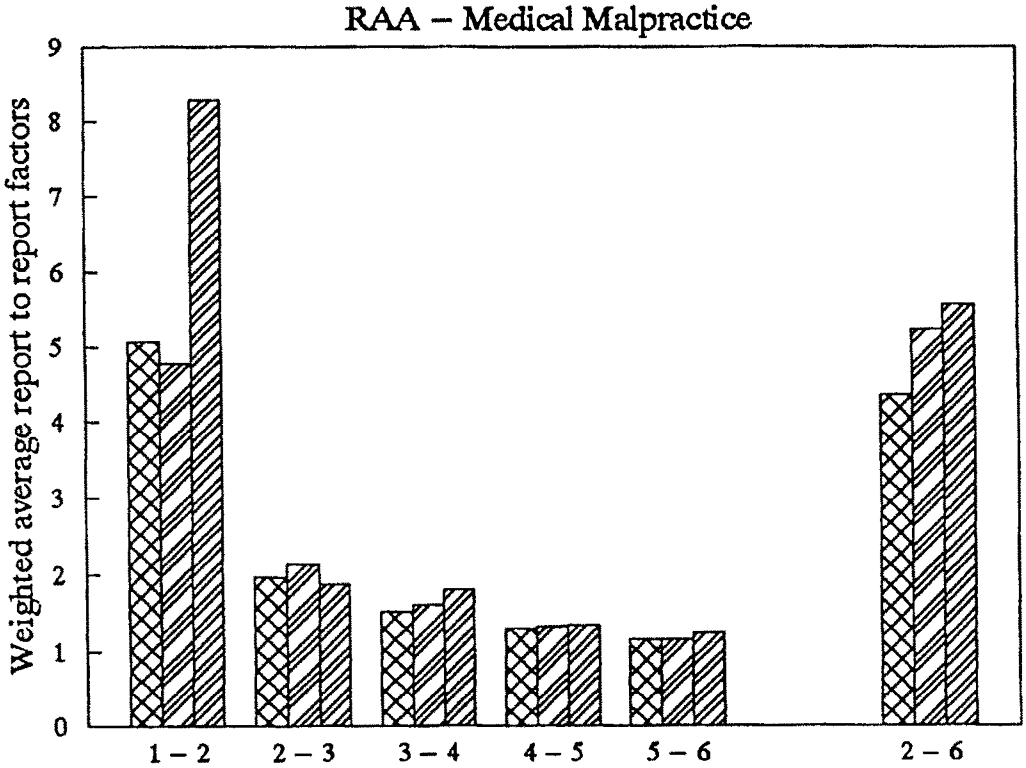
   The next Study will be available in September 1993 and the data will be as at 31 December 1992.

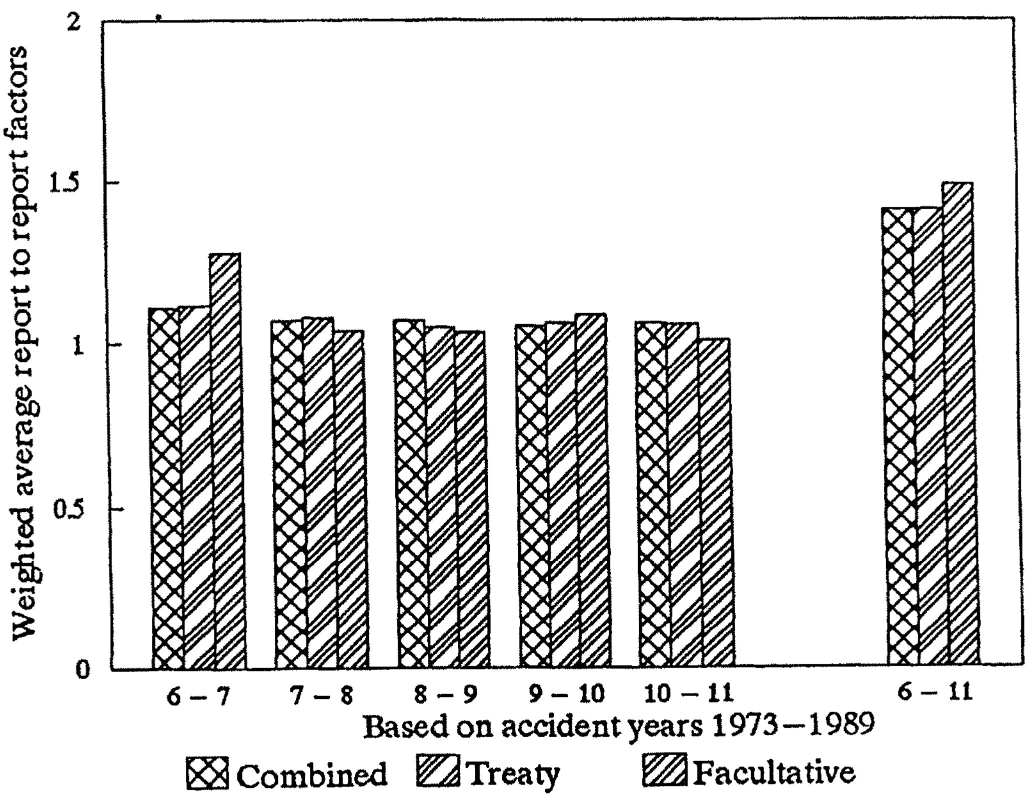

RAA – Medical Malpractice Combined
Weighted average report to report factors
7
6
5
4
3
2
1
0
1 – 2
2 – 3
3 – 4
4 – 5
5 – 6
2 – 6
Based on accident years
1985–1989
1980–1984
1975–1979

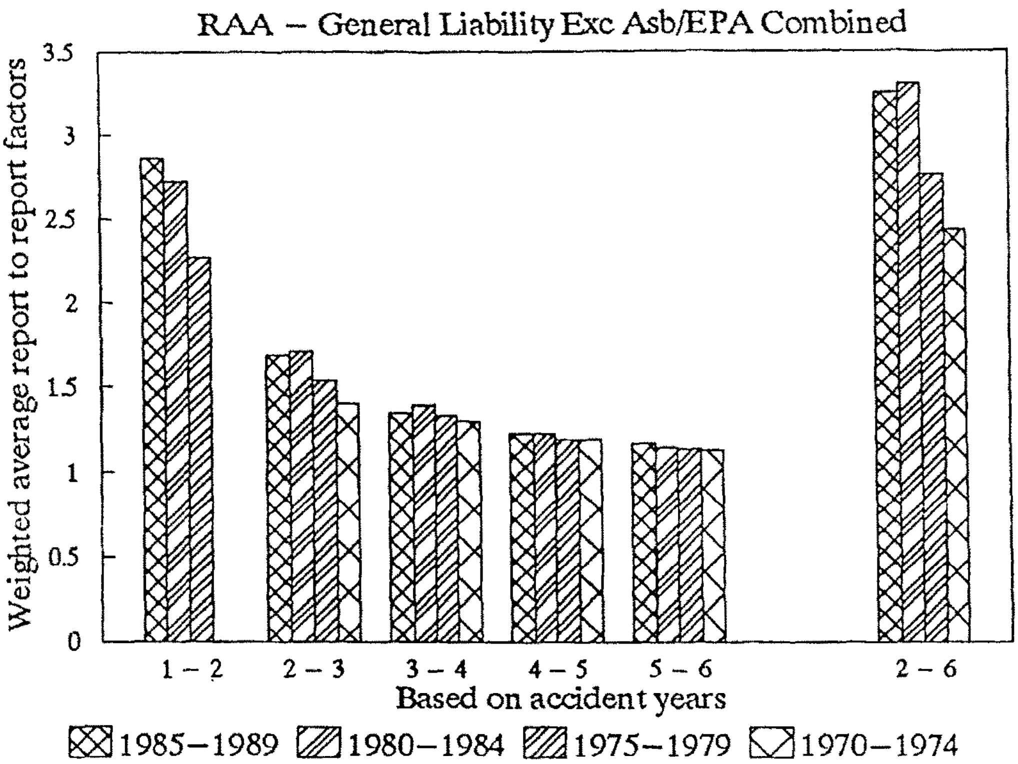

Weighted average report to report factors
2
1.5
1
0.5
0
6 – 7
7 – 8
8 – 9
9 – 10
10 – 11
6 – 11
Based on accident years
1980–1984
1975–1979
1970–1974

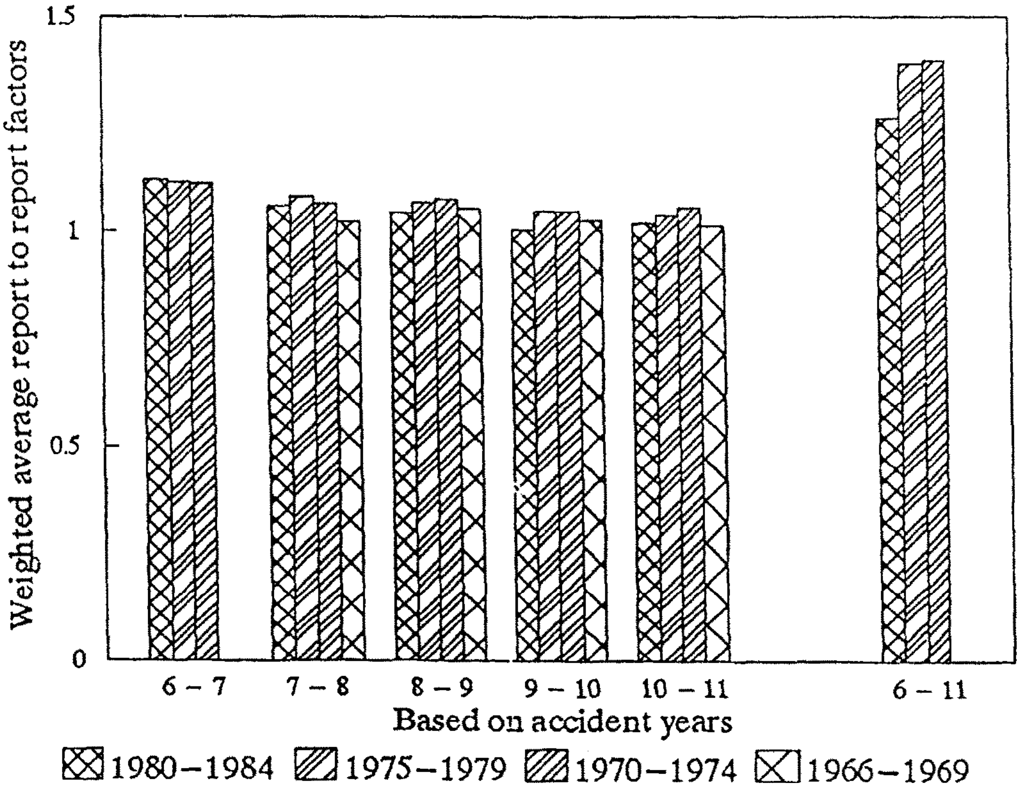

RAA – Medical Malpractice Combined
Weighted average report to report factors
20
15
10
5
0
1–4
2–5
3–6
4–7
5–8
6–9
7–10
Weighted average report to report factors
2.5
2
1.5
1
0.5
0
8–11
9–12
10–13
11–14
12–15
13–16
14–17
Based on calendar years
Latest 5
6–10
11+

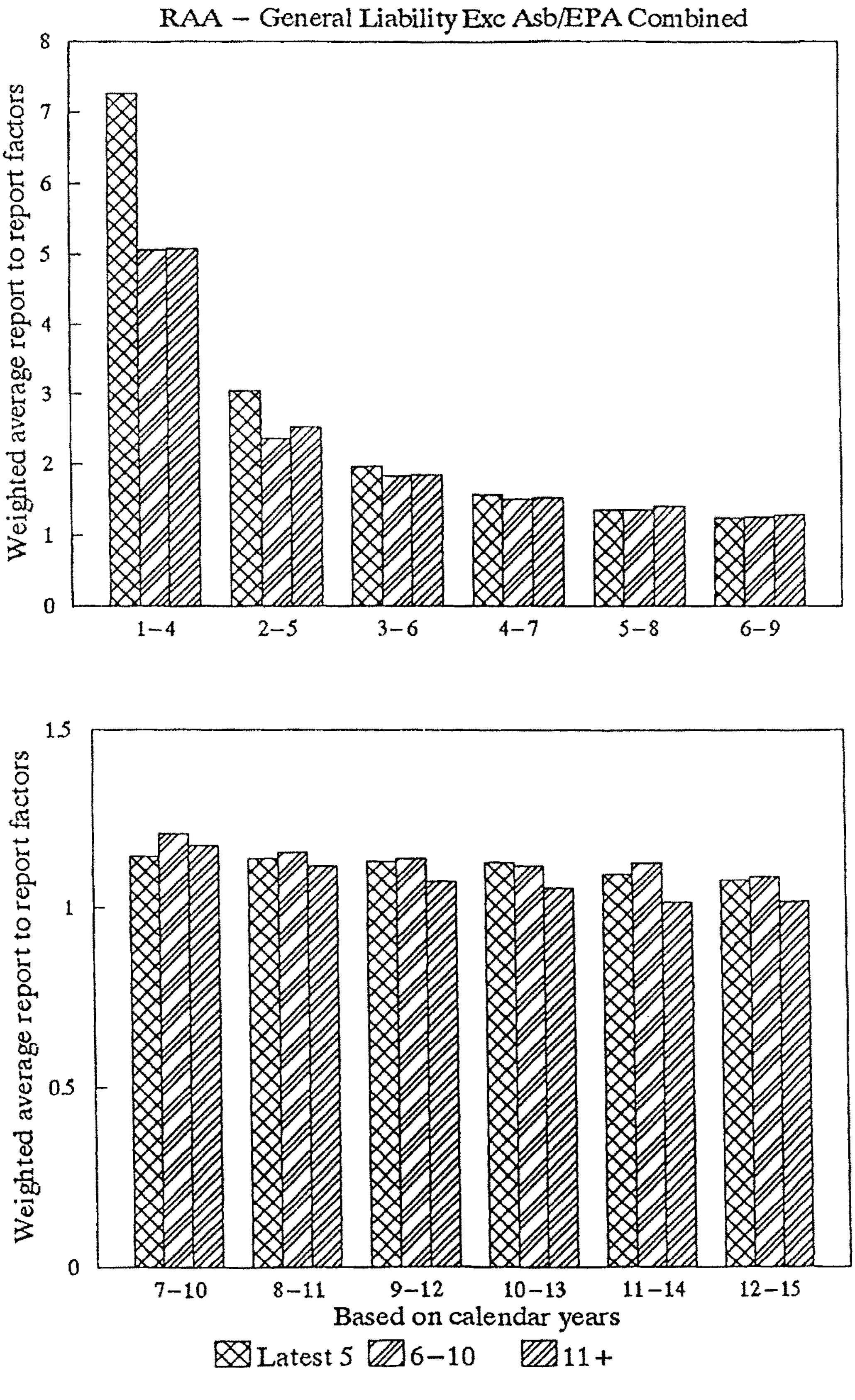

RAA – Medical Malpractice Combined
Weighted average report to report factors
2.5
2
1.5
1
0.5
0
15–18
16–19
17–20
18–21
19–22
Based on calendar years
Latest 5
6–10

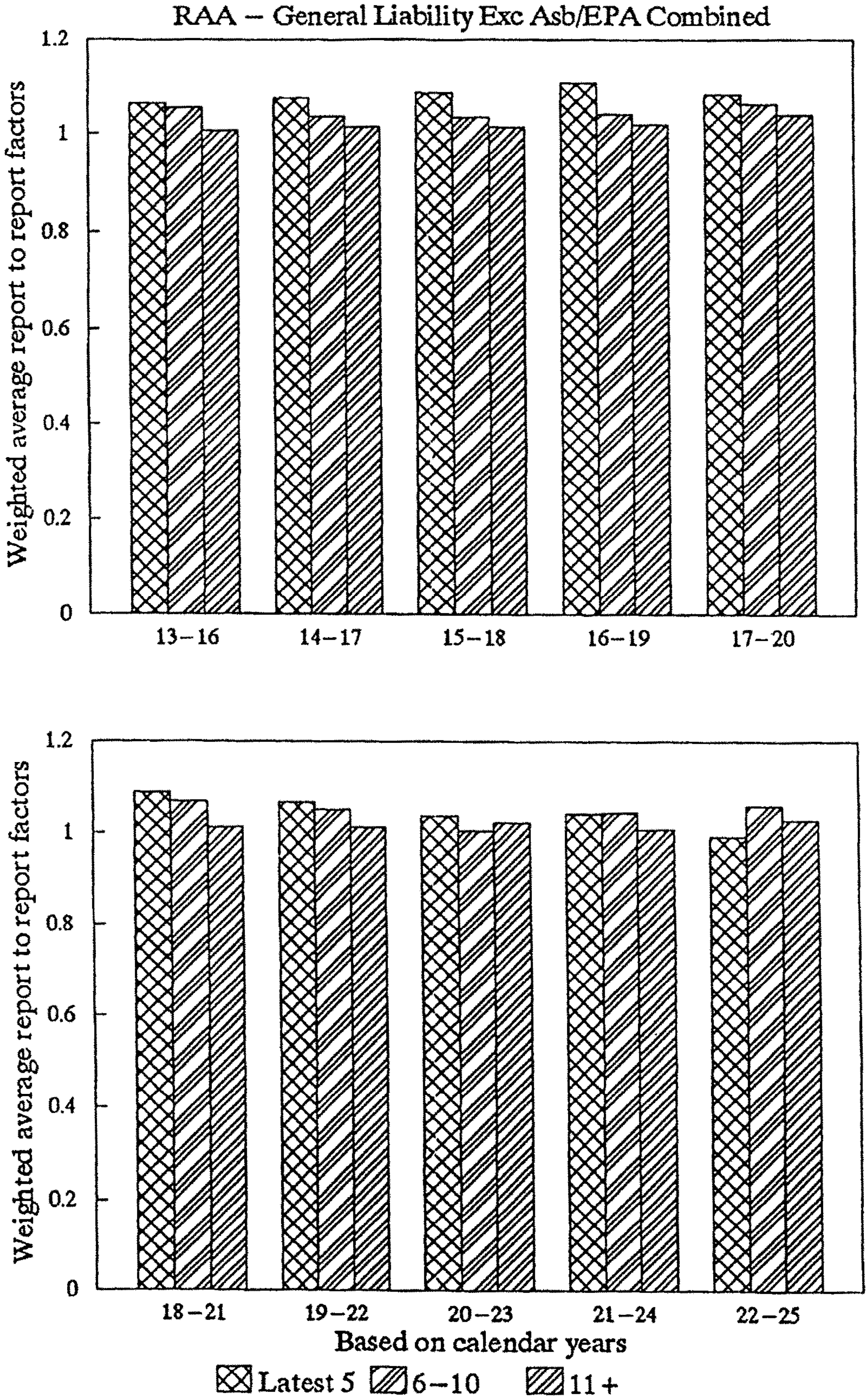

RAA – Medical Malpractice
Weighted average report to report factors
9
8
7
6
5
4
3
2
1
0
1 – 2
2 – 3
3 – 4
4 – 5
5 – 6
2 – 6


Weighted average report to report factors
2
1.5
1
0.5
0
6 – 7
7 – 8
8 – 9
9 – 10
10 – 11
6 – 11
Based on accident years 1973–1989
Combined
Treaty
Facultative


RAA – General Liability Exc Asb/EPA Combined
Weighted average report to report factors
3.5
3
2.5
2
1.5
1
0.5
0
1 – 2
2 – 3
3 – 4
4 – 5
5 – 6
2 – 6
Based on accident years
1985–1989
1980–1984
1975–1979
1970–1974


Weighted average report to report factors
1.5
1
0.5
0
6 – 7
7 – 8
8 – 9
9 – 10
10 – 11
6 – 11
Based on accident years
1980–1984
1975–1979
1970–1974
1966–1969


RAA – General Liability Exc Asb/EPA Combined
Weighted average report to report factors
0
1
2
3
4
5
6
7
8
1–4
2–5
3–6
4–7
5–8
6–9
Weighted average report to report factors
0
0.5
1
1.5
7–10
8–11
9–12
10–13
11–14
12–15
Based on calendar years
Latest 5
6–10
11+


RAA – General Liability Exc Asb/EPA Combined
Weighted average report to report factors
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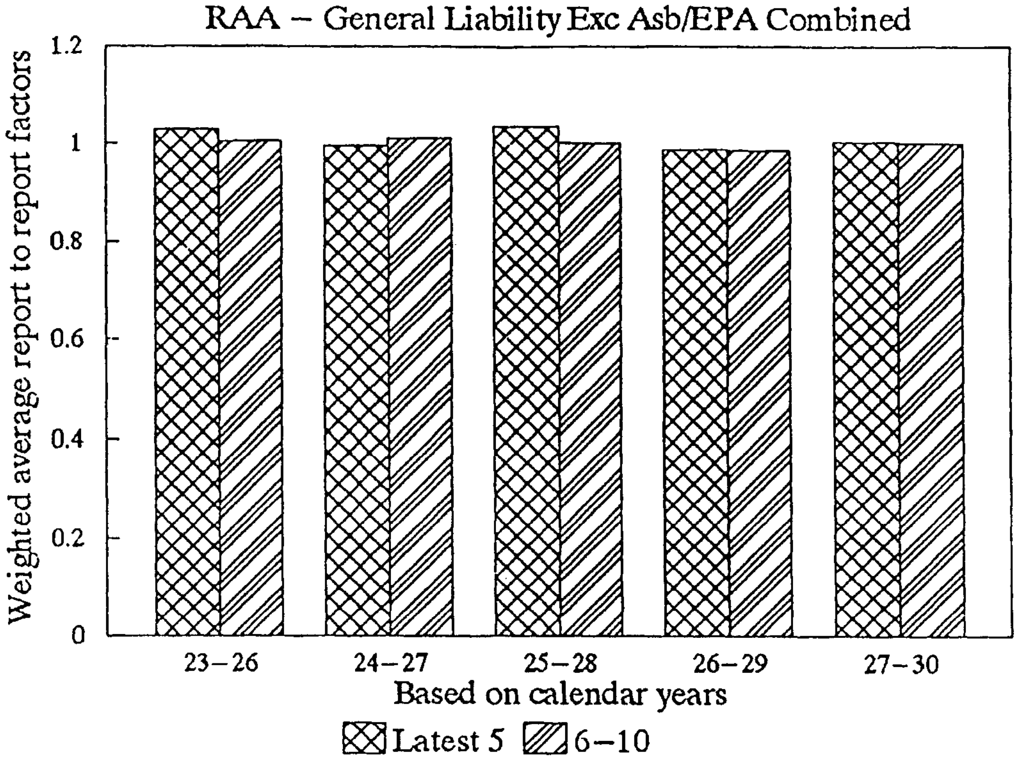
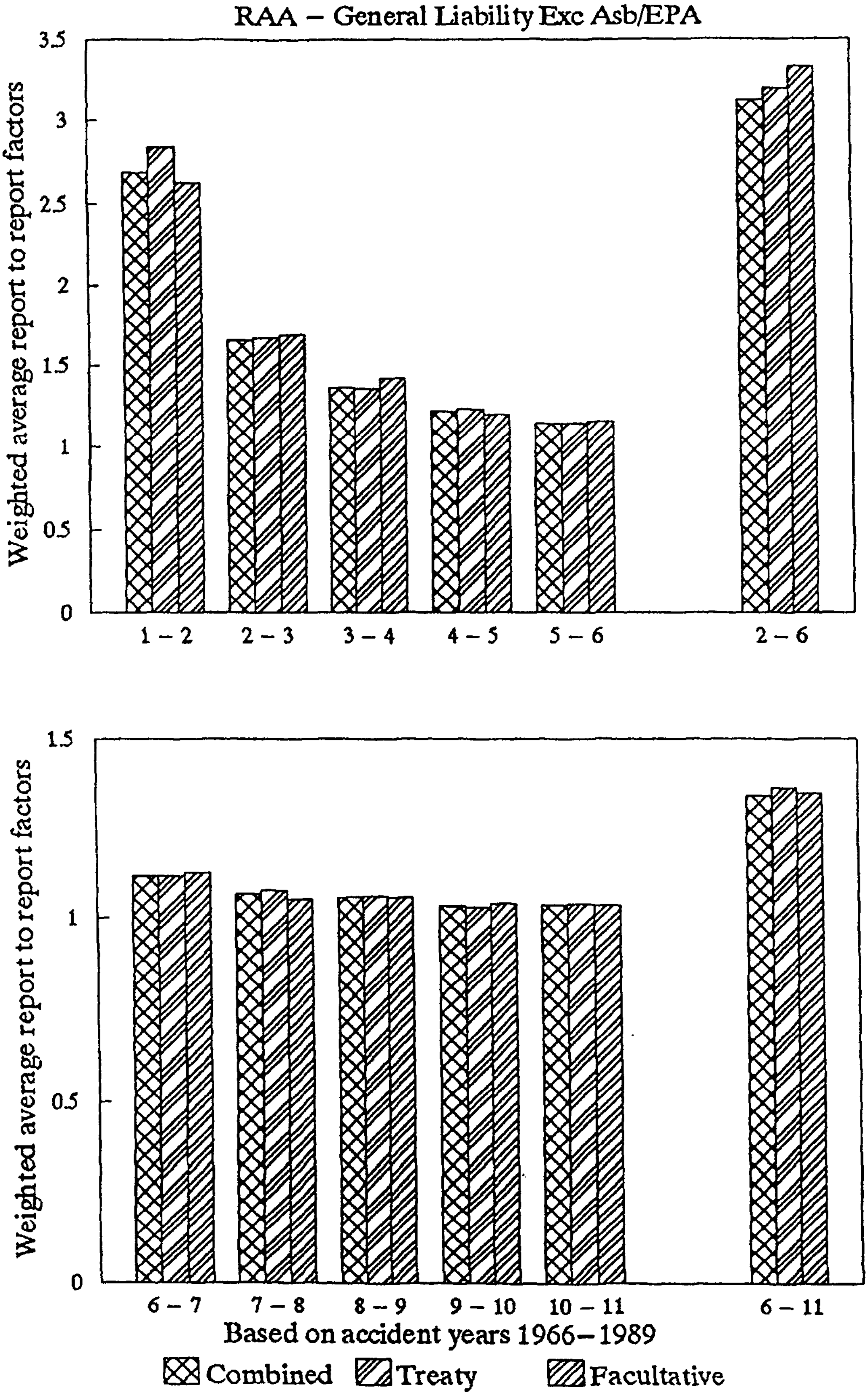
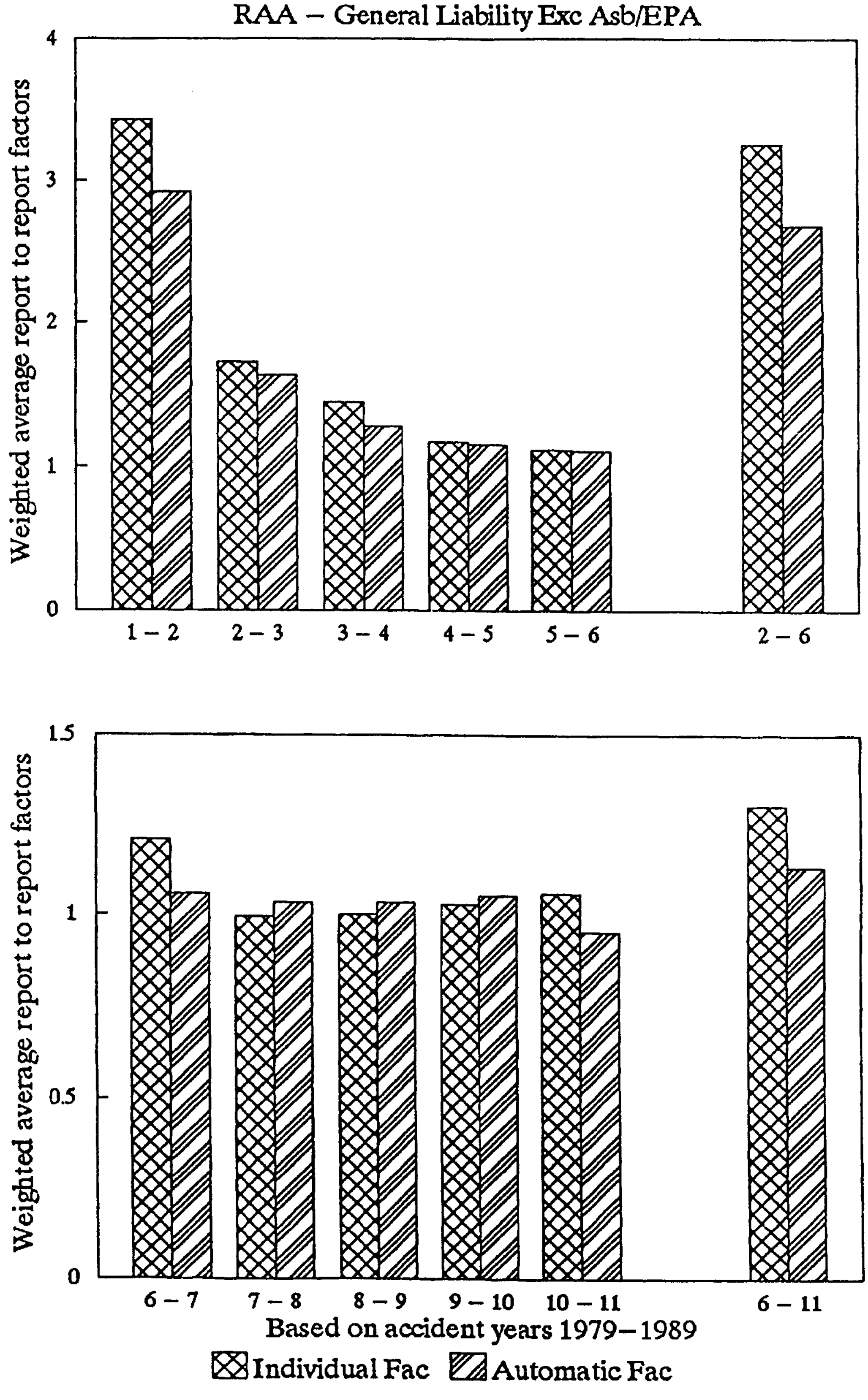
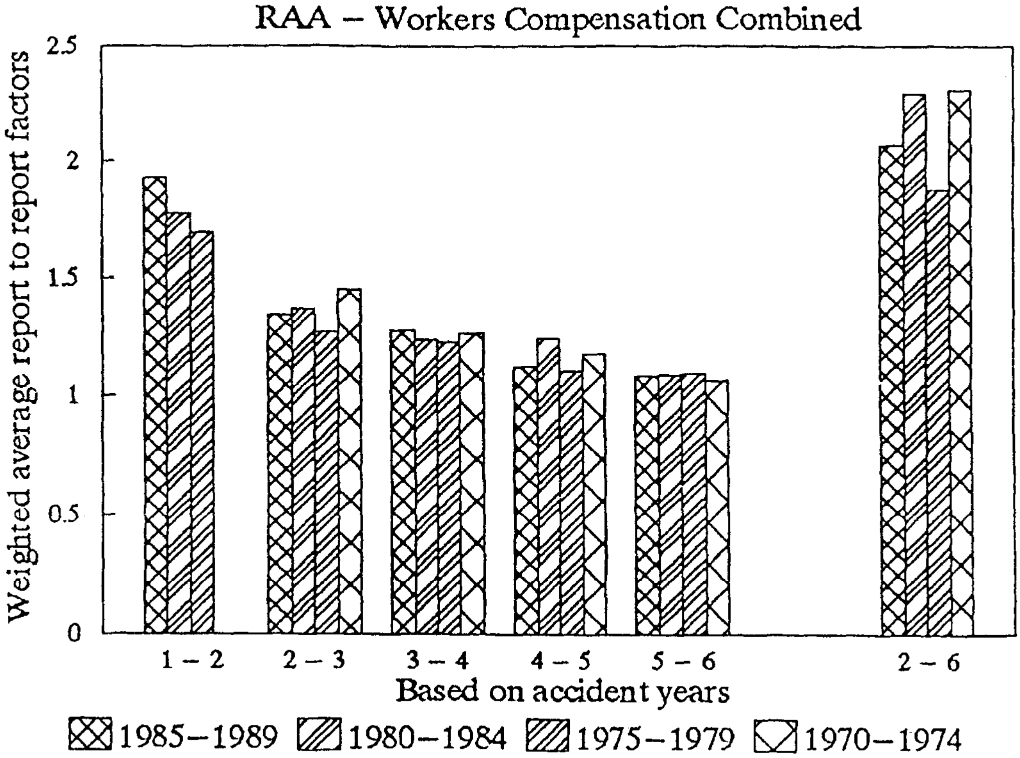
1
0.8
0.6
0.4
0.2
0
13–16
14–17
15–18
16–19
17–20
18–21
19–22
20–23
21–24
22–25
Based on calendar years
Latest 5
6–10
11+

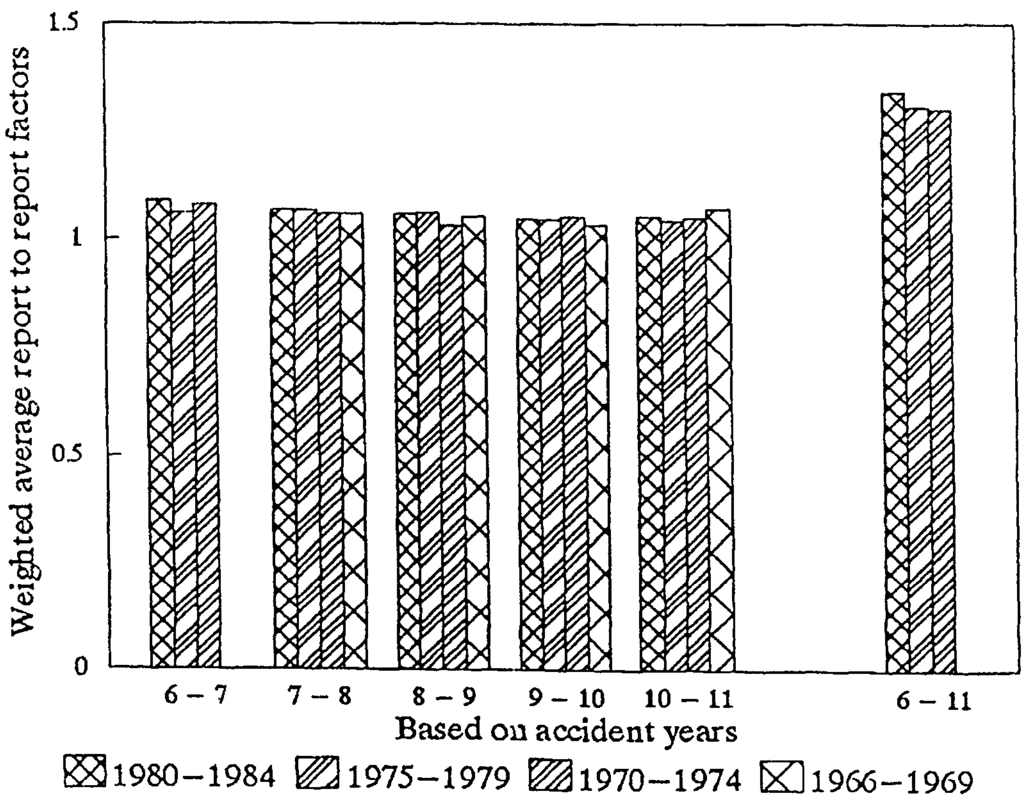

RAA – General Liability Exc Asb/EPA Combined
Weighted average report to report factors
1.2
1
0.8
0.6
0.4
0.2
0
23–26
24–27
25–28
26–29
27–30
Based on calendar years
Latest 5
6–10

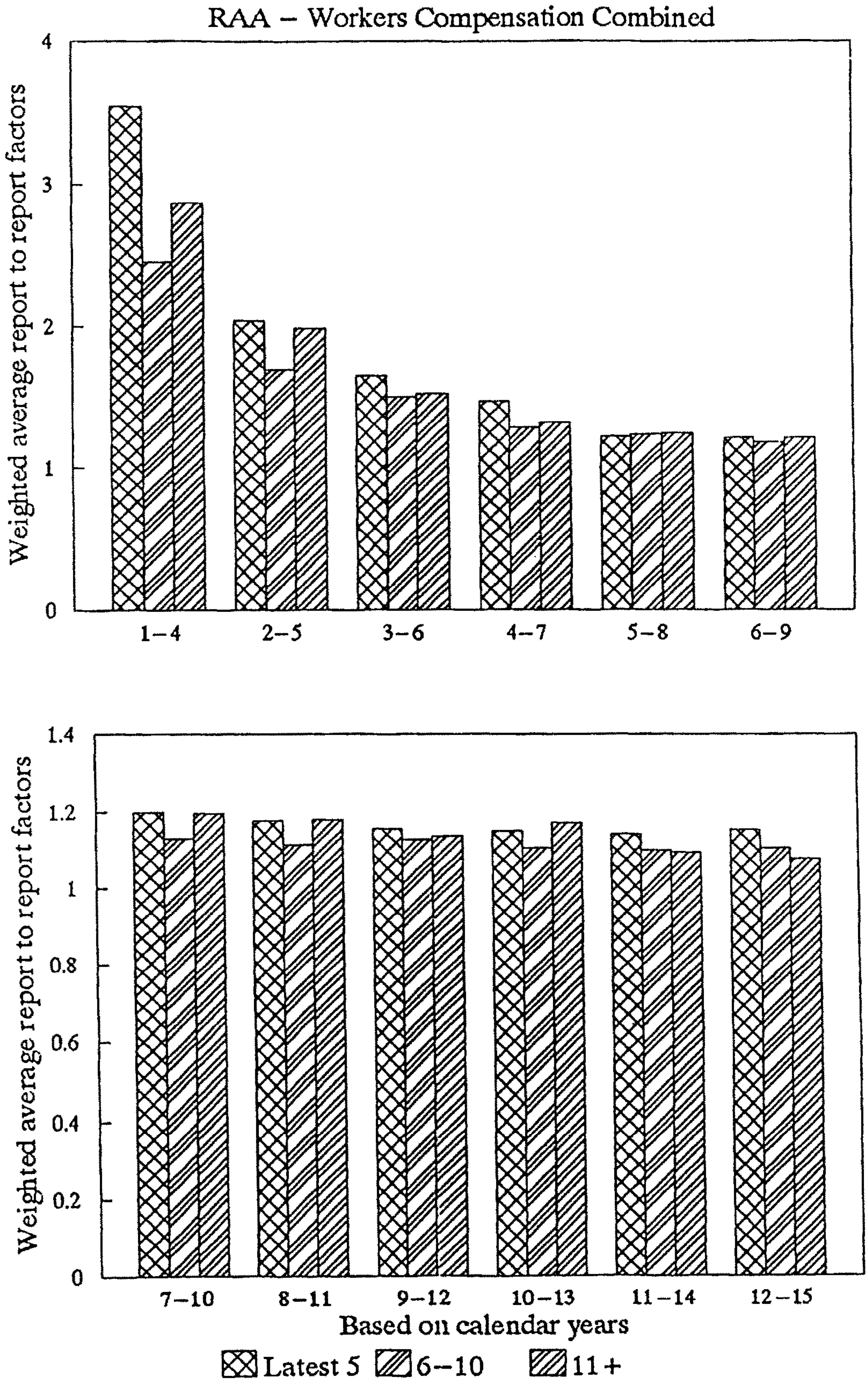


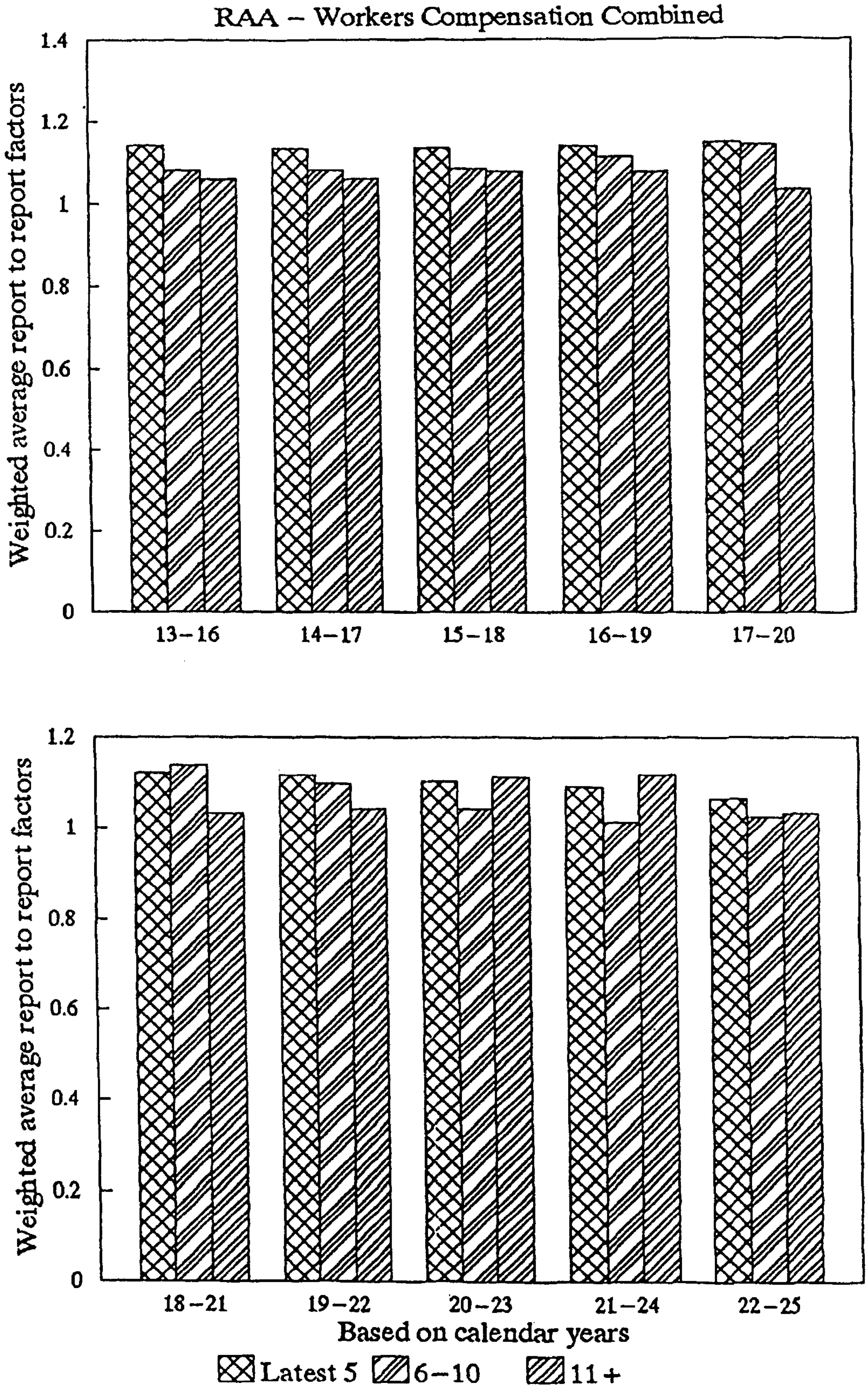
RAA – General Liability Exc Asb/EPA
Weighted average report to report factors
3.5
3
2.5
2
1.5
1
0.5
0
1 – 2
2 – 3
3 – 4
4 – 5
5 – 6
2 – 6
Weighted average report to report factors
1.5
1
0.5
0
6 – 7
7 – 8
8 – 9
9 – 10
10 – 11
6 – 11
Based on accident years 1966–1989
Combined
Treaty
Facultative

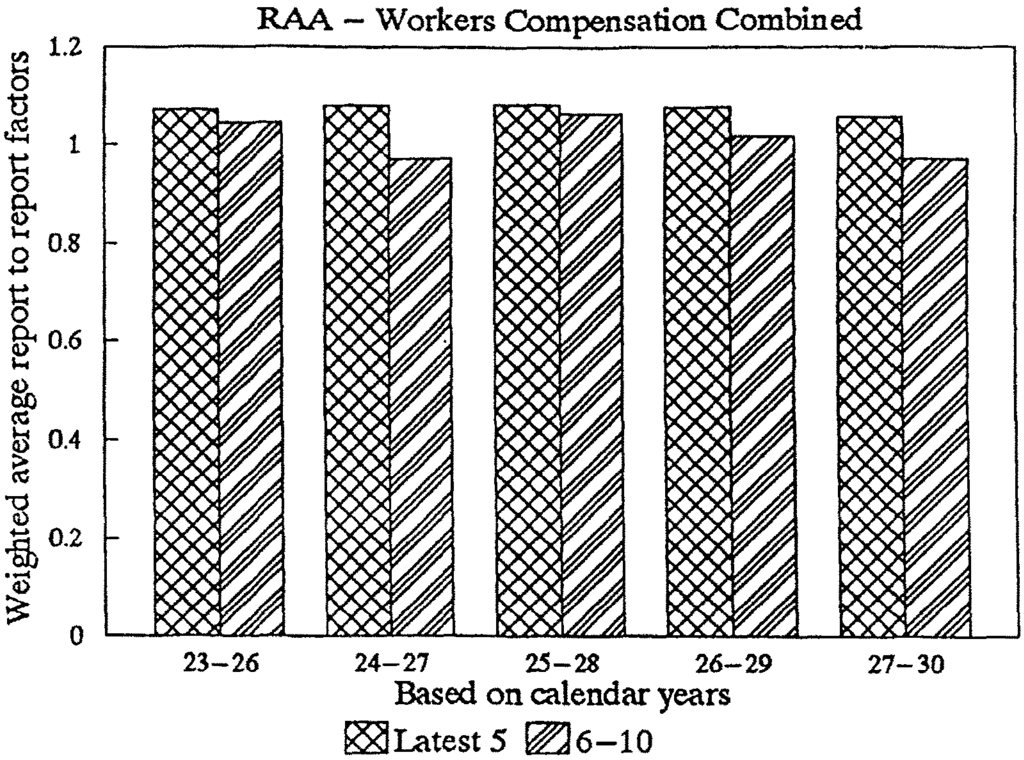

RAA – General Liability Exc Asb/EPA
Weighted average report to report factors
4
3
2
1
0
1 – 2
2 – 3
3 – 4
4 – 5
5 – 6
2 – 6
Weighted average report to report factors
1.5
1
0.5
0
6 – 7
7 – 8
8 – 9
9 – 10
10 – 11
6 – 11
Based on accident years 1979–1989
Individual Fac
Automatic Fac

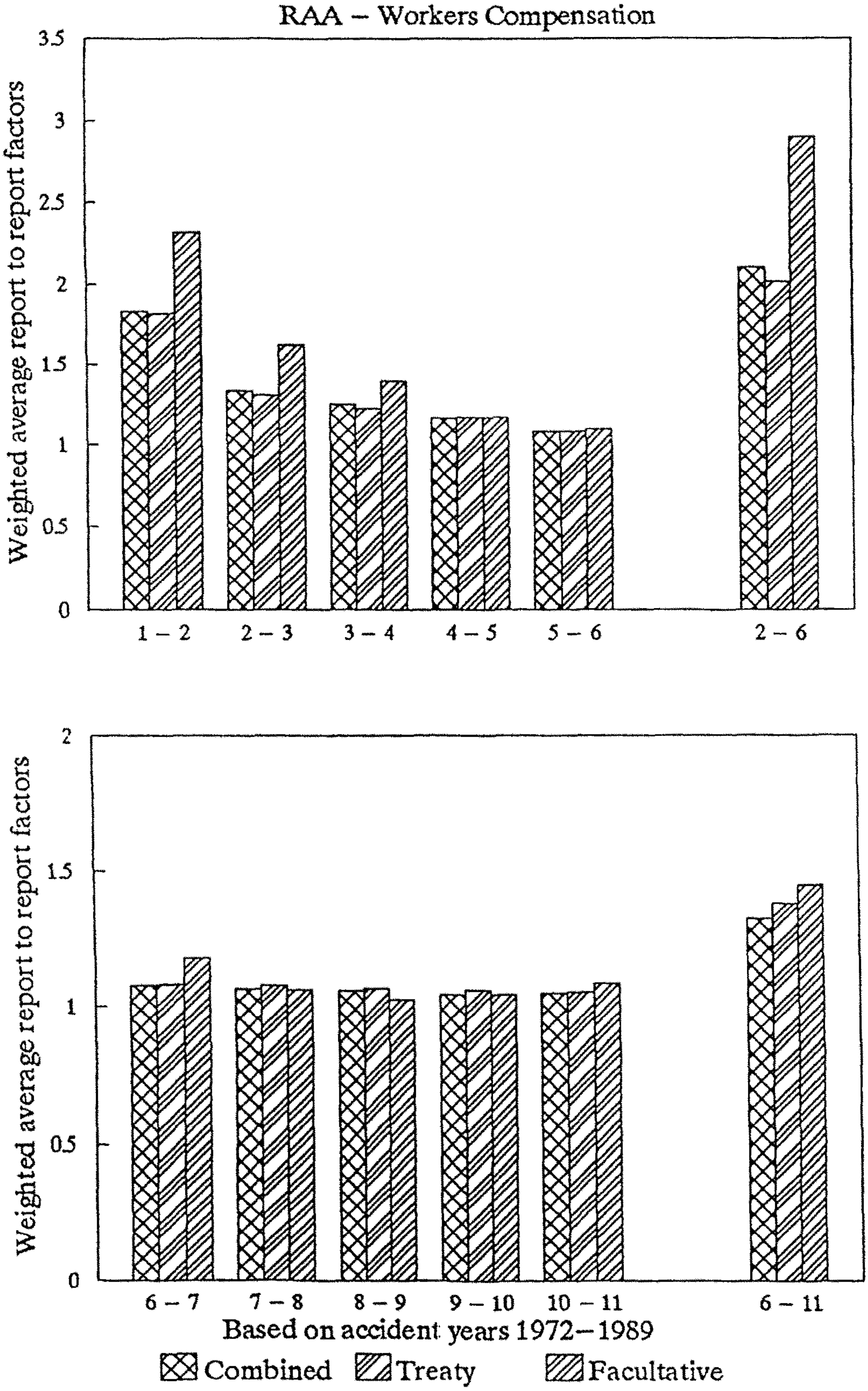

RAA – Workers Compensation Combined
Weighted average report to report factors
0
0.5
1
1.5
2
2.5
1 – 2
2 – 3
3 – 4
4 – 5
5 – 6
2 – 6
Based on accident years
1985–1989
1980–1984
1975–1979
1970–1974


Weighted average report to report factors
0
0.5
1
1.5
6 – 7
7 – 8
8 – 9
9 – 10
10 – 11
6 – 11
Based on accident years
1980–1984
1975–1979
1970–1974
1966–1969

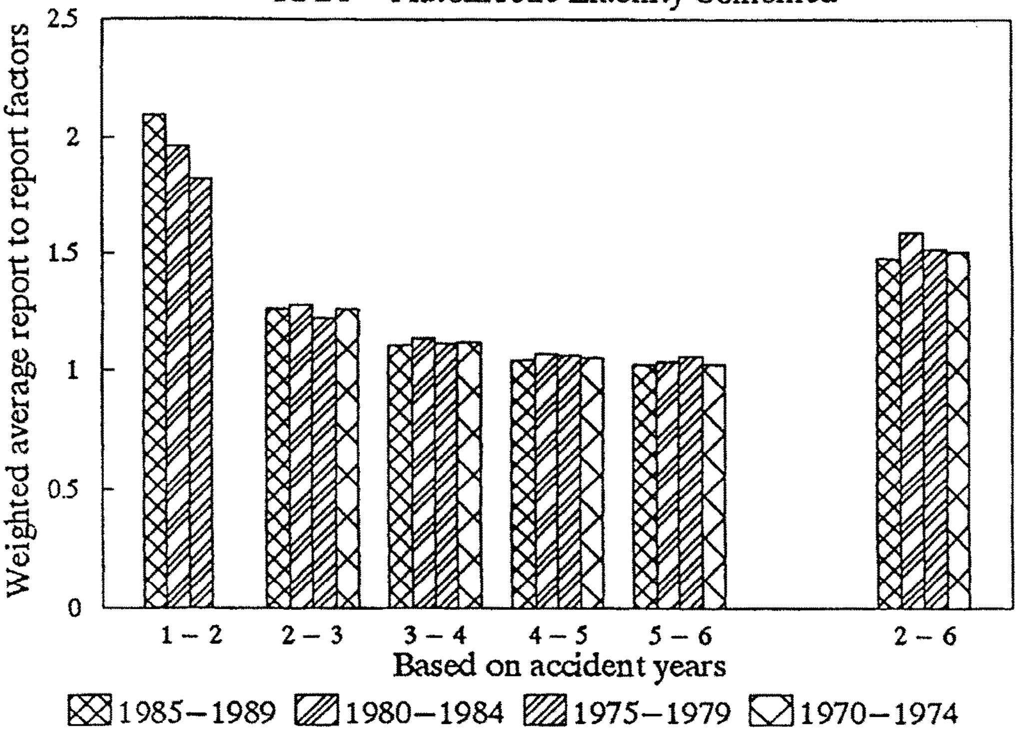

RAA – Workers Compensation Combined
Weighted average report to report factors
0
1
2
3
4
1–4
2–5
3–6
4–7
5–8
6–9
Weighted average report to report factors
0
0.2
0.4
0.6
0.8
1
1.2
1.4
7–10
8–11
9–12
10–13
11–14
12–15
Based on calendar years
Latest 5
6–10
11+

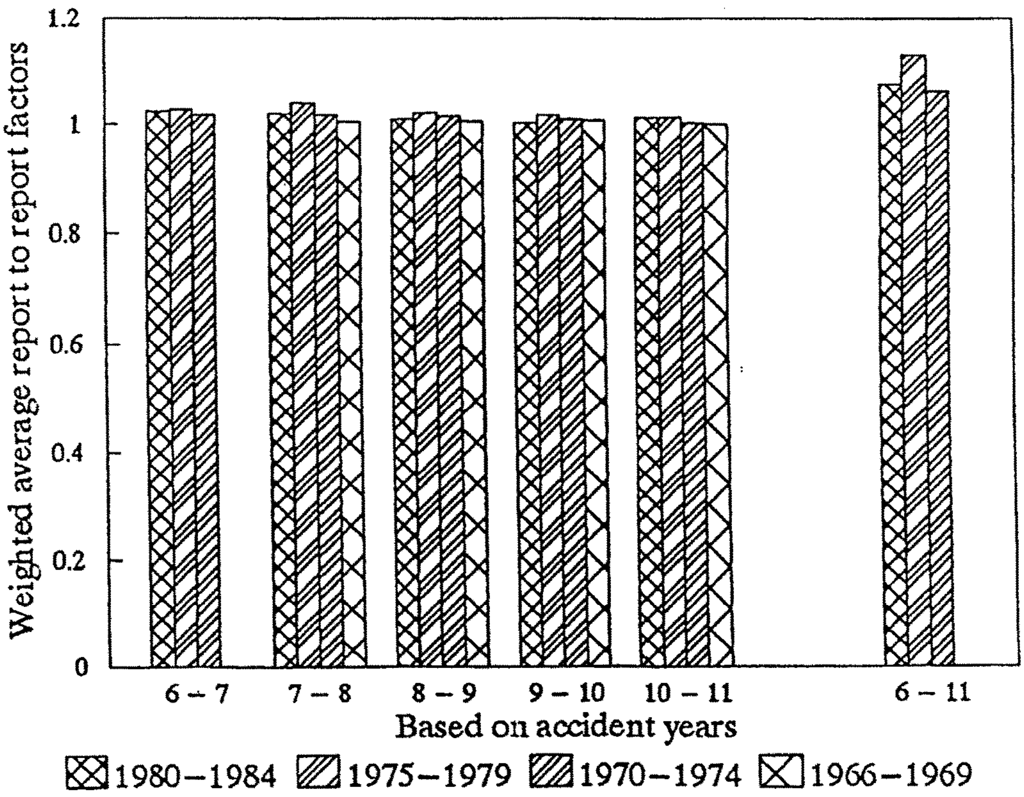

RAA – Workers Compensation Combined
Weighted average report to report factors
1.4
1.2
1
0.8
0.6
0.4
0.2
0
13–16
14–17
15–18
16–19
17–20
Weighted average report to report factors
1.2
1
0.8
0.6
0.4
0.2
0
18–21
19–22
20–23
21–24
22–25
Based on calendar years
Latest 5
6–10
11+

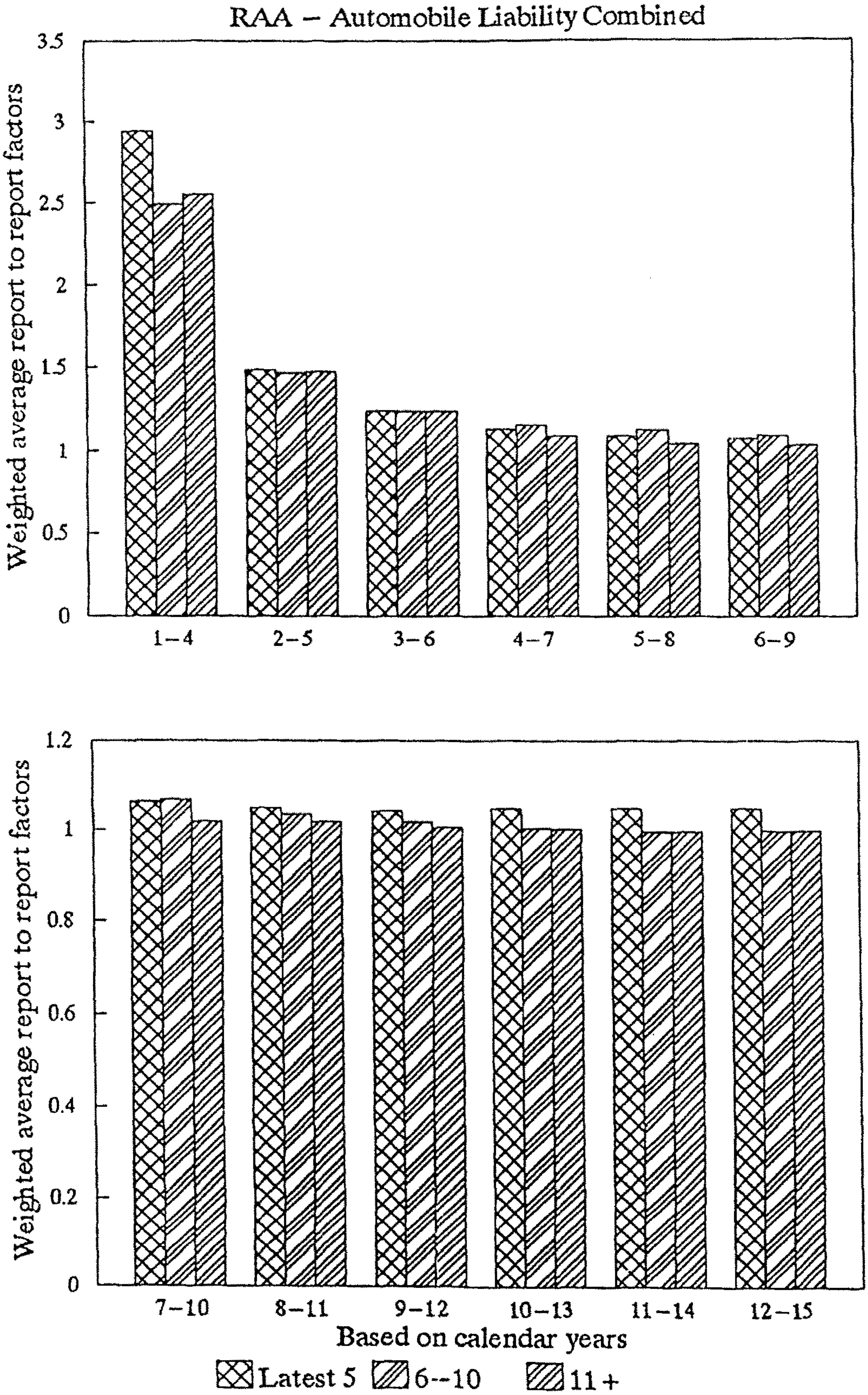

RAA – Workers Compensation Combined
Weighted average report to report factors
1.2
1
0.8
0.6
0.4
0.2
0
23–26
24–27
25–28
26–29
27–30
Based on calendar years
Latest 5
6–10

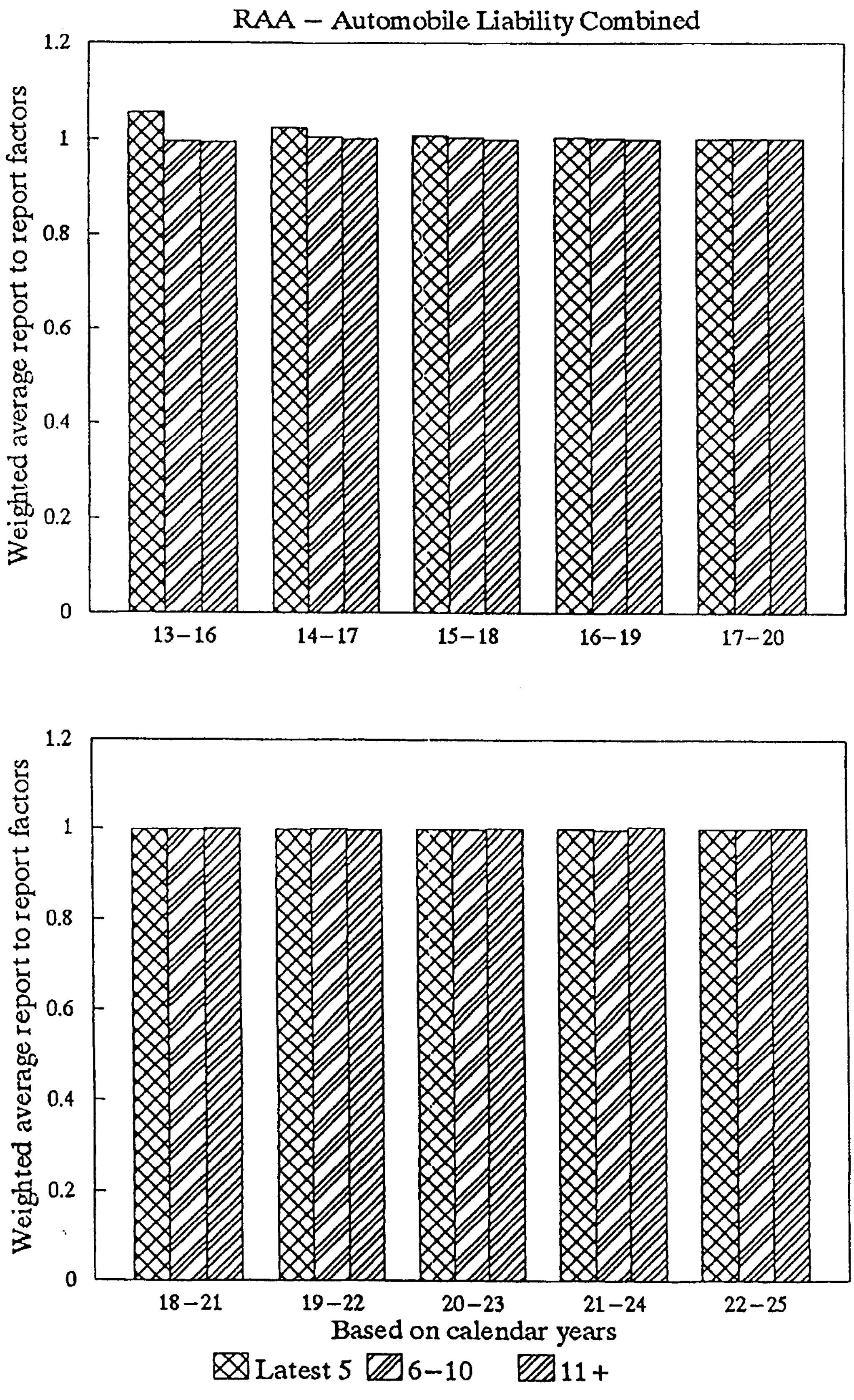

RAA – Workers Compensation
3.5
3
2.5
2
1.5
1
0.5
0
Weighted average report to report factors
1 – 2
2 – 3
3 – 4
4 – 5
5 – 6
2 – 6
2
1.5
1
0.5
0
Weighted average report to report factors
6 – 7
7 – 8
8 – 9
9 – 10
10 – 11
6 – 11
Based on accident years 1972–1989
Combined
Treaty
Facultative

RAA – Automobile Liability Combined






RAA – Automobile Liability Combined
Weighted average report to report factors
3.5
3
2.5
2
1.5
1
0.5
0
1–4
2–5
3–6
4–7
5–8
6–9
Weighted average report to report factors
1.2
1
0.8
0.6
0.4
0.2
0
7–10
8–11
9–12
10–13
11–14
12–15
Based on calendar years
Latest 5
6--10
11+


RAA – Automobile Liability Combined
Weighted average report to report factors
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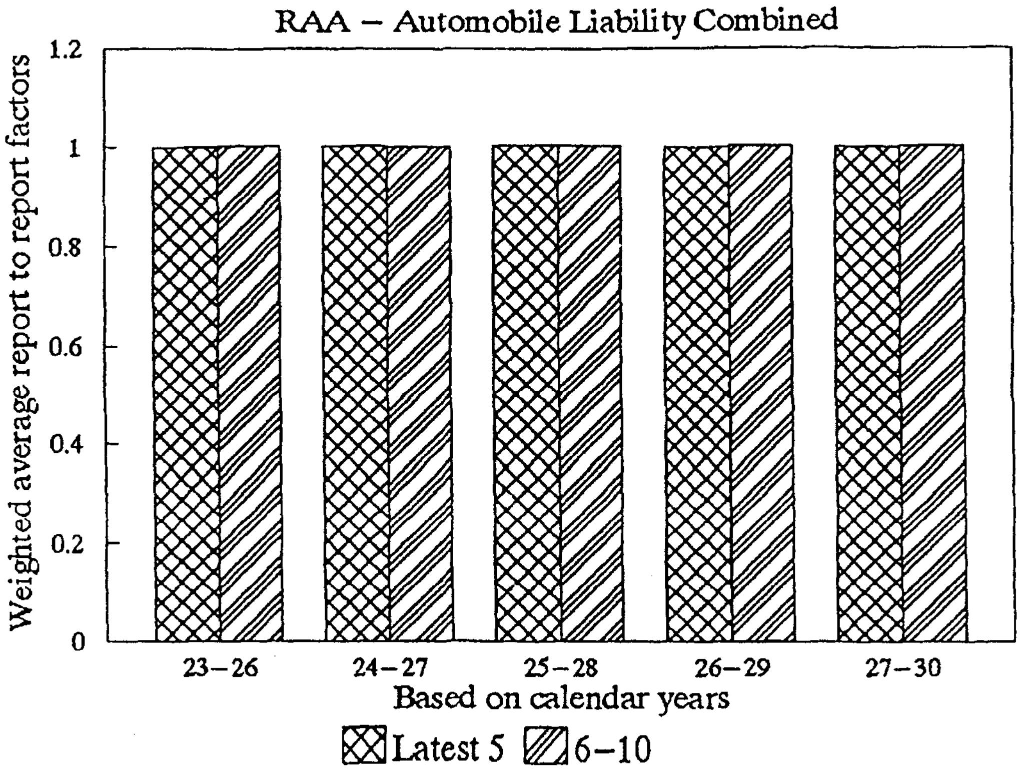
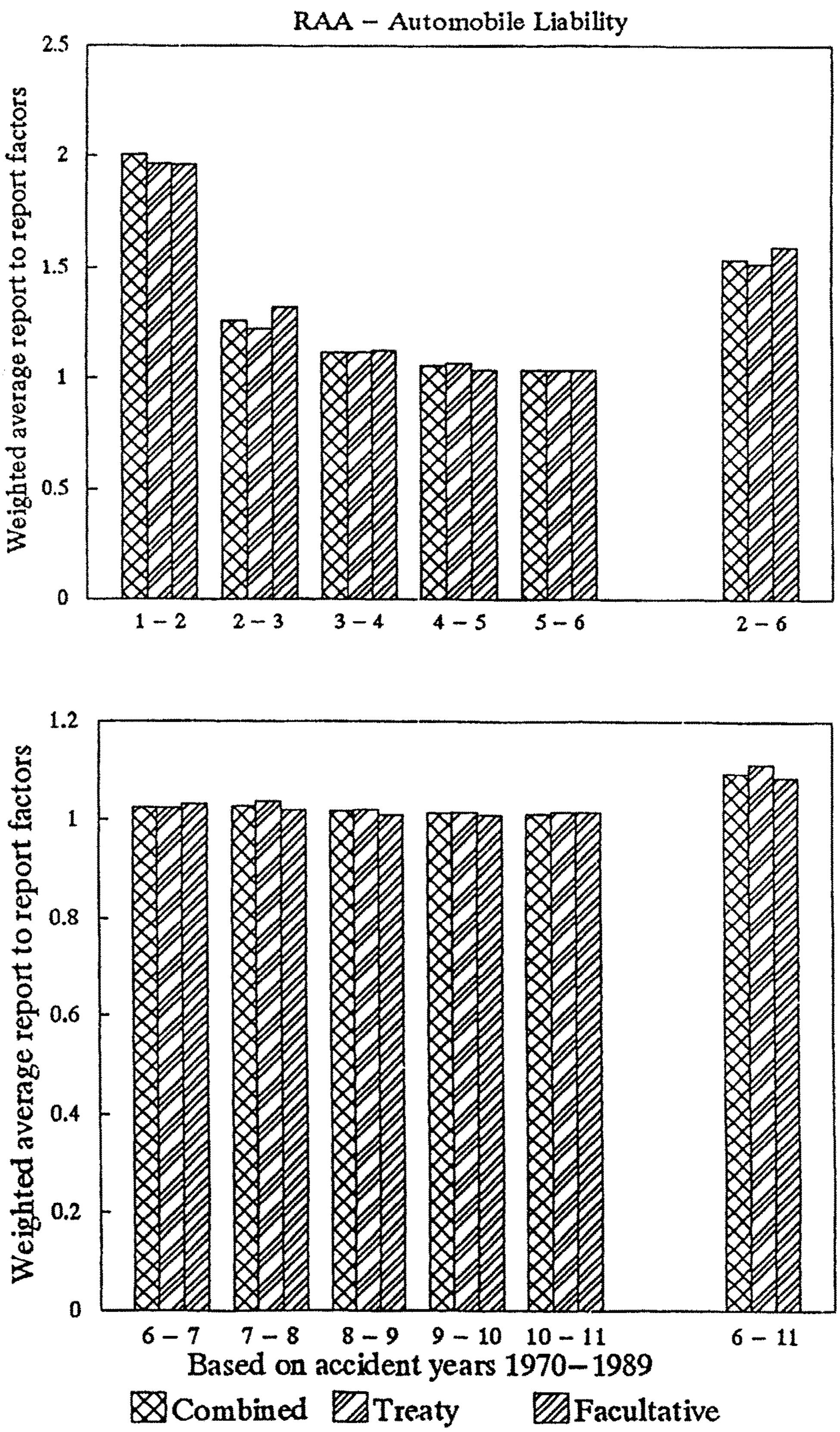
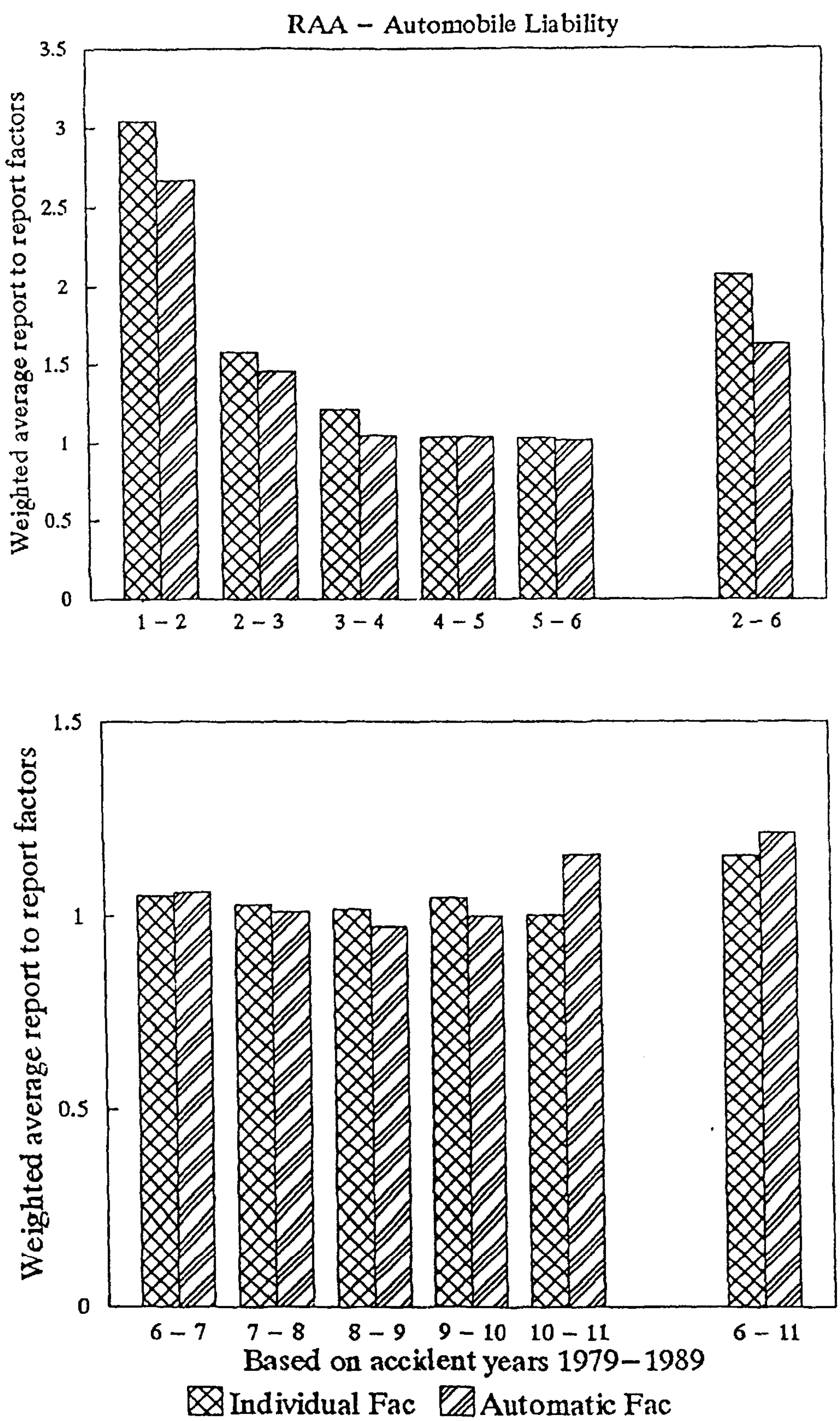
1
0.8
0.6
0.4
0.2
0
13–16
14–17
15–18
16–19
17–20
18–21
19–22
20–23
21–24
22–25
Based on calendar years
Latest 5
6–10
11+


RAA – Automobile Liability Combined
Weighted average report to report factors
1.2
1
0.8
0.6
0.4
0.2
0
23–26
24–27
25–28
26–29
27–30
Based on calendar years
Latest 5
6–10


RAA – Automobile Liability
Weighted average report to report factors
2.5
2
1.5
1
0.5
0
1 – 2
2 – 3
3 – 4
4 – 5
5 – 6
2 – 6
Weighted average report to report factors
1.2
1
0.8
0.6
0.4
0.2
0
6 – 7
7 – 8
8 – 9
9 – 10
10 – 11
6 – 11
Based on accident years 1970–1989
Combined
Treaty
Facultative


RAA – Automobile Liability
Weighted average report to report factors
3.5
3
2.5
2
1.5
1
0.5
0
1 – 2
2 – 3
3 – 4
4 – 5
5 – 6
2 – 6
Weighted average report to report factors
1.5
1
0.5
0
6 – 7
7 – 8
8 – 9
9 – 10
10 – 11
6 – 11
Based on accident years 1979–1989
Individual Fac
Automatic Fac

December 30, 1992

Dear

The Reinsurance Association of
study of historical loss development.
is invited and encouraged to participate by submitting its historical loss development data if available.

Tillinghast has been retained as the statistical agent in the preparation of the study and will be working with you to collect the data. Individual company data is sent directly to Tillinghast and is not disclosed to any other party. Once received and edited, the combined data is submitted to the RAA's Loss Development Subcommittee for its review, prior to being sent to the RAA's Board of Directors for release. We emphasize that no individual company data will be identified or publicized at any point in this process.

Data Specifications

As in past studies, data should be submitted on an accident year basis for underlying occurrence coverage and on a report year basis for underlying claims-made coverage, showing the sum of cumulative paid and outstanding losses and allocated loss adjustment expenses as of successive annual year ends. For example, data for accident year 1989 would be shown as of year end 1989, 1990, 1991 and 1992. Accident years 1955 and subsequent are included in the study. If you can submit data only beginning with a year later than 1955, please do so. Also, starting with this study the RAA will be requiring the companies to only report the most recent 16 diagonals of loss data for any one development triangle.

Outstanding losses and allocated expenses should include case reserves (including additional case reserves established by your company) but should not include any bulk reserves for Incurred But Not Reported (IBNR) losses or ceding company reported IBNR.

Data is gathered on the following casualty lines of business. For each line, data should be provided for *Excess Business Only*.

1. Automobile Liability

2. Workers Compensation

3a. Medical Malpractice - Underlying Occurrence

3b. Medical Malpractice - Underlying Claims-Made

3c. Medical Malpractice - Underlying Mixed

4. General Liability - Excluding Asbestos and Other Environmental Liability

5. Asbestos

6. Other Environmental Liability

Commencing with the 1991 study, the call requested that losses be split into three segments – treaty, automatic facultative, and individual risk facultative. Segmentation of the loss development data should continue to be based on the actual nature of the contract, and not on artificial distinctions such as departmental authority. Companies that cannot accurately segment their data in this manner should report the data as "indivisible." Companies are encouraged to report whatever data they can on a segmented basis, even if all of the historical data cannot be split.

For the 1993 study, the first four lines of business above are to be further split by the attachment point of the individual claim.

It is our desire to have all companies report their data by ranges or layers of attachment points, for all accident years. However, we realize that some companies may not be able to produce this data for all (or any) evaluation, accident years, or business segments. Therefore, we have included a category called "layer 6" which companies should use to report loss data which can not be subdivided into the requested attachment point layers. **Companies are encouraged to report layered data when they can and use "layer 6" when they can't.**

The attachment point layers which were chosen for this study (in 1990 dollars) are:

Layer 1	1 to 100,000
Layer 2	100,001 to 250,000
Layer 3	250,001 to 1,000,000
Layer 4	1,000,001 to 3,000,000
Layer 5	3,000,001 and greater
Layer 6	Indivisible data

In order to reflect the changing values of claims over time and its effect on the layering, the above layers 1 to 5 have been detrended by accident year back to 1955. The detrended layers by accident year are displayed in the accompanying detailed instructions.

To the extent possible, data should be net of retrocessions. Please indicate on the attached questionnaire the extent that the data is net of retrocessions.

In past loss development studies, data was thought to have been collected by line of business ***after*** the application of any aggregate deductible feature which was present in the reinsurance contract. In order to eliminate the distortions which occur due to the changing levels of these deductibles over time, the RAA is again requesting that data submitted for the 1993 study be ***gross*** of any aggregate deductible contained in the reinsurance contract (i.e., please show losses as if there were no aggregate deductible feature in the reinsurance contract). If this is not possible, please either exclude that data or indicate that the data is not gross of aggregate deductibles in your submission.

Any ***assumed*** loss portfolio transactions should be excluded entirely from the data. Any ***ceded*** loss portfolio transaction (similar to one which comes under the guidelines of New York State Insurance Department Regulation No. 108) should either be excluded on a historical basis from the loss development statistics, or reported gross of the transaction, so as to prevent any distortion of the loss development factors.

The loss data under ***assumed*** contracts which were commuted should be removed completely (exorcised) from all historical experience. Data affected by ***ceded*** contracts which were commuted should either be removed completely (exorcised) from all historical cessions under the commuted contracts (thereby increasing all current and historical net amounts) or kept at the original retrocessional terms so as to prevent any distortion of the development factors.

Medical Malpractice data should be split out from General Liability for at least accident years 1975 and subsequent; if you can split this data for earlier accident years, please do so. The RAA has also requested, to the extent possible, that the Medical Malpractice data be split between claims-made (including the tail coverage) and occurrence business on the basis of the underlying policy coverage.

Please advise Tillinghast to the extent that your submission does not meet the above specifications.

Data Collection

Attached is a copy of the loss development data your company submitted for the 1991 study. Please update this information by splitting by attachment point and by adding diagonals for evaluations as of 12/31/91 and 12/31/92. If you discover past data that should be modified, we would appreciate corrections on that as well.

In an effort to mechanize the data collection process, LOTUS 1-2-3 worksheets have been created on the enclosed floppy diskettes. While submissions will be accepted either on diskette or on paper, our preference would be to receive the updated data on diskette. Instructions for the floppy diskettes are also enclosed.

Please send the new data directly to Tillinghast at the address above no later than ***March 31, 1993***. This deadline gives an additional two weeks compared to the prior study to reflect the additional data requested.

If you have any questions, please call one of us, or Steve's assistant, Susan Gontarz, at (203) 843-7065.

Sincerely,

Stephen P. Lowe, FCAS, MAAA
Vice President - (203) 843-7057

John W. Buchanan, FCAS, MAAA
Consulting Actuary - (215) 246-6147

SPL/lb

Enclosures

Instructions for Reporting Loss Development Data by Attachment Point

Effective with the 1993 study, the RAA is asking the contributing companies to provide their loss development statistics by attachment point. We realize that the collection and organization of this data will be much more difficult than merely updating your data triangles.

The format for the data requested will be similar to the format used in the 1991 study (i.e. by line, treaty vs. facultative, etc.). However, each triangle contained in the 1991 study will be subdivided into six sub-triangles (layers) based upon the attachment point of the individual claims.

The attachment point layers which were chosen for this study (in 1990 dollars) are:

Layer 1	1 to 100,000
Layer 2	100,001 to 250,000
Layer 3	250,001 to 1,000,000
Layer 4	1,000,001 to 3,000,000
Layer 5	3,000,001 and greater
Layer 6	Indivisible data

In order to reflect the changing values of claims over time and its effect on the layering, the above layers 1 to 5 have been detrended by accident year back to 1955. The detrended layers by accident year are displayed on the enclosed exhibit.

The layer into which an excess claim is placed is determined by the ground-up attachment point at which your company is first responsible for that claim and the accident year of the claim. The ground-up attachment point can be thought of as consisting of the sum of two components: a) the cedent's reinsurance retention, and b) the underlying SIR on the policies written by the cedent. If your company participates in more than one treaty which covers the same loss occurrence, the portion of the loss attributable to each treaty should be viewed as separate excess claims. Therefore, each of these "separate" claims can fall into a different layer (depending upon its attachment point).

The following examples should help clarify the layering process:

Example 1: A reinsurer has a 50% share on a treaty with a $200,000 attachment point and a $800,000 treaty limit which covers losses occurring in accident year 1990. The cedent's policy contains no SIR. All losses under this policy would fall into layer 2.

Example 2: Same as Example 1 except that the accident year covered is 1980. All losses under this contract would fall into layer 3.

Example 3: Same as Example 1 except that the cedent's policy is excess of a $100,000 SIR. The total retention is then $300,000 ($200,000 treaty retention plus the $100,000 SIR) and all losses under this policy would fall into layer 3.

Example 4: A reinsurer participates on three successive layers of a cedent reinsurance program. The cedent incurs a \$3,000,000 ground-up loss in accident year 1990. The following shows how the reinsurer should report this loss in this study:

	First Excess Treaty	*Second Excess Treaty*	*Third Excess Treaty*
1. Treaty Retention	\$200,000	\$1,000,000	\$2,000,000
2. Treaty Limit	800,000	1,000,000	3,000,000
3. Reinsurer's Participation	50%	25%	10%
4. Loss to Reinsurer	\$400,000	\$250,000	\$100,000
5. Include Loss Dollars in Line 4 to	Layer 2	Layer 3	Layer 4

Example 5: A reinsurer has a 25% share on an umbrella treaty with a \$1,000,000 attachment point and a \$4,000,000 treaty limit covering losses occurring in accident year 1990. The umbrella policy is written above a \$500,000 primary policy. Therefore, the ground-up attachment point for this scenario is \$1,500,000 and all losses under this set of policies would be reported in layer 4.

Example 6: Same as Example 5 except that the reinsured umbrella policy was written over a combination of underlying policies which had a cumulative retention of \$5,000,000. Any losses to the reinsurance treaty under this set of policies would be reported into layer 5.

We hope that these examples help clarify the layering procedure which we are employing If you have any questions on this procedure, please contact us.

SPL/lb

RAA 1993 LOSS DEVELOPMENT STUDY - DETRENDED ATTACHMENT POINT LAYERS

Accident Year	Layer 1 1 to 100,000	Layer 2 100,001 to 250,000	Layer 3 250,001 to 1,000,000	Layer 4 1,000,001 to 3,000,000	Layer 5 3,000,001 & U
1955	1 to 10,000	10,001 to 25,000	25,001 to 100,000	100,001 to 250,000	250,001 and gr
1956	1 to 10,000	10,001 to 25,000	25,001 to 100,000	100,001 to 250,000	250,001 and gr
1957	1 to 10,000	10,001 to 25,000	25,001 to 100,000	100,001 to 300,000	300,001 and gr
1958	1 to 10,000	10,001 to 25,000	25,001 to 100,000	100,001 to 300,000	300,001 and gr
1959	1 to 10,000	10,001 to 25,000	25,001 to 100,000	100,001 to 300,000	300,001 and gr
1960	1 to 25,000	25,001 to 50,000	50,001 to 150,000	150,001 to 350,000	350,001 and gr
961	1 to 25,000	25,001 to 50,000	50,001 to 150,000	150,001 to 350,000	350,001 and gr
1962	1 to 25,000	25,001 to 50,000	50,001 to 150,000	150,001 to 350,000	350,001 and gr
1963	1 to 25,000	25,001 to 50,000	50,001 to 150,000	150,001 to 400,000	400,001 and gr
1964	1 to 25,000	25,001 to 50,000	50,001 to 150,000	150,001 to 400,000	400,001 and gr
1965	1 to 25,000	25,001 to 50,000	50,001 to 150,000	150,001 to 400,000	400,001 and gr
1966	1 to 25,000	25,001 to 50,000	50,001 to 150,000	150,001 to 450,000	450,001 and gr
1967	1 to 25,000	25,001 to 50,000	50,001 to 150,000	150,001 to 450,000	450,001 and gr
1968	1 to 25,000	25,001 to 50,000	50,001 to 200,000	200,001 to 500,000	500,001 and gr
1969	1 to 25,000	25,001 to 50,000	50,001 to 200,000	200,001 to 600,000	600,001 and gr
1970	1 to 25,000	25,001 to 50,000	50,001 to 200,000	200,001 to 600,000	600,001 and gr
1971	1 to 25,000	25,001 to 50,000	50,001 to 200,000	200,001 to 600,000	600,001 and gr
1972	1 to 25,000	25,001 to 75,000	75,001 to 250,000	250,001 to 700,000	700,001 and gr
1973	1 to 25,000	25,001 to 75,000	75,001 to 250,000	250,001 to 700,000	700,001 and gr
1974	1 to 25,000	25,001 to 75,000	75,001 to 250,000	250,001 to 800,000	800,001 and gr
1975	1 to 50,000	50,001 to 100,000	100,001 to 300,000	300,001 to 800,000	900,001 and gr
1976	1 to 50,000	50,001 to 100,000	100,001 to 350,000	350,001 to 1,000,000	1,000,001 and gr
1977	1 to 50,000	50,001 to 100,000	100,001 to 350,000	350,001 to 1,000,000	1,000,001 and gr
1978	1 to 50,000	50,001 to 100,000	100,001 to 400,000	400,001 to 1,250,000	1,250,001 and gr
1979	1 to 50,000	50,001 to 150,000	150,001 to 400,000	400,001 to 1,250,000	1,250,001 and gr
1980	1 to 50,000	50,001 to 150,000	150,001 to 450,000	450,001 to 1,500,000	1,500,001 and gr
1981	1 to 50,000	50,001 to 150,000	150,001 to 500,000	500,001 to 1,500,000	1,500,001 and gr
1982	1 to 75,000	75,001 to 200,000	200,001 to 600,000	600,001 to 1,750,000	1,750,001 and gr
1983	1 to 75,000	75,001 to 200,000	200,001 to 700,000	700,001 to 2,000,000	2,000,001 and gr
1984	1 to 75,000	75,001 to 200,000	200,001 to 700,000	700,001 to 2,000,000	2,000,001 and g
1985	1 to 75,000	75,001 to 200,000	200,001 to 800,000	800,001 to 2,250,000	2,250,001 and g
1986	1 to 100,000	100,001 to 250,000	250,001 to 800,000	800,001 to 2,250,000	2,250,001 and g
1987	1 to 100,000	100,001 to 250,000	250,001 to 900,000	900,001 to 2,500,000	2,500,001 and g
1988	1 to 100,000	100,001 to 250,000	250,001 to 900,000	900,001 to 2,750,000	2,750,001 and g
1989	1 to 100,000	100,001 to 250,000	250,001 to 1,000,000	1,000,001 to 3,000,000	3,000,001 and g
1990	1 to 100,000	100,001 to 250,000	250,001 to 1,000,000	1,000,001 to 3,000,000	3,000,001 and g
1991	1 to 100,000	100,001 to 250,000	250,001 to 1,000,000	1,000,001 to 3,000,000	3,000,001 and g
1992	1 to 100,000	100,001 to 250,000	250,001 to 1,000,000	1,000,001 to 3,000,000	3,000,001 and g

Layer 6 This layer is used for any reported loss dollar that cannot be split into any of the other five layers.

RAA 1993 LOSS DEVELOPMENT QUESTIONNAIRE

(Please return with loss development diskettes)

Company: ______________________________

Contact Person ______________________________

Phone: ______________________________

Answer YES, impact immaterial (IMM), NO, or N/A:

		AL	WC	MM	GL	ASB	ENV
Is the data net of retrocessions?							
Is the data gross of aggregate deductibles?							
Are portfolio reinsurance treaties excluded?	assumed						
	ceded						
Have commuted treaties been exorcised?	assumed						
	ceded						
Does the data exclude IBNR reserves?	bulk						
	ceding co.						
Does the data include Additional Case reserves?							

How are losses assigned to accident year for: (example - DOL = date of loss)

Treaty						
Automatic Facultative						
Individual Risk Facultative						

How is the data split by Attachment Point Layer?

in full						
starting with noted evaluation date						
not at all						

Is assignment of data to Layer as described in instructions? ______________________________

YES, NO but immaterial difference, Other, or N/A - please describe.

Regarding asbestos in the GL, does the data: ______________________________

a) exclude it, b) include immaterial amounts of it, c) include it in material or unknown amounts?

Regarding other environmental liability in the GL, does the data: ______________________________

a) exclude it, b) include immaterial amounts of it, c) include it in material or unknown amounts?

Regarding pre-1975 Malpractice in the GL, does the data: ______________________________

a) exclude it, b) include immaterial amounts of it, c) include it in material or unknown amounts?

January 15, 1991

Dear

The Reinsurance Association of America is in
study of historical loss development. is invited and encouraged to participate by submitting its historical loss development data if available.

Tillinghast has been retained as the statistical agent in the preparation of the study and will be working with you to collect the data. Individual company data is sent directly to Tillinghast and is not disclosed to any other party. Once received and edited, the combined data is submitted to the RAA's Loss Development Subcommittee for its review, prior to being sent to the RAA's Board of Directors for release. We emphasize that no individual company data will be identified or publicized at any point in this process.

Data Specifications

Data should be submitted on an accident year basis for underlying occurrence coverage and on a report year basis for underlying claims-made coverage, showing the sum of cumulative paid and outstanding losses and allocated loss adjustment expenses as of successive annual year ends. For example, data for accident year 1987 would be shown as of year end 1987, 1988, 1989 and 1990. Accident years 1955 and subsequent are included in the study. If you can submit data only beginning with a year later than 1955, please do so.

To the extent possible, data should be net of retrocessions.

January 15, 1991
Page 2.

Outstanding losses and allocated expenses should include case reserves (including additional case reserves established by   but should not include any bulk reserves for Incurred But Not Reported (IBNR) losses.

Data is gathered on the following casualty lines of business. . For each line, data should be provided for *Excess Business Only*.

1. Automobile Liability

2. Workers Compensation

3a. Medical Malpractice - Underlying Occurrence

3b. Medical Malpractice - Underlying Claims-Made

3c. Medical Malpractice - Underlying Mixed

4a. General Liability - Excluding Asbestos and Other Environmental Liability

4b. Asbestos

4c. Other Environmental Liability

For the 1989 study, the call requested that losses be split between treaty and facultative business. In analyzing the data, it became apparent that there were inconsistencies in the treatment of automatic facultative data among the reporting companies. For the 1991 study the data should be split into three segments -- treaty, automatic facultative, and individual risk facultative. Segmentation of the loss development data should be based on the actual nature of the contract, and not on artificial distinctions such as departmental authority. Companies that cannot accurately segment their data in this manner should report the data as "indivisible." Companies are encouraged to report whatever data they can on a segmented basis, even if all of the historical data cannot be split.

In past loss development studies, data was thought to have been collected by line of business ***after*** the application of any aggregate deductible feature which was present in the reinsurance contract. In order to eliminate the distortions which occur due to the changing levels of these deductibles over time, the RAA is requesting that data submitted for the 1991 study be *gross* of any aggregate deductible contained in the reinsurance contract (i.e., please show losses as if there were no aggregate deductible feature in the reinsurance contract). If this is not possible, please indicate that the data is not gross of aggregate deductibles in your submission.

Any ceded loss portfolio transaction (similar to one which comes under the guidelines of New York State Insurance Department Regulation No. 108) should either be excluded on a historical basis from the loss development statistics, or reported gross of the transaction, so as to prevent any distortion of the loss development factors. Also, the loss data under contracts which were commuted should be removed completely from all historical experience.

Any assumed loss portfolio transactions should be excluded entirely from the data.

Medical Malpractice data should be split out from General Liability for at least accident years 1975 and subsequent; if you can split this data for earlier accident years, please do so. The RAA has also requested, to the extent possible, that the Medical Malpractice data be split between claims-made (including the tail coverage) and occurrence business on the basis of the underlying policy coverage.

In analyzing the General Liability data submitted for the 1989 study, it was apparent that the age-to-age development being shown in the more recent diagonals (even after the exclusion of the asbestos data) was significantly different from that of earlier diagonals. Upon closer investigation, it was determined that a portion of this apparent distortion was a result of the recent emergence of environmental claims (other than asbestos). Thus, the RAA has decided to request the segregation of environmental liability claims (other than asbestos) for use in the 1991 Study.

Please advise Tillinghast to the extent that your submission does not meet the above specifications.

Data Collection

Attached is a copy of the loss development data your company submitted for the 1989 study. Please update this information by adding diagonals for evaluations as of 12/31/89 and 12/31/90. If you discover past data that should be modified, we would appreciate corrections on that as well. Loss data that you reported as facultative in the 1989 study has been placed in the "indivisible" data segment. To the extent possible, please split this data between automatic facultative and individual risk facultative. Similarly, the Medical Malpractice data that you reported in the 1989 study has been placed in the "underlying mixed" data line. Please split this data between underlying occurrence and underlying claims-made policies.

In an effort to mechanize the data collection process, LOTUS-123 worksheets have been created on the enclosed floppy diskettes. While submissions will be accepted either on diskette or on paper, our preference would be to receive the updated data on diskette. To the extent possible, your data from the 1989 study has already been loaded into the worksheets. Instructions for the floppy diskettes are also enclosed.

Please send the new data directly to Tillinghast at the address above no later than *March 15, 1991.*

If you have any questions, please call me, or my assistant, Susan Gontarz, at the phone number above.

Sincerely,

Stephen P. Lowe

Stephen P. Lowe, FCAS, MAAA, FCA
Vice President

SPL/lb

Enclosures

UNDERWRITING AND INVESTMENT EXHIBIT

PARTS 2, 2A, 2B, 3, 3A AND PAGE 14-PREMIUMS AND LOSSES

Appropriate statutory practice should be followed in developing line of business breakdowns.

Line 2 - Allied Lines

Include: Extended coverage; tornado, windstorm and hail; sprinkler and water damage; explosion, riot, and civil commotion; growing crops; flood; rain; and damage from aircraft and vehicle.

Line 5 - Commercial Multiple-Peril

Include: Multiple-peril policies (other than farmowners, homeowners and automobile policies) which include coverage for liability other than auto.

Line 10 - Financial Guaranty

For definition, refer to Model Act #626 contained in the June 1986 NAIC Proceedings.

Line 11 Medical Malpractice

Include: The medical malpractice portion of any policy for which premiums for medical malpractice are separately stated and all indivisible premium policies for which at least one half of the premium is for medical malpractice coverage. Medical malpractice is insurance of persons lawfully engaged in the practice of medicine, surgery, dentistry, nursing, dispensing drugs or medicines, or other health care services, and persons lawfully engaged in the operation of hospitals, sanitariums, nursing homes, and other health care institutions, against loss, expense and liability resulting from errors, omissions, or neglect in the performance of professional service. It does not include insurance of persons engaged in the care and treatment of animals.

Line 13 - Group Accident and Health

Exclude: Amounts attributable to uninsured accident and health plans and the uninsured portions of partially insured accident and health plans.

Line 14 - Credit Accident and Health

Include: Business not exceeding 120 months duration.

Line 17 Other Liability = General Liability

Include: Completed Operations Liability
Premiums attributable to policies covering the liability of contractors, plumbers, electricians, repair shops, and similar firms to persons who have incurred bodily injury or property damage from defective work or operations completed or abandoned by or for the insured away from the insured's premises.

Construction and Alteration Liability
Premiums attributable to policies covering the liability of an insured to persons who have incurred bodily injury or property damage from alterations involving demolition, new construction or change in size of a structure on the insured's premises.

Contingent Liability
Premiums attributable to policies covering the liability of an insured to persons who have incurred bodily injury or property damage from work done by an independent contractor hired by the insured to perform work that was illegal, inherently dangerous, supervised too closely, or it was a situation that does not permit delegation of responsibility.

Contractual Liability
Premiums attributable to policies covering the liability of an insured who has assumed the legal liability of another party by written or oral contract.

Elevators and Escalators Liability
Premiums attributable to policies covering the liability of an insured to persons who have incurred bodily inuury or property damage from use of elevators or escalators operated, maintained or controlled by the insured.

Errors and Omissions Liability
Professional Liability other than Medical
Premiums attributable to policies covering the liability of a professional or quasi professional insured to persons who have incurred bodily injury or property damage, or who have sustained any loss from omissions arising from the performance of services for others, errors in judgment, breaches of duty, or negligent or wrongful acts in business conduct.

Environmental Pollution Liability
Premiums attributable to policies covering the liability of an insured to persons who have incurred bodily injury or property damage from acids, fumes, smoke, toxic chemicals, waste materials or other pollutants.

Excess and Umbrella Liability
Premiums attributable to policies covering the liability of an insured above a specific amount set forth in a basic policy issued by the primary insurer; or a self-insurer for losses over a stated amount; or an insured or self-insurer for known or unknown gaps in basic coverages or self-insured retentions.

Liquor Liability
Premiums attributable to policies covering the liability of an insured to persons who have incurred bodily injury or property damage from an intoxicated person.

Personal Injury Liability
Premiums attributable to policies covering the liability of an insured to persons who have been discriminated against, falsely arrested, illegally detained, libeled, maliciously prosecuted, slandered, suffered mental anguish or alienation of affections, or have had their right of privacy violated.

Premises and Operations Liability
Premiums attributable to policies covering the liability of an insured to persons who have incurred bodily injury or property damage on an insured's premises during normal operations or routine maintenance or from an insured's business operations either on or off of the insured's premises.

Exclude: Automobile Liability, Aircraft Liability, Medical Malpractice Liability, Workers' Compensation and Employers' Liability; Products Liability, and the liability portion of Boiler & Machinery, Commercial Multiple Peril, Farmowners Multiple Peril, Homeowners Multiple Peril and Marine Coverages.

Line 18 Products Liability

Products Liability must be reported separately from Other Liability throughout the statement. This requires that companies separate and restate amounts previously reported as "Other Liability."

Include: Premiums attributable to policies covering the liability of manufacturers, wholesalers, or retailers to persons who have taken physical possession of products and have incurred bodily injury or property damage from products improperly made, labeled, packaged or sold by the insured away from the insured's premises.

Premiums attributable to policies for which more than one-half of the premium is for product liability coverage.

Exclude: Automobile Liability, Aircraft Liability, Medical Malpractice Liability, Workers' Compensation and Employers' Liability, liabilities included under Other Liability, and the liability portion of Boiler & Machinery, Commercial Multiple Peril, Farmowners Multiple Peril, Homeowners Multiple Peril and Marine Coverages.

Line 19 - Auto Liability

Include: All automobile coverages except auto physical damage.

Line 28 - Credit

Include: Premiums attributable to policies covering loss to a lender caused by failure of a borrower to timely repay monies due or loss to a seller caused by the failure of a purchaser to timely pay for goods or services purchased on trust.

Exclude: Any premiums that fall within the definition of financial guaranty insurance, as set forth in the Model Act #626 contained in the June 1986 NAIC Proceedings, fidelity, surety, or credit accident and health.

Line 29 - International

Include: Business transacted outside of the United States and its territories and possessions. International business which includes only one line of business or for which accurate detail is available for each line of business included, shall be excluded from this line and included in such other line or lines.

Line 30 - Reinsurance

Include: On Line 30A all 1988 and subsequent non-proportional assumed reinsurance in the following lines: fire, allied lines, ocean marine, inland marine, earthquake, group accident and health, credit accident and health, other accident and health, auto physical damage, glass, boiler and machinery, burglary and theft and international (of the foregoing).

On Line 30B all 1988 and subsequent non-proportional assumed reinsurance in the following lines: farmowners multiperil, homeowners multiperil, commercial multiperil, medical malpractice, workers compensation, other liability, products liability, auto liability, aircraft (all peril) and international (of the foregoing).

On Line 30C all 1988 and subsequent non-proportional assumed reinsurance in the following lines: financial guaranty, fidelity, surety, credit and international (of the foregoing).

On Line 30D all 1987 and prior reinsurance previously reported on Line 30 reinsurance

All proportional reinsurance must be allocated to appropriate lines.

As used in this instruction "non-proportional reinsurance" means reinsurance excess of a retention by the ceding company, and "proportional reinsurance" means first dollar pro rata reinsurance.

For contracts that afford both proportional and non-proportional reinsurance, allocate premiums and losses to their component parts.

Unearned premium reserves reported in the 1987 annual statement must be reported on the same annual statement line in the 1988 and in subsequent annual statements until fully earned. Newly recorded premiums in 1988 and subsequent calendar years must be allocated to lines 30A, 30B or 30C as appropriate.

Line 31 - Aggregate Write-ins for Other Lines of Business

Enter the total of the write-ins listed in schedule "Details of Write-ins Aggregated at Item 31."

Details of Write-ins Aggregated at Item 31

List separately each line of business for which there is no pre-printed item on Page 7.

(See Item 7 on Page c of these instructions.)

Include: Automobile Warranty Policies