(Rescinded by the Board of Directors of the CAS December 2020)

Statement of Principles Regarding Property and Casualty Insurance Ratemaking

(Adopted by the Board of Directors of the CAS May 1988)

The purpose of this Statement is to identify and describe principles applicable to the determination and review of property and casualty insurance rates. The principles in this Statement are limited to that portion of the ratemaking process involving the estimation of costs associated with the transfer of risk. This Statement consists of four parts:

I. DEFINITIONS
II. PRINCIPLES
III. CONSIDERATIONS
IV. CONCLUSION

The principles contained in this Statement provide the foundation for the development of actuarial procedures and standards of practice. It is important that proper actuarial procedures be employed to derive rates that protect the insurance system's financial soundness and promote equity and availability for insurance consumers.

Although this Statement addresses property and casualty insurance ratemaking, the principles contained in this Statement apply to other risk transfer mechanisms.

I. DEFINITIONS

Ratemaking is the process of establishing rates used in insurance or other risk transfer mechanisms. This process involves a number of considerations including marketing goals, competition and legal restrictions to the extent they affect the estimation of future costs associated with the transfer of risk. This Statement is limited to principles applicable to the estimation of these costs. Such costs include claims, claim settlement expenses, operational and administrative expenses, and the cost of capital. Summary descriptions of these costs are as follows:

—*Incurred losses* are the cost of claims insured.

—*Allocated loss adjustment expenses* are claims settlement costs directly assignable to specific claims.

—*Unallocated loss adjustment expenses* are all costs associated with the claim settlement function not directly assignable to specific claims.

—*Commission and brokerage expenses* are compensation to agents and brokers.

—*Other acquisition expenses* are all costs, except commission and brokerage, associated with the acquisition of business.

—*Taxes, licenses and fees* are all taxes and miscellaneous fees except federal income taxes.

—*Policyholder dividends* are a non-guaranteed return of premium charged to operations as an expense.

—*General administrative expenses* are all other operational and administrative costs.

—The *underwriting profit and contingency provisions* are the amounts that, when considered with net investment and other income, provide an appropriate total after-tax return.

II. PRINCIPLES

Ratemaking is prospective because the property and casualty insurance rate must be developed prior to the transfer of risk.

> Principle 1: A *rate* is an estimate of the expected value of future costs.

Ratemaking should provide for all costs so that the insurance system is financially sound.

> Principle 2: A rate provides for all costs associated with the transfer of risk.

Ratemaking should provide for the costs of an individual risk transfer so that equity among insureds is maintained. When the experience of an individual risk does not provide a credible basis for estimating these costs, it is appropriate to consider the aggregate experience of similar risks. A rate estimated from such experience is an estimate of the costs of the risk transfer for each individual in the class.

> Principle 3: A rate provides for the costs associated with an individual risk transfer.

Ratemaking produces cost estimates that are actuarially sound if the estimation is based on Principles 1, 2, and 3. Such rates comply with four criteria commonly used by actuaries: reasonable, not excessive, not inadequate, and not unfairly discriminatory.

> Principle 4: A rate is reasonable and not excessive, inadequate, or unfairly discriminatory if it is an actuarially sound estimate of the expected value of all future costs associated with an individual risk transfer.

III. CONSIDERATIONS

A number of ratemaking methodologies have been established by precedent or common usage within the actuarial profession. Since it is desirable to encourage experimentation and innovation in ratemaking, the actuary need not be completely bound by these precedents. Regardless of the ratemaking methodology utilized, the material assumptions should be documented and available for disclosure. While no ratemaking methodology is appropriate in all cases, a number of considerations commonly apply. Some of these considerations are listed below with summary descriptions. These considerations are intended to provide a foundation for the development of actuarial procedures and standards of practice.

Exposure Unit—The determination of an appropriate exposure unit or premium basis is essential. It is desirable that the exposure unit vary with the hazard and be practical and verifiable.

Data—Historical premium, exposure, loss and expense experience is usually the starting point of ratemaking. This experience is relevant if it provides a basis for developing a reasonable indication of the future. Other relevant data may supplement historical experience. These other data may be external to the company or to the insurance industry and may indicate the general direction of trends in insurance claim costs, claim frequencies, expenses and premiums.

Organization of Data—There are several acceptable methods of organizing data including calendar year, accident year, report year and policy year. Each presents certain advantages and disadvantages; but, if handled properly, each may be used to produce rates. Data availability, clarity, simplicity, and the nature of the insurance coverage affect the choice.

Homogeneity—Ratemaking accuracy often is improved by subdividing experience into groups exhibiting similar characteristics. For a heterogeneous product, consideration should be given to segregating the experience into more homogeneous groupings. Additionally, subdividing or combining the data so as to minimize the distorting effects of operational or procedural changes should be fully explored.

Credibility—*Credibility* is a measure of the predictive value that the actuary attaches to a particular body of data. Credibility is increased by making groupings more homogeneous or by increasing the size of the group analyzed. A group should be large enough to be statistically reliable. Obtaining homogeneous groupings requires refinement and partitioning of the data. There is a point at which partitioning divides data into groups too small to provide credible patterns. Each situation requires balancing homogeneity and the volume of data.

Loss Development—When incurred losses and loss adjustment expenses are estimated, the development of each should be considered. The determination of the expected loss development is subject to the principles set forth in the Casualty Actuarial Society's *Statement of Principles Regarding Property and Casualty Loss and Loss Adjustment Expense Reserves*.

Trends—Consideration should be given to past and prospective changes in claim costs, claim frequencies, exposures, expenses and premiums.

Catastrophes—Consideration should be given to the impact of catastrophes on the experience and procedures should be developed to include an allowance for the catastrophe exposure in the rate.

Policy Provisions—Consideration should be given to the effect of salvage and subrogation, coinsurance, coverage limits, deductibles, coordination of benefits, second injury fund recoveries and other policy provisions.

Mix of Business—Consideration should be given to distributional changes in deductibles, coverage limitations or type of risks that may affect the frequency or severity of claims.

Reinsurance—Consideration should be given to the effect of reinsurance arrangements.

Operational Changes—Consideration should be given to operational changes such as changes in the underwriting process, claim handling, case reserving and marketing practices that affect the continuity of the experience.

Other Influences—The impact of external influences on the expected future experience should be considered. Considerations include the judicial environment, regulatory and legislative changes, guaranty funds, economic variable, and residual market mechanisms including subsidies of residual market rate deficiencies.

Classification Plans—A properly defined classification plan enables the development of actuarially sound rates.

Individual Risk Rating—When an individual risk's experience is sufficiently credible, the premium for that risk should be modified to reflect the individual experience. Consideration should be given to the impact of individual risk rating plans on the overall experience.

Risk—The rate should include a charge for the risk of random variation from the expected costs. This risk charge should be reflected in the determination of the appropriate total return consistent with the cost of capital and, therefore, influences the underwriting profit provision. The rate should also include a charge for any systematic variation of the estimated costs from the expected costs. This charge should be reflected in the determination of the contingency provision.

Investment and Other Income—The contribution of net investment and other income should be considered.

Actuarial Judgment—Informed actuarial judgments can be used effectively in ratemaking. Such judgments may be applied throughout the ratemaking process and should be documented and available for disclosure.

IV. CONCLUSION

The actuary, by applying the ratemaking principles in this Statement, will derive an estimation of the future costs associated with the transfer of risk. Other business considerations are also a part of ratemaking. By interacting with professionals from various fields including underwriting, marketing, law, claims, and finance, the actuary has a key role in the ratemaking process.