Assurances

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Questions d'examen de l'American Institute for Property and Liability Underwriters

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Résumé de l'article

Nous reproduisons ici, pour ceux de nos lecteurs qui voudront essayer de les résoudre, les questions posées à la session d'examens de juin 1945 de l'American Institute for Property and Liability Underwriters Inc., qui décerne le titre de Chartered Property Underwriters.

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II

"Q. A summary balance sheet for the "J" Insurance Carrier for two successive years is shown on page 40.

"(a) If the information is sufficient to identify the *type of carrier* or insurance organization to which it pertains, indicate its type and the reasons that certain features enabled you to identify it.

"If the information is inadequate for identification purposes, indicate with reasons, the minimum additional balance sheet information needed in order to identify it.

"(b) If the above information is sufficient to identify the *principal kind of insurance* written by this carrier, indicate it and state with reasons the identifying features.

"If the information is inadequate for identification purposes, indicate with reasons, the additional balance sheet information needed to identify it.

"A. (a) *Although the surplus is not earmarked for policyholders, this company is definitely not a proprietary, or stock company, or its liabilities would include a capital stock item. It must, therefore, be a cooperative enterprise. Apparently this is a mutual company because a state fund probably would not maintain as large a surplus as this statement shows and typical reciprocals are smaller than the issuer of this statement.*

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[1] On trouvera la première partie de ces questions dans le numéro d'octobre 1946. Elles sont extraites du *Casualty and Safety Journal*.

"(b) *The high loss reserves contrasted with the lower unearned premium reserves identify this company as a casualty carrier.* (*Ordinarily fire and marine reserves would be the opposite.*) *These characteristics of a casualty company arise from the fact that their loss payments are frequently extended over a considerable period on a weekly or monthly instalment basis and most of the business is for one year only.* (*In fact the ratios are so extreme as to suggest that this company specializes in Workmen's Compensation Insurance.*)

"*Other items tend to confirm the above conclusion because the wider variation in loss ratios of fire and marine companies leads them to establish a higher ratio of surplus than casualty companies. Also the fire and marine companies normally have a greater percentage of their investments in stocks and less in bonds than is shown on this statement.*

Assets	Year I $(000,000 omitted)	Year II $(000,000 omitted)
Real estate owned	.2	.2
Mortgage loans	.4	.2
Bonds	7. (cost 7.2)	7.3 (cost 7.4)
Stocks	.6 (cost .7)	.7 (cost .8)
Premiums not overdue	.4	.5
Other assets	.1	.1
Cash	1.3	1.
	$10.0	$10.0
Liabilities		
Reserve for unpaid losses	4.8	4.4
Unearned premium reserves	1.5	1.3
Surplus	2.2	2.6
Contingency reserve	.4	.5
Other liabilities	1.1	1.2
	$10.0	$10.0

"Q. Refer to the statement of assets and liabilities given in Question No. 10.

"(a) Describe briefly the customary State Insurance Department regulation that accounts for the difference between the *cost* figures and the *statement* figures for bonds and stocks.

"(b) Has the financial position of this carrier improved in Year II? Cite the evidence to support your conclusion.

"A. (a) *The customary state insurance law permits companies to carry their bonds on an amortized (at the effective yield rate when purchased) basis if they were purchased at a price other than par and in case of default the insurance department may set the value. Therefore, cost and statement figures may differ by a considerable amount.*

"*Stocks are customarily carried at actual market value (end of year) or fair values as determined by insurance departments and they are not likely to coincide with cost figures. So-called convention values as adopted by the National Association of Insurance Commissioners are ordinarily used. The discretionary power of a commissioner permits some flexibility when current market values are deemed to be upset temporarily.*

"(*b*) *The financial position of this carrier improved in Year II because the* surplus to policyholders *which is made up of the Surplus and Contingency reserve has increased from* \$2,600,000 *to* \$3,100,000, *while the reserve for losses plus the reserve for unearned premiums has decreased from a total of* \$6,300,000 *to a total of* \$5,700,000. *The decrease in these two reserves shows either a reduction in premium volume or a reduction in losses, or both. This, coupled with an increase in surplus and no radical change in the assets, indicates an improvement in the financial position of the carrier. (This assumes there is no unhealthy, hidden cause of change.)*

"Q. The requirement of an unearned premium reserve has no meaning unless the state has the right to determine whether or not rates are adequate."

"(a) Explain (by means of an illustration) how the *method of calculating* unearned premium reserves as prescribed by typical state insurance regulations is responsible for the quoted statement.

"(b) Assuming rates are adequate, under what circumstances will the methods of calculation described in your answer to (a) produce:

"(1) A *higher reserve requirement* than the sum of the individual policy reserves ?

"(2) A *lower reserve requirement* than the sum of the individual policy reserves ?

"A. (a) *A typical state insurance law provides that in calculating the unearned premium reserve the insurance department shall* 50 *per-*

cent of premiums written *upon all unexpired risks that have one year or less to run and a pro rata on risks having more than one year to run. The significant feature of such a requirement lies in the fact that the appropriate fraction is applied to* premiums written (*with proper adjustment for returned premiums and expired risks*).

"*Thus if the premiums written amounted to* $100,000 *for unexpired risks having one year or less to run, the insurance department would require* $50,000 *as the unearned premium reserve. If, however, the rate of premium on this same business had been fixed so low that it would have produced only* $80,000 *of written premium, the reserve would be* $40,000; *yet the future liability of the company for losses and expenses would have remained the same for both cases.*

"*Therefore, if a state cannot determine the adequacy of rates, the "appropriate fraction" might be applied to "written premiums" that are wholly inadequate, thus making the reserve calculation a meaningless formality.*

"(*b*) 1. *The* 50 *percent or annual pro rata fraction rule assumes that the premiums are written at a uniform rate throughout the year or, on the average, at the middle of the year. An individual policy reserve is calculated from date of issuance, for the unexpired portion of the premium on each risk. Therefore, when the bulk of the premium is written during the early part of the year the method of calculating the premium described in the answer to part* (a) *will produce a higher reserve requirement than the sum of the individual policy reserves.*

"2. *For the reasons just explained in the answer to* (*b*) 1 *the reserve requirement will be lower than the sum of the individual policy reserves when the bulk of the premium is written in the latter part of the year for which the reserve calculation is made.*

Q. (a) Explain the difference between the *franchise* and the *deductible* principle as used in the settlement of insured losses.

"(b) Why are these principles used in loss settlements?

"(c) Are *either, neither,* or *both* customarily applied in the following:

(1) Weekly benefits in Commercial Accident & Health insurance,
(2) Credit insurance,
(3) Personal Property Floater,
(4) Ocean Marine cargo,
(5) Fire insurance (residence)?

Explain with reference to each.

"A. (a) A "franchise" provides that a loss shall not be paid unless it reaches a certain amount (either in dollars or in terms of percentage to value), in which case it is paid in full. Thus the ocean marine franchise provision usually reads "free of particular average unless amounting to 5 (or some other) percent." This means that a partial loss is paid only if it exceeds the stated percentage of the value, but in that event it is paid in full.

"A "deductible" provides that a specific sum or percentage shall be deducted from the amount of each loss. Thus a $25 deductible means

that on a $24 loss nothing is paid; on a $26 loss $1 is paid. For the same losses a $25 franchise means that nothing would be paid on the $24 loss, but the $26 loss would be paid in full.

"(b) These principles are used for several reasons:

"1. To reduce cost of insurance by placing on the insured the burden of small losses which are troublesome and expensive to handle.

"2. The point just mentioned also means that the clauses operate to keep insurance performing its proper function. Insurance is a method of transferring the risk of substantial, unpredictable, fortuitous losses to a risk-bearer in consideration of a premium which represents (in theory) average loss costs for a homogeneous group of exposure units plus an expense loading. It is not intended that insurance cover small, almost certain, highly frequent losses which are a part of the routine cost of existence or of doing business.

"3. By ruling out small losses the carrier avoids many "illegitimate" or "nuisance" claims for loss not actually caused by an insured hazard but which are too small to be worth investigating or arguing about.

"4. It is claimed by some that deductibles (and to some extent franchises) are a factor in increasing care and reducing the moral hazard on the part of the insured, consequently reducing the number and size of claims for which the carrier is actually liable.

"(c) The applicability of deductible and franchise clauses is as follows:

"1. Commercial Accident and Health: For accidents this insurance usually pays a weekly benefit with neither clause operative. However, there is likely to be a waiting period in the health coverage which in principle is a deductible clause intended to eliminate the short period illness. Minor illness is highly probable and claim expense disproportionately costly. A waiting period with retroactive benefits is *sometimes used on health policies and is an application of the franchise principle.*

"2. Credit insurance: *The deductible principle ordinarily is applied in the form of a stipulated percentage deduction (referred to in the contract as co-insurance) from each eligible loss. It is also used when another percentage (based on sales) known as "normal loss" is deducted from the total amount of insured losses.*

"3. Personal Property Floater: *This insurance ordinarily has a deductible clause aimed primarily at carelessness. It does not exclude loss caused by some of the common hazards where moral hazard is relatively low, such as fire, explosion and windstorm.*

"4. The Ocean Marine Cargo *policy commonly has a franchise clause with the percentage fixed to fit the circumstances. If the insured cargo is subject to an almost certain minimum of damage the contract also may contain a deductible feature.*

"5. *Ordinarily neither clause applies to* Fire insurance for a private residence. *The exceptions are special clauses such as the ¾ loss clause or ⅔ vacancy clause used on policies covering unprotected or extremely hazardous risks.*

"Q. (a) The 'net retention' by the direct writing company is one of a reinsurer's most important underwriting safeguards." Explain fully the significance of this statement and indicate with reasons the extent to which it is applicable to: (1) open treaty reinsurance, (2) automatic share reinsurance.

"(b) A thief stripped "E's" car of all the tires. The Ration Board refuses "E's" request for tires, whereupon "E" informs the insurance company, which issued his Standard Automobile Policy, that his car is useless to him and therefore: (1) they should pay him for *loss of use* until he can get tires, or (2) he will *abandon* the car to them if they will pay the valued amount stated in the policy.

"Can "E" insist on either (1) ? or (2) ? Describe fully the policy terms on which you base your conclusions.

"A. (a) *The "net retention" is the amount or proportion of risk which the "direct writing company" carries for its own account. The larger the "net retention" the more care the originating company will exercise in the selection of risk, form of policy, and rate of premium. This benefits the reinsurer. It is also customary for the "originating company" to have final decision as to whether or not a loss will be* *paid, and the amount. With a substantial self-interest this privilege will be cautiously exercised. It is also reasonable to suppose that more extensive loss prevention efforts will result.*

"Although the policy terms and limits of liability of the reinsurer are predetermined for all risks submitted under an "open treaty," the direct writing company is not *compelled by the treaty to give up any of the risk to the reinsurer. This enables the direct writing company to exercise discretion whether* or *not it will submit a risk for reinsurance. Therefore, it is likely to retain fully, the choicest risks, and the "net retention" is effective only on those where it has doubt.*

"Like open treaty reinsurance, automatic share reinsurance *has its policy terms and conditions predetermined, but it also provides that whenever the direct writing company assumes a risk within the terms of the treaty the reinsurer automatically gets a fixed percentage of it. In this case the "net retention" is fully effective for every risk eligible under the reinsurance treaty, and no adverse selection against the reinsurer is possible.*

"(b) *"E" cannot insist on either* (1) or (2). *Under the terms of the standard policy the insurer may pay any loss in money and the limit of the liability is the actual cash value* (*at the time of the loss*) *of the part that has been stolen. Therefore "E" is not in a position to compel the company for pay for* loss of use *"until such time as he can get tires."*

"Moreover the insured cannot compel the company to take the balance of the car and pay its value, the policy terms specifically deny privilege of abandonment.

"Q. The basic formula in the calculation of automobile liability insurance rates is:

$$\frac{\text{Pure Premium}}{\text{Gross Premium} - \text{Expense Loading}}$$

"(a) Define "pure premium."

"(b) In making private passenger car automobile liability rates, explain what is meant by a "rate level" factor and show how it is used in the determination of the "formula pure premium."

"(c) What costs are included in the item "expense loading ?"

"(d) Why is the current method of handling "expense loading" frequently criticized ? Explain specifically.

"A. (*a*) *Pure premium is the loss cost per unit of exposure for any risk classification. It is found by dividing total losses by the applicable units of exposure. For example, in workmen's compensation insurance the losses are divided by* $100 *of total payroll: in automobile liability insurance the losses are divided by the applicable number of cars.*

"(*b*) *A "rate level factor" is a multiplier applied to loss experience or to pure premiums to bring these to the* general level cost *indicated for the period in which the new rates are to be applied. Pure premiums are based on past experience, some of it relatively remote. Hence the need to assure that cost trends are taken into account.*

"*Thus in automobile liability insurance the base period for rate-making purposes covers five years statewide experience. On the assumption that the experience of the latter part of this period is the more reliable measure of the general level of costs for the period of rate application, average pure premium for all cars for the entire period is divided into the average pure premium for all cars for the last two years of the period. The multiplier thus derived is applied to the average pure premium for the base period in any territory and produces a base period pure premium, corrected for loss cost trend. This figure is then eligible to be used in the selection of the formula pure premium. The "formula pure premium" is the middle figure of the following:*

1. *The pure premium for the basic five-year period (adjusted to rate level) as described above.*
2. *The pure premium representing the two most recent years.*
3. *The pure premium in the rate currently charged.*

(*c*) *The following costs are included in the "expense loading":*

1. *Acquisition*
2. *Inspection*
3. *Taxes*
4. *Unallocated claim expense*
5. *Administrative costs*
6. *Contingencies.*

"(*d*) *The current method of handling expense loading is criticized because it allows the same percentage of loading regardless of size of premium. This is unfair because some of the expense items, such as administrative costs do not vary proportionately with pure premium. Also it is frequently maintained that acquisition costs should be decreased as size of risk increases, since to close a deal does not require* *added effort in proportion to size of premium. A flat percentage of gross premium doses not allow for these conditions and therefore gives a low pure premium an unfair advantage and vice versa.*

"Recognition of this problem and a step toward its solution is found in the retrospective rating plans in Workmen's Compensation Insurance.

"Q. In 1944 industrial accidents for two industries show the following:

	Frequency Rate	*Security Rate*
Industry A	12.90	1.32
Industry B	14.05	.75

"(a) From these data explain why you can or cannot determine which industry would have the higher workmen's compensation insurance rate. (Assume all other rate influencing factors are equal.)

"(b) On which of the above rates does the "Heinrich technique" for accident prevention concentrate? Explain fully the reason behind this.

"A. (a) If all other rate influencing factors are the same, industry "A" should have the higher compensation rate, because it has the higher accident "severity" rate (days lost per 1000 *man-hours exposure). Industy "A's" severity rate is* 1.32 *and "B's"* .75*, therefore Industry "A" has approximately* GE *percent more days (of disability) lost per* 1000 *man-hours worked (payroll hours) than Industry "B".*

"The basic element in making compensation rates is the pure premium. The pure premium is losses divided by hundreds of dollars of payroll. If Industry "A" has 75 percent more days of disability (without adjustment for waiting period) per unit of exposure and all other rate influencing factors are equal, then the final compensation rate for "A" should be higher.

"(b) The "Heinrich technique" concentrates on the "frequency rate."

"Heinrich assails the common method of tabulating "causes" of loss as being merely the immediate physical factors involved. He maintains that there is an underlying real cause of loss which can eventually be traced to man failure or machine failure (usually the former). Heinrich prefers a cause analysis of all accidents defined as: sudden, unexpected, unplanned occurrences — whether or not they resulted in

physical injury. Then he tackles the problem of analysis from frequency figures which are the number of injuries per 1,000,000 man-hours worked.

"He considers injuries as the natural and inevitable product of a volume of accidents, and the severity of injury as a matter largely of chance. Therefore he concludes that if you reduce the frequency the number of serious injuries will also go down.

"Q. A national plan for checking automobile brakes was inaugurated because automobile deaths and injuries caused serious interference to the war effort.

"(a) In measuring by states the results of this campaign, on what class of accident statistics will safety authorities have to rely? Why?

"(b) With reference to the class of accident statistics referred to in your answer to (a), outline four possible methods by which the various states could be ranked in order to show their relative auto safety status.

"A. (a) *In measuring the results of the campaign principal reliance will have to be placed upon fatal accident statistics because these are the only kind that are reported consistently in a large number of states.*

"(*b*) *In ranking the various states, the number of deaths could be related to one or more of the following:*

"1. *Gasoline consumption interpreted on a vehicle-mile basis. The average number of miles obtained per gallon of gasoline can be estimated reliably. Therefore, if gasoline used by automobiles can be segregated from other gasoline consumption, the number of miles traveled by all vehicles can be derived. Perhaps this is the most significant measure of exposure that can be obtained.*

"2. *Car registrations (including trucks). This measures the hazard per car and affords an approximate comparison of the risk in different states.*

"3. *Population. Deaths per unit of population show the absolute extent of the hazard and have considerable comparative value with other causes of death, which commonly are expressed in terms of population.*

"4. *Absolute number of automobile deaths. This is the most readily available and the least satisfactory because it bears no relation to the exposure.*

"Q. "In property and casualty insurance the use of 'insurance surveys' has been growing rapidly. However, they should not be used unless an agent gives careful attention to the appropriate sales strategy and sales presentation."

(a) Distinguish between *sales strategy* and *sales presentation.*

"(b) In what respects, if any, would an "insurance survey" simplify the problem of:

(1) sales strategy ?

(2) sales presentation ? Be specific.

"(c) In what ways, if any, does an "insurance survey" complicate the problem of:

(1) sales strategy ?

(2) sales presentation ? Be specific.

"A. (*a*) Sales strategy *is the* planning *of the* interview *from approach to close and includes needs, obstacles and solutions. This means the agent must assemble information about the prospective insured, his business, and his financial condition. The hazards to which the prospect is exposed must be ascertained and analyzed. The forms of coverage best adapted to the needs and the methods of presenting them convincingly and attractively must be determined. An interview must be arranged at a time when the prospect will be in a position to give attention and uninterrupted thought to the proposals.*

"Sales presentation *is the* act of putting before the prospect *the facts concerning his need for the insurance recommended, in such a manner as to awaken his interest and convince him of the need for acting favorably on the agent's proposals.*

"(*b*) *An insurance survey simplifies the* sales strategy *principally because it forces one to attack a sales problem methodically and completely before he can make a presentation. This in turn permits a great deal of standardization in the treatment of wants, obstacles and solutions.*

"*The* sales presentation *is simplified primarily because the plan has been blue-printed. The analysis is in written form so that the agent has a definite proposal to present and a definite sequence of points to follow. Moreover, the preparation of the survey has familiarized him with the risk to such an extent that he "knows the answers" and can discuss the risk with intelligence and confidence.*

"(c) *An "insurance survey" may* complicate the sales strategy *since it is an all-enveloping plan. Strategy in connection with an in-*

surance survey usually covers all the insurance needs of the assured, while ordinary sales strategy may be limited to the kind of insurance which the agent wishes to emphasize.

"In undertaking an insurance survey the agent assumes a moral responsibility of great proportions. He holds himself out to be a professional insurance adviser and must be competent to cover all features of the insured's needs. He must secure sufficient information from the prospect to be able to diagnose his need for insurance. He must look over the many policies and do much work on which the chance of his receiving reimbursement by new business is problematical.

"The sales presentation *of an insurance survey* is complicated *by its length. To get sufficient time in which to do credit to a substantial survey and still be able to interest the prospect in filling his insurance needs is difficult.*

"In order to properly serve his prospect and protect himself, the agent must touch upon all the recognized exposures and insurance needs. The presentation and explanation of many ideas may be confusing to the prospect and make concentration difficult. However, this disadvantage may be dispelled by impressing the prospect with the thoroughness and accuracy of the survey and the purpose behind it."