1995 CASUALTY LOSS RESERVE SEMINAR

2A: Basic Track I
Considerations in Evaluating Reserves

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STATEMENT OF PRINCIPLES REGARDING PROPERTY AND CASUALTY LOSS AND LOSS ADJUSTMENT EXPENSE RESERVES

(AS ADOPTED MAY 1988)

The purpose of this statement is to identify and describe principles applicable to the evaluation and review of loss and loss adjustment expense reserves. Because of their size and the uncertainties in the estimation process, the evaluation of these reserves requires the use of proper actuarial and statistical procedures. The financial condition of a property and casualty insurer cannot be assessed accurately without sound reserve estimates.

This statement consists of three parts:

I. Definitions

II. Principles

III. Considerations

The definitions in the next section apply to both loss reserves and loss adjustment expense reserves. For the purpose of this statement the terms "loss" and "claim" are used interchangeably, and the term "insurer" is meant to represent any risk bearer for property and casualty exposures, whether an insurance company, self-insured entity or other.

I. *Definitions*

A loss reserve is a provision for its related liability. A total loss reserve is composed of five elements, although the five elements may not necessarily be individually quantified:

- case reserve
- provision for future development on known claims
- reopened claims reserve
- provision for claims incurred but not reported
- provision for claims in transit (incurred and reported but not recorded).

Before these five elements are discussed, certain key dates and terms need to be defined.

The accounting date is the date that defines the group of claims for which liability may exist, namely all insured claims incurred on or before the accounting date. The accounting date may be any date selected for a statistical or financial reporting purpose.

The valuation date is the date through which transactions are included in the data base used in the evaluation of the liability, regardless of when the analysis is performed. For a defined group of claims as of a given accounting date, reevaluation of the same liability may be made as of successive valuation dates. A valuation date may be prior to, coincident with or subsequent to the accounting date.

The carried loss reserve is the amount shown in a published statement or in an internal statement of financial condition.

An indicated loss reserve is the result of the application of a particular loss reserving evaluation procedure. An indicated loss reserve for a given accounting date likely will change from one valuation date to another.

A division is often required between reserves for known claims and reserves for claims which have been incurred but not reported (IBNR). The reserve for known claims(*) represents the amount, estimated as of the valuation date, that will be required for future payments on claims that already have been reported to the insurer. The IBNR reserve represents the amount that must be provided for future payments on insured losses that have occurred but that have not been reported.

The case reserve (**) is defined as the sum of the values assigned to specific known claims whether determined by claims adjusters or set by formula. Adjusters' estimates are the aggregate of the estimates made by claims personnel for individual claims, based on the facts of the particular claims. Formula reserves are reserves established for groups of claims for which certain classifying information is provided. Formula reserving may be applied to individual claims or to aggregations of claims with similar characteristics through use of average claim values or factors applied to representative statistics (for example, premiums in force or earned premiums).

Development is defined as the change between valuation dates in the observed values of certain fundamental quantities that may be used in the loss reserve estimation process. For example, the observed number of reported claims associated with losses occurring within a particular calendar period often will be seen to increase from one valuation date to the next until all claims have been reported. The pattern of accumulating claims represents the development of the number of claims.

In a similar fashion the amount of claim payments for losses occurring within a specific calendar period also will be seen to increase at succeeding valuation dates. In this case the pattern of accumulating payments represents the development of claim costs and is usually referred to by the term paid development. The concept of development also applies to incurred losses. Incurred development is defined as the difference between estimates of incurred costs at two valuation dates for a defined group of claims.

The provision for future development on known claims relates to incurred development on those claims reported to an insurer on or before a specific accounting date that are still open on that accounting date. Incurred development on such claims can be either increasing or decreasing.

The reopened claims reserve is a provision for future payments on claims closed as of the accounting date that may be reopened due to circumstances not foreseen at the time the claims were closed. In some instances, post-closing payments or recoveries for claims not actually reopened may be included with the development on known claims.

For many insurers a claim is considered to be reported when it is first recorded in the accounting records of the insurer. Conceptually, two elements form the IBNR reserve. The first of these elements is the provision for claims incurred but not reported, referred to as the "pure" IBNR. This provision results from the normal delay that occurs in reporting losses. The second element is the provision for claims in transit, which are incurred and reported but not recorded. This provision represents the additional time consumed by the insurer's recording procedures. As a practical matter it is not always feasible to measure these two elements separately, but it is important to understand the effect reporting procedures can have on the amount of IBNR re-

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(*) The reserve for known claims is also sometimes referred to by other labels such as the "reported reserve," the "reserve for claims adjusted or in the process of adjustment" or the "reserve for unpaid losses excluding IBNR."

(**) The term case reserve is sometimes used in place of the reserve for known claims. However, as defined, the case reserve does not include the provision for future development on known claims.

serve. For some insurers claims in transit are considered known claims. The IBNR reserve must provide for the ultimate value of IBNR claims including the development which is expected to occur on these claims after reporting.

Loss adjustment expenses include allocated loss adjustment expenses and unallocated loss adjustment expenses. Allocated loss adjustment expenses are those expenses, such as attorneys' fees and other legal costs, that are incurred in connection with and are assigned to specific claims. Unallocated loss adjustment expenses are all other claim adjustment expenses and include salaries, utilities and rent apportioned to the claim adjustment function but not readily assignable to specific claims. The definition of allocated and unallocated loss adjustment expenses for reserving purposes varies among insurers, and an individual insurer's practice for reserving may not always conform to its definition for statistical reporting or ratemaking purposes.

Since allocated expenses are assigned to specific claims, all of the analyses performed on loss data can also be performed on allocated loss expense data. Thus, the allocated loss adjustment expense reserve can be divided into known and IBNR components. All of the concepts discussed in the preceding paragraphs, as well as each of the five elements of the loss reserve, have similar meanings with regard to the allocated loss adjustment expense reserve.

Although the same statistical procedures normally do not apply to unallocated expenses, the unallocated loss adjustment expense reserve can still be divided into known reserve and IBNR components, and the concept of a particular valuation date is meaningful.

II. *Principles*

1. An actuarially sound loss reserve for a defined group of claims as of a given valuation date is a provision, based on estimates derived from reasonable assumptions and appropriate actuarial methods, for the unpaid amount required to settle all claims, whether reported or not, for which liability exists on a particular accounting date.

2. An actuarially sound loss adjustment expense reserve for a defined group of claims as of a given valuation date is a provision, based on estimates derived from reasonable assumptions and appropriate actuarial methods, for the unpaid amount required to investigate, defend and effect the settlement of all claims, whether reported or not, for which loss adjustment expense liability exists on a particular accounting date.

3. The uncertainty inherent in the estimation of required provisions for unpaid losses or loss adjustment expenses implies that a range of reserves can be actuarially sound. The true value of the liability for losses or loss adjustment expenses at any accounting date can be known only when all attendant claims have been settled.

4. The most appropriate reserve within a range of actuarially sound estimates depends on both the relative likelihood of estimates within the range and the financial reporting context in which the reserve will be presented.

Although specific reserve requirements may vary, the same basic principles apply in each context in which the reserves are stated, including statutory balance sheets, statements of opinion on loss reserves and reports to shareholders or securities regulators. Guidance in the application of these principles is provided in the Considerations section of this statement.

III. *Considerations*

Understanding the trends and changes affecting the data base is a prerequisite to the application of actuarially sound reserving methods. A knowledge of changes in underwriting, claims handling, data processing and accounting, as well as changes in the legal and social environment, affecting the experience is essential to the accurate interpretation and evaluation of observed data and the choice of reserving methods.

A knowledge of the general characteristics of the insurance portfolio for which reserves are to be established also is important. Such knowledge would include familiarity with policy provisions that may have a bearing on reserving, as well as deductibles, salvage and subrogation, policy limits and reinsurance.

Data Organization

The categorization of claims by time unit is extremely important. The successful organization of a data base for reserving revolves around five key dates:

- accident date, which is the date on which the loss occurred, or for those losses that cannot be identified with a single isolated event, the date on which the loss is deemed to have occurred
- report date, which is the date on which the loss is first reported to the insurer (in practice it is often taken to be the recorded date)
- recorded date, which is the date on which the loss is first entered in the statistical records of the insurer
- accounting date
- valuation date.

Commonly, insurers compile claim data by accident periods (accident year, accident quarter, accident month, etc.), which group together all claims with accident dates falling within particular fiscal periods; or by policy periods, which group all claims relating to policies written during particular fiscal periods. Claim information by accident year is required for various financial reporting schedules. Many insurers also compile claim data by report periods, which group together all claims with report dates falling within specified fiscal periods.

Claims with report dates equal to or prior to a particular accounting date would be classified as known or reported claims with respect to the accounting date, but claims with report dates later than a particular accounting date and with accident dates equal to or earlier than the accounting date would be classified as IBNR with respect to the accounting date.

The preceding paragraph gives the precise definition of IBNR claims. In practice a broader definition is sometimes used in which the IBNR reserve denotes the provision for late reported claims, development on known claims and a provision for reopened claims.

The ambiguity regarding the definition of IBNR can result from the differing strategies insurers may employ in approaching loss reserving. The two common strategies are the report period approach and the accident period approach. In the report period approach the adequacy of existing reserves on reported claims is estimated on the basis of the historical results. Further analysis is required in order to measure the emergence of IBNR claims. In a pure accident period approach the ultimate cost of all claims, both reported and unreported, arising from each accident period is estimated. This approach results in an estimate of the loss reserve without segregation of claims incurred but not reported. The estimated loss reserve is then apportioned between reserves for IBNR and known claims on a suitable basis. Because accident period techniques do not necessarily require separate treatment of reported and unreported claims, their use can lead to a broader definition of IBNR as mentioned above.

The method of assigning report dates to reopened claims can also affect the IBNR reserve. Because reopened claims are generated from claims previously reported and closed, there is general agreement that the provision for this liability should be included in the reserve for known claims. Some insurers, however, establish new report dates for reopened claims and thereby consider the provision for these claims as a component of the IBNR reserve.

Homogeneity

Loss reserving accuracy often is improved by subdividing experience into groups exhibiting similar characteristics, such as comparable claim experience patterns, settlement patterns or size of loss distributions. For a heterogeneous product, such as commercial multi-peril or miscellaneous liability insurance, consideration should be given to segregating the experience into more homogeneous groupings. Other example applications concern the distinctions between personal and commercial risks and between primary and excess coverage. 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 body of data. The degree to which consideration is given to homogeneity is related to the consideration of credibility. Credibility is increased by making groupings more homogeneous or by increasing the number of claims analyzed within each group. A group of claims should be large enough to be statistically reliable. Obtaining homogeneous groupings requires refinement and partitioning of the total data. There is a point at which partitioning divides data into groups too small to provide credible development patterns. Each situation requires a balancing of the homogeneity and amount of data in each grouping. Thus, line and coverage definitions suitable for the establishment of reserves for large insurers can be in much finer detail than in the case of small insurers. Where a very small group of claims is involved, use of external information such as industry aggregates may be necessary.

Data Availability

Data should meet requirements for the proper evaluation of reserves. Existing information systems may impose constraints while more suitable data are being developed. Whatever data are used in analysis of reserves, they must reconcile to the insurer's financial records. If reserves are established in less detail than necessary for reporting requirements, procedures for properly assigning the reserves to required categories must be developed.

Emergence Patterns

The delay between the occurrence of claims and the recording of claims depends upon both the line of business and the insurer's practices. In general, property claims are reported quickly, whereas the reporting of liability claims may be substantially delayed.

A review of the insurer's claims practices should be made to assure that assumptions regarding the claims process are appropriate. If a change in claims procedures is identified, its impact on emergence patterns should be evaluated.

Settlement Patterns

The length of time that it normally takes for reported claims to be settled will affect the choice of the loss reserving methods. Lines of business for which claims settle quickly generally are less subject to reserve uncertainty. A claim arising under collision coverage, for example, tends to be settled quickly, and the amount of settlement is usually close to the original estimate. Conversely, a bodily injury liability claim often requires a long time to settle. Moreover, the amount of settlement often varies considerably from the original estimate, since it depends on the interaction of complex variables such as the type and severity of the injury and the intricacies of the judicial process.

Development Patterns

The pattern of development on known claims should be carefully reviewed. An insurer's claims procedures will affect the manner in which the case reserves develop for any group of claims, and changes in claims practices may affect the consistency of historical developments. Further, the length of time to settlement may affect the observed development.

If reserves have been established at present values, the payments of claims, by themselves, cause an appearance of upward development apart from development due to other factors. To interpret development patterns correctly, the development history should be restated to remove the effect of discounting.

Frequency and Severity

The same total dollars of losses may arise from a few very large claims or from many small claims. Reserve estimates will tend to be more accurate for losses resulting from a high frequency/low severity group of claims than from a low frequency/high severity group of claims. Therefore, the evaluation of reserves for low frequency/high severity groups of claims will ordinarily require more extensive analysis. If the exposure for the group of claims being considered includes the potential for claims of a magnitude not present in historical data, adjustments should be made to reflect the expectation of such claims.

Reopened Claims Potential

The tendency for closed claims to reopen varies substantially among lines of business. Judicial opinions and legislation can affect the reopening of claims, as can changes in an insurer's procedures.

Claims-Made

Some coverages may be provided on a policy form covering claims reported during a certain period rather than claims arising out of occurrences during that period. Claims-made data should be segregated from experience on occurrence policies. It may be necessary to augment claims-made statistics with appropriate report period statistics generated under occurrence programs.

Certain provisions may modify the claims-made policy upon fulfillment of conditions stipulated in the contract. Review of the contract wording is necessary to determine the appropriate reserve, if any, for occurrences prior to the policy effective date or claims reported after the policy expiration.

Aggregate Limits

For certain insurance coverages, such as products and professional liability, aggregate policy limits may act to restrict total potential incurred losses and therefore reserve requirements. In the review of groups of claims where aggregate limits apply, modeling techniques or audit tests of the data will reveal to what extent limit ceilings have been reached and assist in determining how reserve projections may have to be modified.

Salvage, Subrogation and Collateral Sources

For a proper evaluation of an insurer's total reserve position, the potential impact of salvage and subrogation on the group of claims under consideration should be evaluated even though statutory accounting may prohibit a deduction from loss reserves. In addition, the impact of coinsurance, deductibles, coordination of benefits, second injury fund recoveries, as well as any other collateral sources, should be considered.

Generally Accepted Accounting Principles

Reports to shareholders and to securities regulators are governed by generally accepted accounting principles (GAAP). GAAP reserves may be defined differently from statutory reserves. For example, GAAP reserves are ordinarily reduced by anticipated salvage and subrogation. The same principles of analysis used for statutory estimates can be applied to GAAP reserve estimates.

Reinsurance

Reserves are affected by the types of reinsurance plans and retentions that were and are in force, and the impact of changes in net retentions should be evaluated. To determine the effect of reinsurance it may be appropriate to analyze direct and ceded experience separately. The recoverability of ceded reinsurance is a further consideration; generally, it is addressed separately from the reserve evaluation process.

Portfolio Transfers, Commutations and Structured Settlements

Portfolio transfers, commutations and structured settlements generally recognize the time value of money. Such transactions should be evaluated for their impact on the loss reserves and the development patterns.

Pools and Associations

The loss liabilities of an insurer depend to some degree on forces beyond its control, such as business obtained through participation in voluntary and non-voluntary underwriting pools and associations. The operating and reserving policies of these organizations vary, and adjustments to reserves reported by the pools and associations may be warranted.

Operational Changes

The installation of a new computer system, an accounting change, a reorganization of claims responsibility or changes in claims handling practices or underwriting programs are examples of operational changes that can affect the continuity of the loss experience. The computation of the reserves should reflect the impact of such changes.

Changes in Contracts

Changes in contract provisions, such as policy limits, deductibles or coverage attachment points, may alter the amounts of claims against an insurer. Such contractual changes may affect both the frequency and severity of claims.

External Influences

Due regard should be given to the impact of external influences. External influences include the judicial environment, regulatory and legislative changes, residual or involuntary market mechanisms, and economic variables such as inflation.

Discounting

There are circumstances where loss reserves are stated on a present value basis. To calculate or evaluate such reserves, it is generally appropriate to perform an analysis on an undiscounted basis and then apply the effect of discounting.

Provision for Uncertainty

A reserve estimate should take into account the degree of uncertainty inherent in its projection. A reserve stated at its ultimate value may include an implicit provision for uncertainty due to the time value of money. If a reserve is to be stated at a present value, it may be appropriate to include an explicit provision for uncertainty in its undiscounted amount. Further, an explicit provision for uncertainty may be warranted when the indicated ultimate reserve value is subject to a high degree of variability.

Reasonableness

The incurred losses implied by the reserves should be measured for reasonableness against relevant indicators, such as premiums, exposures or numbers of policies, and expressed wherever possible in terms of frequencies, severities and loss ratios. No material departure from expected results should be accepted without attempting to find an explanation for the variation.

Loss-Related Balance Sheet Items

The loss reserve analysis may have implications for other loss-related balance sheet items. These include contingent commissions, retrospective premium adjustments, policyholder dividends, premium deficiency reserves, minimum statutory reserves and the deduction for unauthorized reinsurance.

Loss Reserving Methods

Detailed discussion of the technology and applicability of current loss reserving practices is beyond the scope of this statement. Selection of the most appropriate method of reserve estimation is the responsibility of the actuary. Ordinarily the actuary will examine the indications of more than one method when estimating the loss and loss adjustment expense liability for a specific group of claims.

Standards of Practice

This statement provides the principles of loss reserving. The actuary should also be familiar with standards of practice, which addresses the application of these principles.

1995 CASUALTY LOSS RESERVE SEMINAR

Considerations in Setting Loss Reserves

I. **Basic Definitions and Concepts**
   - A. Accounting aspects
   - B. Key dates
   - C. Elements of a loss reserve
   - D. Loss adjustment expenses

II. **Basic Principles**
   - A. Actuarially sound reserves
   - B. Uncertainty

III. **Considerations**
   - A. Data elements and organization
   - B. Other considerations
   - C. Application of judgment

Exhibit 1

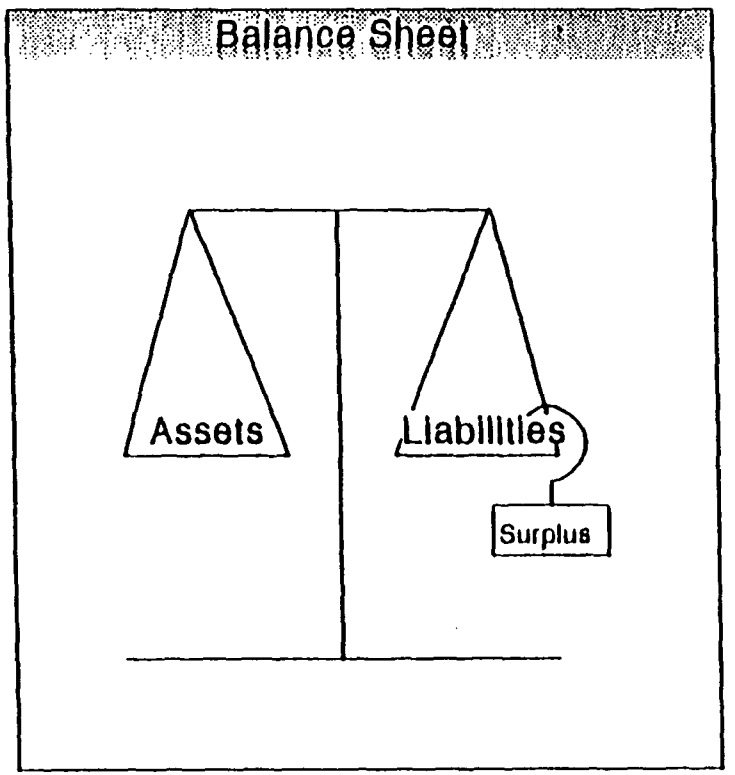
LOSS RESERVE

DEFINITION:	Amount necessary to settle unpaid claims.
CHARACTERISTIC:	Estimated liability.
IMPORTANCE:	Accurate evaluation of financial condition and underwriting income.

Exhibit 2

ACCOUNTING ASPECTS OF LOSS RESERVES

Fulfills Basic Accounting Principle of Matching Revenue and Costs



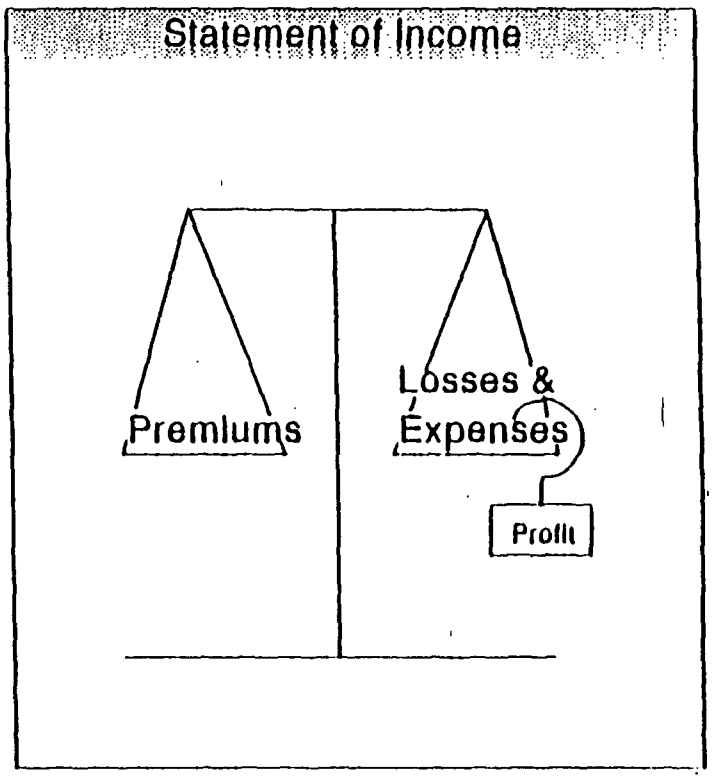


Exhibit 3

KEY DATES

ACCOUNTING DATE:	Defines a group of claims for which liability may exist; namely, all claims incurred on or before the accounting date.

VALUATION DATE:	Defines the time period for which transactions are included when evaluating the existing liability.

Exhibit 4

CARRIED LOSS RESERVE

The loss reserve amount shown in a published statement or in an internal statement of financial condition.

INDICATED LOSS RESERVE

The estimated loss reserve that results from the application of a particular loss reserving procedure.

Exhibit 5

ELEMENTS OF A LOSS RESERVE

- IBNR
- Claims in Transit
- Case Reserve/Formula Reserve
- Development on Known Claims
- Reopened Claims Reserve

Exhibit 6

LIFE CYCLE OF A CLAIM RESERVE

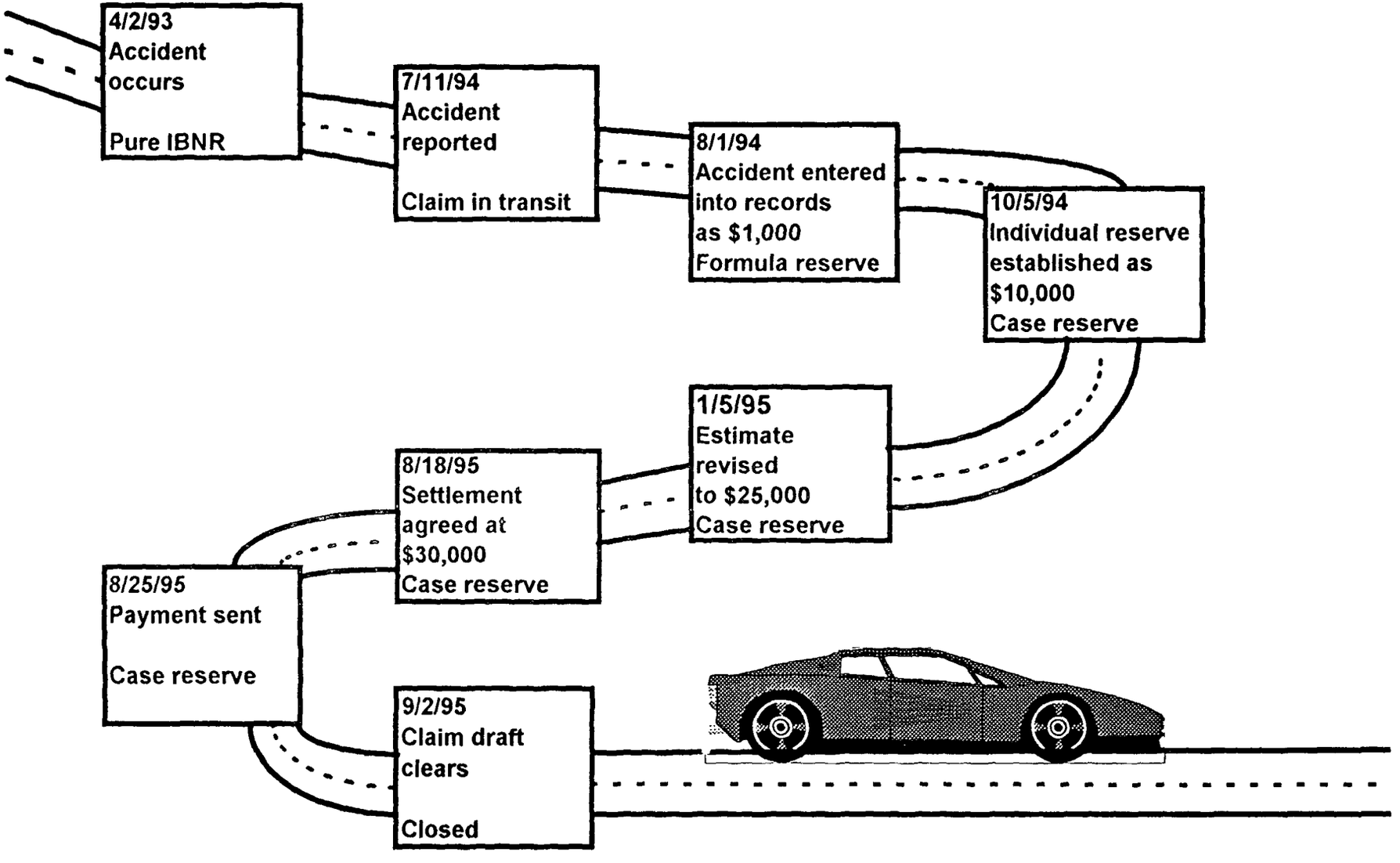


Exhibit 7

LOSS ADJUSTMENT EXPENSES

Allocated: are assigned to specific claims

Mostly:

1. Attorney fees and other legal costs
2. Independent adjuster fees*

Unallocated: not assigned to specific claims

1. Claims department salaries/benefits
2. Claims department overhead
3. Company overhead
4. Independent adjuster fees*

* Depends upon billing detail

Exhibit 8

ACTUARIALLY SOUND LOSS RESERVES

DEFINITION
A provision for the unpaid amount required to settle all claims, whether reported or not, for which liability may exist on a particular accounting date.

CHARACTERISTICS	
For:	A defined group of claims
As of:	A given valuation date
Based on:	Estimates derived from reasonable assumptions and appropriate actuarial methods

Exhibit 9

ACTUARIALLY SOUND
LOSS ADJUSTMENT EXPENSE RESERVES

DEFINITION
A provision for the unpaid amount required to investigate, defend, and effect the settlement of all claims, whether reported or not, for which liability may exist on a particular accounting date.

CHARACTERISTICS	
For:	A defined group of claims
As of:	A given valuation date
Based on:	Estimates derived from reasonable assumptions and appropriate actuarial methods

Exhibit 10

UNCERTAINTY

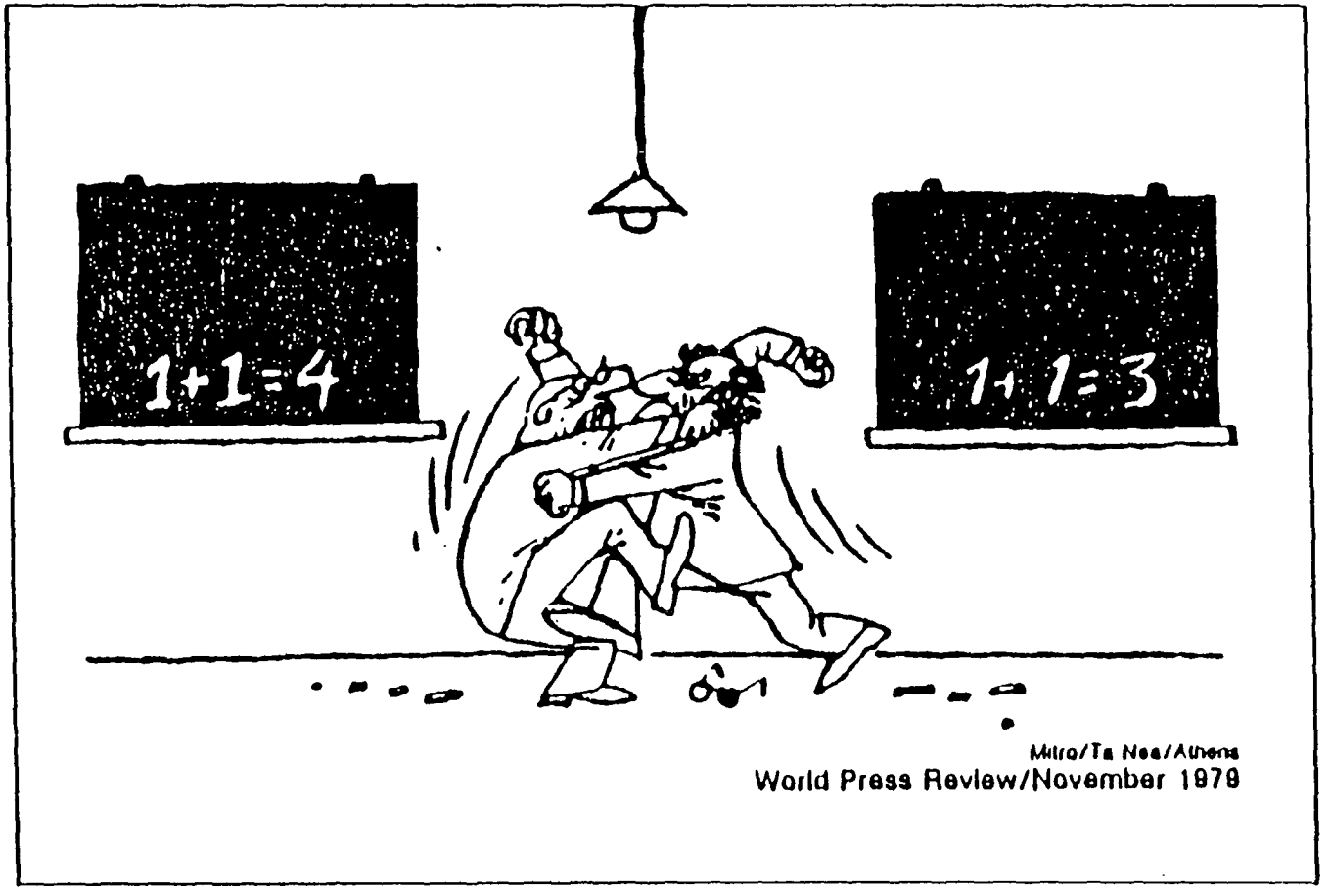


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Exhibit 11

UNCERTAINTY

- The true value of the liability for loss or loss adjustment expenses at any accounting date can be known only when all attendant claims have been settled.
- The uncertainty inherent in the estimation of these liabilities implies that there is a range of estimates that may be actuarially sound.
- The most appropriate reserve within a range of actuarially sound estimates depends on both the relative likelihood of estimates within the range and the financial reporting context in which the reserve will be used.

KEY DATES

ACCIDENT DATE:	The date on which the loss occurred.
REPORT DATE:	The date on which the loss is first reported to the insurer.
RECORDED DATE:	The date on which the loss is first entered into the statistical records of the insurer.
ACCOUNTING DATE:	Defines a group of claims for which liability may exist; namely, all claims incurred on or before the accounting date.
VALUATION DATE:	Defines the time period for which transactions are included when evaluating the existing liability.

TYPICAL DATA ELEMENTS

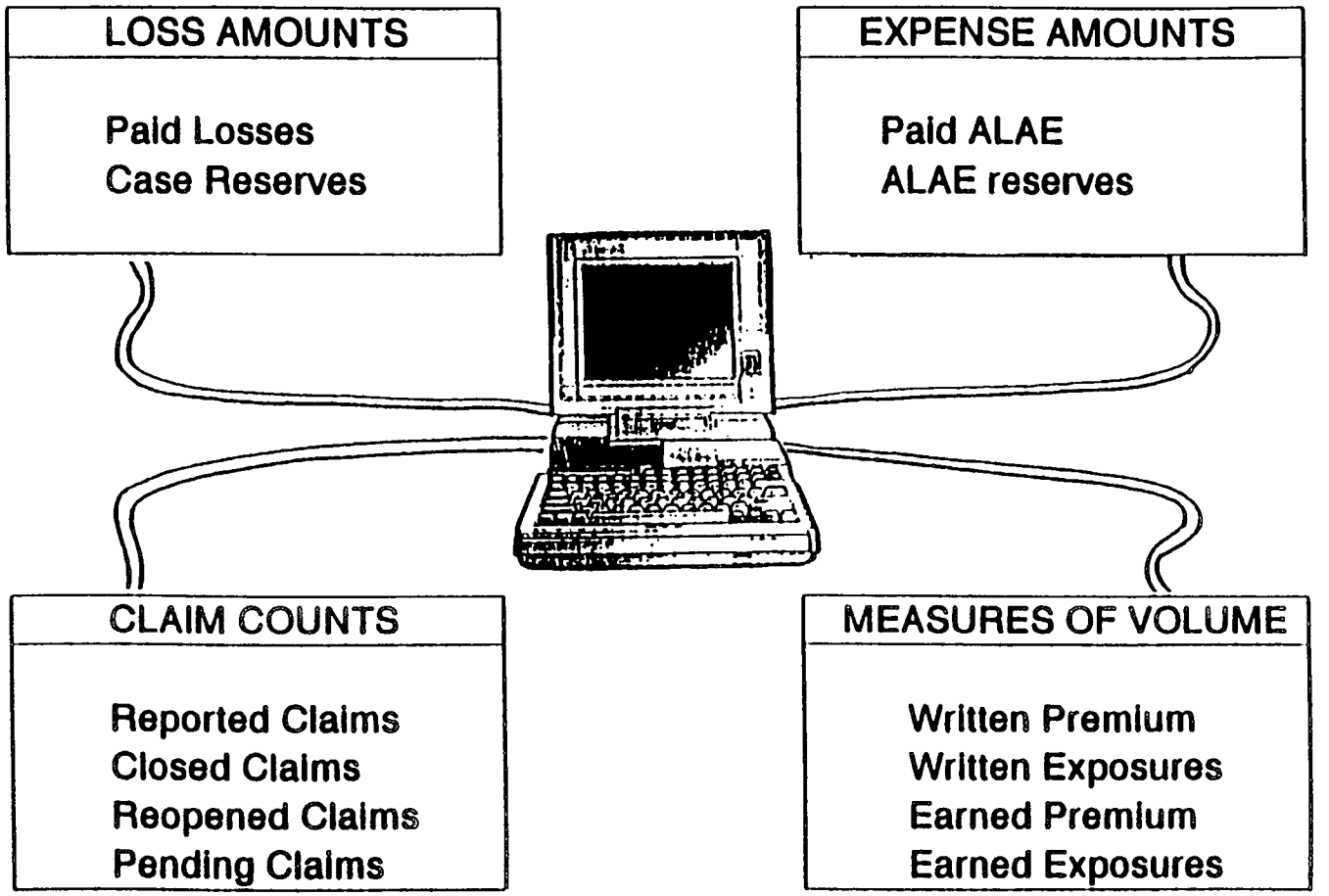


Exhibit 14

IBNR

- TWO COMMON DEFINITIONS
  - Gross
  - Pure
- POTENTIAL FOR CONFUSION
  - Communication
  - Presentation

Exhibit 15

HOMOGENEITY

Loss reserving accuracy is often improved by subdividing experience into groups exhibiting similar characteristics. For example:

BY PRODUCT:	BY COVERAGE:
Homeowners	Homeowners Property Homeowners Liability etc.
Automobile	Automobile Bodily Injury Automobile Property Damage etc.
General Liability	Manufacturers and Contractors Owners, Landlords and Tenants Products Liability, etc.

CREDIBILITY

- Credibility is a measure of the predictive value that is attached to a body of data.

- A group of claims should be large enough to be statistically reliable.

- There is a point at which partitioning will divide the data into groups too small to provide credible development patterns.

- Supplementary data from another source (ISO,NCCI, a larger but "similar" line) may be helpful.

Exhibit 17

DATA AVAILABILITY

- Ideal versus Actual
- Qualitative and Quantitative
- Data Quality

Exhibit 18

EMERGENCE AND SETTLEMENT PATTERNS

EMERGENCE

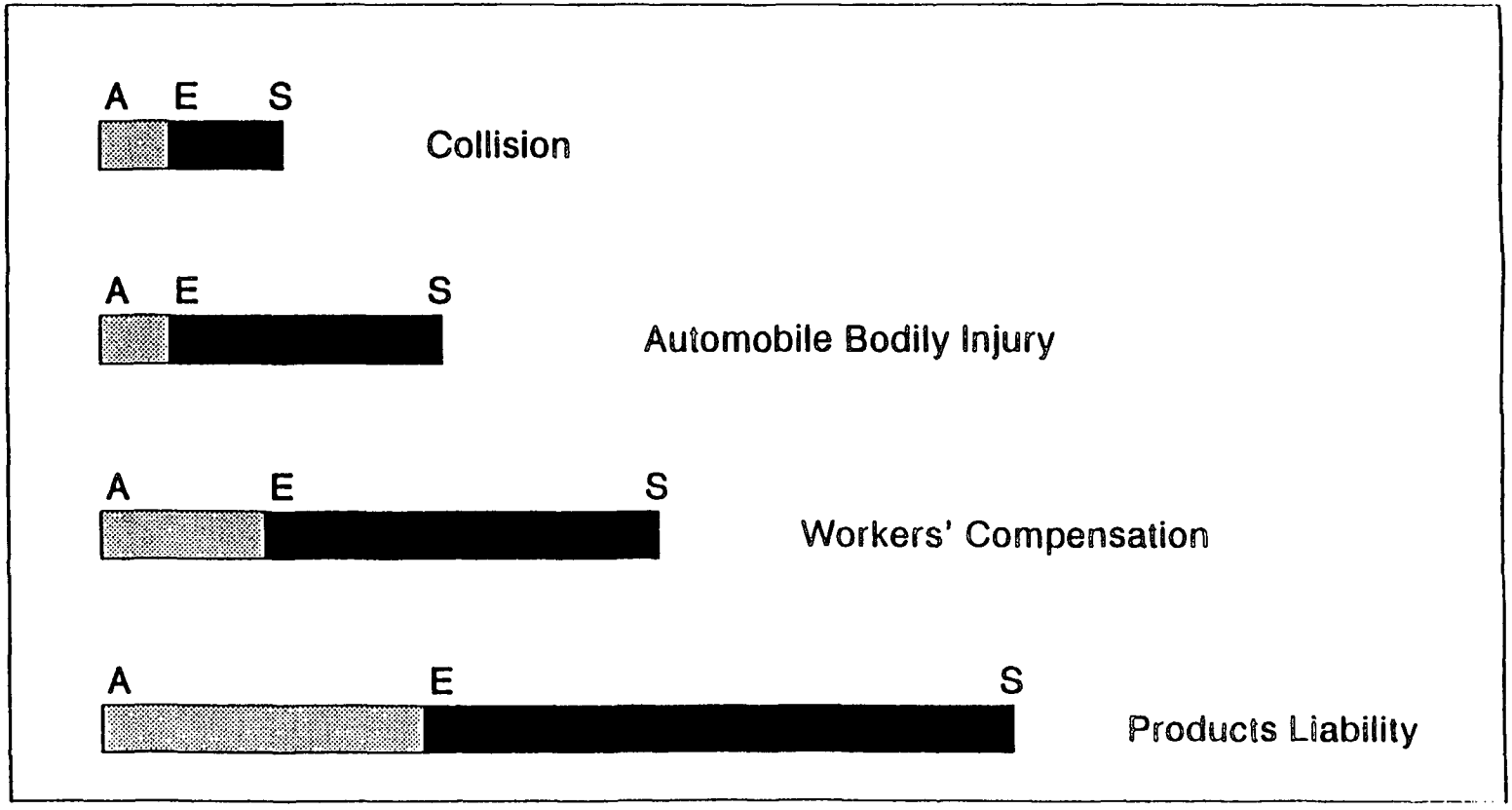
The delay between the occurrence of a claim and when it is recorded on the company books.

SETTLEMENT

The delay between the reporting of a claim and when it is settled (closed).

Exhibit 19

EMERGENCE AND SETTLEMENT PATTERNS



A = Accident E = Emergence S = Settlement

Exhibit 20

OPERATIONAL (INTERNAL) FACTORS CAN AFFECT SETTING LOSS RESERVES

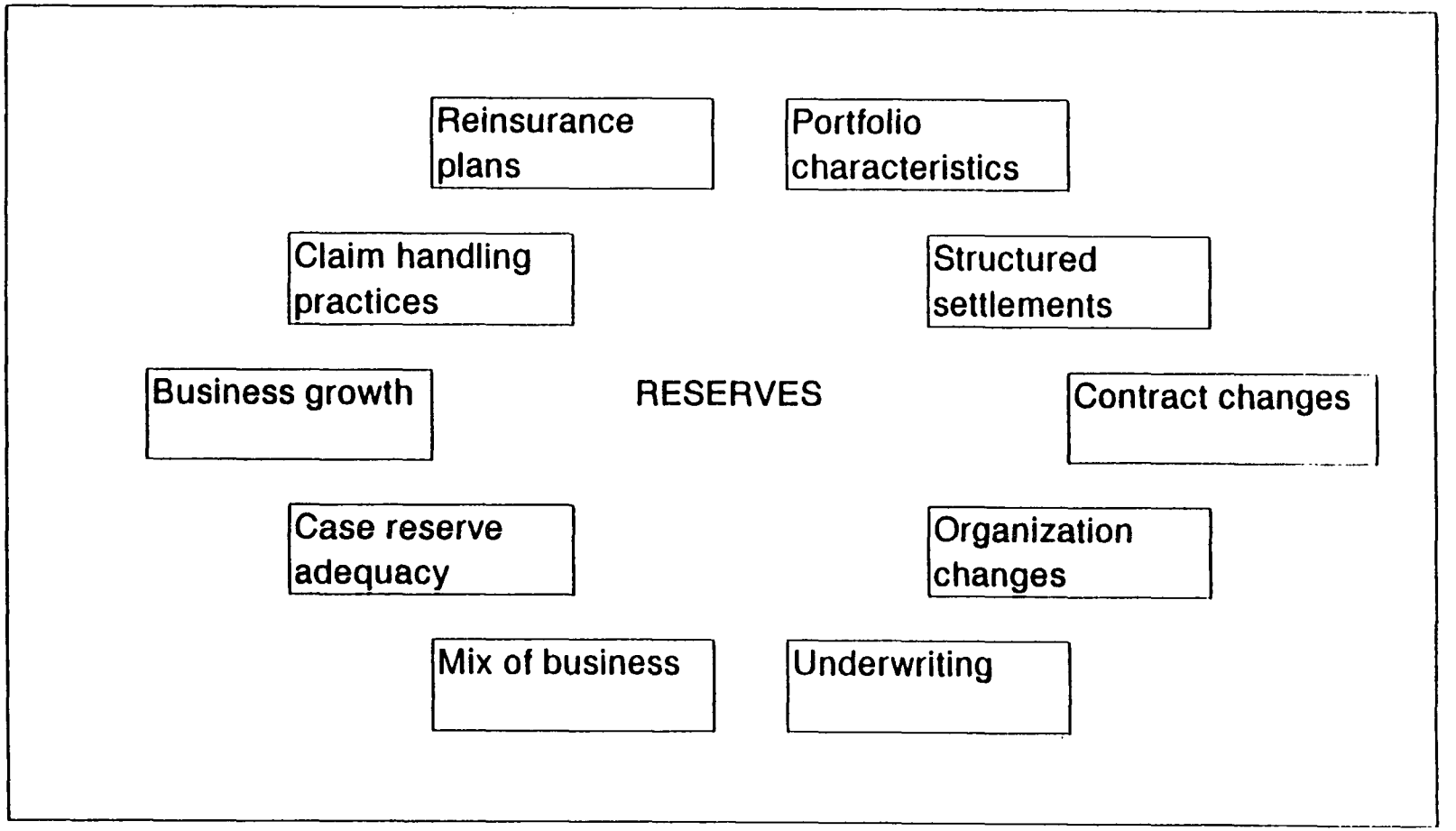


Exhibit 21

ENVIRONMENTAL (EXTERNAL) FACTORS CAN AFFECT SETTING LOSS RESERVES

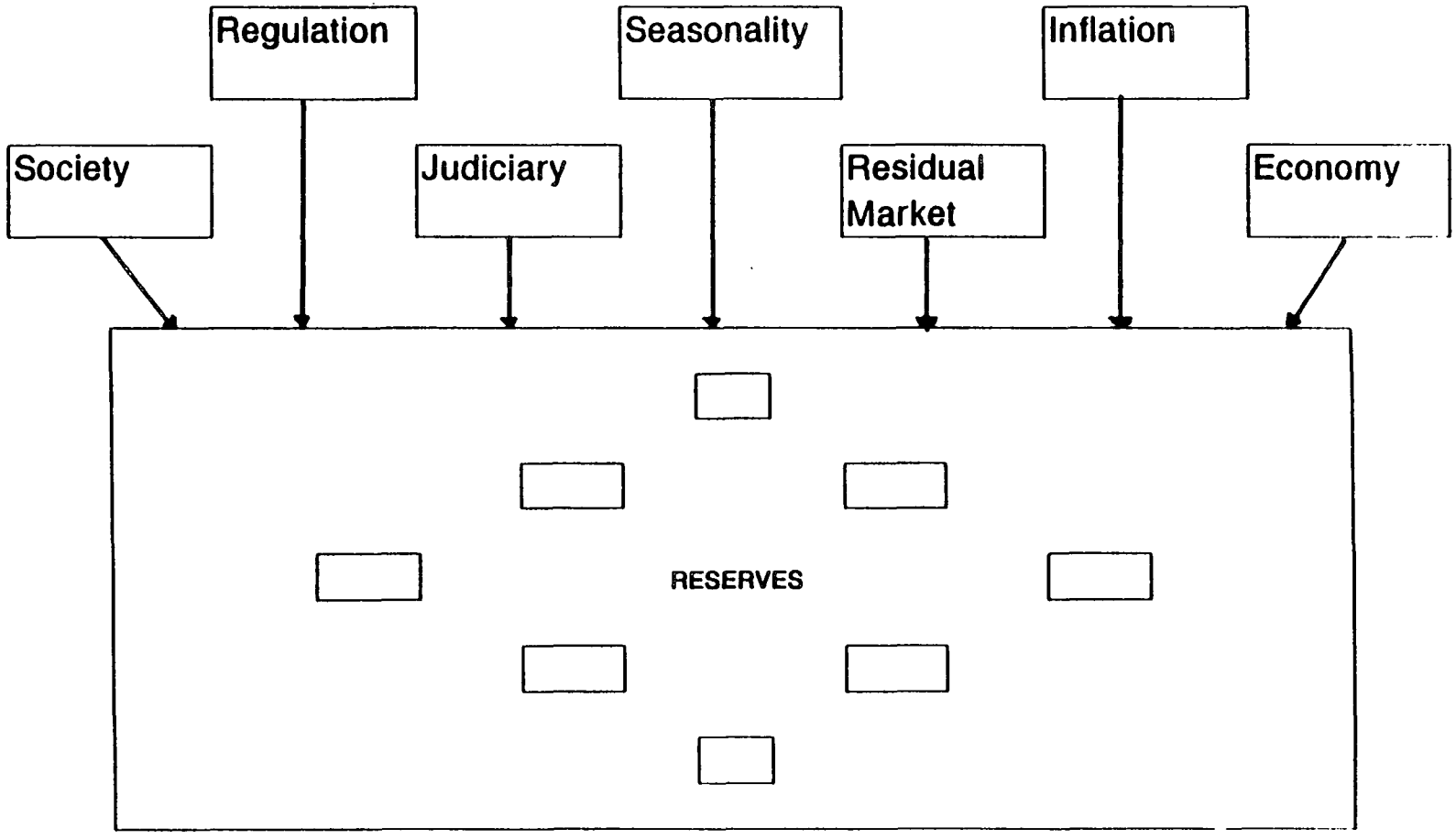


Exhibit 22

APPLICATION OF PROFESSIONAL JUDGMENT

- Loss reserve is a "point in time" estimate of a company's outstanding liability.

- Reasonableness of loss reserve should be measured against relevant parameters.

- Underlying assumptions and methods should be documented and subjected to sensitivity analysis.