

LIFE INSURANCE NET COST COMPARISONS

I. *Measuring and Comparing Net Costs*

- A. What new methods have been suggested for making net cost comparisons:
 1. Between companies on a single plan of insurance?
 2. Between plans of insurance?
- B. Can practical steps be taken to select and popularize a method that is mathematically sounder than the traditional method? Is there an urgent need to do so?

New York Regional Meeting

MR. MICHAEL B. HUTCHISON: I believe that there is an urgent need for the life insurance industry to answer the accusations of its critics who say that its failure to disclose accurately the price of its products to its policyholders has led to a noncompetitive situation detrimental to the interests of policyholders and the public. I further believe that it is the responsibility of actuaries to take an active part in resolving this problem before legislation is adopted which, although well intentioned, may endorse methods which could lead a policyholder to adopt a course of action not in his best interests. The combination of a persuasive agent and a misleading, but government-endorsed, measure of "price" would be difficult for a policyholder to resist and could lead to worse abuses than are possible under the existing situation.

The urgency, of course, stems from the recent adoption by the Washington Insurance Department of a rigid formula in its replacement regulations, and the possibility of similar regulation in other states and at the federal level.

The Canadian view of the problem is far from one of detached interest. For one thing, most of the Canadian companies write business in the United States and will be directly affected by any legislation or regulation adopted. For another, the regulatory authorities in Canada have become interested in the problem of price disclosure and can be expected to be influenced by developments in the United States. Third, the soon-to-be-introduced new income tax regulations may involve a tax on the investment income credited to a policy, with deductions for administrative expenses and/or premium taxes related to the savings element of the contract; such a regulation would require a formula for allocation between insurance and savings elements—a formula which may already have been decided upon by tax accountants.

I must admit that I am skeptical that there can be selected and popularized a single method which will be universally acceptable; further, I am not convinced that it is entirely desirable to do so.

There is no doubt that any of the methods proposed are mathematically sounder than the traditional twenty-year net cost. However, few of the methods are mathematically perfect. The problem with the twenty-year net cost is not so much that it is not an appropriate measure of price as that some people claim that it is. There is nothing particularly wrong with showing a policyholder the excess of the premiums that he will pay over the dividends that he may receive and the cash value available to him; the wrongdoing lies in suggesting to him that this is the primary criterion on which he should base his choice of policies.

In fact, the net cost may be precisely what the policyholder wants to know. The average citizen does not think in terms of "interest foregone" when he buys something. If he buys a house for \$20,000 and sells it ten years later for \$15,000, he thinks of his net cost of living in the house as \$5,000 (\$500 per year), not \$5,000 plus the interest he could have earned on the \$20,000. If he buys 1,000 shares of Amalgamated Conglom at \$2 and sells it two years later at \$4, no one would ever suggest that his gain was $\$4,000 - \$2,000(1+i)^2$ rather than \$2,000.

Moreover, net cost does not involve any arbitrary assumptions as to interest or mortality or persistency and therefore is easily understood. This is not to say that the policyholder *should* think this way; only that the net cost concept is consistent with the way he does think. The problem lies in the fact that undue reliance has been put on net cost as a comparative tool. The insurance industry has, I think, been a bit two-faced about this. It has not objected to the policyholder's ignoring interest when thinking of the cost of insurance but has fallen all over itself to prevent the policyholder from ignoring the cost of insurance when determining an investment return on his contract.

A saving feature in the market place for insurance today is that there is no requirement that a policyholder believe that the plan with the best net cost is the best plan. There are many companies that think that the purpose of life insurance is to protect against the risk of dying; that feel that insurance should be continued not surrendered; that regard a whole life policy not as a twenty-year savings plan with completion insurance but as term insurance for the whole of life; that consider a dividend not as a return on an investment but as an experience rating refund; that consider nonpar permanent insurance not as expensive par but as a plan with demonstrable advantages to the insured. Such companies tend to have lousy net costs, but their existence does in fact offer the prospective policy-

holder a choice between a policy which covers his insurance needs at the lowest possible premium and a policy which looks good if he survives for twenty years and then surrenders (obviously I have a bias!). The fact that there is no government-endorsed criterion allows the policyholder this freedom of choice.

Adoption of a rigid required formula would not, in my opinion, serve the public interest; it would force all companies to compete on the basis of a single criterion. However mathematically correct the criterion might be, it would still contain some biases. However all-inclusive it might be, it may still overlook something. In this regard, Professor Ryall has done us a service by demonstrating ways of taking into account some of the subtler differences among contracts but at the same time has highlighted the complexity of including everything. However numerically correct the formula may be, it will still be a function of the optimism of the various companies in projecting dividend scales. Most important, in my opinion, government endorsement of a single measurement of "price" would place too much emphasis on price and not enough on intangibles not easily reduced to a mathematical formula.

It is desirable to consider the effect that adoption of a single measure of comparison would have on the evolution of insurance products. In this regard it is instructive to study the effect that net cost has had on our products in the past. Attempts by companies to beat the traditional net cost measure have been responsible, to a large extent, for such policy characteristics as the steep dividend scale, the twentieth-year surrender dividend, and the cash value calculated using two interest rates. Have these features really been of benefit to policyholders?

More recently the availability of computers has led away from the use of a single figure for the twentieth year and has led to the use of the computer-produced ledger statement showing year-by-year net costs. Have we really been trying to disclose more to the prospect with these statements, or have we been merely attempting to dazzle him with the technology of the computer age?

The rise of the ledger statement has caused other changes in the insurance product. Whereas early cash values had little or no effect on the single index, in the ledger statements they assume new importance. Has the trend toward early cash values really improved equity between persisting and withdrawing policyholders? Has the reduction of first-year acquisition costs, necessary to generate early cash values, prevented the industry from upgrading the caliber of its agency force and thereby providing a better service to the public? Has the popularity of the minimum deposit schemes arising from the presence of early cash values really been

in the best interests of the public? Has the availability of early cash values contributed to the growth of "beneficial readjustments," with resulting heavy replacement of existing business and increasing costs to all policyholders? Has the increase in policy loans reduced the over-all investment yields of the companies and therefore the return to the policyholders? In summary, have all these developments, which can, to a greater or lesser extent, be traced to the "net cost syndrome," been beneficial to the insurance-buying public?

Whether they have or not, the absence of any requirement that a single criterion of comparison be used has allowed some companies to go in the other direction. One wonders whether developments in the non-net cost area, such as lower-priced term coverages, lower par premiums, family coverages, and more recently enhanced protection policies and cost-of-living benefits, have not been of greater benefit to the public. One also wonders whether these developments would have occurred if all companies had been required to follow the net cost road.

I believe that it is necessary to attempt to forecast the possible future changes which might result from universal adoption of any of the various methods of comparison proposed. Certainly, Professor Belth's yearly and level prices tend to emphasize the early cash values and might be expected to accelerate the trend to early surrender. In this connection one wonders whether there may be some relationship between early cash values and the credibility of dividend illustrations. Early cash values may increase early surrenders, increasing costs to survivors and thereby impairing a company's ability to meet its dividend forecasts (relative to a company with low values).

One further problem with a government-sponsored single method would be that of enforcement. Short of prohibiting the use of any but the approved criterion, I see no effective way of requiring the use of any single measure. Companies that look good on this basis would obviously train their agents to use the required index; however, agents with products which do not fare well on the required basis would attempt to demonstrate the superiority of their products on some other basis (and maybe they would be right). An examination of sales material used today demonstrates the fact that use of the currently popular net cost is by no means universal.

On the subject of sales material, I am aware of a number of brokers who use Professor Belth's yearly prices and level price to illustrate their products. They do this not so much because they believe they are disclosing more to the prospect but because they realize that, while Dr. Belth's figures are beyond the objective comprehension of many prospects,

the concept strikes a logical chord and is much more impressive to a prospect (especially if a computer is used) than a traditional net cost illustration and therefore cannot be competed with except by an agent with a similar but better story. This allows the agent to impress the client with his obviously superior knowledge of the insurance product. One agent used his own system until Dr. Belth's book was published but has since adopted the Belth method because of the additional respectability conferred by Dr. Belth's name. Another agent retired from active selling, learned to program, and has been marketing his analytical services, using his own method and computer ever since.

The advantage such men have is not that their methods are more accurate but that their approach departs from the accepted measure of price, and the novelty is salable. I submit that, regardless of what criterion was universally required, brokers could find a different one which they could market as superior.

Thus I feel that a government-imposed criterion of price is undesirable and unenforceable. This does not, however, mean that I favor retention of the traditional measures or oppose price disclosure. The industry could and certainly should promote the use of a sounder index in the various trade publications. Whatever measure is adopted should be clearly described and its limitations listed. (This may not help policyholders much, but it may make agents and brokers better aware of what they are selling.) Companies could educate their agents in the use of reliable methods and prohibit, to the extent possible, use of misleading illustrations. In this regard the companies' control is somewhat limited by the existence of independent brokers and the recent emergence of independent computer services. Beyond that, I am not sure what effective steps can or should be taken.

MR. CHARLES L. TROWBRIDGE: Another approach to net cost comparisons among companies and plans is a price index based on the present value of premiums. Define this price index as (1) the present value of all future premiums less (2) the present value of all future dividends, where present values are discounted for both interest and mortality but not for voluntary policy termination. Some mortality table (such as the 1958 CSO Table) and some long-range aftertax interest rate (such as 4 per cent) could perhaps be agreed upon as appropriate for the purpose. Probably the present value of guaranteed premiums and the present value of unguaranteed dividends should be indicated separately, with appropriate wording to indicate the distinction between par and nonpar.

Such a price index has some good features for price-illustration pur-

poses, and some that you may not like. I will list only the main characteristics.

The basic concept behind the price index is the relatively simple one of converting annual premiums to an equivalent single premium. Although the concept is reasonably familiar, the agent would need considerable home office or insurance service help to be able to quote price indices correctly.

The price index is large in absolute amount, considerably larger than the annual premium (though still considerably less than the sum insured). It bears the same relationship to the periodic payment that the buyer expects to pay as the lump-sum price of any consumer durable does to its financing payment. The relatively large size of the price indicator comes about because this method avoids any conceptual fragmentation of the life insurance contract into protection and savings features.

The basic assumption underlying this index is that the policy is bought with the intention of continuing it in force to death, expiry, or maturity. If so, an index applied at date of sale which ignores the possibility of lapse is more appropriate than the assumption underlying several of the methods which view the policy as surrendered after twenty years.

As a corollary to the no-lapse supposition, cash-value differences are moved from price competition into the area of quality competition. Here cash-value differences join settlement options, policy provisions, strength of company, and other quality matters with which a policyholder should be concerned.

The price index as defined is an appropriate measure for price comparison, not only for two similar, newly issued policies but more generally for any two policies (old or new) that have for the future the same death and/or endowment benefits. An ordinary life and a twenty-pay life policy are directly comparable. So are a newly issued ordinary life policy and another five years old. For the price index representing future costs on an old policy, the index is computed at the attained age rather than at the original, and the current cash value is added.

For policies with different future death and/or endowment benefits, the price index, by itself, is not enough for a valid comparison. An extension of the method, introducing a benefit index as well as a price index, is needed to compare an ordinary life policy with a twenty-year term or twenty-year endowment policy. The benefit index for any plan is the simple ratio of the present value of its death and endowment benefits to the present value of level insurance for the whole of life; and the price/benefit index on which a valid comparison is possible is the price index divided by the benefit index. Note that the benefit index for any whole

life plan is unity, and for whole life plans the price/benefit index is identical to the price index.

MR. HUTCHISON: In general, I tend to group the methods of cost analysis into three families:

- a) Methods which determine a measure of the cost of insurance, having assumed a rate of interest. This group would include Professor Belth's level price; the various "neo-Belthist" methods, including the one-thirtieth method; and Professor Ryall's ten-twenty formula, as well as the traditional net cost method.
- b) Methods which determine a rate of return, having assumed a cost of insurance. This school was pioneered by Mr. Linton and includes methods suggested by "neo-Lintonists" such as Schwarzschild and Hill.
- c) Loss-ratio methods, which express the ratio of the present value of benefits to the present value of premiums.

I am not sure that the various methods can be easily categorized into those for comparing companies and those for comparing plans. Initially, I think the Belthist methods were intended for comparing companies, but one of the advantages frequently claimed for these methods over the traditional methods is the greater consistency among plans. The Lintonist methods were primarily intended for comparison of plans with high and low savings elements (although I believe that Mr. Linton's original purpose was not to compare whole life and five-year renewable term but rather to demonstrate the investment advantages of permanent life insurance), but comparison of rates of return among companies is no less appropriate. Professor Ryall has further cross-pollinated the issue by equating net costs to determine rate of return. I am not even sure that methods can be neatly put into one of my three pockets. Professor Belth's *E*-value, described in his recent paper on ratios, probably belongs in the first group; Mr. Trowbridge's proposal also falls somewhere between *a* and *c*.

I will leave it to the authors to describe the pros and cons of their own methods, but I would like to mention an analysis which I found helpful in comparing the various methods.

All of these methods may be traced back to a pseudo-Andersonian expression that I found to be a useful beginner's guide to net cost. This equation involves four known quantities (P_t , CSV_t , DB_t , D_t) and, ignoring some of the more subtle points covered by Professor Ryall, three unknowns (i , q , and E_t). The difference between the various measures of comparison lies in the functions for which the equation is solved, the as-

sumptions as to the unknowns, and the method of discounting, or averaging the yearly functions.

The function in its simplest form is

$$P_t = (1,000 - CSV_t)q_{x+t-1} + D_t + (CSV_t - CSV_{t-1}) + E_t(1 + i) - i(CSV_{t-1} + P_t) . \quad (1)$$

or, verbally, the premium equals the cost of insurance, plus the dividend, plus the increase in cash value, plus the company's expenses and profits (with interest), minus the interest earned on policy funds.

Successive transposition of terms from the right side to the left side demonstrates just what the various methods do in fact measure. Thus the traditional net payment measures the excess of the cost of guaranteed benefits plus expenses and profit over the interest earned. Net cost measures the excess of the cost of guaranteed insurance benefits plus expense and profit over the interest earned.

Belth's price of protection measures the cost of guaranteed insurance benefits plus expense and profit. (This term, incidentally, is the yearly cost underlying many of the neo-Belthist methods.) If the "interest foregone" is other than the interest credited, Belth's price of protection is in fact equal to the cost of insurance benefits plus expense and profit, plus the excess of the return the policyholder expects over the actual return. This suggests that the Belth price will be higher for an optimist than for a pessimist, if the rate of interest foregone may be freely chosen. Parenthetically, it might be mentioned that in this context the Washington formula is pessimistic, requiring as it does the use of an interest rate which is likely to be less than that currently credited. Dividing by the amount at risk per 1,000 gives us, more or less, Belth's yearly price (or the Washington formula).

It may be seen that Belth's yearly price is equal to the cost of insurance per 1,000 plus an expense and profit term, the denominator of which decreases as duration and therefore cash value increases. The numerator of this expression, $E_t(1+i)$, tends to be large in the first year or two (until cash values are increasing more or less regularly); thereafter, it tends to be more or less level. Thus the expense component of Belth's yearly price tends to increase as the cash value increases. This has been pointed out as a weakness in Dr. Belth's formula. This flaw of charging all expenses against the insurance element tends to make yearly price invalid for comparisons among plans with different savings elements and makes it particularly inappropriate in replacement situations.

If we replace $E_i(1+i)$ by

$$E_i(1+i) \frac{CSV_{t-1} + P_t}{1,000} + E_i(1+i) \frac{1,000 - (CSV_{t-1} + P_t)}{1,000},$$

then equation (1) becomes (approximately)

$$P = (1,000 - CSV_t)q''_{x+t-1} + D_t + (CSV_t - CSV_{t-1}) \\ - i(CSV_{t-1} + P_t),$$

where

$$q''_{x+t-1} = q_{x+t-1} + \frac{E_i(1+i)}{1,000} \quad \text{and} \quad i'' = i - \frac{E_i(1+i)}{1,000},$$

and Belth's yearly price becomes $1,000 q''_{x+t-1}$.

In other words, if the expense term is allocated between the savings and insurance elements (i.e., if i is appropriately chosen), Belth's yearly price becomes a true measure of the cost of insurance per 1,000 (including expenses properly allocated to the insurance element). The nature of E_t suggests that an appropriate interest assumption would involve the use of a low interest rate in the first policy year and a higher rate thereafter. However, since the savings element is small in the first year, the use of a level interest rate would probably not do much injustice to accuracy. Thus the pessimism of the Washington formula may to some extent offset the expense distortion.

DR. JOSEPH M. BELTH:* Some observers have suggested that the level price method allocates all the expenses of a policy to the protection element. This is not necessarily true. It depends upon the way in which the analyst views and selects the interest rate to be used in the price calculations. In my book I suggested the use of a net rate of interest that the policyholder feels he would earn in an alternate savings medium with safety comparable to that found in life insurance. The word "net" was used to designate a rate net of income taxes, but it could just as easily be viewed as a rate net of expenses as well. In other words, the use of a lower interest rate would reduce the price of the protection by allocating some of the expense factor to the savings element.

It is often suggested that it would be difficult to decide upon an appropriate lapse table to be used in price calculations and that lapse rates should therefore be ignored. It is impossible to ignore lapse rates, for, when one tries to ignore them, he is actually assuming zero lapse rates.

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The traditional net cost method in effect utilizes zero rates for the first nineteen policy years and a 100 per cent rate in the twentieth. I would rather use Moorhead's Table R, drawn "from the blue," than use a series of zeros. Those methods that make provision for the use of lapse rates are quite capable of accommodating zero lapse rates.

In his discussion of Ryall's paper, Mr. Jacob Landis suggested that an insurance department should not place its stamp of approval on any price-measurement technique, particularly when illustrative dividends are involved. This problem is dealt with in chapter xviii of my book *The Retail Price Structure in American Life Insurance*. In that chapter I illustrated one possible approach to price disclosure, using a modification of Schedule M in the annual statement blank. The problem of dividend illustrations was dealt with there by the consistent side-by-side presentation of historical and illustrative data. Underlying this approach is my belief that such a presentation would act as a restraint on outlandish dividend illustrations.

Mr. Landis also indicated that, unlike the situation in the area of consumer credit, it is impossible to determine a single measure of life insurance price that can be agreed upon. In several thousand pages of testimony at the congressional hearings on the various versions of the truth-in-lending bill, a parade of witnesses pointed out the impossibility of developing a single measure of the cost of credit. We are now seeing the beginning of that same kind of parade in the area of life insurance price disclosure.

MR. NATHAN F. JONES: There has been considerable discussion in recent months of desirable characteristics of a net cost index or method of comparison, the extent to which specific methods achieve these characteristics, and the disadvantages of individual methods. I have seen relatively little on how a new method or index can be used appropriately, how this affects the design of an index, and the transition problem—how we get there from here.

Any new index would be designed for use in individual sales situations involving comparable policies of different insurers, with the prospective purchaser as one party. At present, one or more agents are usually also parties (whether or not a mutual fund salesman is working out of the same attaché case). Prospectively, Senator Hart and Dr. Belth are not clear, but they convey to me a vision of a prospect curled up with a good book of rate comparisons, free from the distractions of agents.

In this cloudy crystal ball I see no single policy being evaluated in isolation (as an investment, for example) nor do I see its cost being com-

pared with that of a rival, tangible product. This is also the reported consensus of the Special Committee. We therefore agree, I gather, that an approximate index is good enough if it has a high correlation with a sophisticated index.

You may, if you like, take with me the giant, possibly unjustified, logical step of doubting whether mortality, annual cash-value increments, and lapse rates derived from tables would make any worthwhile difference. Most of us agree, however, that interest would. To this, we should add appropriate treatment (whatever that may be) of terminal dividends payable on surrender.

The use of interest immediately places the necessary calculations beyond the level of any prospect's living room computation—not for some agents or some prospects but for nearly all combinations. (I should except the Moorhead-Belth one-thirtieth method but for my unreasoning aversion to reliance on magic, with which I include the use and misuse of formulas by agents unable to rationalize them.)

Indices may be needed for each policy proposed by a given agent and, furthermore, for each proposed by any member of an agion of agents (to coin a collective plural). Proposals for SEGLI conversions seem to go even further in contemplation of a veteran considering indices for each policy of each licensed company. The architects of cost comparisons for replacements open up a further infernal vista of indices for the future course of all existing policies.

Few insurers are going to waste agent time or field office time in computing all these indices. Even fewer will trust the tender calculations of their competitors. Particularly in this computer age, most will be produced either by the home office (or its consulting actuary), a trade association, or a government agency. There could well be antitrust problems in their promulgation by a trade association. Indices for in-force policies, as indicated for replacements, would have to be calculated to order. That would be a bother, except that I doubt that very many would ever be calculated.

Computation on a company or industry basis means little need for approximations in calculation but considerable problems for prospects in the interpretation of indices and the weighing of indices together with noncost factors (and with the costs of elements not considered in the indices—the various supplementary benefits). Licensed professional counseling is called for in the matching of available facilities to individual needs—and that describes agents, does it not?

Finally, how do we get there from here? All indices so far proposed at least imply greater absolute costs than the present average annual net

cost. This would put an agent at an unjust disadvantage with respect to agents using the old net cost method. Are there any alternatives, other than barring the use of the old method by regulation or under unfair trade practices statutes? I have seen none. Such regulation is both difficult and unpalatable, but without it Gresham's law tells us we might as well pack up our toy indices and go home.

Atlanta Regional Meeting

MR. ROBERT G. BRAUND: During the last five or six years there has been renewed interest in the life insurance business in the subject of net cost. This interest stems in part from the improved performance of the stock market, leading to the buy-term-and-invest-the-difference concept, with resultant competition from mutual funds and other equity products for the life insurance dollar, and in part to the increased public and government attention to the subject of consumer protection. This attention has led to the consideration of "truth in lending" and "truth in packaging" legislation by the federal government. The problems of policy replacement and the resultant state legislative action in this area have also led to increased interest in net cost comparisons from this source.

The recent activity in net cost calculation methods seems to have originated from the publication of a book by Professor Joseph M. Belth, of Indiana University, entitled *The Retail Price Structure in American Life Insurance*, which goes into the ramifications of net cost indices in depth. In addition to this, Senator Philip Hart, Chairman of the Subcommittee on Antitrust and Monopoly of the Senate Judiciary Committee, in a recent address before the legal section of the American Life Convention criticized life insurance cost comparisons. Subsequently, Senator Hart was engaged in an effort to induce the Veterans Administration to assemble some life insurance price information from the companies in Indiana that were available to convert the service policies of Vietnam veterans to regular life insurance.

The Veterans Administration declined to become involved in ranking the insurance companies on the basis of the net cost formulas which were then available. Since then, the Washington State Insurance Department has put into effect a regulation which requires net cost information to be submitted to prospects who are replacing existing insurance with new insurance.

The methods proposed by Professor Belth and the Washington State Insurance Department have been the subject of lively discussions in the trade journals and well-reasoned and courtly debate has taken place in *The Actuary*.

In addition, a special LIAA-ALC-ILI Committee on Life Insurance Costs was formed to study life insurance cost comparison methods. This committee held a meeting early this year and considered the problems in regard to the principal cost comparison methods in use. The consensus of opinion was that the methods studied were found to have desirable features but that all had undesirable inaccuracies. The committee is now in the process of developing actual figures to illustrate the practical results of these methods.

It would appear that all the methods so far proposed or in use have tried to feature simplicity and cost savings in calculation at the expense of some accuracy. Although it is true that some of the methods most recently proposed are complex enough to require the use of the computer at some point in the calculation process, the approximations inherent in them still leave much to be desired in terms of reaching unanimous consent within the industry.

In the determination of the assumptions to be used, of which mortality, interest, and persistency are most often mentioned, it appears that variation in the interest and persistency assumptions have a material effect on the final net cost figure and in the order that companies would be ranked in a net cost comparison. There seems to be no objection to using industry average figures for mortality, presumably since a variation in the mortality assumption seems to have little effect on the final outcome. It is unlikely that the question of the proper assumptions will ever be acceptable to all insurers on a voluntary basis. This line of reasoning would lead one to believe that the best chance for an acceptable solution to the net cost calculation problem would be a committee like the Guertin Committee, which resolved the problem of a uniform calculation for cash values so well a number of years ago.

MR. JOHN W. LINCOLN: Mr. George Davis, in discussing Mr. Ryall's paper, made the comment that he feels that investment results and mortality results should be valued together in a single figure rather than attempting to "filter out" one of these items and measure it by itself.

I would like to say that I agree with Mr. Davis wholeheartedly. If you represent a company that gets very good investment results and also very good mortality results, you do not want a formula that measures only investment results, since that does not give you credit for your good mortality; conversely, you do not want a formula that measures only mortality cost, as that does not give you credit for your good investment results!

We have heard of many different formulas in recent months, and one thing that the protagonists have in common is that they tell us that the

traditional net cost formula is inadequate. Yet, if you accept the almost obvious requirement that a successful formula is one which must be understood by the average buyer of insurance, then the traditional formula must be one of the leading contenders, since it is one of the few which is simple enough to fulfill this requirement.

One only needs to say to the buyer, "We will take all your net premiums over a period of time and subtract out the cash value. The result, which may be positive or negative, measures the mortality charges we have made against your policy less the interest that your premium dollars have earned." This interpretation of the traditional formula is simple enough to be grasped by the average person and still has the virtue of being a combined measure of mortality and investment results.

MR. ERNEST J. MOORHEAD: As many here are aware, the question that we are now discussing has been stated by the chairman of the Institute of Life Insurance to be the number one public relations issue of 1969. The Life Insurance Association of America, the American Life Convention, and the Institute have appointed a joint committee whose assignment is either to devise a defensible and reasonably simple method of price appraisal for consumer use or, if this goal is unobtainable, to devise an acceptable explanation of why this cannot be done.

It seems to me that, if the life insurance companies and the trade publications were not already putting out tons of paper containing price comparisons of a sort, the second of the above-mentioned two assignments would probably be the easier. But under existing conditions the first of them appears to be by far the easier, particularly when it is kept in mind that we are not seeking perfection but only improvement over the conventional method.

There is, I think, a rather urgent need to take some action, because of our inability to answer effectively the criticisms of those who say that the conventional method is potentially, and in some cases actually, unfair. Nor can we truthfully say that the conventional method is the only one that is sufficiently understandable and usable in practice.

Our question this afternoon asks about practical steps "to select and popularize." I have indicated that the task of selecting may not be insurmountable, but the work of popularizing may be extremely difficult. The attitude of actuaries toward the gravity of this problem and the acceptability of any proposed solution may prove to be the deciding element.

Quite a large number of possible methods have already been considered by the committee, and undoubtedly others will be offered and studied

before our task is completed. It is noteworthy that these methods come in families. Professor Ryall's method is in the same family as the one-thirtieth method. The merit of the one compared with the other depends mainly upon whether or not one feels that discounts should be made for mortality as well as for interest and upon the importance one assigns to the need for simplicity.

MR. JOHN L. GLENN: The use of a net cost comparison, whether done by the traditional method or by more refined techniques, such as those developed by Mr. Ryall in his papers, assumes that the prospective buyer has already made an informed choice of the plan which best fits his needs. I suspect that this is true only in a minority of cases.

In the context of consumer information rather than consumer protection, the task facing the industry is broader than a choice of the best net cost method. The first thing that a prospective buyer wants to know is what the pattern of protection is in the particular policy he is considering. You may surmise, correctly, that I would present a permanent policy as a combination of a reducing amount of death protection with a savings element. Many feel that this explanation does not do justice to the concept of level premium insurance, but I have not yet heard an alternative explanation which makes sense from the layman's standpoint.

Once a prospect has a general idea of the kind of policy he wants, the information listed below should put him in a position to make an informed choice among different policies in the same company or among the same kind of policy in different companies. These indices would be developed for a predetermined number of years, which could be the usual twenty, although a good case can be made for the period to age 65.

1. True premium (premium minus weighted average value of dividends).
2. Split of true premium into protection and savings elements. The protection element would be the weighted average premium for the net amount at risk. The size of the savings element, together with the yield rate on it, would help the prospect decide whether he wants to put that amount of money into a savings program characterized by a high degree of security and possibly a relatively low yield in comparison to certain other investment opportunities.
3. Weighted unit cost of protection.
4. Effective yield on savings element.

Of course, the insurance-buying decision should not be made solely on the basis of this or any other set of numbers. Furthermore, this kind of analysis should properly be preceded by the presentation of life insurance as a risk-sharing device.

The statement was made earlier that it is not possible to separate the premium into protection and savings elements. I would phrase the prob-

lem differently: it is possible, but to make the separation requires the choice of certain assumptions about which well-informed men may reasonably differ. One way to do it is along the lines followed by Dr. Belth in his book; another way is to use the yield method, as developed by the late Mr. Linton and used by Dr. Schwarzschild at Georgia State. The use of either of these methods for this purpose is subject to the criticism that the predetermined element (interest rate in Belth's method and the set of yearly costs per thousand of protection in the yield method) fairly well determines everything else.

A more "neutral" method would be to start with a standard set of assumptions, probably based on industry averages, covering interest rates, costs of protection, mortality rate, and, if desired, lapse rates. These would be used to determine a protection premium for the pattern of protection in the particular policy and an investment premium. These would not generally add up to the true premium, but the true premium could be split proportionately, the resulting split being used to determine the unit cost of protection and the effective yield on the savings element.

In both this session and elsewhere, the opinion has been expressed that lapse rates ought not to be introduced into net cost determinations. It seems to me that, once you start to discount future payments and receipts for the possibility of dying, and for that matter for interest, you are dealing with the prospect's expectation, and you ought to go ahead and introduce a set of lapse rates appropriate to the prospect's age, income level, or amount of insurance being considered.

The practical difficulty with any method that deals with expectations is that, if the prospect wants to understand the method, he has to perform the mental gymnastic of splitting himself into one-hundred pieces, of which perhaps ten will die during the period being considered, sixty will terminate, and thirty will be in force at the end.

MR. RUSSELL R. JENSEN: There have been allegations that life insurance is not competitive and that the traditional net cost method does not adequately disclose the price to the buyer. As additional general comment the following should be considered.

NEED FOR A POPULAR METHOD OF MAKING COST COMPARISONS

1. The nature of the life insurance sale does not engender shopping. Life insurance is generally sold, and sold after the agent has sought out a prospective buyer and convinced him to buy. In that situation it is not only unreasonable to suppose that the agent will take steps to bring in the competition, it is also unlikely that the buyer would at that point com-

mence a shopping activity on his own. No standard set of indices, better or worse than traditional net cost comparisons, is likely to change that result, and this likely will continue to be the sales situation.

2. The nature of the life insurance sale does engender price disclosure. Granted that the sale is made to a need, the intangible nature of life insurance is such that the salesman usually works with illustrations and proposals that disclose many details about premiums, dividends, and cash values. This situation also likely would not change, nor should it, if any cost index such as those proposed were to be widely adopted.

3. The wide availability of cost material in industry publications is well known. Evidently these have not brought about the high degree of competition that some would feel appropriate. Is it the formula which is at fault? The efforts of Professors Ryall and Belth are much in order, as are the efforts of many others in the industry now actively engaged in considering this question. Nonetheless, it would seem that the main problem would be not in the formula but in the fact that the data are in industry publications rather than in publications more generally available to consumers.

CRITERIA FOR A POPULAR METHOD

1. What is the purpose, to compare one policy purchase against another or to compare a life insurance purchase with another use of the money? If we are comparing insurance policies, are we comparing policies which are generally alike or policies which are essentially different? These questions bear on the choice of the best model on which the consumer might base his decision.

2. The method should not confuse the index which it labels "price" or "cost" with the actual premium to be paid, the illustrated dividends, and the guaranteed cash values. These are actual price elements, relating to what the policyowner pays or receives; failure to disclose them to a buyer would rightly be criticized. The method will result in a price index which could be a valuable adjunct for comparison purposes rather than a substitute for all of the presently available material.

3. The price index should be generally available. It should have the sanction of some recognizable entity (this Society, the LIAA, the trade publications, etc.). It seems likely that, if the degree of competition that some would desire be fostered is to come into being, the publication cannot be simply in industry compendiums, but in some means which is more generally available to the public.

4. The index should have some general rationale which the consumer can understand. It should take into account differences in value (pri-

marily differences in incidence of payments) and should do so in a reasonably accurate fashion. It should be able to deal validly with the most common permanent insurance plans.

5. The method should be reasonably practical for the industry to calculate and publish, and it should be reasonably practical for a lay person to apply; at least it should be relatively easy for him to understand.

6. It ought to be applicable to existing policies as well as new, so that the replacement question could be dealt with. Again, perhaps it is too much to expect any one method to be able to handle such widely varying problems.

COST INDEX NOT A SUBSTITUTE

A cost index such as Professor Ryall's or Professor Belth's, or the one-thirtieth method, or any other method, is not a substitute for disclosure of premiums, dividends, and cash values to a prospective buyer. All these methods construct an index which is not actually related to the money paid by the buyer or to the dividends or other benefits which he gets in return. The use of such an index, which is a highly constructed and artificial number, relative to actual payments and benefits, in contrast to the actual numbers involved in payments by and to the insurance company, could be subject to criticism. Just imagine, for example, that the insurance industry had five years ago adopted, say, the "Belth" method. Suppose that these numbers were widely published and that their use was encouraged by the industry. Might the industry not then be criticized for failing to disclose the real cost of insurance or for obscuring the true facts of the matter? I think that it might, and with some reason. We must continue to show premiums, dividends, and cash values.

NATURE OF PROFESSOR RYALL'S INDEX

Professor Ryall's cost index is an amount which over a given period is the equivalent on a present expected value basis of the premiums, less the dividends, less the cash value under the policy. It is an annual amount determined by subtracting from the gross premium the level amount equivalent to the illustrated dividends for a given period and also subtracting that amount which over the given period would fund the cash value on a pure endowment basis.

The factors used for determining the equivalent level annual dividend from published dividend totals are an important element, in that they afford a practical means of finding an equivalent level dividend. These accurate approximations to a complicated result by a simple process ap-

plied to published data are indeed a masterful accomplishment. The dividend approximations, however, are not the heart of the method, which is rather the use of an equivalent level annual cost based on present expected value. If this method should become standard, there ought to be an option to calculate the equivalent level dividend directly, without using the approximation. For a company preparing ratebook copy with a computer, the direct calculation is no great trouble. The availability of the standard figures in company ratebooks and industry publications is probably a necessity if the method is to have wide usage. Even though the calculations can be done by an agent in the field, the process is not so simple, nor is the rationale so direct that a life insurance agent or a lay person would willingly undertake the calculation or use of the figures.

Professor Ryall recommends the use of 1958 CSO Mortality Table and 4 per cent interest. One might ask, "Why *present expected* value?" The purpose of the cost index in all the methods is to deal with the main fault of the traditional net cost method, which does not allow for the fact that a dollar due tomorrow is worth more than a contingent dollar due ten or twenty years from now. It is worth more simply because of interest. It is worth more also in regard to the fact that a person might not live for the full term, and the payments to be made one way or another ten and twenty years from now are payments made by and to the survivors of an original set of buyers.

Professor Ryall makes the case for a 4 or 4½ per cent interest rate by way of analogy with a dividend-accumulation rate. There is certainly no one answer as to the correct interest rate. As a general matter and for many purposes the use of a 4 per cent rate is not unreasonable.

Why should the discount be taken for survivorship, as in computing *expected* values? This is a further refinement to the use of an interest rate. Those who do not live will neither pay premiums nor receive dividends or cash values. Therefore, there is some measure of validity to this discounting process. If discount for survivorship is to be used (the one-thirtieth method does not use it), use of a well-known table may be in order, and the 1958 CSO Table certainly fills that criterion.

Why not discount for lapses also? The buyer does not exert direct control over his death, but he does have a measure of control over the lapse or surrender of the policy. Why should he then assume a set of termination rates which an insurance company might use in its own product pricing? In using the Ryall model, which does not discount for lapses, the buyer is saying in effect, "I will measure this policy against other policies by means of a cost index which implicitly assumes that I will terminate the policy in n years." He may wish to examine the indices

for different periods—five, ten, or twenty years. He would have to make the comparisons for different periods, even if he were to use an index which discounts for average termination rates. The fact that the 1958 CSO would overdiscount for deaths might also be considered as a partial offset to the effect of lapses.

THE ONE-THIRTIETH METHOD

While the appearance is very different, the essential structure of the one-thirtieth method is the same as that of the Ryall index. The one-thirtieth method cost index is the gross premium, less one-thirtieth of the dividend accumulations, less one-thirtieth of the cash value. One-thirtieth of the dividend accumulations would approximately be the equivalent level annual dividend if we were not to discount for survivorship and if we were to use an interest rate of about 3.75 per cent and the dividend accumulations had built up at about that interest rate. The same process applies to leveling out the cash value. The one-thirtieth factor, of course, applies over a period of twenty years.

One point that might be considered is that the method could be generalized in this way. If a consumer were loath to use the one-thirtieth method at an interest rate of $3\frac{3}{4}$ per cent, he could switch to the one-fortieth method, which involves an interest rate of just over 6 per cent. If he were really of a positive frame of mind about the stock market, he could even switch to the one-fiftieth method.

There is this to say about the one-thirtieth method, or about any approach which basically levels payments out with interest. They work quite well at the young ages and remove the greatest part of the problem from the traditional net cost method. That problem simply is in assuming that a dollar due twenty years from today is worth as much as a dollar due tomorrow. In the traditional net cost method, if the dividend scale is abnormally steep or if the twentieth-year cash values and terminal dividends are abnormally high, such companies have an advantage. Reflecting the incidence of these payments puts things back on a more even footing.

At the higher ages, the one-thirtieth method does differ from the Belth or Ryall method in the fact that it does not use mortality and that this factor is more significant for the higher ages. Thus, for example, Ryall's correlation of the one-thirtieth rankings of twenty-four companies showed a Kendall rank coefficient of about 0.95 at ages 25 and 35 and 0.86 and 0.80 at ages 45 and 55. I should not be surprised to find that use of the one-fortieth factor at the higher ages would go a long way in bringing the correlation closer together.

II. *Analyzing the Effect of Replacements*

- A. What procedures are companies using to show policyholders and agents the financial impact of proposed replacements?
- B. What is the status of new replacement regulations, such as those promulgated in the states of Washington and Nebraska?
- C. Are the required cost comparisons in these regulations sound? Do they provide any real protection to the policyholder? Are there better approaches to suggest?

New York Regional Meeting

MR. WILLIAM F. WARD: Although replacements have long been a problem in our business, they became of increasing importance in the late 1950's due, for the most part, to the general trend toward pricing by size and the increasing popularity of equity investments. Increasing complaints to insurance departments because of the actions of a few agents have resulted in specific regulations being promulgated by seventeen states.

These regulations have been designed to protect policyholders against misrepresentations and to ensure that they are provided with a full explanation of the effects of the replacement, so that they can judge such a proposal on its merits. A most important part of such disclosure is with respect to the cost comparison of the new and old policies. This is somewhat more complex than a comparison between two new insurance contracts but involves many of the same considerations.

In general, the first state regulations required that written proposals should be submitted to the insured, but the form was not specified. Later regulations required applications for insurance to ask whether a replacement was contemplated, and, if so, placed responsibility on the insurance company to see that the other requirements were met. Many regulations called for notice to the company which issued the existing policy to permit them to advise the policyholder regarding the merits of continuing the old policy.

Recent regulations by the states of Nebraska and Washington have called for specific forms of comparison involving information regarding the benefits under the new and old policies and the display of the annual cost of insurance. South Dakota's proposed regulation calls for a similar analysis. Presumably, this trend will continue.

The policyholder is entitled to the clearest possible information on which to make his own judgment with regard to the replacement of old insurance by new. We all agree that there should not be any misrepresentation. This leads to the conclusion that the cost disclosure should

not only be technically correct but should be sufficiently clear to be understood by the insured.

In our company we have found no uniform method which can be applied in all cases. Our success with using discounted values of premiums and benefits has not been outstanding, since such figures are not usually understood by either the insured or the agent and thus are not accepted with confidence. In general, we determine the year-by-year cash outlay which the insured will experience if the replacement is made, using dividends based on the current scale, properly qualified. We then illustrate the retention of the original policy on the assumption that the same year-by-year outlay will be applied. The policy loan is increased or decreased each year to accommodate to this, and at times dividend options may be changed, or a change in the plan of insurance may be assumed, in order to most closely parallel the proposed insurance program. The cash-surrender values and the death benefits are then compared year by year for the original policy and the replacement policy. In cases in which we are successful, it can be demonstrated that both are uniformly better under the old policy. This method seems to be effective in comparing the two contracts. It does not show the cost of either as such but seeks to demonstrate that the same amount of money as that to be applied under the new contract will provide better benefits in all respects under the old, modified if necessary.

If a proper method is determined for net cost comparisons and becomes accepted by the public, the problem of judging the merits of replacement will be greatly simplified. Such a method of cost comparison, however, must not only be theoretically accurate; it must be convincing and acceptable to the insureds and to the agents. The requirement of a regulation alone will not establish this basis. It must earn its place based on its own merits.

DR. JOSEPH M. BELTH: The Washington regulation requires that the cost calculation for participating policies be based on 4 per cent interest but that the calculations for nonparticipating policies be based on the interest rate specified in the policy for nonforfeiture values. I had nothing to do with the development of the regulation, and I first learned of it when a preliminary draft was circulated to the companies and the trade associations for comment. While I cannot speak for the Washington Insurance Department, it is my understanding that the interest rate differential was a crude attempt to offset the inherent advantage enjoyed by participating policies. If the same interest rate were applied to both par and nonpar, a direct comparison would be likely

to favor the par policy. This might be considered an unfair advantage, because the price figures for the par policy would be based in part on unguaranteed dividend illustrations while the figures for the nonpar policy would be based entirely on contractual guarantees. The use of a lower interest rate for the nonpar policy would have the effect of offsetting this advantage, at least to some extent.

Some critics have said that the Washington replacement regulation in itself calls for a price comparison that is not complete. In my view, the regulation is not an attempt to spell out what constitutes a "complete comparison." Rather, I believe it is an attempt to spell out what constitutes a "not incomplete comparison." In other words, the required information is considered to be enough to prevent the comparison from running afoul of prohibitions against incomplete comparisons, and there is no prohibition against furnishing information in addition to that required by the regulation.

MR. PETER L. J. RYALL: Cost comparisons made according to the Washington formula are very sensitive to slight changes in individual cash values. In particular, the rounding of cash values per \$1,000 face amount to the dollar has an effect that, in relation to the generally quite small differences between costs for either the fifth or the tenth policy years, is pronounced.

The amount (s , say) by which the difference between a company's two rounded cash values differs from the difference between the corresponding unrounded values has an expected value of $\int_0^1 2s(1-s)ds = \$0.33$ and a maximum value of \$1. If the Washington formula is applied to make a cost comparison between two companies, only one of which rounds its cash values, and the cash value of this company at the end of the year of comparison is \$333 per \$1,000 face amount, then (ignoring the slight effect here of the interest factor) the change in the difference between the companies' costs on account of rounding has an expected value of $\$0.33/\$0.667 = \$0.50$, and a maximum value of $\$1.00/\$0.667 = \$1.50$. Since most companies round their cash values, more than 75 per cent of cost comparisons will involve at least one such company.

When both companies being compared round their cash values, it is appropriate to consider the difference between the amounts (s , say, for one company, and t for the other) by which the difference between each company's two rounded cash values differs from the difference between the corresponding unrounded values. The average such difference is

$$0.5 \left[2(0.33) + 4 \int_0^1 \int_0^t (t-s)(1-s)(1-t) ds dt \right] = \$0.40 ,$$

and the maximum difference is \$2. If the Washington formula is applied to make a cost comparison between two companies, both of which round their cash values, and the cash values at the end of the year of comparison are \$333 per \$1,000 face amount, then (ignoring interest) the change in the difference between the companies' costs on account of rounding has an expected value of $\$0.40/\$0.667 = \$0.60$, and a maximum value of $\$2.00/\$0.667 = \$3.00$.

MR. WALTER YOUNG: I suggest that a prescribed form or method of making cost comparisons in replacement situations is probably unsound for several reasons. For one thing, there is a great variety of fact situations in actual replacement cases, and it is unlikely that any prescribed form or method of comparison will result in a proper disclosure in all such fact situations. Again, proposed replacement policies are often on a different plan of insurance. The proposed replacement policy is usually on a lower-premium form and usually emphasizes term insurance more than the original policy. While it is possible to make some sort of cost comparison in these cases on the basis of cost in a given year per \$1,000 of net protection, such comparisons apparently can be misleading in some cases when the original policy is an endowment or retirement income policy or a limited payment policy.

The greatest objection to a prescribed form or method of comparison, however, is that the replacing agent or company which uses the prescribed form or method will usually have a good defense to any allegation that the replacement has been improper. The replacing agent will usually have a good defense if he uses a form or method prescribed either by the insurance department or his company. Of course, this does not excuse the companies from responsibility in this area. In fact, the present replacement regulation in New Jersey requires all life insurance companies authorized to transact business in New Jersey to issue written instructions to their agents incorporating basic rules and safeguards which are to be observed in the preparation and use of cost illustrations, comparisons, advertising, and other promotional material.

Although it is entirely the responsibility of the individual company to decide whether or not to have a prescribed replacement form, it appears that the company replacement forms that we have seen tend to encourage replacements and tend also, in quite a number of cases, to "teach" the replacing agent how to make replacements. These results can follow if the company places too much reliance on the form itself without bothering to educate its field representatives properly concerning the inherent disadvantages of most replacements.

It would be better if all of us, both in companies and in insurance departments, took a somewhat stricter attitude along these lines. In general, replacements are inherently to the disadvantage of the policyowner. In most cases, it is not mathematically possible for a complete and correct cost illustration to come out in favor of the proposed replacing policy. There are also other disadvantages to replacing, among them loss of incontestability of the original policy, less favorable policy with respect to settlement options, disability benefits, policy loans, and the like. Therefore, any agent or company which suggests a replacement should be willing to take full responsibility for making a full written disclosure to the policyowner of all relevant facts. Should the occasion arise, it will then be decided whether the written proposal is a true, complete, and proper disclosure for the particular case.

Mention should be made here of those replacement proposals that recommend financing the proposed new program by borrowing. These proposals usually combine a new life insurance policy, not necessarily term but generally with heavy emphasis on term insurance, with a mutual fund investment. Although these borrowing proposals appear to be hazardous, except possibly for those in a high-income bracket, it appears that it generally can be proved that if the policyowner insists on going through with such a program, it will be more to his advantage to use the borrowing privileges which are available in his existing life insurance.

As stated above, companies do have the responsibility to issue proper written instructions to their agents concerning replacements. There are a few replacements which can be justified, and agents are entitled to a set of ground rules for these replacements. Some of the ground rules might be the following:

1. The written proposal for a replacement should not be on a composite basis. It should not imply in any way that it is necessary or desirable to replace existing life insurance in order to obtain the advantages of a mutual fund or variable annuity program.
2. The written proposal should compare the proposed policy (or appropriate portion thereof) directly and solely with each existing policy which it is proposed to replace. For example, if it is proposed to replace three permanent policies of \$5,000 each with a term insurance policy for \$30,000, there should be three written proposals comparing each permanent policy with a \$10,000 term policy.
3. Any cost comparisons should be on a policy-year basis, starting with the policy anniversary of the existing policy in the calendar year of the proposed replacement.
4. Dividend projections should be accounted for, and it should be made clear that any dividend results are merely projections of the company's present dividend scale.

5. Proper reference should be made to all pertinent policy provisions, such as incontestability, disability, settlement option, policy loan, premium-paying period, and so on. The date on which the policy becomes incontestable should be shown for both the existing and proposed policies.
6. Any replacement proposal which involves a taxable gain should show the amount of such taxable gain and the estimated tax thereon based on the policyowner's tax bracket. Any such tax is a part of the cost of the proposed replacement.
7. Any proposal which involves borrowing to finance any part of the proposed program should make it absolutely clear whether the proposed borrowing can be continued or whether the privilege (and cost) of borrowing is only on a year-to-year basis. The assumed loan interest rate should be shown clearly.
8. All such written proposals should be separate and complete from any "prospectus."
9. The written proposal should be clear and complete. It should also be as simple as reasonably possible, consistent with the above.

The above list is considered only a partial set of proposed ground rules. The policyowner's best protection is to contact his original agent and company with respect to any replacement proposal. In this connection we note that the New York Insurance Department's Regulation 39 requires that the replacing company notify the original company in all cases where the application indicates that there will be a replacement. This requirement of notification is a sound one. There have been a number of cases, however, where, for one reason or another, the original agent received notice of the pending replacement after the replacing agent had the case "all wrapped up." In these cases the policyowner frequently refuses to listen to either the original agent or his company. In other words, the replacement notification is given too late. Therefore, it is urged that anything that can be done to speed up this notification by the replacing company to the original company will be an important step in the right direction.

It would also help if the replacing company would do the fair thing and forward a copy of the written replacement proposal to the original company. Finally, it would help if the original company would then notify its agent promptly and offer to give whatever supporting service is appropriate.

These opinions are my own and are not necessarily those of the New Jersey Department of Banking and Insurance.

Atlanta Regional Meeting

MR. RUSSELL R. JENSEN: When it comes to the subject of replacements of life insurance, there is, it seems, very little new under the sun. This subject has plagued the industry for over a hundred years. Sixty-

five years ago twisting was named as the major cause of lapses. In 1905 the Armstrong Committee and in 1912 the NAIC made recommendations to cope with the practice. The subject has been a frequent topic at meetings of industry associations and of this Society of Actuaries. In the boom years preceding the 1929 crash, there was a great increase in replacements as policyowners were solicited to use cash values to buy stocks. The replacements continued into the depression years as policyowners were burdened with heavily loaned policies. Replacement was often recommended as the easy way out.

Lapses and surrenders reached such major proportions that in 1930 an industry replacement agreement was signed by twenty-five major companies (eventually ninety-four companies signed) and a replacement committee was established. Steps taken at that time included (1) a replacement question in the application to be answered by the applicant and agent, (2) notification of the original company, (3) delays in issuance of new policies, (4) the keeping of replacement records, and (5) educational steps with agents and policyowners.

The great wave of replacements was finally brought under a semblance of control. This was probably due not only to the effectiveness of the agreement, which prevented thousands of replacements, but also to the first replacement regulations of a number of state insurance departments, the cooling of the romance between the public and the stock market, a greater appreciation by the public for the worth of life insurance cash values, and possibly even some greater appreciation of the pitfalls in replacing an existing policy with a new policy.

The replacement agreement went out of existence by the mid-1940's as a result of two developments. One was the 1940 TNEC Report. The report took the industry to task for excessive terminations by lapse and surrender which were essentially wasteful and produced losses for most policyowners. At the same time, the report also criticized those life insurance companies, which, under the guise of replacement control, were seeking to prevent disturbance of all business in force. This action was considered, in effect, a restraint on trade. The second development was the decision in 1944 by the United States Supreme Court in the South-eastern Underwriters' case, which held insurance to be subject to the antitrust laws. Intercompany agreement was then believed to be forbidden, and the need for state or federal regulation became apparent.

During the fifties and sixties the rate of replacements has again risen dramatically. The principal reasons are the following:

1. The minimum-deposit philosophy, which was encouraged by high cash values in the early policy years and by tax considerations (both now somewhat curbed by regulation).

2. The reappearance of the "insurance counselor," fostered by books with an exposé approach.
3. Specialty contracts sometimes offered in the market.
4. Failure of some segments in the industry to acknowledge the problem or to act constructively on it.
5. Greatly expanded emphasis on the combination of term insurance and mutual fund sales.

Today we find that many states have regulations governing life insurance replacement. There are a relatively new and unique regulation in Washington and an even newer one in Nebraska. The Washington format does have a cost formula, which has drawn considerable attention. The Nebraska regulation does not have a cost formula, but it does have a standard format. The NAIC E-4 subcommittee is working on a draft of model replacement regulation, and recently met with a newly appointed industry advisory committee to consider this subject.

Replacement is not illegal. It is subject to regulation in many states. Misrepresentation is illegal, and replacement involving misrepresentation is commonly called "twisting." Most regulations state their purpose, and the following quotation from the Nebraska regulation is typical:

The purpose of this Rule is to protect the interests of life insurance policyholders by establishing minimum standards for the replacement of life insurance policies; by making available full and clear information on which an insured may make decisions in their own best interests; by reducing the opportunity for misrepresentation in replacement situations; and by precluding unfair methods of competition and unfair practices.

Certain points have now become commonplace in regulations covering replacements. This would include a specific question in the application, asking whether the policy applied for would replace any other policy currently in force. This question must be asked, and certain responsibilities of agent and insurance company follow from it.

Again, it is common to define a replacement as a transaction wherein it is known that as a part of the transaction one or more of the following will occur: existing life insurance has been or is to be lapsed, surrendered, converted into paid-up insurance, changed to extended insurance, be subject to substantial borrowing of loan values whether in a single loan or under a schedule of borrowing over a period of time, changed to a lower cash-value plan of insurance, or assigned as collateral for a loan.

There are common exemptions from the rules, such as group or credit life insurance; insurance not requiring individual evidence of insurability; pension, profit or other employee benefit plans qualifying for tax deductibility of premiums whose cost is borne in whole or in part by the

employer; and contractual policy changes or a conversion of term insurance to permanent insurance within the same company.

Having made clear what constitutes a replacement and what may be exempted from the regulation, the regulation usually calls for making a proposal to the prospect in writing. At this point we can find a three-way branching in the type of regulations.

Perhaps the Wisconsin regulation is typical of one type. The proposal need not be of a standard form. It must be presented in writing and left with the applicant for his records. A copy has to be submitted by the agent to his own company, naming every company which issued insurance which may be replaced. The agent must then notify every such company of the possibility of replacement and promptly furnish a copy of the proposal to each such company. He must then give the applicant a written notice, using prescribed language and dealing with the general subject of replacements.

In the Wisconsin regulation there is no prescribed format. The proposal must "state the facts upon which the agent makes his recommendations to the applicant for replacement of his life insurance." In the absence of specific requirements as to content, the proposals tendered may not always carry out the stated purpose of the regulation "to make full and clear information available on which to make decisions in [the policyowner's] best interest."

In the Nebraska regulation there is a prescribed format. In addition to basic descriptive information and premium detail, there must be a comparison of existing life insurance and the proposed life insurance as to cash values one year hence, five years hence, ten years hence, and twenty years hence, and at the highest age shown in the cash-value table of the existing policy. In addition, the annual dividend must be shown on the current scale for the two policies. The amount of any loans must be shown, and the termination dates for different sorts of benefits and suicide and incontestability clauses, and so forth. Other advantages of the proposed replacement and additional information can then be entered.

Some say that the use of such a prescribed format simply gives the replacement expert a track to run on. Even though the format is followed, the conclusions are not always immediately apparent. The replacing agent may make such verbal statements as he wishes to, and, having used the prescribed format, he feels fairly safe from challenge. Others ask how, without the prescribed format, we can enforce any minimum standards of disclosure. Or whether the conscientious agent who feels he had justifiable replacement can believe that he has done a thorough job? Still others say that the comparisons may be invalid, since one con-

tract is guaranteed and nonparticipating while the other involves dividends, or since the two companies compared are not equally likely to deliver on their current dividend illustrations.

The Washington regulation goes one step further in creating a cost factor to be entered into the comparison. This factor is to be derived for the current policy year at the time of replacement, five years hence, and ten years hence. The cost factor is the annual premium, less the dividend, less the increase in cash value for the policy year, less the interest on the cash value—all divided by the face amount minus the cash value. In getting the interest on the cash value, for participating policies we are to use 4 per cent interest and for nonpar policies we are to use the guaranteed interest rate in the policy for nonforfeiture values. This formula has been subject to a number of criticisms:

1. By dividing the policy into an amount at risk and a cash value in assessing all costs against a constantly reducing amount at risk, the expenses attributable to the policy are charged solely against the risk proportion and are thus amplified quite out of proportion as that risk reduces.
2. The interest charged against the cash value is reflected as an item of cost to the policyowner, which has the effect of penalizing the company offering its policyowners higher loan and surrender values. The more cash value generated by the contract, the more the Washington formula indicates the cost to be, and the effect is compounded when the higher cost is divided into the smaller remaining amount at risk to produce a cost per thousand of the "net protection."
3. The rate of interest charged on par policies is higher than that charged on nonpar policies, and this is discriminatory.
4. The method is approved by a state and involves the use of dividend illustrations. This seems to put the approval of the state on such dividends, and no such course of action is at all proper. The dividend illustrations of companies are not equally likely to be realized, and insurance departments ought not to be led into the position of making it seem that they have by virtue of this regulation taken the position that illustrated dividends are to be given full credit.

To each of these points, there are, of course, rebuttals. Personally, I am not much persuaded by the rebuttals and tend to regard these points as undesirable characteristics of the Washington cost formula.

There are, of course, many other points about replacement regulations. One of the central sets of questions is, "Who has the responsibility to do what?" Does the replaced company have the responsibility to furnish dividends for these replacement proposals when requested? It does have such responsibility under the Washington regulation. Under the Washington regulation, one copy of the material is left with the prospect, one is

retained by the agent, and one is forwarded to the insurer which is to issue the replacement policy. Neither the agent nor the replacing company, however, is required to furnish a copy of this material to the company whose policy is being replaced. The replacing agent is required to notify the company whose business is being replaced but is not required to furnish it with copies. Some might say that this is a weakness of the regulation. You are required to make available material necessary to fill out the form and to derive the cost factors, but, if you wish to discuss the matter with the policyowner yourself, you do not have the benefit of that information, nor do you have the legal sanction to get the corresponding information from the replacing company.

MR. ROBERT G. BRAUND: Regulations regarding replacement have been issued either during the last part of 1968 or during the first part of 1969 in a number of states. Some of the more extensive were in Arkansas, Nebraska, Washington, and Vermont.

The Vermont regulation has an interesting paragraph that states that noncompliance by life insurance agents and brokers of the requirements set forth by the regulation will be considered prima facie evidence of misrepresentation on their part.

All the regulations require the agents selling the new insurance to give some of the following information: why the existing insurance cannot fulfill the intended objective; why the existing life insurance policy cannot be changed to provide the benefits desired under the proposed insurance, and, if the existing insurance can be changed, why the new insurance is being proposed; and, under the new proposal, what the disposition of the existing life insurance will be. The advantages of continuing the existing insurance and the advantages of the proposed replacement, as well as the primary reason for the proposed replacement, are also required.

The National Association of Insurance Commissioners is also drafting proposed model regulations. The current draft includes the following in the preamble:

Accordingly, this regulation is promulgated and designed to curb and inhibit improper replacement by achieving three main objectives:

1. Providing that in any and all transactions involving replacement of existing life insurance the policyholder shall receive complete and accurate information concerning all aspects of the transaction, including a comparison statement between the existing and proposed insurance and a notice to policyholders giving advice with respect to replacement.
2. Providing that the policyholder shall receive such information in the form of written documents.

3. Bringing knowledge of the replacement involved in the transaction to the prospective insurer and placing on it, its representatives, officers and employees the responsibility for ascertaining that the insured does in fact receive such complete and accurate information in writing and that each insurer which has in force a policy or contract that is to be affected is advised that a replacement is contemplated.

The definitions of replacement situations follow and exclude a term policy of not more than fifteen years' initial duration if it is the existing insurance, contractual conversions or policy changes with the same company, and group or credit life insurance when the employer or association of which the insured is a member bears the whole or part of the cost.

The duties of the agent are set out and include such points as obtaining a statement by the applicant on whether the new policy will replace existing insurance; providing a statement himself that, to the best of his knowledge, replacement is or is not involved in the transaction; and obtaining and submitting a complete list to his company of all the existing life insurance policies. In addition, if replacement is involved, the agent must present a written proposal, a comparative statement, and a "notice to policyholder regarding the replacement" in a form substantially as described in the regulation. He must then submit with his application to the company a copy of the proposal and comparative statement and the name of every company which issued the insurance being replaced along with the application. The agent must also have the applicant acknowledge receipt of the proposal, statement, and the "notice to policyholder regarding replacement."

The duties of the company follow. The company must see to it that its agents are informed of the requirements of the regulations and require as a part of each application a statement signed by the applicant as to whether such insurance will replace the existing insurance and a statement by the agent as to whether, to the best of his knowledge, replacement is involved in the transaction. In addition, the application must show over the signature of the applicant a list prepared by the agent which, to the best of his knowledge, represents all the existing life insurance of the applicant. When replacement is involved, the company to which the application is made must obtain a copy of the proposal, comparative statement, proof of receipt by the applicant of the "notice to policyholders regarding replacement," and the name of each company which issued the insurance being replaced.

The company must then examine the proposal and comparative statement to determine that it meets the requirements of regulation and send a notice of the possible replacement to the existing insurer's home office

at least ten days prior to issuance and deliverance of the new policy. The company must also maintain a copy of all the material for at least three years or until the conclusion of the next succeeding regular examination by the insurance department of its state of domicile, whichever is later.

All companies which receive notice that their existing insurance may be replaced shall maintain copies of the notification for the same period of time.

A paragraph is inserted into the model which reads as follows:

While a policyholder has the right to replace an existing policy after indicating on the application that such is not his intention, patterns of such action by policyholders of the same agent, as well as any conversion within 90 days of the application, shall be deemed prima facie evidence of knowledge of intent to replace on the part of the agent.

The penalties for noncompliance are those which are appropriate under the insurance law.

The comparison exhibit and the notice to policyholders are very similar to those described for the states mentioned previously, with the exception of the state of Washington. Thus the proposed model regulation does not contemplate a net cost comparison.

The questions whether the regulations provide any real protection to the policyholder and how much information he should receive depend in a large measure on how much he is capable of assimilating and understanding. It is generally assumed that in the sale of life insurance the buyer is more or less unsophisticated and must rely upon the advice and counsel of his agent. It would seem, therefore, that, with the competitive forces of two agents—one from the replacement company and one from the company with the existing insurance—and the cautions and comparisons in the regulations, he should have more than enough counsel and figures to come to a conclusion. The prospect, of course, always has the alternative of considering as many proposals as he has time for by requesting them from other insurers.

The question whether the regulations would be effective against agents who deliberately misrepresent their product remains to be answered. However, any such clause as that in the Vermont regulation, which states that nonconformance to the regulations would be deemed as prima facie evidence of misrepresentation, should help the effectiveness of the regulation.

The inclusion of a net cost of insurance in such regulations is still subject to lack of agreement as to a workable formula, proper assump-

tions, availability of information, cost of calculation, and, ultimately, the understanding of the prospect of the numbers being submitted for consideration.

MR. PETER L. J. RYALL: A prime requisite for any replacement cost formula is that it should reflect fully the acquisition cost under the proposed new policy. When this policy has no first-year cash value, then, under the terms of the formula utilized in the Washington regulation, part of the acquisition cost will generally be carried forward into the second year. The regulations stipulate, however, that on the new policy only the first-, fifth-, and tenth-year costs must be calculated. On policies with little or no second-year cash value, the second-year cost may be almost as high as the first-year cost. For example, a whole life policy issued at age 35 by one large company has a second-year cost only \$0.22 lower (per \$1,000 face amount) than its first-year cost. So as not to encourage unwarranted replacements, the regulation should require that, whenever the proposed new policy has no first-year cash value, a comparison be made of costs in the second year as well as in the first year following the suggested replacement.