RATE REGULATION AND THE CASUALTY ACTUARY

BY THOMAS O. CARLSON

". . . could you and I with Him conspire
To grasp this Sorry Scheme of Things entire,
Would not we shatter it to bits—and then
Re-mould it nearer to the Heart's Desire!"
—Omar Khayyam

June 5, 1944 is a date that, because of its unique significance in the insurance business, is just as well known to the members of this Society as October 12, 1492 or July 4, 1776. On that date the Supreme Court of the United States handed down its decision in the case of the United States vs. South-Eastern Underwriters Association.

From the outset it has been evident that a large number in the industry regard that decision and its sequel with feelings analogous to those stirring within President Theodore Roosevelt when he referred to Eugene V. Debs as "a redundant man." It is with us, however, as certainly as death and taxes, and no moves of real import can be made in the industry today without due reflection on and recognition of its results.

The historical dividing line established by that date was at least as sharp in the actuarial field as in other areas. Almost seven years have passed since that decision, seven years into which have been packed a host of developments, and the pattern of rate regulation is now sufficiently clear to justify an initial review of its impact upon actuarial thought in the casualty insurance field. The perspective is still so foreshortened, however, that a review is difficult and it is furthermore sufficiently involved with legal interpretation to make impossible a complete coverage by an actuary alone. The field of commentary upon the more legal aspects has been covered by Mr. Donovan's paper on "The New Era of Casualty Rate Regulation," P.C.A.S. Vol. XXXIV. Since his paper does not go into details as respects the various state laws, however, sections of those laws pertaining particularly to rate making are summarized in the second section of this paper, and in greater detail in Appendix A.

For convenience this discussion has been divided into six sections:

I. Pre-S.E.U.A. Regulation
II. Post-S.E.U.A. Legislation
III. Statistical Plans
IV. Manual Rate Making Procedures
V. Individual Risk Rating Plans
VI. Summary and Prospectus

My remarks are conditioned by the limitations of my experience,

and are restricted primarily to the liability, burglary, glass and boiler and machinery lines, with only passing or illustrative comments on the other casualty coverages, and with emphasis on the viewpoint of a rating organization representative as the only viewpoint I can present authoritatively. And I trust even the most serious-minded will forgive my lightening the discussion with a few expressive quotations. Many of them may observe that the most obviously pertinent one of all, familiar and beginning "Fools rush in . . .", has not been included.

I. PRE-S.E.U.A. REGULATION

"How dear to this heart are the scenes of my childhood,
When fond recollection presents them to view."
—Samuel Woodworth

Rate regulation in the casualty insurance business was initiated in the beginning of the second decade of this century insofar as it involves the approval of rates. Some of the casualty writers had exchanged experience as far back as 1895, and with the federal emphasis upon anti-trust legislation around the turn of the century quite a number of states had made effective anti-compact legislation which had an indirect bearing on the insurance business, but it seems to have been only with the introduction of the workmen's compensation legislation that any of the states passed laws under which the Insurance Departments undertook to regulate rates through direct approval power. It was not mere coincidence that the founding of this Society was almost simultaneous with the initiation of workmen's compensation legislation and of rate regulation in other casualty lines.

COMPULSORY CASUALTY LINES

From the very outset there was widespread feeling among legislators that the rates for a compulsory form of insurance should not be subject on the one hand to the vagaries of competitive bidding, nor on the other hand to the dangers considered to be potentially inherent in an inter-company agreement on rates, without some control by a governmental authority. These views prevailed in most of the larger industrial states and it is significant that very soon after the National Council on Compensation Insurance was organized in 1920, with equal voting powers to the stock and non-stock groups of carriers, a representative of the National Association of Insurance Commissioners was permanently installed as a sort of watchdog in the office of that organization. This arrangement has now been superseded but it was in effect through the important formative period during which many crucial problems were resolved, and the influence of the commissioners' representative (Honorable C. W. Hobbs who served as Editor of this Society for many years) in the solution of those problems cannot be overemphasized.

The historical development of regulation in the workmen's compensation field has been covered so thoroughly in papers previously presented to the Society that a review in detail at this time would be repetitious.[1] A few general observations should be noted, however, because they have a bearing upon developments during the past five or six years in the other lines.

Early in the history of the National Council there was established what was called a "permanent rate-making procedure," the rigidity of which landed the carriers in such extreme difficulties that its permanence fortunately dissolved into a variable pseudo-permanence like that of the surface of the ocean. It is from the lessons learned as a result of that experience, in large measure, that so much emphasis is laid by many actuaries currently upon the necessity for maintaining a substantial degree of flexibility in rate-making procedures.

When the compulsory insurance idea first spread to other lines with the enactment in 1927 of the Massachusetts law requiring automobile bodily injury liability insurance, strong regulatory powers, including the fixing of rates, were granted to the Insurance Commissioner.

The compulsory idea in automobile liability insurance threatened for a time to spread as the workmen's compensation principle had done. This threat carried with it a companion threat of the state as a direct participant in the business of insurance. Under the workmen's compensation legislation monopolistic state funds were at the very beginning established in a number of states. These threats in the automobile insurance field were turned aside by the development of financial responsibility legislation which, it is anticipated, will have the ultimate effect of proceeding to virtually universal insurance in somewhat easier and less authoritarian steps. The characteristics of these laws have been described by Mr. VanderFeen in these *Proceedings*.[2] Since that paper was presented, such legislation has been extended to many other states and the more stringent provisions that characterized the New Hampshire law at the time his paper was written have become fairly widespread in application. Assigned risk plans have been introduced in many states as a further aid in the solution of problems that might otherwise give rise to agitation for compulsory insurance. There are limited areas of the automobile field, however, where compulsory insurance has been widely introduced, particularly for automobile common carriers. Only this spring the principle was applied in a new area with the signing in New York State of a law requiring every registered car owner under twenty-one years of age to carry liability insurance.[3]

OTHER CASUALTY LINES

The earliest regulation providing for rate approval in casualty lines other than workmen's compensation insurance developed in the states

[1] See in particular papers by C. W. Hobbs on "State Regulation of Insurance Rates" in Vols. XI and XXVIII. Both papers cover fire and other casualty lines as well.

[2] P.C.A.S. Vol. XXVIII, Part II.

[3] For detailed discussion of these problems see address by Superintendent A. L. Bohlinger, "Which Road for the Uninsured Motorist," before New York Association of Insurance Agents at Syracuse on May 7, 1951.

of Oklahoma and Washington. In Oklahoma under a law passed in 1915 carriers started filing rates on employers' liability, automobile liability and glass insurance in 1916. Around 1920 such filings were extended to include general liability lines but that practice was apparently dicontinued in 1922. The law was inconclusive in language as respects casualty lines except in its application to employers' liability and glass insurance, and has been enforced with considerable variation in requirements through the years, no deviations from established schedules in the automobile liability and glass lines being permitted during several periods.

In Washington, the initial filings on other lines were also made about 1916 and in 1918 the commissioner issued an order prohibiting the application of experience rating plans to Washington risks, an order that was enforced down to the date of the post-S.E.U.A. legislation. Rate approval provisions were enforced from 1916 on.

New York had for many years a law in effect regulating the activities of rating organizations and providing for their examination, but not subjecting their ratemaking to approval requirements. In 1922 a law was enacted establishing control over rates on a "subsequent disapproval" basis, except that rates for certain minor coverages required prior approval. Gradually, for all lines a transition was effected in practice to a prior approval status because of the Superintendent's authority to have rates withdrawn after promulgation. This transition began early with automobile liability insurance, and was virtually complete in the casualty field by 1932, with rates being based thenceforth for casualty lines upon the experience of all carriers in the state. This characteristic, it should be emphasized, has been a development by departmental ruling, not by legislative enactment. Until the past year or two, every carrier writing these coverages was persuaded by the Insurance Department to become a member of or subscriber to one of the two rating organizations operating in the field of such coverages; the two organizations exchanged experience and worked out a common set of rates prior to submission to the Insurance Department. Only recently has there been an indication on the part of the Department that the manual rates filed by rating organizations might be based upon less than the total experience, although individual company deviations have been permitted through the years on one ground or another.

The next state to establish effective control over a casualty line other than workmen's compensation was Texas where in 1927 legislation was passed establishing an administrative automobile rating bureau to which all writers in the state were required to belong and placing in the hands of the Board of Commissioners the power to fix rates. New Hampshire assumed approval powers over automobile liability rates in 1929, Virginia in 1932 and North Carolina in 1933, with statutory administrative bureaus being established in both Virginia and North Carolina, the North Carolina Bureau also having ratemaking authority subject to approval by the commissioner. In New Hampshire the national rating organizations cooperated in the preparation of rate submissions so that the effect was virtually the same as

in the states having statutory bureaus. Deviations in these states were permitted but not encouraged and were for the most part granted on the basis of proven expense cost differentials.

Louisiana in 1936 passed a law creating a Casualty and Surety Commission which had (and still has even under the new code which includes much of the "Model Bill" phraseology in other respects) sole power to establish rates. In practice the operation was much the same as in New York state with stock and mutual organizations cooperating in the preparation of a rate submission which was then discussed with the Commission. No organization or company, however, had the privilege of making a formal filing. Deviations were not permitted except upon an individual risk submission basis.

Such regulation as existed prior to the S.E.U.A. decision was of a very rigid character in those states exercising powers of approval or disapproval of rates. There were a number of other states where rate filings were required and where adherence to filed schedules was emphasized, but where powers of approval and disapproval were not exercised or were not effective.

II. POST-S.E.U.A. LEGISLATION

"Misery acquaints a man with strange bedfellows."
—William Shakespeare

The story of the development of post-S.E.U.A. legislation has been covered in Mr. Donovan's paper in detail as respects federal action, and in a more general way as respects action on the state level. As of April 1, 1951 regulatory legislation had been made effective in all states, and in the District of Columbia, Alaska, Hawaii, and Puerto Rico. Most of the individual state regulatory laws follow closely the so-called Model Bill drafted by an All-Industry Committee composed of designated representatives of nineteen national insurance organizations.[4] This Committee worked in close cooperation with the Commissioners' Committee on Rates and Rating Organizations and a final draft of a model bill was approved and adopted by the All-Industry Committee and by the National Association of Insurance Commissioners in June, 1946. A summary will be made here of those provisions of the bill which are particularly pertinent to actuarial problems. The legislation is applicable, in general, to all casualty lines,

[4]American Institute of Marine Underwriters
American Mutual Alliance
American Life Convention
American Reciprocal Association
Associated Factory Mutual Fire Ins. Co.
Association of Casualty and Surety Executives
Bureau of Personal Accident and Health Underwriters
Health & Accident Underwriters Conference
Insurance Executives Association
Inland Marine Underwriters Association
Life Insurance Association of America
National Association of Casualty and Surety Agents
Nat'l Association of Independent Insurers
Nat'l Association of Insurance Agents
Nat'l Association of Insurance Brokers
Nat'l Association of Mutual Insurance Agents
Nat'l Board of Fire Underwriters
Nat'l Fraternal Congress of America
Surety Association of America

although workmen's compensation continues to be regulated in a large number of states under the laws that were previously applicable to that line.

A more detailed analysis of the rating laws, state by state, as respects those provisions which particularly affect the work of the actuary is set forth in Appendix A. Analysis of the special regulatory laws relating to workmen's compensation insurance is not included. For such, reference may be made to the paper by C. W. Hobbs in P.C.A.S. Vol. XXVIII previously cited. In making the current analysis, the All-Industry Committee's Model Bill of June, 1946, with the 1947 amendments, is taken as the norm and departures from that bill noted state by state. Phraseology in the Model Bill of each of the clauses in question will be quoted and briefly discussed in this section.

In thirteen jurisdictions the statute has been written to include fire and casualty coverages,[5] and in some instances the provisions which are ordinarily peculiar to each field are confused, with an occasional hodge-podge effect. In one instance, District of Columbia, the statute includes inland marine in addition to casualty lines but does not in general include other forms of property insurance written by fire carriers.

There are special statutes on automobile liability effective in Massachusetts (statutory bodily injury coverage), New Hampshire, North Carolina and Texas, all of which date back to the pre-S.E.U.A. era. It should be noted that in Virginia, though the new law includes automobile liability and thus supersedes the old law relating to such insurance, the previously effective provision for compulsory membership in the statutory bureau for such insurance is written into the new law. The automobile physical damage coverages are in general included under the laws regulating casualty lines.

As respects workmen's compensation insurance, there are seven monopolistic, or virtually monopolistic, state funds,[6] although Ohio specifically includes workmen's compensation under its new law. Workmen's compensation is specifically excepted in the new law and regulated under separate statute (continued from pre-S.E.U.A. days) in twelve states.[7] In addition, in Georgia, the old workmen's compensation statute still applies, except that rating organizations licensed under the new act can make filings. A similar provision applies in Maine, and all parts of the new law not inconsistent with the old workmen's compensation law also apply to workmen's compensation insurance. In Arizona there is confusion which does not arise from legislative sources: the Industrial Commission and the Corporation Commission insist the old law is still effective, although the wording of the new law is such as to make its application to workmen's compensation insurance apparently unquestionable. In Utah the new law applies, but a new chapter was added in 1948 stating that all companies writing workmen's compensation insurance "shall be subject to the rules and

[5]Alaska, Calif., Del., La., Mont., Nev., N. H., N. J., N. Y., P. R., Utah, Vt., Wash.
[6]Nev., N. D., Ohio, Ore., Wash., W. Va., Wyo.
[7]Calif., Colo., Ind., Mass., Minn., Mo., N. H., N. J., N. C., Pa., Tex., Wisc.

regulations of the Industrial Commission," which "may provide uniform rates to be charged by such companies."

Aircraft liability is covered completely or partially only in California, Montana, New Jersey, New York and Puerto Rico. Accident and health is excepted in all jurisdictions except Idaho (with "disability" phraseology in the California, Oregon, Utah and Washington exceptions). Reinsurance is excepted in all jurisdictions except District of Columbia and Vermont; but joint underwriting or joint reinsurance is included in all but eight of the other jurisdictions.[8] Credit insurance is excepted now only in Mississippi and North Carolina, title insurance in 21 jurisdictions.[9] There are many other minor exceptions which need not be summarized here. The foregoing is sufficient to give a general idea of the scope of the laws as respects kinds of insurance and to foreshadow the confusion besetting those responsible for filings.

A special prefatory comment is needed for the Idaho law, made effective only this spring, under which the various provisions noted below and in the Appendix become applicable only if the Commissioner, in 1953, or upon review to be made biennially thereafter, finds that reasonable competition does not exist as respects certain classes, whereupon the provisions are invoked as respects such classes until such time as he determines that competition has been restored in that area of insurance.

(*a*) BASIC CRITERIA FOR RATES

"Rates shall not be excessive, inadequate or unfairly discriminatory."

This phraseology is incorporated in most of the laws although in some it is shifted to an affirmative rather than a negative statement, and occasionally the words "just" and "reasonable" are used either with or as a substitute for certain of the words in the Model Bill phrasing.

In a few of the state laws (see Appendix A) definitions of one or another of the terms in the quoted clause are given. In the definitions of "excessive" it is usually specified that if a reasonable degree of competition exists with respect to the given classification and area no rate shall be held to be excessive. As respects the word "inadequate" such definitions as there are in the laws commonly indicate that no rate shall be held to be inadequate if the business being written at that rate is written at a profit, although some of the laws also refer to the solvency of the insurer or to the creation of a monopoly. In Rhode Island a rate is held to be not unfairly discriminatory if "used in good faith to meet an equally low or lower net cost to the insured of a competitor," and in five other states there is particular reference to the "unfairly discriminatory" clause to legalize establishment of classes of risks on the basis of any "reasonable consideration" pro-

[8]The eight exceptions are: Ala., Fla., Ind., Kan., Miss., N. H., N. C., P. R.

[9]From "Chart Analysis of the Casualty and Surety Rate Regulatory Laws" published by the Association of Casualty and Surety Companies.

vided that they apply "to all risks under the same or substantially similar circumstances or conditions."

It would appear that it is not possible to apply the three criteria specified in the Model Bill phraseology separately but that they must rather be considered together. The word "reasonable," it has been noted, occurs in several of the laws and also in certain of the legislated definitions of "excessive" and "inadequate." Mr. Moser in an article in the recent Duke University symposium on the regulatory laws,[10] speaks of a "zone of reasonableness" as being recognized under insurance as well as under other types of rate regulation. It is clear that statistical evidence alone and uninterpreted is not sufficient because there are countless instances where the experience is so sparse as to be meaningless if taken at its face value. It is the casualty actuary's task in interpreting the statistical and other pertinent evidence to develop rates proper for the period of their application, which fall within a "zone of reasonableness" that will stand the test of probing criticism in satisfying jointly the criteria that a rate shall not be excessive, inadequate or unfairly discriminatory. These criteria, even considered jointly, are comparatively subjective in character, not being determinable in unassailably objective terms.

This point is one of the most difficult to comprehend if one is a layman to actuarial science, as many supervisory officials are. The layman, and it must be admitted also a few individuals who are not completely such, feels that it should be possible to pour figures into a hopper and, after processing them through a series of rolls and presses, have a finished incontrovertible or, as they prefer to call it, "actuarially exact" result come out of the other end of the machine, just as a newspaper is automatically processed today. More will be said to this point later but the primary fallacy, of course, lies in the phrase "actuarial exactness" because there can be no such creature. "Actuarially proper" is more nearly correct. There are only relative degrees of "exactness" in the determination of insurance rates.[11]

(*b*) BASIS OF RATES

"Due consideration shall be given to past and prospective loss experience within and outside this state, to catastrophe hazards, if any, to a reasonable margin for underwriting profit and contingencies, to dividends, savings or unabsorbed premium deposits allowed or returned by insurers to their policyholders, members or subscribers, to past and prospective expenses both countrywide and those specially applicable to this state, and to all other relevant factors within and outside this state."

These provisions are fairly uniform, although a few states add references to "physical hazards," to "safety and loss prevention factors," to "underwriting practice and judgment," and a few odds and ends of considerations.

The most controversial point involved here is probably the question

[10]Vol. 15, No. 4 of "Law and Contemporary Problems," pp. 523 ff.

[11]See further discussion in Sections IV and V of this paper.

of profit. The word "underwriting" is omitted in the Florida, Kansas, Mississippi, Tennessee and Texas laws, and the word "reasonable" without "underwriting" is used in Alabama, New Jersey, New York and Puerto Rico laws.

(*c*) EXPENSE PROVISIONS

"The systems of expense provisions included in the rates for use by any insurer or group of insurers may differ from those of other insurers or groups of insurers to reflect the requirements of the operating methods of any such insurer or group with respect to any kind of insurance, or with respect to any subdivision or combination thereof for which subdivision or combination separate expense provisions are applicable."

There are a few variations in this phraseology noted in the Appendix, and such a provision is entirely omitted from the laws of the District of Columbia, North Carolina, Texas and Vermont, and from the Massachusetts and New Hampshire laws relating to automobile liability.

The reason for the reference in this phraseology to subdivisions of a kind of insurance may be illustrated by reference to automobile liability where there are variations in the audit expense provisions for garages, in the production cost provisions for public automobiles, and in all of the expense provisions for long haul truckmen.

(*d*) CLASSIFICATIONS AND RATING PLANS

"Risks may be grouped by classifications for the establishment of rates and minimum premiums. Classification rates may be modified to produce rates for individual risks in accordance with rating plans which establish standards for measuring variations in hazards or expense provisions, or both. Such standards may measure any differences among risks that can be demonstrated to have a probable effect upon losses or expenses."

Although this phraseology would appear to be sufficiently clear to stand on its own feet, its application has become one of the most debated topics rising out of the rate regulatory laws. Since the fifth section of this paper is devoted entirely to individual risk rating plans, further discussion will be postponed to that section.

(*e*) RATE FILINGS

A number of requirements are grouped here for convenience in consideration.

1. "Every insurer shall file with the commissioner every manual of classifications, rules and rates, every rating plan and every modification of any of the foregoing which it proposes to use. Every such filing shall state the proposed effective date thereof, and shall indicate the character and extent of the coverage contemplated. . . . A filing and any supporting information shall be

open to public inspection after the filing becomes effective."

2. Filings may be made by a rating organization on behalf of a member or a subscriber.
3. "The Commissioner shall review filings as soon as reasonably possible after they have been made in order to determine whether they meet the requirements of this Act." Subject to the exception specified in (6) below the commissioner has a waiting period of 15 days in which to consider the filing, which period may be extended by him for an additional period not to exceed 15 days upon proper notice to the filer. A filing is deemed approved unless disapproved by the commissioner within the waiting period or any extension thereof. This is the so-called "deemer" provision.
4. ". . . the commissioner may, by written order, suspend or modify the requirement of filing as to any kind of insurance, subdivision or combination thereof, or as to classes of risks, the rates for which cannot practicably be filed before they are used."
5. "Upon the written application of the insured, stating his reasons therefor, filed with and approved by the commissioner, a rate in excess of that provided by a filing otherwise applicable may be used on any specific risk."
6. "Any special filing with respect to a surety or guaranty bond required by law or by court or executive order or by order, rule or regulation of a public body, not covered by a previous filing, shall become effective when filed. . . ."

The filing and supporting information (see (*f*) below) are not open to public inspection until after the filing becomes effective. This provision, of course, protects the right of the filer to the privacy of its intentions until the filing becomes effective.

It will be noted by reference to the summary in Appendix A that in Montana only rating organizations are required specifically in the legislation to make filings, that in California and Missouri no filings are required under the law, and that in Idaho no filings are required under the law unless the commissioner upon review and hearing in 1953, or upon review biennially thereafter, shall determine that reasonable competition does not exist with respect to certain classes. In Louisiana rates are made by the Commission, no provision being made for the submission of filings; in practice, the carriers often initiate discussion of rate revisions, but make no formal filing.

As respects the waiting period, it will be noted by reference to the table in Appendix A that there are a number of states with no waiting period provision, three states with double the normal waiting period (Pennsylvania, South Carolina and Texas) and one with 20 + 20 days (Colorado), and that in a limited number of states prior approval is required. The rating organizations, chiefly by reason of the very great volume of printed material involved in their manual reprints, customarily treat all states as though prior approval were the rule, with due regard to the "deemer" provisions in the laws.

The carriers are faced with serious difficulties in the extremely varied interpretations in different states of identical filing provisions. It has become necessary for the independent filing companies, as well as the rating organizations, to maintain an expert on filings who has at his fingertips all of these vagaries of interpretation.

Provision (4) was included to permit flexibility in the handling of filings on certain coverages for which the application of the normal filing rules would prove completely impractical. It should be emphasized, however, that all such exceptions to the normal filing rules are subject to review, question and hearing on the part of the commissioner.

The fifth provision is included to permit flexibility in the handling of risks that might otherwise find the market so restricted that they could not obtain insurance readily.

The sixth provision relating to certain surety and guaranty bonds is likewise included for reasons of practicability and such rates are subject to the same review by the commissioner as all other rates. Three states provide for similar latitude in the handling of certain other filings, as noted in the Appendix.

(*f*) SUPPORTING INFORMATION

"The information furnished in support of a filing may include (1) the experience or judgment of the insurer or rating organization making the filing, (2) its interpretation of any statistical data it relies upon, (3) the experience of other insurers or rating organizations, or (4) any other relevant factors."

The foregoing phraseology is part of what came to be known as the Moser Amendment which was added to the Model Bill in January, 1947 by the All-Industry Committee, and is included in the section from which *(e)*-1 above is quoted. The original draft provided for the submission of supporting information with the initial filing. The amended draft permits a filing to be made without supporting information but gives the commissioner power to call for any supporting information he deems necessary, and establishes the inception of the waiting period from the date such information is received. The entire amendment states that when a filing is not accompanied by the supporting information the commissioner may request such, and in that event the waiting period shall commence as of the date such information is furnished, and the amendment then goes on to specify what that information may include.

This amendment has not been adopted in seventeen jurisdictions.[12] The second specification (interpretation of statistical data) was omitted from the legislation but the other specifications were included in eight jurisdictions.[13] Such supporting information is required to be submitted in Puerto Rico and West Virginia. In Wyoming such sup-

[12]Ala. Calif., D. C., Fla., Kan., La., Mass. (Stat. Auto.), Miss., Mo., N. H., N. J., N. C., Okla., Tenn., Tex., Vt., Va. The original draft provision for the submission of supporting information with the original filing is included in Fla., Kan., Miss., Tenn., and Texas (Other Cas.).

[13]Alaska, Ark., Ind., Me., Mass. (Other Cas.), Ohio, Pa., Wash.

porting information may be required only at a hearing and shall be open to public inspection upon the conclusion of the hearing.

This amendment was urged initially by a group of independent writers to clarify what Mr. Moser has characterized as the "legislative command . . . for flexible administration that will not stifle competition by making it cheaper and easier to conform than to compete."[14] Although the clause quoted under (*b*) above closes with a reference "to all other relevant factors within and outside this state" this amendment apparently seemed desirable to the independent carriers in order to re-emphasize that reference and also in order to throw the burden for determining when supporting information is necessary upon the supervisory official rather than upon the filing carrier. With an adequately staffed Insurance Department this is within the realm of possibility, but there are very few Departments the appropriations for which provide a staff that will be well qualified to make such a determination.

There have been many representations by independent filers that mere reference to a filing by a rating bureau should suffice by way of supporting information for any filing of rates that are not above those set forth in the rating bureau's submission. The logic of this argument is easier to follow in a state where a rating bureau represents carriers writing a major portion of the premiums for the line in question than in a state where it represents a small minority of the writings and where it may, in fact, represent a smaller proportion than the writings of a single independent carrier that is predicating its filing thus upon the submission of the rating bureau.

Certainly no cut and dried generalization should prevail in any event. This matter of the adequacy of supporting information probably constitutes the most difficult single problem of the supervisory official. Wherever I have gone throughout the country, this is the one problem the supervisory official always wishes to discuss. No one has yet produced a satisfactory pattern. Possibly none such can be produced. Certainly the carriers should be forbearing in their approach to the Insurance Departments, and the industry as a whole will be benefited by the practice of submitting information in excess rather than in deficiency. The rating organizations, it may be added, have followed consistently a procedure of submitting what they consider to be complete supporting information with each filing, not falling back upon the loop-hole afforded by the Moser Amendment to lay the burden of determining when such information shall be needed upon the shoulders of the Insurance Department officials.

(*g*) DISAPPROVAL

Provisions are included for a review of any filing by the commissioner subsequent to its becoming effective, and for the holding of hearings and the promulgation of disapprovals if he finds that a filing does not meet the requirements of the law. These provisions are of

[14] Op. cit.

interest particularly from the legal angle and there is no need to summarize them in detail in this paper.

(*h*) RATING ORGANIZATIONS

Specific provisions are included relating to the licensing and regulation of rating organizations. As noted already under (*e*), rate filings may be made by rating organizations on behalf of their members and subscribers where filings are required. Cooperation among rating organizations or among rating organizations and insurers is permitted in rate making and in other matters within the scope of the Act. These provisions thus put into effect the mandate implied in the Congressional action embodied in Public Law 15, setting aside the application of the federal anti-trust regulations to such cooperation among insurers in the establishment of rates. While such provisions are omitted in a few states, there are other provisions carrying the same implication. These provisions have not been reviewed in detail in the Appendix.

Subject to reasonable rules, any rating organization must permit any insurer to subscribe to its rating services. Such subscription specifies the kind of insurance and the state. Prior to the S.E.U.A. decision it was customary for the rating organizations to insist upon country-wide adherence to their manuals by member carriers, and the subscriber principle was effective only in New York State, with one or two minor exceptions.

(*i*) DEVIATIONS

Any member of or subscriber to a rating organization "may make written application to the Commissioner for permission to file a uniform percentage decrease or increase to be applied to the premiums produced by the rating system so filed for a kind of insurance, or for a class of insurance which is found by the Commissioner to be a proper rating unit for the application of such uniform percentage decrease or increase, or for a subdivision of a kind of insurance (1) comprised of a group of manual classifications which is treated as a separate unit for rate making purposes, or (2) for which separate expense provisions are included in the filings of the rating organization." A copy of the application and supporting data must also be furnished to the rating organization. Ten-day notice of a hearing is given but the rating organization may waive the hearing. Except for the ten-day hearing notice, no waiting period is customary. The criteria established for the other rate filings (see *(a)* above) are usually applicable to deviation filings as well. A deviation is ordinarily granted for a one-year period, but in a number of states there is no such limitation. A summary of the variations in these provisions is set forth in Appendix A.

These provisions steer a middle course between the Scylla of an extreme flexibility which would make the operations of a rating organization meaningless, and the Charybidis of insistence upon a uniformity which would act in the direction of stifling competition.

(*j*) ADVISORY ORGANIZATIONS

Specific provisions are included relating to advisory organizations which assist filers "by the collection and furnishing of loss or expense statistics, or by the submission of recommendations," but which do not make filings directly. The use by any filer of statistics or rate making recommendations furnished by an advisory organization not complying with the statutory provisions is prohibited. No mention of such organizations is made in the laws of Alabama, Kansas, Massachusetts (Statutory Automobile), Mississippi, New Hampshire (Automobile Liability), North Carolina and Vermont.

(*k*) EXCHANGE OF INFORMATION

1. "Reasonable rules and plans may be promulgated by the commissioner for the interchange of data necessary for the application of rating plans."

2. "In order to further uniform administration of rate regulatory laws, the commissioner and every insurer and rating organization may exchange information and experience data with insurance supervisory officials, insurers and rating organizations in other states and may consult with them with respect to rate making and the application of rating systems."

These provisions are not applicable in the District of Columbia, Mississippi, Montana, New Jersey, North Carolina, Oklahoma and Vermont, and are modified in a number of other states. (See Appendix A)

(*l*) RECORDING AND REPORTING OF LOSS AND EXPENSE EXPERIENCE

"The Commissioner shall promulgate reasonable rules and statistical plans, reasonably adapted to each of the rating systems on file with him, which may be modified from time to time and which shall be used thereafter by each insurer in the recording and reporting of its loss and countrywide expense experience, in order that the experience of all insurers may be made available at least annually in such form and detail as may be necessary to aid him in determining whether rating systems comply with the standards set forth in Section———. Such rules and plans may also provide for the recording and reporting of expense experience items which are specially applicable to this state and are not susceptible of determination by a prorating of countrywide expense experience. In promulgating such rules and plans, the commissioner shall give due consideration to the rating systems on file with him and, in order that such rules and plans may be as uniform as is practicable among the several states, to the rules and to the form of the plans used for such rating systems in other states. No insurer shall be required to record or report its loss experience on a classification basis that is inconsistent with the rating system filed by it. The commissioner may designate one or more rating organizations or other agencies to assist him in gathering such experience and making compilations thereof, and such compilations shall be made

available, subject to reasonable rules promulgated by the commissioner, to insurers and rating organizations."

No provisions for the recording or reporting of statistics are included in the Missouri, Montana or Oklahoma laws. A few of the laws require biennial rather than annual statistics.

The individual state exceptions are noted in Appendix A but detailed discussion of the impact of this particular section is deferred to the following section which deals with statistical plans.

* * * * * * *

As respects the aggregate of the various provisions that have been extracted for discussion in this section, only a quick glance at the tables in the Appendix will suffice to indicate the confusing lack of consistency and uniformity among the states and the maze of legalistic meanderings and by-paths that must be threaded by those who must operate under these laws, despite the fact that most of them were constructed upon the same basic framework.

III. STATISTICAL PLANS

" 'In this very log we sit upon, Mrs. Sampson,' says I, 'is statistics more wonderful than any poem. The rings show it was sixty years old. At the depth of two thousand feet it would become coal in three thousand years. A box four feet long, three feet wide, and two feet eight inches deep will hold a ton of coal. . .'

" 'Go on, Mr. Pratt,' says Mrs. Sampson. 'Them ideas is so original and soothing. I think statistics are just as lovely as they can be!' "

—O. Henry

The subjection of workmen's compensation insurance to widespread regulation from its inception was responsible for the establishment in that field of universal reporting of statistics in accordance with a standard statistical plan. That plan at first provided only for the reporting of data statewide by classification, but with the advent of the loss and expense constant refinements in the ratemaking procedure a transition to a unit report system was gradually effected.

The rating organization established plans for the other lines in order to provide a common basis for the reporting of statistics by their members. As regulation entered these fields, the plans were expanded to meet the requirements imposed in the few regulated states, but such expansion was as a rule made effective countrywide in the interest of simplicity. In those few jurisdictions where effective rate regulation existed adherence to the statistical plans was required of virtually all carriers. The few minor exceptions need not concern us here. Elsewhere the independent carriers, with but few exceptions, did not main-

tain statistics that could have served for or contributed to manual rate determination. Consequently when the rate regulatory laws were enacted the most extensive impact upon the internal company procedures of the independent carriers lay within this area of operation.

REPORTED STATISTICS VS. SUPPORTING INFORMATION

There has from the outset existed a deal of controversy regarding the interpretation of the regulatory provisions relating to statistics. The argument has been made vigorously by certain of the independent carriers that the section relating to statistical plans does not require that the information reported under such plans should be in the detail sufficient for manual rate making purposes but rather that each filer is responsible only under the rate filing provisions for providing such information, in supporting the filings. Certain other independent carriers have gone so far as to argue that statistics in complete detail for rate making purposes should be required of rating organizations but not of other filers except in direct support of rate filings. At one early meeting attended by representatives of all segments of the industry, this argument was carried to the point of insistance that independent filers need record and submit no more than aggregate loss ratio data whereas all members of rating organizations should be required to submit information in the classification and territorial detail established in the manuals.

These controversies are, of course, founded upon a basic difference in the interpretation of the regulatory statute in its entirety. The adherence to the principle of differentiation between the statistical requirements laid upon members of rating organizations and those laid upon independent filers proceeds upon the philosophy that since the primary purpose of regulation is to establish a sufficient degree of control over the rate making activities of carriers acting in concert as to meet the requirements of Public Law 15 for the voiding of the application of the federal anti-trust statutes, regulation should be rigid in its application to rating organizations, and as negligible as possible in its application to independent filers.

Such a double standard has apparently been written into one law (Montana), though the interpretation of that law is debatable. The idea of a double standard is basically unsound, because if pushed to an extreme it would void that objective of the regulatory laws which would permit establishment of rates upon a broad spread of experience; for if requirements were laid upon carriers acting in concert that are much more burdensome than those laid upon independent carriers, the point could be reached where the carriers acting in concert would have to discontinue such activities and act as independent carriers in the interests of self-preservation. Such a move would very probably be viewed with utter consternation by the major portion of the independent carriers in the country because they are at present, to use the phrase that their own spokesmen have used on occasion, riding on the coat-tails of the rating organizations, and if those coat-

tails should become unravelled the resulting chaos might well be disastrous for many of the smaller carriers.

Part of the difficulty lies in the fact that any carrier not previously affiliated with a rating organization can put itself in a position overnight to use the manuals of a rating organization by subscribing to its services. The argument is made therefore that any carrier should be permitted to do as an independent, in using a bureau's filing as complete justification for its own rates, what it could do upon merely subscribing to the bureau's services. This argument overlooks the fact that a carrier, in subscribing to a bureau's services, commits itself to certain obligations, one of which is to contribute in the future to the bureau's statistics in exactly the same degree as members of that organization.

The germ of the argument on statistics of course lies in the words (see II-*(l)* above) : ". . . in such form and detail as may be necessary to aid" the commissioner "in determining whether the rating systems comply with the standards set forth in" the law. Until greater progress is made in determining what constitutes a proper test of compliance of rating systems with the provisions of the regulatory laws, the argument on statistics will of necessity be correspondingly indeterminate.

There are many areas of sparse statistics where the supervisory officials may consider that it is essential to obtain detailed information from all carriers. Yet the information will be of little use unless it is combinable. And it is in those areas particularly that carriers are farthest apart today in the detail they are reporting.

In reviewing what has happened, one cannot resist the thought that some of the argument in this regard, as on other aspects of the impact of the regulatory laws, has been made largely as a matter of principle, by way of highlighting a policy of non-uniformity or non-conformity as such, rather than as a matter of deep-seated adherence to the details of such unconforming practices. Another illustration of emphasis as a matter of principle will be seen in the next section, in our discussion of judgment and flexibility in ratemaking.

POST-WAR PLANS

Effective January 1, 1946, the national rating organizations in the field (other than on workmen's compensation and boiler and machinery, for which reporting standards were not relaxed during the war) reinstated statistical plans which had been virtually suspended during the war. In their reinstated form these plans provided substantially the same detail as the corresponding plans that had been in effect prior to the war, namely, loss data by classification and territory. The plans in some respects (for example in the reporting of commercial car experience by trade classification) went somewhat beyond the classification detail spelled out in the manuals in order to provide information for analysis and reallocation of operations within the classification system. This seemed important at the time in view of the long wartime lapse in the reporting of detailed statistics.

At the same time an effort was made to anticipate forthcoming rate regulatory legislation, in view of the S.E.U.A. decision by providing in those statistical plans for the assignment of special codes for classifications, territories or coverages that were not in accordance with the rating organizations' manuals upon which the statistical plans were based, and thus in effect adapting those plans for use by any carrier however independent its operations might be.

Furthermore, certain rating organizations differentiated sharply between their other statistical activities and the work of the statistical division in the collection and tabulation of statistics for reporting to the supervisory officials under the regulatory laws, i.e., differentiated between their functioning as a statistical agent and their functioning as a rating organization.

Shortly thereafter, the National Association of Independent Insurers developed a separate set of statistical plans which went far beyond the early statements of objectives made by representatives of the independent carriers but which still fell short of providing the detail called for by the plans of the rating organizations. By way of elaborating upon this statement let me say that it is clear why these plans omit analytic detail beyond that established in the manuals on which they are based. As respects the further restriction of detail as, for example, in the grouping of many manufacturers' and contractors' liability classifications carrying different rates, a good case can be made out for such restrictions only if provision is made for periodic analysis of the detail thus omitted. Such provision has not been made, to my knowledge, by the carriers using those plans. It must be granted, however, that there are some instances in manual classifications in which the collection of detailed statistics countrywide over a period of many years will fail to produce an interpretable volume. Where the line should be drawn thus becomes a matter of judgment at the best.

In some respects the N.A.I.I. plans (as I shall refer to the plans published by the National Association of Independent Insurers) specify inclusions that can be fully appreciated only if one knows something of the background of persuasion that was necessary for their adoption, but they are juxtaposed to gaps that would appear designed to preclude the use of the statistics reported to the statistical agencies for ratemaking purposes. This characteristic thus bears out the argument that has been mentioned already to the effect that the section relating to statistical plans does not require that the information reported under such plans should be in the detail necessary for manual ratemaking purposes.

In extenuation of some of the gaps, the supporters of the National Association of Independent Insurers statistical plans argue that it is necessary to creep before one can walk. Their plans are used by a large number of small carriers who, prior to the introduction of rate regulation, maintained no statistics whatever other than for annual statement purposes. The impact of regulation has unquestionably posed very difficult problems for that group of carriers, and if the N.A.I.I. plans are to be considered as an interim development in their present

form they will have served that expedient purpose admirably. Anyone who is familiar with the problems in the offices of many of those smaller carriers must, in fact, take his hat off to the individuals who succeeded in getting them voluntarily to accept even the provisions of those statistical plans.

No commentary on this subject would be complete without mentioning an outstanding advantage of the N.A.I.I. plan for automobile statistics, namely, the fact that it constitutes a unified plan for the recording and reporting of statistics on automobile liability and physical damage coverages. The rating organization administration of these lines is divided between two groups because of the old demarcation between so-called "casualty" lines and "fire" lines. These organizations are, however, currently cooperating in ironing out differences, particularly in territorial definitions and coding, so as to simplify the statistical problems created by this separation of administrations.

In most of the states the promulgation of the various statistical plans was effected by a letter addressed to all carriers by the Commissioner of Insurance (1) listing the various plans that he was approving for use in the state, (2) indicating that in the case of rating organizations their plans were to be used by members of or subscribers to the organizations, and (3) granting to other carriers the option of selecting any plan for use that they might desire. In a few states the third of these points was omitted so that no plan is officially effective in such states for other than companies affiliated with rating organizations or with an advisory organization.

As respects the broad principles governing the reporting of statistics, there is no need to review in this paper such elementary concepts as policy year and calendar year reporting, or accident year reporting of loss statistics; the same is true as respects paid and incurred losses, written and earned premiums.

ALLOCATED CLAIM EXPENSES

It is pertinent to review briefly one controversy relating to the statistical plans which literally shook the industry to a degree far beyond the relative importance of the item involved, namely the celebrated allocated claim expense controversy. In the casualty field from time immemorial, allocated claim expenses have been reported with losses so as to lay the burden of any unduly high allocated claim expense upon the territory or classification developing such, and conversely to accord to any classification or territory the benefits accruing from conditions giving rise to unusually low allocated claim expense. Prior to rate regulation the carriers were left considerable latitude in the separation of expenses of claim investigation and adjustment into allocated and unallocated portions. With the advent of regulation it was thought that, in order to avoid criticism of manual rate making processes and experience rating procedures, a maximum reasonable degree of uniformity should be introduced in defining allocated claim expenses. Accordingly the rating organizations promulgated a definition which restricted allocated claim expenses essentially to expenses of investi-

gating and adjusting claims in suit. Unfortunately the far-reaching consequences of this action were not successfully anticipated and the reverberations that ensued did not abate for a couple of years. It was necessary to establish an All-Industry Committee on the subject which held several meetings. This All-Industry Committee represented the automobile physical damage writers as well as the organized and so-called "unorganized" stock and non-stock casualty writers. It was not possible to effect a reconciliation of all the conflicting views in the form of a single definition, but the course of action embodied in the formal resolution adopted by the Committee and in the subsequent discussion on the implementing of that resolution may in time well become the guide for the treatment of allocated claim expenses in ratemaking procedures and is of sufficient importance therefore to recite here.

In a formal resolution the Committee recommended that recognition be given to "the need for flexibility in the elements of claim expense to be reported with losses for ratemaking purposes." The resolution then continued as follows:

"This recommendation is supported by the following reasons:

1. Because it will reflect the variations in the operating methods of the different groups of insurers.
2. Because it will reflect the practical differences and usages of the individual lines of insurance.
3. Because essential flexibility is incorporated in the statistical plans approved by insurance authorities of most states which, we believe, is in conformity with the spirit of Public Law 15.

The fact that one approved statistical plan provides for the inclusion with losses of certain elements of claim expense which are excluded under another approved statistical plan covering the same line of insurance would not, in our opinion, preclude the merging of the consolidated figures filed under these respective plans."

In the discussion on methods of merging data filed under the various definitions, it was agreed that the most reasonable solution would be to extend the reported losses and allocated claim expenses by a factor (for each company or each group of companies using the same definition) to include unallocated claim expenses as well, so as to produce losses plus total claim expenses. The results of all carriers would be comparable to this extent, regardless of what definitions of allocated claim expenses were used, and there is the added advantage from the public relations standpoint of talking to a permissible loss ratio inclusive of total claim expenses.[15]

THE NEW YORK PLAN

A couple of years ago officials in the New York Insurance Department informally broached the idea of statistical plans being published by the Department, first to comply with the promulgation provision

[15]It may be noted that since this paper was presented, the National Bureau of Casualty Underwriters has adopted this procedure for all casualty lines under its jurisdiction.

in the law that had been satisfied in other states by a bulletin from the Commissioner specifying the plans and statistical agents approved for use by the Department, and secondly to differentiate clearly between the details of statistics that the Department viewed as necessary for effective regulation and the additional details desired by the rating organizations for analytic purposes. The rating organizations at once countered with the idea that the Department, if it were finally considered necessary to make any departure from the status quo, should prepare a plan embodying what the Department considered to be minimum details, which plan would be publicized by bulletin to the statistical agencies and any other interested parties; and that any plan which satisfied the minimum requirements so established by the Department should be approved regardless of what additional details it might embody.

The New York Department had never approved any of the plans of the National Association of Independent Insurers, and it was presumably pressure from that organization for approval of its plans that spurred the foregoing move.

A formal hearing was held early this year, and an automobile plan for all coverages, liability and physical damage, has been promulgated by the Department. The plan has been so drafted that virtually no change is necessary in the plans previously effective in the state in order to effect compliance. A call for experience each year will be prepared the details of which will have to be included in the calls issued by the statistical agencies, with the minimum details required by the Department earmarked for the benefit of carriers not members of or subscribers to the organizations issuing the calls.

Since the maintenance of statistics on a uniform basis countrywide is a matter of great importance to the carriers, and a source of substantial economies, it is to be hoped that the drafting of different plans by the various state departments, after the pattern so set by New York, does not become the rule. This lack of countrywide uniformity is the very shoe that is pinching the N.A.I.I. carriers today as a result of their failure to secure approval of their plans in certain states.

A NEW APPROACH

Effective January 1, 1951, the rating organizations introduced modifications in their statistical plans which reflect on their part a new approach to the entire problem of statistical reporting. These plans had initially included requirements for the reporting of information for analytical purposes involving detail beyond the classification detail spelled out in the manuals, and also for the reporting of detailed information on classifications developing very sparse experience. It must be emphasized that these requirements were included in the plans as re-introduced January 1, 1946 because there had been such a long war-time gap in statistical experience that it was felt the carriers should protect themselves against undue criticism from the supervisory officials under the new and forthcoming rate regulatory acts.

It was never anticipated that all such detail would be maintained indefinitely. By January 1, 1951, the organization carriers had recorded such detail for a five-year period. The plans were accordingly reviewed with the idea of determining what details were needed on a continuous basis and what details could be obtained in the future on a periodic (non-continuous) or sampling basis. Many items were dropped from the plan at that time and such information will in the future be obtained either by an interpolated short term call or by a sampling study or other special investigation. It may be found possible in the future to extend this devisive process to other areas of experience which are currently being reported in detail under the plans.

IV. MANUAL RATE-MAKING PROCEDURES

"Little by little we subtract
Faith and Fallacy from Fact,
The Illusory from the True,
And starve upon the residue."
—Samuel Hoffenstein

The manual rate making procedures in the workmen's compensation line have been adequately reported through the years in these *Proceedings*. Reference will be made to them in this paper only incidentally as certain points may be illuminated by illustration from the workmen's compensation field. This discussion will be confined almost entirely to those lines with which I am more intimately acquainted. Perhaps other fields, such as fidelity and surety and credit, will be covered either in discussion of this paper or in separate papers in due course.

LIABILITY LINES—TIME LAG IN POLICY YEAR STATISTICS

As already noted in the preceding section, the industry currently stands just about universally committed to the pure premium approach to manual rate determination, at least for the important classifications, in the liability lines. The statistics for these lines are reported on a policy year basis with exposures. Only for specified car experience on private and commercial automobiles has it been found expedient to collect incomplete policy year data, that is, policy year experience as of a date twelve months subsequent to the inception date of the policy year. With or without the incomplete policy year reporting, there arises a very serious problem in the utilization of policy year data by reason of the lag between the period covered by such data and the date of review. In order to cut down guess work as respects incurred but not reported losses, the statistical plans for the liability lines call for evaluation of the losses as of a date at least three months subsequent to the termination date of the experience period

being reported. This requirement, though important in increasing the accuracy of the data, adds, of course, to the lag in its use.

This problem of lag is greatly intensified by the fact that calendar year data available on an aggregate basis by line to the supervisory officials through the annual statement reportings are more nearly contemporaneous than any policy year data available at the time of such annual statement reports, and the apparent plausibility of such data obscures its uselessness for rate review purposes. The supervisory officials have continued to express impatience with the carriers over this question of lag in the policy year experience.

Many attempts have been made to develop a basis for maintaining liability experience which would close this gap but the advantages of the policy year basis for lines involving considerable detail by classification and territory and characterized by long delays in loss settlements on a wide scale are so great as compared with the advantages of any other basis thus far considered that the policy year basis still holds its prime position.

The technical committees of the National Bureau of Casualty Underwriters recently made a thorough-going investigation of this subject, ruling no scheme out of their field of study for any reasons of ostensible fantasy, and finally reported reaffirmation of reliance upon the policy year basis as the best yet developed.

The present tendency in the third-party lines is to try to close the gap in experience by the use of trend data derived from other sources. In the workmen's compensation field, calendar year loss ratios by state for all classifications combined have been utilized for a number of years to determine trend factors applicable to the rate level indications obtained from the policy year data.

The acuteness of this particular problem is probably more widely felt today than ever before because of the unprecedented upward trend in loss costs in the automobile liability field in 1950 and 1951. Back in 1947, a study was made which indicated that the impact upon insurance loss costs of an upward trend in cost of living was felt within six months in the property damage liability field but that there was a lag of about three years in its impact on bodily injury liability loss costs. While this study was repeated recently with results that were less conclusive, it is nevertheless a fact that the great increase in bodily injury loss costs experienced by carriers in 1950 followed by about three years the sharpest preceding increase in the cost of living, thus lending some weight to the conclusions from the former study. The reasons for this delay in impact lie in the slowness of the response of such contributing factors as hospital costs, medical fees, increase in the amount of damages sought for a given type of injury, just as the impact of a locomotive on a chain of cars has to be passed down the line so that there is quite a lag before it is felt at the end of the chain.

The rating organizations had previously been collecting average claim cost and claim frequency data countrywide, but they are only this year instituting a continuing program for the reporting of trend

data by state in the various liability lines. Initially calls were issued for incurred-earned loss ratios by state, for all automobile bodily injury liability and all automobile property damage liability separately. Such information, while very enlightening in the absence of anything better, is of course not beyond criticism, and studies are currently in progress to determine whether more reliable and more accurate supplementary information can be developed in the way of average claim costs and also claim frequencies based upon exposures. These latter requirements would necessitate breaking down the reports to separate audited from non-audited coverages and also some separation by type of car. It is possible that this can be effected without undue expenditure on the part of the carriers by modifying internal company procedures so that the exposure cards can be run at monthly or quarterly intervals instead of annually. In any event it would appear that the problem of collecting trend data is well on the road to solution.

As respects utilization of trend data the problem is even more difficult. The workmen's compensation developments referred to indicated that there are difficulties, since the formula has been modified a number of times. The premium volumes in the workmen's compensation line are on the average greater than the volumes reported to rating organizations for rate review in the automobile lines and far greater than in the general liability lines. The emergency rate revision program developed for the automobile lines this year had to be based upon loss ratio data. As claim frequency and average claim cost data become available they will be used as supplementary information. The earned loss ratios for the years 1947-1950 inclusive were obtained. These were adjusted to present rate level and further adjusted to determine the relationship between the indication for the average of calendar year 1950 and a loss ratio calculated for the calendar period most nearly approximating the period covered by the combined policy year loss data for 1948 complete and 1949 incomplete. The "current experience factors" so determined were in the smaller states subject to such extreme fluctuations that they were credibility-weighted with the countrywide indications, the weights approximating those used in the determination of earned factors. It should be noted that since the trend was increasing sharply upwards through 1950, as measured by 12-month running averages with quarterly termination dates, the factors so developed do not reflect the loss cost level as of the date of review and can only be considered as conservative (as all such factors in post-war rate revisions unfortunately have proved to be). This deficiency was overcome in part by superimposing a countrywide factor to adjust from the loss level of 1950 to the loss level of the first quarter of 1951, with due correction for seasonal elements in the first quarter data.

Corresponding procedures are being considered for the general liability lines. Only in the fixed exposure lines of owners', landlords' and tenants' and elevator liability in this field, however, has the problem of rate inadequacy become acute, and in these lines the rates fell so far behind the experience during the war that the carriers have not

considered in their previous post-war revisions that such factors would be practicable, so great have been the increases necessary without their reflection.

Before we leave this subject I should add that I hope someone, in the near future, who is connected with one of the carriers writing automobile policies on a six months basis will write a paper on rate making procedures under such a reporting basis. In times when the experience trends are sharp in either direction, there are obvious advantages in such a basis which in itself cuts down the gap between the experience period and the date of review.

BOILER AND MACHINERY

The other casualty line on which a pure premium approach is taken in the rate making procedure is boiler and machinery insurance. The adoption of this approach is comparatively recent since, prior to promulgation of the 1944 manual, rates for that line were predicated upon a review of loss ratio data. The pros and cons of loss ratio vs. pure premium as a basis for rate review have been comprehensively covered in Dr. Kulp's article on "The Rate Making Process in Property and Casualty Insurance—Goals, Technics and Limits" in the symposium, Autumn, 1950 issue of the Duke University publication "Law and Contemporary Problems." It would be repetitious to go into those arguments in great detail at this point, though I must confess here that I do not entirely agree with his observations.

All rate making procedures represent some compromise between the practicable and the theoretical ideal. In any review of loss ratios it is necessary in the casualty insurance approach to rate making to adjust the experience to the existing rate level because the casualty approach fundamentally is to determine what would have been indicated as a rate level by the experience period under review if the existing rate level had been in effect throughout that period. It is assumed in this paper that the reader is acquainted with the fundamental fact that in the determination of casualty rates the loss provision is first established and then the expense provision is added thereto, usually as a percentage loading. We speak of the loss provision percentage-wise as the permissible loss ratio. In the boiler and machinery lines this ratio is not constant; rather, it is the sum of the percentage provisions for loss and inspection expense that is constant. It is this complication, and consequently the necessity for thinking in terms of dollar amounts of loss and inspection expense provisions rather than varying ratios of such to the premium, that was responsible for the transition from a loss ratio review to a pure premium review for that line in the classification detail.

The proposition that all rate making procedures represent a compromise between considerations of practicality and theory is well illustrated in the boiler and machinery line, because it is utterly impracticable to collect experience corresponding to every rate in the manual since the rates vary not only by type of object but also extensively by

size of object within type. Thus it is not possible to calculate an exact pure premium underlying the rates corresponding to any reported body of experience since such a body of experience may reflect several sizes of objects.

BURGLARY AND GLASS—THE LOSS RATIO APPROACH

On the burglary and glass lines, rates have always been made on the loss ratio basis with the exception that pure premium studies of the glass experience by classification have, in large measure, been the basis of modifications of the glass classification rating table. In the first place it is not practicable to tabulate the exposures in these lines in the refinement that would be necessary in the application of a pure premium approach to rate level determination. The resulting sub-divided blocks of experience would in general be so thin as to be not susceptible of interpretation. In the second place, such sub-divided information is not available under present rating procedures in the company offices and to obtain it would entail a vast increase in the amount of labor now necessary. At the present time statistics for these lines are reported to the rating organizations on punch cards and changes are now being made so that statistics may in the future be obtained on a calendar year basis as respects premiums, and on an accident year basis as respects losses (incurred for burglary and paid for glass). The classification relativities within the coverages for these lines constitute an area where it is felt that a fairly infrequent periodic check is all that is necessary and steps have been taken to eliminate such details of statistics from the compilations that will be made year in and year out.

CREDIBILITY PROCEDURES

There is not much argument about the fundamental bases of the loss statistics. Most of the discussion centers around their interpretation for the determination of manual rates. It is in this field that the toughest actuarial problems lie. Historically the initial solution was a simple application of underwriting judgment to the experience results. With the first workmen's compensation legislation, however, came the first regulation and the requirement of justifying the individual steps in the ratemaking process. Underwriters had known, as a matter of common sense, that a large volume of data is more reliable, more "regular" in its indications, than a small volume. The first application of mathematics in the development of a formula to determine relative reliabilities, or credibilities, of statistical data was set forth in a paper by Mr. Mowbray in the first volume of these Proceedings in 1914. His approach was based on the rough assumption that accident frequencies are distributed in accordance with the normal curve.[16] Refinements and other approaches to the problem in manual rate-making have been developed, and in recent years Mr.

[16] A. H. Mowbray: "How Extensive a Payroll is Necessary to Give a Dependable Pure Premium?", P.C.A.S. I, 24.

Bailey in particular has contributed to clarification of the subject.[17] Since mine is a non-technical paper it is not in order to summarize the mathematical thinking on the subject here. It will suffice to say that the usual approach in practice has been to establish criteria for complete credence, or 100% credibility, on specified mathematical assumptions, most often in terms of number of claims, but occasionally in terms of premium, expected losses, or some other statistical measure. Smaller degrees of credence are established mathematically on the basis of some formula related to the 100% criteria, usually $V=Z^2T$ where T is the 100% requirement (number of claims, for example), and V the corresponding requirement for the credibility Z.

It should be emphasized that any mathematical credibility formula develops from certain assumptions that must be specified. As used in the past, its primary function has been in the establishment of consistency in the interpretation of the statistics under review, through the establishment of a mathematical measure of relative reliability. An important by-product has been the introduction of greater stability both in the rate structure and in the ratemaking process. It is important that judgment in the interpretation of statistics in one state as compared with another, or in one class or territory as compared with another, be eliminated to the greatest practicable extent, and the use of credibility has facilitated that step.

If this approach is taken as simply a means of developing a consistent basis for the interpretation of the statistics under review, it is helpful as a tool in the solution of a very knotty problem. Some difficulty has been experienced, however, in its acceptance, not only among supervisory officials but also among some insurance industry representatives as well, as producing that fictitious ideal that I have referred to already as "actuarial certainty." Used in such a way it can become a dangerous and boomeranging implement.

The statistical analyst's work is extremely difficult because no one knows better than he the infamous possibilities inherent in misuse of his tools. If some one wished to write a really humorous paper on any aspect of the insurance business he could do no better than to choose for his subject the misuse of statistical information.

There are many of us who suspect that no final answer providing fool-proof mathematical criteria for the interpretation of insurance statistics can be developed. After all, the mathematical field involved is the theory of probabilities, and in that field a range of answers or a comparison rather than a definitive single answer is determined at best. Furthermore, the answer is being used predictively, which brings us into the most highly hypothetical, least developed and most difficult aspect of the theory. And finally, statistics in the insurance field do not demonstrate the regularity characterizing the statistics in those fields in which most of the advances in our modern statistical theory have been made.

Most of the current difficulties of the actuary in "selling" his rate

[17] F. S. Perryman: "Some Notes on Credibility," P.C.A.S. XIX, 65; A. L. Bailey: "Sampling Theory in Casualty Insurance, Part VII," P.C.A.S. XXX, 63; A. L. Bailey: "A Generalized Theory of Credibility," P.C.A.S. XXXII, 13; A. L. Bailey: "Credibility Procedure," P.C.A.S. XXXVII, 7.

revision programs to supervisory officials stem from this fundamental lack of absolute quantitative criteria for the interpretation of statistical data. Again and again the supervisory officials have to be reeducated to the idea that the credibilities reflect nothing absolute but only relative degrees of credence, and moreover, that if they are used in a distributional process even the indications of an experience segment carrying 100% credibility under the assumptions adopted may be subject to modifications before a rate is finally determined, in order to spread equitably the off-balance produced by introducing credibility factors into the formula.

Traditionally in the use of credibility factors a weighted average is obtained between two sets of figures with the credibility being used as a weight for the experience indications locally and the complement of the credibility being used as the weight for the framework taken as the norm from which indicated departures are measured. In the old workmen's compensation procedure, the framework taken as a norm consisted of a set of national classification pure premiums. In the general liability lines the norm has, on occasion, been taken as a set of national pure premiums but more frequently as the pure premiums underlying the existing rates or, in actuarial lingo, the "underlying pure premiums." A few years ago the use of underlying pure premiums in lieu of national pure premiums was substituted in the workmen's compensation procedures also.

In the 1948 revision of rates for the area and frontage owners', landlords' and tenants' liability classifications, a new approach was made to this old problem and the norm from which departures indicated by the local experience were measured was taken as a 50-50 weighting of national pure premiums and underlying pure premiums. Mathematically, this is a lengthier process than either of the others but it offers some advantages, which, I believe, have not received their due consideration. The chief objection to measuring departures from the underlying pure premium is that for the large number of classifications receiving low credibility in the respective territories the existing rate relativities are in effect frozen. On the other hand the principal objection to taking a set of national pure premiums as the norm is that rate relativities are in a continual state of fluctuation more or less violent. By taking the norm as a weighted average of these two, comparative stability is introduced while at the same time countrywide changes in classification relativities are given recognition. The weighting need not be a 50-50 weighting. Actually, the exigencies of the particular revision in question were such that a very high weight on the national pure premium would have produced inequitable results, and the 50-50 weighting was chosen largely for reasons of expediency.

The advantages of such a program are offset by the one great disadvantage attached to any utilization of national pure premiums, namely, that it is necessary to complete a countrywide tabulation of experience before it is possible to proceed to the development of a rate review in any particular jurisdiction.

Bearing in mind that credibility is introduced to impart consistency

to the interpretation of statistical data but that subject to that consideration it is also to be looked upon as an important tool for the implementing of underwriting judgment, it may be noted that there are other means of reflecting underwriting judgment by a consistent formula. I like to think of such formulas as a non-quantitative approach to the application of credibility. In this category, for example, would fall the procedure of taking the middle one of three pure premiums, (1) the underlying, (2) a short term experience indication which reflects trend, (3) a long term experience indication which emphasizes stability. This formula was originally used in liability lines and was subsequently utilized in the workmen's compensation field. As commonly used, it has been superimposed upon a credibility procedure but that is not always the case. The more plausible explanation of it is to say that consideration is given to two experience pure premiums, one a short term and the other a long term one and that if both lie on the same side of the underlying, that one is selected which produces the smaller rate change, whereas if they lie on opposite sides of the underlying then the underlying is selected.

Another approach which could be considered as in the same category is that followed in the 1951 revision of area and frontage rates in the owners', landlords' and tenants' liability line in the determination of statewide rate levels. This line has a fixed exposure basis so that the only way a change in premiums can reflect an inflationary impact is by a rate revision. Rates were not revised through the war years because the collection of detailed statistics at that time was suspended, but conditions changed very rapidly in that period. Hotels, for example, were filled as never before in the history of the business, department stores and other stores were crowded to capacity because the war-time economy developed wage levels which encouraged spending as never before. Consequently, when the first post-war experience became available for review, the indicated rate level changes were very great and the violence of the indicated changes in classification relativities appalling. Credibility factors were applied to the indications state by state in order to hold the overall rate level changes within limits that the industry felt were salable to the general public even though it was recognized that the rate levels thus attained were in the aggregate inadequate. In the second post-war revision was introduced the combination of national and underlying pure premiums as a starting point, a procedure already reviewed in this paper. The overall rate level changes indicated were still so great that only with the application of credibility were they held within bounds considered practicable. With the third post-war revision the rate level indications were still substantially upward but not in the degree indicated at the time of the previous revisions. Realizing the necessity of establishing state by state rate levels that it was hoped would approach adequacy at long last, credibility factors were not used but a formula was developed which gave increased weight to consistent trends in the experience which was now available over a three-year period. I have always felt that any credibility formula should accord

proper weight to consistency in experience but mathematical researches to date have not developed practical procedures for doing so. The rate level determination in this instance constituted a non-mathematical approach to the difficult credibility problem. It is hoped that some day the foundation will be laid for a quantitative approach reflecting the same principles, as has occurred so many times in the progress of statistical science.

EXTERNAL STATISTICS

So far, I have spoken only to insurance experience. It is also necessary to give recognition to other economic data on occasion. For example, in glass insurance the increases in replacement costs in recent years have been so substantial and so frequent that as a measure of self-protection carriers have had to introduce into their determination of manual rates factors reflecting such changes in replacement costs before there is time for their effect on the experience to be measured through insurance statistical reports. The rapid and substantial increase in these costs is the primary reason for the recent discontinuance of three-year policies on commercial glass installations.

One of the important fields for actuarial research in the future lies in the study of the effect upon insurance costs of other economic factors extraneous to the insurance business.

EXPENSES

In casualty insurance, as has already been stated, rates are customarily determined by establishing the loss cost and then loading that loss cost percentage-wise for expenses, profit and contingencies. The question of the factor of profit and contingencies is discussed in some detail later. The history of the recent controversy as respects allocated claim expenses was reviewed in section III. The other elements in the premium dollar on casualty lines have traditionally been production cost, taxes, general administration expense, inspection expense, audit expense, and unallocated claim expense. In some lines inspection and audit have been treated as a single item and in other lines where audit is not a part of the underwriting operations there is, of course, no such item in the premium dollar distribution.

With the advent of uniform accounting regulations which became effective January 1, 1949 in New York State, and January 1, 1950 in the other states, there arose extended discussions over the determination of these items. New York State had in 1923 introduced a Casualty Expense Exhibit modeled upon the old Schedule W for the reporting of workmen's compensation expenses by item. That Casualty Expense Exhibit provided for subdivision by item of expense data reported on a calendar year basis within each line, countrywide. The National Association of Insurance Commissioners has, since the S.E.U.A. decision, endorsed a similar exhibit known as the Insurance Expense Exhibit and within the past year has combined the exhibits

on fire and casualty lines to form a single exhibit. Because of the use of the form for both fire and casualty lines by all companies, the authorities prescribing the Uniform Accounting Regulations have been reluctant to recognize certain subdivisions of the expenses which have been traditionally utilized in casualty rate making but not in fire rate making and the Insurance Expense Exhibit now provides for a combination of the old inspection, audit and general administration items into a single item known as general expense. It is possible that in the future a further combination will be effected of this item with the former production cost item excluding commissions.[18] The difficulties arise from differences in operation among various types of carriers, and the impossibility of establishing definitions of these subdivisions which will be functionally uniform for all carriers. Certain of the subdivisions are of extreme importance in individual lines,[19] however, and since the carriers for that reason feel they must be maintained, provision has been made in the rating organizations for collecting data for the old subdivisions on the basis of advisory definitions.

Although the expense provisions are reviewed periodically on the basis of the Insurance Expense Exhibit results, there has always been a strong tendency to disregard minor fluctuations from year to year and to maintain the expense provisions on as stable a basis as possible. In the manuals published by the rating organizations, the expense provisions in the rates have always been predicated upon the requirements of the stock non-participating carriers. Where uniform manual rates are required, savings in expenses from the levels so established are effected by dividend, deviation or gradation as the case may be.

Particular problems are presented in the handling of the tax item for the lines where the rates vary by state, and also in the handling of the production cost item generally. It is now customary to include in the tax loading the state's legislated provision for premium taxes plus 0.5% for social security taxes, plus 0.5% for miscellaneous taxes, licenses and fees. For those lines, however, in which rates are not made on a state by state basis, it is necessary to establish a countrywide loading. As respects production cost, this item is not considered as subject to regulation by the Insurance Departments and consequently since the passage of the rate regulatory laws it has been customarily included in the rates as a designated percentage which is not considered to be subject to review on the basis of experience results.

Just prior to 1930, expense constants were first introduced in the workmen's compensation line, marking the initiation of formal programs providing for a gradation of expense elements by size of risk. Then in the mid-1930's the gradation idea was extended in connection with the first officially approved retrospective rating plan, also in workmen's compensation insurance. One of the important developments in the last few years has been an emphasis by state officials upon the necessity of thoroughgoing investigations to determine the

[18]Such a proposal was rejected at the June, 1951 meeting of the N.A.I.C. but will probably be presented again for consideration.

[19]e.g., inspection in elevator liability and boiler and machinery lines.

factual justification for such expense gradation. The initial proposals were founded upon a study made by 13 stock companies in 1930. Like all partisan projects, it has been subjected to criticism; but without going into the pros and cons, it can be said that as a pioneer effort it has stood the test of time well, and its results are remarkably close to those produced by subsequent studies.

The carriers, through committees working in cooperation with a technical sub-committee of the Commissioners' Association, undertook in 1950 an analysis of expense data by size of risk for the workmen's compensation and liability lines. The results of the study were reported to the Association at its December 1950 convention in Los Angeles. It is too early to comment upon the results because both the industry and the commissioners' committees are still engaged in analysis. The investigation should be the subject of a paper to this body at some early meeting.

Prior to the regulatory laws, gradation of expenses entered into the operations of the carriers in the unregulated lines, as a rough reflection of what appeared, even to casual observers, to be no more than the facts of life. Under regulation in many states, some latitude in that regard is permitted today. In most of the remaining states specific expense gradation programs have been introduced for the workmen's compensation and liability lines, and in one state for the glass line as well. Expense gradation was in effect for the boiler and machinery lines prior to the S.E.U.A. decision. The new liability programs are patterned after the earlier workmen's compensation programs, which have been discussed in some detail in these *Proceedings*. There is one difference which is noteworthy, however: in the workmen's compensation programs, the inspection item has not been graduated, whereas on automobile liability it has been found necessary to graduate that item upward as the size of risk increased. This is because the attention of the ratemaker in that line has been upon the individual specified car that is the source of the major portion of the premium volume; the average inspection cost element reflected in the manual rates is therefore very low, but on fleet risks the inspection expense actually approximates that necessary for workmen's compensation risks. Without graduation on the other items, or with judgment graduation, that fact can be recognized, but in a formal gradation program it is necessary to specify the upward gradation of the inspection element.

PROFIT AND CONTINGENCIES

It has been noted (II-*(b)*) that all of the laws include specific reference to a provision for profit or for profit and contingencies.

For many years a factor of 2.5% of the premium for profit and contingencies has been effective in the major casualty lines except workmen's compensation. In the workmen's compensation line a profit factor was dropped in the early 1920's during a brief post-war period of unjustified optimism and the carriers have had no success in reinstating it until within the past couple of years. At the present time in

the workmen's compensation line, the factor varies from state to state up to a maximum of 2.5% according to the varying success of the rating organizations in obtaining approval of the 2.5% proposal.

At the Commissioners' meeting in Quebec in June, 1950 the Workmen's Compensation Committee of the N.A.I.C. recommended recognition of a "specific factor for underwriting profit and contingencies . . . as reasonable and proper in connection with the development of Workmen's Compensation rates", but the Committee is still working on the development of recommendations as to the amount of that factor, having been instructed to report at the June, 1951 meeting.[20].

Departure upward from the 2.5% profit and contingencies factor has been allowed for many years on minor property insurance coverages in the casualty field, such as burglary and glass, in recognition of the comparatively enhanced catastrophe possibilities in those lines (the analogy to fire lines in this respect is evident) and the smaller premium volumes involved. Although the question of recognition of investment profit has been investigated in a couple of states for certain of the casualty lines, no element for investment profit has been reflected in the establishment of any of the profit loadings. Moreover, it is significant that in the legislation as passed in most of the states there is a specific reference to "underwriting profit", indicating specific recognition by the state legislators of the principle that an investment profit element should not be a part of the insurance rate structure.

The Rates and Rating Organizations Committee of the National Association of Insurance Commissioners now has on its agenda the question of a proper profit loading for casualty lines other than workmen's compensation and this subject is to be explored thoroughly within the next few months. It would be premature here to anticipate that development. The review has been delayed to this date only because of the fact that it seemed desirable to wait until reliable indications of the other items in the expense provisions should be forthcoming under the new Uniform Accounting Regulations which became effective in all states January 1, 1950 (New York State only, January 1, 1949). The 1950 Insurance Expense Exhibit results are, of course, not available until later this month.[21]

JUDGMENT AND FLEXIBILITY

In the final analysis it must be re-emphasized that the determination of rates is not an automatic process but that judgment enters that determination at every step of the way, whether the rates be established on the basis of a formula or whether they be established as a

[20]*The Committee's recommendation of a 1.5% factor submitted at the June, 1951 meeting was rejected by the N.A.I.C., the majority of states having already approved 2.5%.*

[21]At the June, 1951 N.A.I.C. meeting, Mr. Leslie, speaking for the National Bureau of Casualty Underwriters, announced that after Sept. 1, 1951 a factor of 5% for profit and contingencies will be included in the rates developed by that organization for all lines under its jurisdiction. At the same time, *the item was transferred from the agenda of the Rates and Rating Organizations Committee* to that of the Workmen's Compensation Committee of the N.A.I.C., because of the latter committee's familiarity with the discussions of the principle in connection with the workmen's compensation line.

direct result of judgment considerations. Any filer operating in a number of states certainly must have regard to examination by the National Association of Insurance Commissioners and must therefore develop procedures which can stand the test of such examination, particularly with reference to possible charges of unfairly discriminatory treatment of one state as compared with another. The rate regulatory laws are founded upon the premise that competition is to be preserved in the insurance business and as long as that premise prevails it is equally important to preserve flexibility in the rate making procedures.

V. INDIVIDUAL RISK RATING PLANS

"Something there is that doesn't love a wall."
—Robert Frost

The manual rates reflect broad averages of the experience indications on all risks within a given defined classification for a particular coverage. From the inception of casualty insurance it was recognized that these broad averages did not fit every risk equitably, and in the early days judgment modifications were made in order to tailor the premium to the requirements of individual risks. After the principles of regulation developed, it became evident at a very early date that there was need for plans which would formularize this treatment of the individual risk. Some of the earlier papers in the *Proceedings* of this Society bearing on this subject have become classics of actuarial literature.

The development of rating plans from the outset proceeded in two directions: (1) rating on the basis of the physical characteristics of the risk (schedule rating) and (2) rating on the basis of the experience developed by the risk (experience rating, with its various ramifications in prospective and retrospective types of plans).

When the Model Bill was drafted specific reference to rating plans was included (see section II-(*d*) above) in the following phraseology:

"Classification rates may be modified to produce rates for individual risks in accordance with rating plans which establish standards for measuring variations in hazards or expense provisions, or both. Such standards may measure any differences among risks that can be demonstrated to have a probable effect upon losses or expenses."

Certain things are to be noted in this phraseology. In the first place there is no restriction indicated in the number of rating plans that may be available; in particular there is no restriction indicated against schedule rating in addition to experience rating or against supplementing what we call prospective experience rating with retrospective rating plans. In the second place there is specific reference to recognition of variations in expense provisions as well as in hazards, either alter-

natively or jointly. In the third place reference is made to the establishment of standards for measuring such variations. And in the fourth place there is a specific statement that such standards may measure any differences among risks that can be demonstrated to have a *probable* effect upon losses or expenses.

All these points are important in the sequel, but first, in order to understand the developments that followed upon passage of the casualty rate regulatory laws in the past few years, it is necessary to review a little more fully the situation that prevailed at the time of the S.E.U.A. decision.

EARLY EXPERIENCE AND SCHEDULE RATING

In the workmen's compensation field the backbone of individual risk treatment was embodied in prospective experience rating plans, that is, plans which compared the losses actually developed by the risk over a specified past period with the provisions for losses in rates currently applicable, with increasing weight (credibility) on the risk's own experience as the size of risk increased, and from such a comparison developed a modification, credit or debit, to be applied to the rates for the ensuing policy period. Through approximately the first twenty years of workmen's compensation insurance, experience rating was supplemented in most states by schedule rating plans analogous to the rating of physical characteristics in the fire lines. The schedule rating plans were extremely instrumental in stimulating safety measures in all fields of industrial operations. But the plans were very costly to apply. Further, after about twenty years it was considered that these safety measures had reached such a degree of effectiveness that schedule rating was no longer needed to stimulate further activity in that regard, that experience rating would suffice in the future to measure individual risk differences, and that these considerations, together with the economies resulting from the move, would justify the elimination of schedule rating plans. They were accordingly eliminated in most of the states.

Experience rating was applicable to the other lines, on a mandatory basis in the regulated states and on an optional basis in the other states. The plans that were developed in those lines in the regulated states were modeled after the plans in the workmen's compensation line. The details of these plans involved so much work in application that, in general, in the states other than the regulated states it was not considered economical to utilize them as they stood and they were used as guides rather than as final determinants of the premium for an individual risk.

As the complexities of the business increased it was recognized that many of the definitions of coverage were more a matter of legal or underwriting convenience than the result of differentiation by fundamental principles, and furthermore that if the objective of experience rating was to reflect the effect of personal management on experience results, the effects of such management were not peculiar to a particular coverage but rather extended over all of the related casualty cover-

ages. Accordingly the practice grew of considering the casualty coverages on each risk in combination rather than in their individual compartments, and it was found that the experience rating plans for the lines under regulation were so rigid that substantial modification of the rates for the other coverages was necessary in order to produce a reasonable premium for the entire combination of the risk. This was done on an interstate basis, it should be emphasized.

RETROSPECTIVE RATING

In view of the fact that on many risks the workmen's compensation premium constituted a very major portion of the combination of casualty premiums, it was found that even this development was not sufficient. Moreover, expense studies made around 1930 indicated that expense gradation by size of risk, which had long been reflected on a judgment basis in the unregulated lines, could be supported statistically and should be reflected on the regulated lines as well. These two ideas were combined in 1934 in the introduction of a new type of rating plan known as retrospective rating. Under this type of plan the premium determined by the application of prospective experience rating is further modified on the basis of the experience developed for the policy period to which the premium is applicable. It is necessary therefore to wait until the policy period has elapsed before the rating can be completed. A basic premium is established containing essentially the necessary provisions for expenses other than claim and taxes and to this basic premium is added the losses increased to take care of claim expense on those losses. The resulting premium is then increased to provide for taxes and is subject to specified maximum and minimum limitations. As a consequence of these latter restrictions, the basic premium also contains a charge to take care of the losses that on the average are excluded from this formula calculation by the application of the maximum and minimum limitations. A gradation of expense as the size of the risk increases is also incorporated in the calculation of the basic premium.

COMPOSITE RATING

The evolutionary process did not stop with retrospective rating. There is involved in the application of all of these plans a tremendous amount of administrative detail, particularly as a result of the necessity of extending exposures at present rates. For some types of coverage the ascertainment of exposures as required by application of manual rules and rates is unreasonably burdensome. As a simple illustration consider a firm that has scattered around the countryside thousands of advertising signs erected over a period of many years each of which, according to the manual, must be measured for rate determination for liability insurance. Or consider a large risk which is unwilling to divulge the exposure required by the manual for one coverage or another. Such difficulties have led to the development of what are called composite rate plans under which one or more exposure

bases are selected, the premium on the manual basis calculated where it can be calculated and estimated where estimation is necessary, and a rate or rates established on the basis of the revised exposure units for application in the future. The economies inherent in such an approach to rating are, of course, apparent and these plans now have their established place in the structure of individual risk rating.

POST-S.E.U.A. PLANS

It is evident that the structure of the entire system of individual risk rating as applied just prior to the enactment of the casualty rate regulatory laws involved a considerable degree of flexibility in order to meet the exigencies of the situation created by a comparatively rigid regulation of the workmen's compensation line generally, and of the other casualty lines in a small number of states. The adjustments to be made under the regulatory laws therefore had to recognize the necessity of avoiding the violent effects that would have been produced on individual risk rates by the sudden imposition of restrictions similar to those that previously applied under the more rigidly regulated coverages.

Accordingly, the type of plan commonly made effective in most of the states under the new legislation involved a three-part approach to a proper recognition of the conditions peculiar to the risk: (1) the application of a schedule rating plan which established a range of credits and debits applicable for specific categories of physical conditions subject to an overall limitation of 25% in either direction; (2) reflection of such expense savings as are realized on the risk; (3) the application of a simple experience rating plan based upon a comparison of the risk's loss ratio for the experience period (adjusted to a manual basis) with the permissible loss ratio, the departures from manual rates thus indicated being modified by a credibility factor which increases as the size of risk increases. These features are severally optional in application in order to enable the companies to economize in the administrative expense that would be attendant upon a compulsory review of the details of every single risk. Interstate rating is permitted. The eligibility points are, in general, lower than under mandatory plans because it is true that there are risks below the usual mandatory eligibility requirements which are deserving of individual risk rate modification but the administrative expense of processing all such risks automatically would be prohibitively great. A mandatory plan involves, almost of necessity, a combination of the experience of the various carriers on a risk. Such a procedure is not practicable, to put it mildly, except where all carriers are using common definitions of coverages, territories and classifications and either common schedules of rates or flat deviations from a basic schedule. Under the usual optional plan, some latitude is also allowed as respects the experience to be used in the experience rate procedure and the credibility table is more liberal than could be allowed under a mandatory plan.

It has already been remarked in the discussion under section II-(*a*)

that the basic criteria established by the laws for determining rates are essentially subjective rather than objective. The latitude allowed by the individual risk rating plans in use generally under these laws is more in keeping with the apparent principles underlying the establishment of those criteria than is the rigidity that is inherent in a mandatory plan permitting no latitude in its application.

The carriers have not been united in their approach to this problem, some groups believing that a more precise formula is necessary. The variations in approach are dictated to a certain extent by competitive considerations but the difference really goes deeper than that and involves a fundamental split in social philosophy which I am not going to take the time to explore here.

Two or three states have made the experience and schedule rating plans mandatory, a couple of others have made them mandatory insofar as intra-state operations are concerned, and one has made them mandatory for renewal business only but not as respects new business. These plans are used generally for the liability, burglary and glass lines, and in only two states for workmen's compensation insurance. It may be noted that prospective experience rating has never been applicable to boiler and machinery lines because it has been considered that the variable and comparatively low permissible loss ratios would render its application impracticable except for very large risks, and other methods of treating the larger risks have been evolved.

At the same time that the schedule and experience rating plans were generally introduced, retrospective rating plans were developed for optional application. In the development of these plans also, attention was given to the necessity for greater latitude than had been commonly allowed under the retrospective rating plans applicable to workmen's compensation insurance, and the principle was introduced of tailoring the plan to the requirements of the individual risk by a formula procedure which is balanced actuarially but within the restrictions of such balancing process permits individual risk determination of the maximum and minimum premium limitations. This principle was later extended to the workmen's compensation lines and coordinated with the principle of permitting the merging of workmen's compensation and liability experience in the determination of a combined rating for the risk, in what has become known as Plan D. Agents and other field men delight in referring to this somewhat bulky set of rules and tables as the "D - - - Plan," rather than Plan D. It must be admitted that if an actuary should produce a practicable arch-simplification of the procedures involved in application of the "D - - - Plan" the prestige of the entire actuarial fraternity would be inestimably enhanced among producers. But it must also be admitted that much of this reaction is the result of mental lassitude on the part of individuals who have not even tried to understand what is fundamentally a plan far less formidable than it appears.

The retrospective rating principle has also been extended to the rating of boiler and machinery risks but with the high eligibility point of $25,000 of standard premium for the reasons indicated above in the

discussion of experience rating for that line ($5,000 in New Jersey and Texas). In this plan, as in the plans generally applicable for the other lines, considerable latitude is granted the carrier in the treatment of expense items. In particular, up to 50% of the inspection portion of the premium may be included in the loss conversion factor to vary with the losses on the risk, the balance of the inspection provision being included in the basic premium charge. This feature recognizes the fact that as losses increase the inspection costs will be increased in the attempt to alleviate the loss problem. There are a few states in which there are special restrictions on the treatment of company expense savings.

The scope of this paper is so great that I am making no attempt to go into the state by state variations in these rating plans. The differentiation in details of handling that have been forced upon the carriers in their negotiations with individual states are so numerous that considerable extension of the paper would be necessary in order to note them all. A far greater extension would be necessary in order to note all of the variations introduced by other groups of carriers and by independent carriers in their filings in the various states, although the enlightenment of such a critique would be astounding.

Composite rating plans have also been approved for use in most states. Recently the standard plan for composite rating has been modified to include a new principle termed loss rating, applicable to a risk written on a composite basis which has developed total basic limits incurred losses of $75,000 or more for the liability lines over a three-year period. This procedure provides essentially for the determination of the risk's premiums directly upon the basis of its own past loss experience, i.e., self-rating. The justification for this approach has been very well phrased by the then New York Deputy Superintendent Walter F. Martineau who, in a speech before the Philadelphia Insurance Managers' Association on May 6, 1949 spoke as follows with regard to the large risk rating problem:

> "Under practically all of the current procedures the large risk is not only put through the same steps which were designed for the small risks but is also put through the additional steps superimposed only for the large risks but designed to produce modifications of the rates of premium applicable to small risks. Prior to the recent extension of rate regulation, it was the practice among many casualty companies to treat large risks as such, without regard to the manual rates applicable and on the basis of the loss experience of the particular assured, to quote premiums instead of rates for such large risks. It must be apparent that a volume of experience which is sufficient to produce a self-rating modification of manual rates is also sufficient to produce a rate or premium for the risk irrespective of what manual rates for other risks may be. Likewise, if the loss experience for a somewhat smaller risk is sufficient to permit the retrospective rating of the loss portion of the premium, it is also sufficient to produce retrospectively the expense portion of the premium. Real-

ization of this raises one of the most serious problems which the industry has to face under rate regulation; namely, how to produce rates which are reasonable, not excessive and not unfairly discriminatory for large risks but which will not be tied up as modifications of the rates which would be applicable to smaller risks."

Aristotle summed it all up very neatly in his definition of equity as "the correction of the law where it is defective by reason of its universality."

VI. SUMMARY AND PROSPECTUS

"Wherefore waste our elocution
On impossible solution?
Life's a pleasant institution,
Let us take it as it comes!"
—W. S. Gilbert

It is in order at this stage to summarize in a general way the effects of rate regulation as they can be seen thus far, favorable and unfavorable, and to outline a few of the problems which face us in the future.

If the insurance industry could have chosen any point in its history for the widespread introduction of rate regulation, it could not have chosen a more unfavorable point than the immediate post-war period in which that development actually occurred. In the first place, detailed statistics were unavailable except in the workmen's compensation and the boiler and machinery lines, since detailed statistics in the other lines had been suspended for the duration of the war and their recording was not re-introduced until January 1, 1946, with the first reports becoming available late in 1947. In the second place, the unsettled economic conditions at the very outset, with a pitched battle between the forces of inflation and the forces of governmental price and wage control, created problems which were in themselves unprecedented in the business. In the third place, the victory of the inflationary forces initiated in the liability and property lines an upward trend in loss costs the end of which is yet to be seen. In the fourth place, the tremendous expansion in the volume of business written as an indirect result of the victory of the inflationary elements created internal company problems that were tremendous and could not be anticipated. All in all, the success with which the industry has stood this test is little short of miraculous; and the supervisory officials should be credited for the understanding spirit in which they have entered upon the era.

FAVORABLE DEVELOPMENTS

The most important favorable effect to be noted is probably the establishment of greater regularity and reasonableness in the reporting and review of experience and in the determination of rates. This process has been greatly speeded up by the necessity of providing a logically supportable explanation of the filings. Many rules of thumb have been supported, others eliminated as unsupportable, and the entire ratemaking structure subjected to thoroughgoing review and clarification. While a great deal can be said for competition as a regulative factor, it is true that in some areas of the business its success in that respect was at least subject to question. While the results of this failure were not nearly as vicious as many people would have us believe, there are few who will maintain in this day that some regulation of such situations is undesirable. It is also true that in the more competitive areas rate-cutting practices were previously in effect which in the long run helped no one, least of all the insurance buying public. The effect of regulation has been to moderate such practices to a degree where competition has much more nearly approximated its proper functioning as a regulative force.

Emphasis has been laid upon the necessity of establishing consistency in rate making procedures, i.e., if you will, a formularizing of underwriting judgment.

Research has been unquestionably stimulated as never before. I have already referred to developments in the field of credibility procedures. Many studies have been made both in the organizations and in individual company offices on the effect of external statistical developments upon insurance costs. I have also reviewed developments in research on the bases of statistics, and on expenses by size of risk.

No such appraisal would be complete without reference to the uniform accounting developments which have produced more proper allocation of expenses by line of insurance and provided sound foundations for various special studies in the expense field. State officials who spear-headed that development will admit today, I am sure, that they were idealistic in their objectives to the point of impracticability. The present Uniform Accounting Committee of the Commissioners' Association is taking a more cooperative and understanding approach to the situation, though their more cautious movement may be partly due to the fact that the main objective has already been accomplished.

The greatest generative force in the industry in the past has been the willingness of companies to experiment. Regulation in a number of states threatened for a while to stifle experimentation, but I think it is a very hopeful sign that in the last year or two the supervisory officials themselves have taken a number of occasions to encourage experimentation and I believe a reaction in that direction is developing which will produce refreshing results.

UNFAVORABLE DEVELOPMENTS

There have been a number of unfavorable developments some of

which may in time be ironed out in part but others of which may well be more permanent of necessity.

Most important, there has been evidenced by some state officials more emphasis upon the protection of the interests of the insuring public than of the insurers, quite understandably; but this tendency has often been carried to extremes and in the important lines where the impact of inflationary elements has been particularly marked the effect, direct and indirect, has been to produce rate levels that are continuously on the low side. It is important for a rating organization to develop a revision which, in the first place, is based upon the same formula application from state to state and, in the second place, has reasonable chances of success before the various state supervisory officials. The combination of these two considerations, taken with the chronically ultra-critical or even negative attitudes of some state supervisory officials toward any submission embodying an increase in rates, has resulted in the development of rate revision programs that have been too conservative. There has been too much fear of the adverse publicity that would be attendant upon an over-estimation of an upward trend in the experience.

More emphasis is needed upon the fact that the solvency of the carriers must be the paramount consideration in rate regulation. The carriers must develop more aggressiveness in insisting that any doubt in the appraisal of a rate submission should be resolved in the direction of rate adequacy. Low rates are of no benefit to the policyholders if the carriers cannot maintain solvency and pay losses; and when rates become the footballs of political thinking sound regulation goes out the window.[22]

One of the sources of loss in premium income to the carriers has been delays on the part of certain supervisory officials in making decisions on rate submissions, thus denying to the carriers the benefits of rate changes sometimes for many months during an emergency period. The carriers, of course, have right of appeal for a hearing under the law but that involves even further delay together with all of the psychological disadvantages of such action.

In the rate making procedures it has become necessary to make state by state reviews in lieu of the broad reviews which prevailed prior to the war. In many instances this means that statewide rate levels are established upon the basis of experience which is so inadequate as to be almost uninterpretable. There have of necessity developed schedules reflecting differences from state to state which from an actuarial point of view are smaller than any reasonable limits of error in the determination of the rates themselves, and consequently could be eliminated with all of the benefits of simplification resulting from such a change, were it not for the emphasis of state officials on their own state's experience. Exceptions have been possible in the case of schedules which for one reason or another establish rates that are uniform countrywide, or countrywide excluding New York State.

[22]Since this paper was written, the receptive reaction of state supervisory officials to the industry's submissions for relief in the emergency situation affecting the automobile liability lines indicates a strong movement toward comprehension of the industry's problems in this regard.

A great deal of pressure has been brought to bear even upon these schedules, however, and it may be only a matter of time before meaningless refinements will have to be made in them in order to reflect chance fluctuations in individual states where such fluctuations happen to be temporarily favorable from the local viewpoint.

The overall result, of course, tends to more frequent and more violent fluctuations in the rates from revision to revision and consequently more frequent disturbances in the field and among the insuring public.

Underwriting judgment is an invaluable and indispensable guide in the establishment of rates. Rate regulatory authorities, have as a matter of principle and simplicity in administration, sought to formularize all rate making and to remove the introduction of judgment except in so far as it determines a "permanent" and rigid formula. The rating organizations have consciously striven to maintain a reasonable degree of flexibility in the rate making procedures, and in order to combat the supervisory tendency in the direction of rigidity have emphasized again and again that judgment must perforce enter at every step of the rating procedure, that rate making can never be reduced to purely automatic processes.

A good illustration of the continuous battle between the principles of blind dependence on statistics and a formula on the one hand and informed judgment on the other is found in the struggle the carriers have had to stave off reductions in the charges for excess limits on the automobile bodily injury liability coverage, while judgment dictated that those charges should be increased and that it was not reasonable that they should have to be supported solely on the basis of reported loss statistics. This is an acute problem requiring an early solution that cannot be entirely on the actuarial plane.

THE FUTURE

As respects the future, first and foremost stands out the need for further intensive research into actuarial problems. I list the following fields of research which are of particular importance:

(*a*) Liability excess limits tables and their reasonable determination and support.

(*b*) The relationship of external statistics to insurance cost developments.

(*c*) Credibility procedures.

(*d*) Expense studies.

(*e*) Underwriting profit.

(*f*) Study of fire rate-making philosophy in connection with property lines in the casualty field.

(*g*) Possibility of single limit liability policies.

(*h*) Broader consistency in the establishment of liability rate levels. It does not seem reasonable that the relativity between rate levels from state to state should vary as much as it does from liability coverage to liability coverage. Research in this

field may produce a solution to the present inadequacies of the state-by-state review of these lines. The same can also be said of the burglary coverages as a group.

One problem bids to come to the fore with greater and greater emphasis in the future, namely the question of how broad an experience base should be required for the development of loss provisions in the rates. A very few states insist, either by legislation or by regulation, that the experience of all carriers entered in the state be combined for this purpose. There are, as usual, arguments on both sides of the question. Such loss provisions, as I have already pointed out, are not turned out of a machine mechanically and infallibly. Consultation and agreement are necessary for the process. But any compulsion in that direction is counter to the intent of virtually all of the regulatory acts as set forth in the "Purpose" clause of the Model Bill, and in the following language from the "Rate Filings" section: ". . . nothing contained in this Act shall be construed as requiring any insurer to become a member of or a subscriber to any rating organization." Further, the laws generally embody the thought that individual company departures from an overall average should be permitted. It does not stand to reason that departures upward would be widely sought, if sought at all, and yet a granting of only downward departures to many carriers on the basis of their individual company experience would produce an overall loss cost level that is obviously inadequate. Another consideration is that certain groups of carriers operating under a reasonably uniform procedure as respects underwriting and claim settlement policies feel that they should be permitted to exclude from the determination of their rate levels the experience of carriers operating under different management policies.

An obvious alternative to this suggestion is the idea of simply providing for the compilation of the overall experience results in each state so that the loss cost indications on the basis of the experience of all carriers combined would be generally available. Here again the immediate difficulties seem almost unresolvable because it is not reasonable to combine the experience when classification, territory, or coverage definitions differ from company to company. The experience of one company in such a situation is just not comparable on any terms with the experience of another company and the combined result is accordingly meaningless from an actuarial standpoint. It is unfortunate that an apparent plausibility not supported by scientific consideration lends enchantment to this particular prospect and yet the condition which should be precedent to such a combination of experience, that is, complete uniformity in class, territory and coverage definitions, is repugnant per se because it would stifle the experimental and competitive developments which furnish life-blood to the industry.

The task of the supervisory official in passing upon filings of rating organizations is difficult enough. But such filings are in general based upon a comparatively large volume of experience and supported by extensive exhibits and memoranda. Of much greater difficulty is the problem of passing upon the filings of independent carriers. The at-

titude of one of their representatives was related earlier in this paper, with my reasons for thinking it constitutes an unsatisfactory solution. No one has yet presented a pattern of review that is satisfactory to the officials who have the responsibility.

In the field of individual risk rating, two principles are of outstanding importance and both seem reasonably well established as of this date. The first is the necessity of interstate rating and the second is the necessity of a reasonable degree of flexibility in the handling of large risks in order to fill the role played in former days by out and out underwriting judgment rating. Attacks against the latter aspect of existing rating plans have been predicated upon reports of individual abuses and it is obvious that the continuation of the privilege granted by the authorities in such provisions of flexibility must in the long run be dependent upon the integrity of those who apply it. On the other hand the maintenance of the principle is so important from the viewpoint of the insured's interest that officials should move very slowly indeed in seeking to remedy a recalcitrant finger by lopping off the whole arm.

Not even the structure of individual risk rating plans currently available, as described in section V, is adequate to provide the answer to all the problems that may arise in the handling of individual risks, particularly those of very great size. I think there is merit to an idea that was considered some years ago in connection with boiler and machinery insurance, but which is equally applicable to other lines, that any risk producing an annual premium of $25,000 at manual rates should be subject to (a) rate treatment, that is, individual risk rating on an underwriting judgment basis, possibly with the establishment of certain limitations within which the judgment modification must be contained. Such a proposition would go far toward eliminating the company administrative costs of handling many of the larger risks and at the same time would produce at least as equitable, if not more equitable, rates than the rating structure as it exists today. It is probable that the experience on such risks would have to be eliminated from manual rate making procedures but risks of that size are so abnormal that the effects of such action might well be beneficial rather than detrimental. Such an extension of the individual risk rating system would supplement present procedures in a manner which would make the insurance rate determination more adaptable to individual risk situations and would fill a gap that clearly exists today in the servicing of risk requirements.

Of extreme importance is the post-S.E.U.A. development of multiple-line legislation which has broken down the time-honored wall between the fire and casualty fields. This development is so recent that the trend of events that will follow it is just beginning to unfold. Already combined blanks for the Annual Statement and the Insurance Expense Exhibit have been approved by the National Association of Insurance Commissioners. A number of carriers have introduced package or comprehensive policies combining fire and casualty coverages, and from an actuarial standpoint probably the most important problem

for the future is whether each such policy will be considered to be a new coverage and treated as such, or whether it will be considered necessary to maintain a reasonable relationship between the rates for the component parts if sold separately and the rate for the combination coverage. Initially the supervisory officials seemed inclined to adopt the former view if the combination policy did not in fact represent a direct combination of existing coverages. There has even been some tendency more recently to consider that a direct combination of existing coverages could be viewed as a new coverage. Present rating organizations in the two fields have negotiated arrangements for processing such combination coverages but there is at least one rating organization which is extending the scope of its activities to assume control of certain combination policies which include coverages not otherwise within its jurisdiction. The entire situation is still so uncertain as to make it impossible to predict which way developments will turn.

Statistically, serious problems are ahead arising from the entry of the fire companies into the casualty field and vice versa. The burden in this respect seems to be greater for the fire companies because the detail required in calls for casualty statistics is more refined than the detail to which the fire companies are accustomed in their own lines. It may well be that this development in the long run will produce a compromise solution as respects casualty statistics which will lighten the burden that has been created through the years primarily as the result of the pressure applied by the Insurance Departments in this regard, a pressure that may be traced to the influence of the workmen's compensation situation and the fact that it is included among the casualty coverages. The changes in the statistical plans of the casualty rating organizations, made effective January 1, 1951, have gone some distance in the alleviation of the statistical burden of the casualty carriers reporting to those organizations but there are those among us who believe that a further lightening of the burden is going to be absolutely necessary before the carriers will be able to respond to calls with a promptness which will permit a reasonably prompt review of experience for rate making purposes.

Finally, it is essential to make reference to the problem of interstate consultation on the part of the supervisory officials. The most obvious approach to this idea has been a proposal to establish a central office through which countrywide filings would be processed before submission to the individual states, that office to make recommendations after review but to have no authority with respect to decision in any state. The immediate reaction to such a suggestion is that if we are to have regulation on a national scale it would be far more economical to have it openly with the elimination of the state departments. Furthermore, there are many disadvantages inherent in the very idea of a prior review by a central office which is merely advisory in character with complete independence of decision still in the hands of state supervisory officials. Such a procedure could only produce serious delays in the processing of submissions.

Certain of the Zones (groups of eight states each) in the National

Association of Insurance Commissioners have tried to obtain the apparent advantages of a central office on a smaller scale by providing for exchange of information among the rating experts within a Zone. This has the same disadvantage as the central office idea in the matter of delay in the processing of submissions, and has a further disadvantage in spreading around a group of states for successive discussions questions which in the normal course of events would have to be answered only in one state. Where these questions constitute positive contributions to the consideration of the subject their dissemination can be of advantage but that is very seldom the case and the problems of the carriers and rating organizations are only intensified.

Commissioner Stone of Nebraska has urged upon the National Association of Insurance Commissioners a procedure that he refers to as "interstate compacts" for interstate consultation under the protection of the constitutional provision relating to such compacts. Thus far this proposal has not met with widespread support but the entire subject of interstate consultation is still on the agenda of the Association in the form of a resolution from Zone 1 (Northeastern states) presented to the Association at its December, 1950 meeting in Los Angeles.

In closing, it is perhaps unnecessary to remark that the accident of my employment throughout the developments that have been discussed has made it inevitable that those developments be reviewed with particular attention to their effect upon the problems of the actuary in a rating organization. At the same time I have tried to indicate the impact upon other parties and have striven for an impartial understanding of the problems of all parties. If I have fallen short in this regard, I hope that discussions of this paper, or subsequent papers, will be forthcoming to complete the picture. It is a picture still in the process of composition, and includes a multitude of smaller scenes many of which evolve almost independently and must be retouched to harmonize with the whole.

Regulation is with us, to stay, and only a proper appreciation of its impact upon all parties, public and private, stock and non-stock, organization and independent, can produce the reconciliation of conflicting interests that will make it work effectively and for the good of all.

APPENDIX A
EXCEPTIONS TO MODEL BILL PHRASEOLOGY

The provisions discussed in detail in subdivisions (*a*), (*b*), (*c*), (*d*), (*e*), (*i*), (*k*), and (*l*) of section II will be summarized here in the same order as set forth in the paper. Only substantive differences are summarized in this Appendix and it should be emphasized that this summary is essentially from the point of view of an actuary, not of a lawyer.

(*a*) Basic Criteria for Rates

"Rates shall not be excessive, inadequate or unfairly discriminatory."

		Definition of		
State	*Basic Exception*	*"Excessive"*	*"Inadequate"*	*"Unfairly Discriminatory"*
Ala.	1			
Ariz.		15	18	
Calif.		16	19	
D. C.				24
Fla.	2			
Idaho			19	
Ind.				25
Kan.	2			
Me.				25
Mass. Stat. Auto	3			
Minn.			20	
Miss.	2			
Mo.		16	19	
Mont.	4	4	4	4
Neb.			21	
N. H.				
1. Auto. Liab.	5			
2. Other Cas.				25
N. J.	1			
N. Y.	6, 7			
N. C.	8			
Okla.		16	19	24
Ore.	9			
P. R.	6, 10			
R. I.			22	26
S. C.		17		
Tenn.	11			
Tex.	12			
Utah			23	
Vt.	13			
Wash.	14			

1. ". . . rates that are not unreasonably high or inadequate for the safety and soundness of the insurer, and which do not unfairly discriminate between risks in this state." New Jersey continues: "involving essentially the same hazards and expense elements."
2. "Rates shall be reasonable, adequate and not unfairly discriminatory."
3. Premium charges shall be "adequate, just, reasonable and non-discriminatory."

4. In addition to the standard phraseology the following statements are pertinent: Rates on property shall not discriminate unfairly "between risks and the application of like charges and credits or . . . between risks of essentially the same hazard and having substantially the same degree of protection, nor shall any rate be such as to endanger the solvency of such insurer."
"No rate shall be held to be excessive, inadequate or unfairly discriminatory if the commissioner finds that free competition exists in the area and classification covered by such rate."
"No rate shall be held to be inadequate unless the commissioner finds that the continued use of such rate shall endanger the solvency of the insurer charging such rate."
5. Rates shall be "adequate, reasonable and non-discriminatory as against citizens or classes of citizens of this state."
6. Rates shall be "reasonable and adequate for the class of risks to which they apply." "No rate shall discriminate unfairly between risks involving essentially the same hazards and expense elements or between risks in the application of like charges and credits."
7. "If the superintendent finds that any rate filings theretofore filed with him . . . provide rates or rules which are inadequate, excessive, unfairly discriminatory or otherwise unreasonable, he may order the same withdrawn. . . "
8. 1. **Casualty Other Than Automobile Liability**—"The commissioner shall not approve any rate, rate manual, classification of risks, rating plan, rating schedule or other rating rule which is excessive, inadequate, unreasonable or unfairly discriminatory." There is also provision for correction of an "application of an approved classification, rating plan, rating schedule or other rating rule" that is "unwarranted, unreasonable, improper or unfairly discriminatory."
2. **Automobile Liability** — The phraseology is somewhat different but effectively the same. As respects rates, the phrase "or otherwise not in the public interest" is added. The "unwarranted, unreasonable, improper or unfairly discriminatory" phrase is applicable only to "a classification or classification assignment."
9. "Rates shall be just, reasonable and not unfairly discriminatory."
10. "Whenever the Superintendent shall determine . . . that the rates charged or filed on any class of risks are excessive, discriminatory or inadequate, he shall order that such rates be appropriately adjusted."
11. "Rates shall be fair, reasonable, adequate and not unfairly discriminatory."
12. 1. **Automobile Liability** — ". . . just, reasonable and adequate for the risks to which they respectively apply, and not confiscatory as to any class of insurance carriers authorized by law to write such insurance."
2. **Other casualty lines** — "Rates shall be reasonable, adequate, not unfairly discriminatory, and non-confiscatory as to any class of insurer."
13. ". . . rates shall be just, reasonable and adequate, taking into consideration all factors reasonably attributable to the classes of risks involved."
14. Model bill criteria are stated specifically *not* to apply to casualty insurance.
15. "No rate shall be held to be excessive if the commission finds that competition exists in the area and in the classification covered by any such rate."

16. "No rate shall be held to be excessive unless (1) such rate is unreasonably high for the insurance provided and (2) a reasonable degree of competition does not exist in the area with respect to the classification to which such rate is applicable." Oklahoma establishes as alternative conditions (1) alone or (1) and (2) together.
17. Rates are "excessive, or unreasonable" if "the results of the business of companies in this State during the five years next preceding the year in which the investigation is made, as indicated by the official annual statements of the insurance companies . . . show an aggregate underwriting profit in excess of a reasonable amount. . ."
18. "No rate shall be held to be inadequate unless the commission finds that the loss experience of the insurer in the classification covered by such rate shall have been adverse for a continuous period of not less than two years immediately preceding the date of such finding."
19. "No rate shall be held to be inadequate unless (1) such rate is unreasonably low for the insurance provided and (2) the continued use of such rate endangers the solvency of the insurer using the same, or unless (3) such rate is unreasonably low for the insurance provided and the use of such rate by the insurer using same has, or if continued will have, the effect of destroying competition or creating a monopoly."
20. "No rate shall be held to be inadequate if the information furnished by the insurer in support of the filing shows that the business being written at the rate proposed in the filing is being written by the insurer at a profit."
21. "No rate shall be held to be inadequate for use in this state if its use will not endanger the solvency of the insurer charging such rate and if it bears a reasonable relation to the loss and expense ratios of such insurer in all states in which it is licensed for the same class of risk."
22. ". . . if the insurer using the rate or premium shall show to the satisfaction of the commissioner that it is writing such kind or class of insurance at a profit, such showing shall be prima facie evidence that the rate or premium used is not inadequate."
23. "No rate shall be held to be inadequate unless the Commissioner finds that the continued use of such rate will or does endanger the solvency of the insurer or that the loss experience in the classification covered by such rate shall have been adverse in this state and that the use of such rate does eliminate or stifle competition."
24. "Nothing in this section shall be taken to prohibit as unfairly discriminatory the establishment of classifications or modifications of classifications of risks based upon the size, expense, management, individual experience, location or dispersion of hazard, or any other reasonable considerations attributable to such risks provided such classifications and modifications apply to all risks under the same or substantially similar circumstances or conditions."
25. "Nothing in this section shall be taken to prohibit as unreasonable or unfairly discriminatory the establishment of classifications or modifications of classifications of risks based upon size, expense, management, individual experience, purpose of insurance, location or dispersion of hazard, or any other reasonable considerations, provided such classifications and modifications apply to all risks under the same or substantially similar circumstances or conditions."

26. "If the insurer . . . shall, at any hearing . . . show to the satisfaction of the commissioner that the rate or premium was used in good faith to meet an equally low or lower net cost to the insured of a competitor, such showing shall be prima facie evidence that the rate or premium used is not unfairly discriminatory. . . ."

(*b*) Basis of Rates

The following division of the phraseology into six parts has been added for convenience in reference.

"Due consideration shall be given

1) to past and prospective loss experience within and outside this state,
2) to catastrophe hazards, if any,
3) to a reasonable margin for underwriting profit and contingencies,
4) to dividends, savings or unabsorbed premium deposits allowed or returned by insurers to their policyholders, members or subscribers,
5) to past and prospective expenses both countrywide and those specially applicable to this state, and
6) to all other relevant factors within and outside this state."

	Exceptions						
State	*(b)-1*	*(b)-2*	*(b)-3*	*(b)-4*	*(b)-5*	*(b)-6*	*Other*
Ala.	1	4	8	11	4	16	
Calif.	2	2	2	2,12	2	2,17	
D. C.							20-23
Fla.	3		9		4	3	
Ill.							22
Ind.				13			
Kan.			9	11	4		
Mass.							
Stat. Auto.	4	4	4	4	4	4	
Mich.							22
Miss.			9		14	18	
Mo.	5	7	7	7	7	7,19	7,20
N. H.							
Auto. Liab.	4	4	4	4	4	4	
N. J.			8	11	4	16	
N. Y.			8			18	
N. C.	4	4	4	4	4	4	
Ohio							20,24,25
Okla.							20-23
Penn.							20-22
P. R.			10	11	4	18	
Tenn.			9	11	4		
Tex.							
Auto. Liab.	6	4	4	4	6	4	
Other Cas.			9	4	15		
Wash.				4			26
W. Va.							27
Wyo.				4		4	

1. "to past experience within the state and without the state when necessary, and . . . to prospective loss experience within and without the state when necessary, over such period of years as appears to be fairly representative of the frequency of the occurrence of the particular risk."
2. "Consideration shall be given, to the extent applicable, to . . ."
3. Reference to past and prospective loss experience and other relevant factors outside the state is modified by "if necessary, in order to establish a reasonable, adequate and not unfairly discriminatory rate."
4. No reference.
5. As respects loss experience outside the state, "consideration may be given . . . to the extent appropriate."
6. "To insure the adequacy and reasonableness of rates the Commissioner may take into consideration experience gathered from a territory sufficiently broad to include the varying conditions of the risks involved and the hazards and liabilities assumed, and over a period sufficiently long to insure that the rates determined therefrom shall be just, reasonable and adequate, and to that end the Commissioner may consult any rate making organization or association that may now or hereafter exist."
7. "may" in lieu of "shall".
8. "to a reasonable profit."
9. "underwriting" omitted before "profit".
10. "to a reasonable underwriting profit."
11. "in the case of participating insurers, to policyholders' dividends." In Kansas, this is added to the standard phraseology.
12. Consideration "may" be given to dividends, etc.
13. Certified law copy reads "absorbed" for "unabsorbed."
14. "countrywide expense experience."
15. "to expenses of operation."
16. "to all factors reasonably related to the kind of insurance involved."
17. "including judgment factors."
18. "to all factors reasonably attributable to the class of risks."
19. "which the insurer or rating organization deems relevant."
20. "to physical hazards."
21. "to safety and loss prevention factors."
22. "to underwriting practice and judgment." In Michigan: "to underwriting practice, judgment." In Pennsylvania is added: "to the extent appropriate."
23. "to whether classification rates exist generally for the risks under consideration; to the rarity or peculiar characteristics of the risks."
24. "to the experience, or judgment, or both, of the insurer or rating organization making the rate, to the experience of other insurers or rating organizations."
25. See also note 17 under (*d*) below.
26. "In addition to other factors required by this section, rates filed by an insurer on its own behalf may also be related to the insurer's plan of operation and plan of risk classification."
27. "to such factors as expenses, management, individual experience, underwriting judgment, degree or nature of hazard or any other reasonable considerations, provided such factors apply to all risks under the same or substantially the same circumstances or conditions."

(*c*) Expense Provisions

"The systems of expense provisions included in the rates for use by any insurer or group of insurers may differ from those of other insurers or groups of insurers to reflect the requirements of the operating methods of any such insurer or group with respect to any kind of insurance, or with respect to any subdivision or combination thereof

for which subdivision or combination separate expense provisions are applicable."

Calif.	Omits the final clause, "for which . . . applicable."
D. C.	No reference.
Fla.	Add ". . . but this subdivision shall not be construed to require uniformity among all insurers with respect to the application of other subdivisions of this Section."
Kan.	As Fla. above.
Mass.	
Stat. Auto.	No reference.
N. H.	
Auto. Liab.	No reference.
N. J.	No reference. See (*a*) for sole reference to expenses.
N. C.	No reference.
Tex.	No reference.
Vt.	No reference.

(*d*) Classifications and Rating Plans

"Risks may be grouped by classification for the establishment of rates and minimum premiums. Classification rates may be modified to produce rates for individual risks in accordance with rating plans which establish standards for measuring variations in hazards or expense provisions, or both. Such standards may measure any differences among risks that can be demonstrated to have a probable effect upon losses or expenses."

State	*Partial or Total Omission*	*Different Phraseology*
Ala.		4, 5
Calif.		6
D. C.		7
Fla.	1	
Ind.	1	8, 9
Kan.	1	
La.		10
Me.		9
Mass.		
Stat. Auto.		11
Miss.	1	12
Mo.		13
N. H.		
Auto. Liab.	3	
Other Cas.		9
N. J.		4, 14
N. C.		
Auto. Liab.		15, 16
Other Cas.		16
Ohio		17
Okla.		7
Pa.		18
R. I.	2	19
Tenn.	1	
Tex.		
Auto. Liab.		20
Other Cas.	1	21
Vt.	3	

1. Third sentence omitted.
2. Second and third sentence omitted.
3. Entirely omitted.
4. Refer also to note 1 under (*a*) foregoing.
5. Every rating organization or insurer "shall, in rate-making, and in making rating plans . . . adopt basis (sic) classifications which shall be used as the basis of all manual, minimum, class, schedule or experience rates."
6. Additional, as follows: "Classifications or modifications of classifications of risks may be established based upon size, expense, management, individual experience, location or dispersion of hazard, or any other reasonable considerations. Such classifications and modifications shall apply to all risks under the same or substantially the same circumstances or conditions."
7. See note 24 under (*a*) foregoing.
8. Second sentence rephrased as follows: "Classification rates may be modified to produce rates for individual risks which are lower than those filed and which evaluate variations in physical or moral hazards, individual risk experience, or expense provisions."
9. See also note 25 under (*a*) foregoing.
10. Additional, as follows: "Rates may be established on the basis of any classification submitted by any insurer or group of insurers, provided such classifications are found to be reasonable."
11. Provision is included for "fair and reasonable classifications of risks."
12. The second sentence refers also to measurement of variations "in experience."
13. Additional, as follows: "Classifications or modifications of classifications or any portion or any division thereof, of risks may be predicated upon size, expense, management, individual experience, purpose of insurance, location or dispersion of hazard, or any other reasonable considerations, provided such classifications and modifications shall be applicable to the fullest practicable extent to all risks under the same or substantially the same circumstances or conditions. Classification rates may also be modified to produce rates for individual or special risks which are not susceptible to measurement by any established standards."
14. The only provision is as follows: Every rating organization or insurer shall "(a) adopt basic classifications, which shall be used as the basis of all manual, minimum, class, schedule, experience or merit rates; (b) adopt reasonable standards for construction, for protective facilities, and for other conditions that materially affect the hazard or peril, which shall be applied in the determination or fixing of rates."
15. The North Carolina bureau has among its functions "to maintain rules and regulations and fix rates for automobile bodily injury and property damage insurance and equitably adjust the same as far as practicable in accordance with the hazard of the different classes of risks as established by said bureau."
16. See also note 8 under (*a*) foregoing.
17. Additional, as follows: "Special filings may be made at any time with respect to any individual or special risks whose size, classi-

fication, degree of exposure to loss, previous loss experience, or other relevant factors call for the exercise of sound underwriting judgment in the promulgation of rates appropriate to such individual or special risks."

18. See also note 30 under (*e*) below.
19. See also note 8 under (*e*) below.
20. ". . . nothing in this Act shall be construed to prohibit the modification of rates by an experience rating plan designed to encourage the prevention of accidents and to take account of the peculiar hazards of individual risks, provided such plan shall have been approved by the Commissioner; and provided further that only one such plan shall be approved for each form of insurance hereunder."
21. Second sentence includes reference to the provisions under (*b*) foregoing.

(*e*) Rate Filings

1) "Every insurer shall file with the commissioner every manual of classifications, rules and rates, every rating plan and every modification of any of the foregoing which it proposes to use. Every such filing shall state the proposed effective date thereof, and shall indicate the character and extent of the coverage contemplated . . . A filing and any supporting information shall be open to public inspection after the filing becomes effective."
2) Filings may be made by a rating organization on behalf of a member or a subscriber.
3) "The commissioner shall review filings as soon as reasonably possible after they have been made in order to determine whether they meet the requirements of this Act." Subject to the exception specified in (*e*)-6 below, the commissioner has a waiting period of 15 days in which to consider the filing, which period may be extended by him for an additional period not to exceed 15 days upon proper notice to the filer. A filing is deemed approved unless disapproved by the commissioner within the waiting period or any extension thereof. This is the so-called "deemer" provision.
4) ". . . the commissioner may, by written order, suspend or modify the requirement of filing as to any kind of insurance, subdivision or combination thereof, or as to classes of risks, the rates for which cannot practicably be filed before they are used."
5) "Upon the written application of the insured, stating his reasons therefor, filed with and approved by the commissioner, a rate in excess of that provided by a filing otherwise applicable may be used on any specific risk."
6) "Any special filing with respect to a surety or guaranty bond required by law or by court or executive order or by order, rule or regulation of a public body, not covered by a previous filing, shall become effective when filed. . . ."

There are no exceptions to (*e*)-2; that is, filings may be made, in any jurisdiction where any filings at all are provided for, by a rating organization on behalf of a member or subscriber.

Other substantive departures from the Model Bill provisions are noted below:

State	Exceptions				
	(e)-1 Filing Required and Confidential Until Effective	*(e)-3 Review and Approval*	*(e)-4 Filing After Use*	*(e)-5 Rate in Excess of Normal*	*(e)-6 Special Filings*
Ala.	1	9	25	25	25
Ariz.		10, 11			
Calif.	2	2	2	2	2
Colo.		12			
Del.		11, 13			
D. C.	1	11, 14	25	25	25
Fla.	1	9	25	28	30
Ida.	3	3	3	3	3
Kan.	1	9	25	25	30
La.	4	4	4	4	4
Me.		11, 15			25
Mass.					
Stat. Auto.	4	4	4	4	4
Other Cas.		11, 15			25
Miss.		9	24	27	
Mo.	2	2	2	2	2
Mont.	5				
N. H.					
Auto. Liab.	1	15, 16	25	25	25
Other Cas.	1	15, 17			
N. J.	1	18	25	25	25
N. Y.		19			
N. C.					
Auto. Liab.	6	15, 16	25		25
Other Cas.	1	15, 16	25		25
Ohio		11, 20			29
Okla.	7	11, 14	26	28	
Ore.		11			
Penn.		11, 21			30
P. R.		10, 22			
R. I.	8				
S. C.		21			
Tenn.	1	9	25	25	31
Tex.					
Auto. Liab.	4	4	4	4	4
Other Cas.	1	21	25	25	32
Utah		10, 11			25
Vt.	1	9	25	25	25
Va.	7	15, 16			
Wash	1	9	25		25
Wisc.		23			
Wyo.		11, 15			25

1. No provision as respects public inspection.
2. No filing required.
3. No filing required unless the commissioner upon review and hearing in 1953, or at some biennial date thereafter, shall determine that reasonable competition does not exist with respect to certain classes, whereupon provisions analogous to those in the Model Bill become applicable to such classes.
4 State supervisory authorities fix the rates. Hearing required in Mass.

5. Rating organizations must file. Commissioner may require insurers unaffiliated with rating organizations to file.
6. Rates are made and filed by statutory administrative bureau, but provision is made for deviation and (*e*)-5 filings by insurers.
7. Filings open to inspection when made.
8. Additional: ". . . provided, however, that classification rates may be modified without additional filing to produce rates for individual risks which are lower than those filed and which evaluate variations in physical or moral hazards, individual risk experience or expense provisions and which are not inadequate or unfairly discriminatory."
9. No waiting period. 30-day deemer.
10. 15-day waiting period, with no extension. No deemer.
11. Disapproval only after a hearing.
12. 20-day waiting period, with 20-day extension. With deemer.
13. No waiting period. Filing deemed approved unless disapproved.
14. Rates effective on filing or as specified in filing.
15. No waiting period. No deemer.
16. Prior approval necessary.
17. Commissioner may suspend filing for 30 days pending investigation as to whether it meets requirements of the Act.
18. No waiting period. 90-day deemer.
19. Prior approval necessary for motor vehicle insurance required by section 17 of the vehicle and traffic law and for surety bonds given in lieu of such required motor vehicle insurance.
20. Rates effective when filed.
21. 30-day waiting period, with 30-day extension. With deemer.
22. Prior approval necessary only on "insurance that may be required by any law of the Legislative Assembly of Puerto Rico and for surety bonds given in lieu of such insurance so required."
23. Additional: "A filing made by an insurer for a kind of insurance or subdivision thereof as to which such insurer is not a member of or subscriber to a rating organization shall be deemed to meet the requirements of this act unless disapproved by the commissioner after notice and hearing and findings made in accordance with the requirements of" the section on disapproval of filings.
24. "If the commission in its discretion shall determine that a filing is impractical or unnecessary as to a kind, class, subdivision or combination of insurance, it may by written order suspend the requirement of filing as to such kind, class, subdivision or combination until otherwise ordered by it."
25. No provision.
26. "Rates on risks which are not by general custom of the business or because of rarity or peculiar characteristics written according to normal classification or rating procedure and which cannot be practicably filed before they are used may be used without being filed. The Board may make such examination as it may deem advisable to ascertain whether any such rates meet the requirements of this Act."
27. "A rate in excess of that provided by approved filings may be used on any specific risk with the written consent of the insurance commissioner and the insured."
28. Approval not necessary.
29. See also note 16 under (*d*) foregoing.
30. Additional: ". . . any filing with respect to a contract or a policy covering any kind of risk or kind of insurance or subdivision thereof for which classification rates do not generally exist in the industry or which by reason of rarity or peculiar characteristics does not lend itself to normal classification of rating procedure

shall become effective when filed and shall be deemed to meet the requirements of this Act."

31. "Any such filing with respect to a fidelity, surety or guaranty bond shall be deemed approved from the date of filing to the date of such formal approval or disapproval."
32. "Any filing for which there is no approved rate shall be deemed approved from the date of filing to the date of such formal approval or disapproval."

(i) Deviations

Any member of or subscriber to a rating organization "may make written application to the Commissioner for permission to file a uniform percentage decrease or increase to be applied to the premium produced by the rating system . . . filed for a kind of insurance, or for a class of insurance which is found by the Commissioner to be a proper rating unit for the application of such uniform percentage decrease or increase, or for a subdivision of a kind of insurance (1) comprised of a group of manual classifications which is treated as a separate unit for rate making purposes, or (2) for which separate expense provisions are included in the filings of the rating organization." There is no waiting period except for that introduced by a 10-day notice of hearing to the rating organization, which may waive the hearing. Prior approval is required. Deviation filings are to be judged in general by same criteria as other filings (see (*a*) above). Approvals are effective for a period of one year unless terminated sooner by the Commissioner.

	Exceptions				
State	*Scope*	*Hearing*	*Approval*	*Waiting Period*	*Duration*
Ala.	1	10			
Ariz.		11	13	17	
Calif.	2				
Del.	3		14		
D. C.	4	10, 12			21
Fla.	1				
Ind.	5				
Kan.	6				21
Mass.					
Stat. Auto.	2				
Mich.			15		
Miss.	1				
Mo.	2				
Mont.					21
N. H.					
Auto. Liab.	2				
N. J.	7	10			21
N. C.					
Auto. Liab.	8	11			
Other Cas.	9	10			21
Ohio			13, 14, 16		21
Okla.	4	11	13	17	21
Penn.		11	13	18	
R. I.		11	13	19	
Tenn.	1				22
Tex.	2				
Vt.	8	10			21
Wash.	9	11	13	19	21
Wisc.			13, 14	20	

1. Only "for a kind of insurance or for a subdivision or combination thereof for which . . . the supervisor has approved the application of separate expense provisions." (Mississippi: "kind, class or classes".)
2. No provision.
3. For "any kind of insurance, or class of risk within a kind of insurance, or combination thereof."
4. Only restriction is that deviation must be uniform in its application and not inconsistent with the Act.
5. "increase" in lieu of "decrease or increase".
6. For "a kind of insurance, or for a subdivision or combination thereof."
7. For "a particular kind or kinds of insurance."
8. Only restriction is that deviation must be uniform "in its application to all risks in the state of the class to which such deviation is to apply."
9. No restriction as to scope, except that of filing from which deviation is requested.
10. No time limit on notice of hearing.
11. No provision relating to a hearing in advance.
12. Provision for hearing if approval not granted in 30 days.
13. No approval required.
14. Specific provision that disapproval not be applicable to outstanding policies to which the deviation was applied.
15. The standard provisions are included, but alternative provisions are set forth in another secton, to the effect that a deviation may be filed and become effective on filing and that any disapproval must be within 30 days of the requested effective date, and shall not be applicable to outstanding policies to which the deviation was applied unless disapproval is based on violation of basic criteria (see (*a*) foregoing).
16. Disapproval only after a hearing on 20-day notice, as on other filings. Superintendent may request supporting information.
17. 15 days.
18. 30 days, but Commissioner may approve earlier.
19. 30 days.
20. 15 days with possible 15-day extension, but Commissioner may approve earlier.
21. No time limit on duration of the deviation.
22. For "a period of not less than one year."

(k) Exchange of Information

1. Interchange of Rating Plan Data. "Reasonable rules and plans may be promulgated by the Commissioner for the interchange of data necessary for the application of rating plans."

2. Consultation with Other States. "In order to further uniform administration of rate regulatory laws, the Commissioner and every insurer and rating organization may exchange information and experience data with insurance supervisory officials, insurers and rating organizations in other states and may consult with them with respect to rate making and the application of rating systems."

State	Exceptions (k)-1	Exceptions (k)-2
Ala.	1	4
Calif.	2	5
D. C.	2	2
Fla.	3	
Kan.	1, 3	4
Mass.		
Stat. Auto	2	2
Other Cas.		4
Miss.	2	2
Mo.	2	5
Mont.	2	2
N. H.		
Auto. Liab.	2	2
N. J.	2	2
N. C.	2	2
Okla.	2	2
Ore.		4
P. R.		4
R. I.		4
Tex.		
Auto. Liab.	2	6
Other Cas.	1	4
Wash.		5

1. "loss experience."
2. Omitted.
3. "after consultation with all insurers and rating organizations affected thereby" qualifies "promulgated."
4. "consult and cooperate."
5. Omits reference to Commissioner and insurance supervisory officials. In California reference is to "licensed rating organizations" and "admitted insurers."
6. See note 6 under *(b)-5* for consultation with any "rate making organization or association."

(l) **Recording and Reporting of Loss and Expense Experience**

For convenience in reference the five sentences in the Model Bill phraseology have been noted here separately.

1. "The commissioner shall promulgate reasonable rules and statistical plans, reasonably adopted to each of the rating systems on file with him, which may be modified from time to time and which shall be used thereafter by each insurer in the recording and reporting of its loss and countrywide expense experience, in order that the experience of all insurers may be made available at least annually in such form and detail as may be necessary to aid him in determining whether rating systems comply with the standards set forth in Section ——.
2. "Such rules and plans may also provide for the recording and reporting of expense experience items which are specially applicable to this state and are not susceptible of determination by a prorating of countrywide expense experience.
3. "In promulgating such rules and plans, the commissioner shall give due consideration to the rating systems on file with him and, in order that such rules and plans may be as uniform as is prac-

ticable among the several states, to the rules and to the form of the plans used for such rating systems in other states.

4. "No insurer shall be required to record or report its loss experience on a classification basis that is inconsistent with the rating system filed by it.
5. "The commissioner may designate one or more rating organizations or other agencies to assist him in gathering such experience and making compilations thereof, and such compilations shall be made available, subject to reasonable rules promulgated by the commissioner, to insurers and rating organizations."

	Exceptions					
State	*(l)-1*	*(l)-2*	*(l)-3*	*(l)-4*	*(l)-5*	*Other*
Ala.	1	1	1	1	1	15
Ariz.					11	
Calif.	1	1	1	1	1	16
Colo.	2				11	
Del.					11	
D. C.	1	1	1	1		
Fla.	3-6	1		1		
Ill.				10	11, 12	
Kan.	3-6	1		1		
Ky.					11, 13	
Mass.						
Stat. Auto.	1	1	1	1	1	17
Mich.				10	11	
Minn.					11	
Miss.	6	1				
Mo.	1	1	1	1	1	
Mont.	1	1	1	1	1	
Neb.					11	
N. H.						
Auto. Liab.	1	1	1	1	1	18
N. J.	1	1	1	1	1	19
N. Y.	7		1			20
N. C.						
Auto. Liab.	1	1	1	1	1	21
Other Cas.	1	1	1	1	1	22
Ohio	4, 5	1	1	10		
Okla.	1	1	1	1	1	
Ore.	6					
Penn.					11	23
P. R.	7	9	1		1	17
Tex.						
Auto. Liab.	1	1	1	1	1	24
Other Cas.	4, 6, 8	1		1	14	
Vt.	2					
W. Va.					11, 13	

1. Omitted.
2. The Commissioner "may promulgate" in lieu of "shall promulgate".

3. The clause "after consultation with all insurers and rating organizations affected thereby" is added.
4. The clause "reasonably adapted to each of the rating systems on file with him" is omitted.
5. No reference to expense experience in the first sentence.
6. Substitute "biennially" for "annually".
7. "Every authorized insurer shall annually file with the rating organization of which it is a member or subscriber, or with such other agency as the superintendent may approve, a statistical report showing a classification schedule of its premiums and losses on all kinds or types of insurance business to which this section is applicable, and such other information as the superintendent may deem necessary or expedient for the administration of the provisions of this article. The superintendent from time to time may prescribe the form of such report including statistical data conforming to established classifications."
"Statistical plans and rules shall be promulgated for the recording and reporting of expense experience on a countrywide basis."
8. Additional: ". . . after due consideration . . ."
Substitute: ". . . loss experience and such other data as may be required, in order that the total loss and expense experience . . ."
Substitute throughout: "rating plans" for "rating systems".
9. In lieu of countrywide expense experience provision is made for recording and reporting of expense experience on an "island-wide basis".
10. Fourth sentence adds that no company shall be required to report its experience on any basis or statistical plan which differs from that regularly employed and used in the usual course of such company's business.
11. In addition, no insurer shall be required to file its experience with an organization of which it is not a member or subscriber.
12. Companies not reporting to a statistical agency "shall report such experience to the Director". Such experience shall be deemed confidential but may be included in compilations with other experience.
13. Experience of individual insurers reported directly to the commissioner shall not be revealed by him except by court order although they may be included in consolidations with other experience. All compilations and consolidations shall be open to public inspection as well as available to licensed insurers and licensed rating and qualified advisory organizations.
14. In the fifth sentence reference to making compilations available to insurers and rating organizations is omitted.
15. A statistical report showing premiums and losses on the various kinds of insurance written shall be filed annually on or before July 1st with a statistical agency, and with the Alabama Department, "together with such other information as the bureau (i.e., Department) may deem necessary for the proper determination of the reasonableness and adequacy of rates". Such reports may be consolidated and filed by an agency. "Such data shall be kept and reports made in such manner and on such forms as may be prescribed by the bureau." Such reports to the Alabama Department shall be kept confidential.
16. "Every insurer, rating organization or advisory organization and every group, association or other organization of insurers which engages in joint underwriting or joint reinsurance shall maintain reasonable records, of the type and kind reasonably adapted to its method of operation, of its experience or the experience of its

members and of the data, statistics or information collected or used by it in connection with the rates, rating plans, rating systems, underwriting rules, policy or bond forms, surveys, or inspections made or used by it so that such records will be available at all reasonable times to enable the commissioner to determine whether such organization, insurer, group or association, and, in the case of an insurer or rating organization, every rate, rating plan and rating system made or used by it, complies with the provisions of this chapter applicable to it."

17. The commissioner "may at any time require any company to file with him such data, statistics, schedules or information as he may deem proper or necessary to enable him to fix and establish or secure and maintain fair and reasonable classifications of risks and adequate, just, reasonable, and non-discriminatory premium charges for such policies or bonds".
18. "Every insurance company . . . shall file with the insurance commissioner, individually or in collaboration with others, in such form as he may prescribe, its classification of risks and premium rates applicable thereto, together with a schedule or rating to be in use and such other statistical information as the commissioner may require."
19. "Every insurer shall file annually with the rating organization of which it is a member or subscriber, or with such other agency as the commissioner may approve at the request of such rating organization, or with the commissioner, if such insurer is not a member or a subscriber of a rating organization, a statistical report showing a classification schedule of its premiums and its losses on all kinds of insurance to which this act is applicable, together with such other information as the commissioner may deem necessary for the proper determination of the reasonableness and adequacy of rates."
20. Additional: "The superintendent shall have power, in his discretion, to prescribe by regulation, uniform classifications of accounts to be observed, and statistics to be reported by insurers and other organizations which are subject to the provisions of this article. He may also in his discretion prescribe by regulation, forms of reporting such data by insurers and such other organizations. Such classifications of accounts, and statistics to be reported and forms of reporting shall be reasonable and may vary with the kind or type of insurer or organization. No such regulation or amendment thereto shall be promulgated by the superintendent except upon notice and after hearing to all insurers and organizations affected thereby. Any regulation or amendment thereto shall be promulgated by the superintendent at least six months before the beginning of the calendar year in which the same shall take effect. Any regulation or order of the superintendent made under this section shall be subject to judicial review by any insurer or organization aggrieved thereby."
21. ". . . the commissioner of insurance is hereby authorized to compel the production of all books, data, papers and records and any other data necessary to compile statistics for the purpose of determining the pure cost and expense loading of automobile bodily injury and property damage insurance in North Carolina."
22. "Every insurer shall annually on or before October 1, file with the rating bureau of which it is a member or subscriber, or with such other agency as the commissioner of insurance may approve or designate, a statistical report showing a classification schedule of its premiums and losses on all classes of insurance to which this article is applicable, and such other information as the commis-

sioner may deem necessary or expedient for the administration of the provisions of this article."

23. Additional: "Such rules and plans shall not place an unreasonable burden of expense on any insurer."
24. "The Commissioner is hereby authorized and empowered to require sworn statements from any insurer affected by this Act, showing its experience on any classification or classifications of risks and such other information which may be necessary or helpful in determining proper classifications and rates, or other duties or authority imposed by law. The Commissioner shall prescribe the necessary forms for such statements and reports, having due regard to the rules, methods and forms in use in other states for similar purposes in order that uniformity of statistics may not be disturbed."