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# INFLATION AND LIFE INSURANCE

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THROUGHOUT the world the gradual deterioration in the purchasing power of money seems to have become an unalterable fact. This problem as it affects life insurance was most vividly brought to my attention while doing consulting work abroad. Almost all the problems I encountered were in one way or another a result of continuing inflation.

The United States and Canada have experienced a comparatively mild increase in the cost of living over the past 75 years, averaging approximately 2% a year. France, Italy and most other European countries, primarily as a result of war, have witnessed annual inflation rates as high as 50% or more. The ultimate situation was reached in Germany shortly after World War I when the currency unit fell to one billionth of its prewar value.

This paper will consider certain aspects of inflation as it affects the operations of the life insurance industry and as it affects the policyholder and will review some of the approaches used (primarily by European companies) to meet the situation. It is not my purpose here to discuss whether inflation as such is good or bad for the economy as a whole or whether the future will witness a continuation of the trends of recent times.

## SECURING THE FINANCIAL POSITION OF THE LIFE INSURANCE COMPANY DURING INFLATION

The incidence of inflation is first perceived with the rise of administrative costs. Eventually, the old in-force may so shrink in real value that it cannot support itself, let alone finance the new business coming in. The point has even been reached in certain countries where it has cost more to collect premiums than they were worth. This shrinkage in renewal expense margins intensifies the financial strain caused by the acquisition of new business.

The financial position of the insurance company can be viewed in terms of the relationship between the income and outgo of money in the areas of (*a*) existing business, (*b*) new business, (*c*) investments.

### *Existing Business*

The basic problem that inflation creates for life insurance companies is the increasing inadequacy of the expense loading on existing policies.

American companies have been fortunate in this respect, since mortality and investment gains have generally more than offset the losses resulting from inadequate expense margins. On the other hand, European companies have had to fight for their very existence as spiraling rises in the cost of living rapidly reduced the real value of the in-force.

It may be helpful to consider some of the methods that have been employed with varying degrees of success to make the existing business self-supporting. First and most fundamental, all expenses must be reduced to a minimum. As the old in-force shrinks in real value, it must be so treated administratively. Premium billing, dividend disbursement, settlement options and other "Ordinary" procedures may have to be streamlined where legally and contractually possible. Some of the services traditionally rendered these "industrialized" policies may have to be discontinued as uneconomical. For example, a punch card system tailored to the company's needs and manned by comparatively few persons is a particularly valuable asset in such times, since the cost of data processing equipment seems to rise at a slower rate than the salaries of the persons that would otherwise be needed.

The current practice in stable times is to build up a general contingency reserve that will help to cover future costs that will not be met by the emerging expense loading. While an older company has had more time to accumulate a large reserve, it is at the same time more vulnerable to the effects of inflation.

Can the expense loading be increased so as to build up a reserve sufficient to meet sudden and unpredictable rises in the cost of living? In a stable economy, any attempt to "superload" premiums for an anticipated inflation that may not happen will endanger the competitive position. However, if such a course of action has been agreed upon in principle, what extra margins should be incorporated in the premium structure? The gross premium might be built up to provide for general administrative expenses that increase 3% every year. This would at least produce equity between policies with different premium-payment periods.

An approach discussed by European companies is to have a basic net premium depending on mortality and interest and a per policy expense charge which is a function of the price level. There are many advantages to this arrangement and probably simple administrative procedures could be worked out. In the long run, this would help the policyholder too, since the safety margin necessary in the gross premium would be reduced. In other words, the company would be insuring only mortality and interest and accordingly the contingency reserve maintained could be reduced. This per policy element could vary with a cost of living index

to insure that the policyholder is being treated fairly. If there were an extreme inflation this approach would be an inducement to the policyholder to terminate his policy.

At the International Congress[1] in 1927, vivid descriptions were given of the impossible situation in which German life insurance companies found themselves following World War I. The measures adopted to lessen administrative expenses on old policies progressively became more drastic. They attempted to

(1) make all premiums paid annually,
(2) have these policies changed to a paid-up basis,
(3) have these policies terminated by offering a special bonus, or
(4) in the later stages of inflation, even cease to collect premiums altogether.

Retrospectively it is apparent that all efforts were doomed as a result of the complete breakdown of the currency.

In line with the above, it was suggested, at the recent Congress in Madrid,[2] that a clause be inserted in the policy, wherein the policyholder promises to keep his coverage up to date. If, after an inflationary period during which prices have jumped, say, 1,000%, no action is taken by the policyholder towards maintaining the level of his coverage, the company would have the right to terminate the policy.

*New Business*

The problem of new business strain has generally not proven a serious deterrent to the tremendous growth and expansion of insurance in America. This growth has been a real increase in coverage and not just a reflection of the rise in the cost of living. Not so with life insurance on the European continent. In the chaos following each World War, many companies faced situations where the volume of new issues equaled 50% or more of the in-force. Before long the existing in-force became unable to support itself, much less finance the new business coming in. At the same time, since the business was more difficult to produce because of falling public confidence, the cost of procuring it increased. All this accentuated the new business strain that had to be met.

Companies now facing a comparable situation would have to be prepared to reduce new business expenses to the very minimum. For example, the minimum size of policies and the nonmedical limit should

[1] *Transactions of the Eighth International Congress of Actuaries*, London, 1927—Topic VII, "Currency Depreciation as affecting Life Assurance Contracts." Papers by H. Westergaad and A. Manes.

[2] *Transactions of the Fourteenth International Congress of Actuaries*, Madrid, 1954—Subject III, "Means of Securing the Financial Stability of Insurance Institutions." Paper by R. Masciotti.

be reviewed with an eye to the rising cost of operations. Another source of help for companies in this position is the use of a preliminary term valuation system. This recognizes the large outgo in the first year and enables the company to absorb the extra costs of new business. In extreme cases special permission has at times been granted, enabling companies to continue writing new business even though relatively large sales had rendered them temporarily insolvent on the books.

Many European companies, instead of amortizing issue expenses over the years, charge the policyholder a fee at issue. In essence, this issue fee is intended to cover new business expenses, other than commissions, on an incurred basis. The concept is relatively easy to explain and might be considered by companies which feel themselves threatened by this problem. Such an approach may, however, necessitate enabling legislation. One additional advantage is the favorable effect on asset shares. Surrenders in the first or second year result in little, if any, loss.

*Investments*

Facing what they regard as the inevitability of inflation, insurance people have increasingly been turning to the investment aspect of their business for assistance in securing the financial position of their companies. The opinion has increasingly been advanced that a greater share of life insurance funds should be in equities in order to help preserve its purchasing power. While the prices of property and stock do not necessarily follow trends in the cost of living, a more satisfactory performance can be expected than is presently derived from a portfolio of fixed currency investments. The additional interest and capital gains would be an offset against spiraling administrative costs and could, to some extent, be passed on to the policyholder.

At the 1939 meeting of the American Life Convention,[3] this point was stressed in a study of the holdings of French life insurance companies during the nineteen twenties. This study showed that "the fixed revenue portfolio had fallen to about one-tenth and real estate to about one-half their prewar value—stock suffered only minor fluctuations." While it was not intended to draw too close an analogy (even in 1939), the comparison is indicative of what can happen here. The recommendation was made that American life companies gradually increase their holdings of equities, emulating perhaps the British companies which "have for many years carried an average of about 15% in common stock in addition to their holdings of preferred issues." Mr. Linton[4] made a somewhat similar point

[3] *Proceedings of the Thirty-Fourth Annual Meeting of the American Life Convention*, 1939. A paper on Equity Investments by D. C. Rose.

[4] *TSA* VI, 193.

during a discussion of equity forms of savings when he said that he wished "some way could be found to invest life insurance funds to a larger extent in common stocks" and that he "would not object to a common stock investment of up to about 20% if a satisfactory solution to the year-end valuation problem could be found. This increased investment in stock would introduce a variable element in the net cost of insurance, but not in the guaranteed value."

Mr. C. M. Gulland, at the Madrid Congress,[5] expanded on this theme by saying that a company "will be neutralized against an increase in expense due to a fall in the value of money, however sudden, if the amount invested in ordinary shares and property is maintained at such a level that the income derived therefrom is equal to the expense of management." If this suggestion is pursued, the result would be a still higher share of the investment portfolio in equities.

Some insurance companies in Finland[6] have now started to tie some of their investments, other than policy loans, to the cost of living. A specific price index is inserted in the original agreement, and the outstanding balance increases in proportion to the rise in the index. Apparently, as of now, only 50% of the index increase is applied to the loan. Thus, in effect both lender and borrower share the devaluation loss. Only long-term loans such as mortgages and local government loans are handled in this way.

In various European countries today, mortgages and bonds are available where both capital and interest are tied to the cost of living or to a foreign currency exchange rate.

### INFLATION AND THE POLICY PROCEEDS

An important problem created by currency depreciation is the loss of confidence by the policyholder as his coverage gradually decreases. Life insurance companies, as custodians of their policyholders' moneys, have a fiduciary responsibility far broader than the mere promise to pay fixed sums upon the occurrence of some contingency.

Unfortunately, the public seems to become aware of the erosion of its coverage only after considerable damage has been done. It should be recalled that the effect on purchasing power of a rise in the cost of living from 100% to 200% is as destructive (in absolute terms) as a subsequent rise from 200% to infinity. In other words, once money loses 50% of its value there is only 50% more to go. The Institute of Life Insurance here in America seems to be vitally aware of its responsibility in this regard. Shortly after the start of the Korean conflict,

[5] *Transactions of the Fourteenth International Congress of Actuaries*—Subject III. Paper by C. M. Gulland.

[6] *Ibid.* Paper by J. Malmiuvo.

when the stability of economic life in the United States was threatened, a nationwide campaign against the "sixth column—inflation" was initiated.

Methods adopted by life insurance companies (particularly in European countries) to help maintain the value of the policyholders' coverage have taken numerous forms. Some of the more important approaches will now be examined.

*Effect on Different Plans*

In an inflationary economy a life insurance contract experiences a loss in value, which is a function of its savings element (reserve). Thus, endowment policies and annuity contracts sustain the greatest loss. A cursory examination reveals, however, that in those countries where inflation was most severe, endowment insurance has been the most popular coverage, whereas in the United States and Canada, where the inflation has been comparatively mild, whole life and term insurance is the most widely sold.

Runaway inflation, such as has all too often been experienced in Europe, cancels most of the advantages of whole life insurance, and a prudent policyholder confronting such a situation should consider buying only renewable term coverage. One solution,[7] suggested by a German actuary, would be to buy annual renewable term insurance for a level face amount until age 50 and then to freeze the premium at the age 50 level, thereafter allowing the amount of coverage to decrease as the attained age advances.

*Index Insurance*

Permanent insurance with both premium and face tied to the cost of living is sometimes advocated by laymen. For a private insurance company, this approach generally is impractical. Premiums cannot be later changed and a drastic inflation could render a company insolvent.

One insurance approach[7] to this problem of coverage depreciation would be to have the face increase, say, 3% every year, in anticipation of an average amount of inflation. The premiums could either be constant or increase correspondingly every year. A variable premium is complicated to administer and increases the risk of antiselection, since every year the policyholder has to decide whether to pay the increased premium. If the premiums were to be level, an annual increase in coverage of 3% would raise the annual premium drastically (25% to 100%), depending on plan and age at issue.

Instead of incorporating an annual inflation rate in the premium

[7] *Geldwert und Lebensversicherung* by Hasso Haerlen.

structure, European insurance companies are today attempting to solve this problem by issuing "index" policies under which both the premium and the amount of insurance may subsequently increase (although at different rates) in conjunction with rises in the cost of living. In effect, small units of additional insurance are later purchased at something approaching net rates at the then attained age. No new business commissions are payable on these units and most other issue expenses are minimal. Generally these increases in insurance are automatic, concomitant with the rise in a cost of living index or in a stable foreign currency exchange rate. Where these changes are at the policyholder's option, underwriting information may be requested. As a matter of practice, the increase in coverage generally does not go into effect until a 10% rise in the index takes place. Usually the number of such adjustments per year is limited. If the contract also provides for a decrease in coverage to follow a fall in the cost of living, there would be the additional stipulation that under no condition would the final insurance fall below the level of the initial coverage.

The general practices followed by life insurance companies in a few European countries are cited below.

1. Austria

   The premium is increased according to an index and buys additional coverage at the then attained age. Hence, the greater the gap in time between the date of issue and the date of adjustment, the more the face lags behind "full" coverage. The following is a table from the literature published by one such company:

WHOLE LIFE INSURANCE
PERCENTAGE INCREASE IN THE SUM INSURED
WHEN THE PREMIUM INCREASES 10%

| YEARS IN FORCE AT TIME OF CHANGE | AGE AT ISSUE | | |
|---|---|---|---|
| | 20 | 40 | 60 |
| 0 | 10.00% | 10.00% | 10.00% |
| 1 | 10.00 | 10.00 | 9.80 |
| 2 | 10.00 | 10.00 | 9.40 |
| 3 | 10.00 | 9.70 | 8.90 |
| 4 | 10.00 | 9.30 | 8.40 |
| 5 | 10.00 | 9.00 | 8.00 |
| 10 | 9.90 | 7.40 | 6.00 |
| 15 | 7.60 | 6.00 | 4.20 |
| 20 | 6.40 | 4.70 | ..... |
| 25 | 5.30 | 3.60 | ..... |
| 30 | 4.40 | 2.70 | ..... |

2. France and Belgium
   The amount of insurance increases proportionately to the index, the premium being increased as necessary to support the additional amount of coverage.
3. Finland
   Both the premium and the sum insured vary directly as the price index. This is possible because such adjustments take place only during the first three years of coverage. There are also certain other restrictions as to plan and age at issue.
4. France
   Where this index adjustment is restricted to term policies, the face and premium can both be increased proportionately for durations longer than three years. This practice is possible where the reserve is negligible.
5. Sweden
   Index term riders are issued in connection with endowment policies. These are attained age adjustments. The additional coverage is lapsed if the index subsequently falls below the starting level.

One striking advantage of these index policies is the predominantly automatic nature of the adjustments. The premiums are increased without recourse to forms, signatures, etc. No selling job is necessary to keep the coverage up to date. It should be noted that the policyholder directly or indirectly carries the total cost of all the additional insurance granted.

The current trend in individual A & H to write policies which are guaranteed renewable (but where the premium may be raised for a whole class of policyholders) has a number of similarities with the index policies described above. In both cases, the increased cost of maintaining the level of coverage automatically results in the premiums being raised.

*Stabilizing the Value of the Policy Proceeds*

Following World War I, the German life insurance companies attempted to stabilize the value of coverage by issuing contracts linked to the price of commodities such as rye or coal. The problem was partially solved by the existence of bonds and debentures also expressed in rye and coal. Theoretically, there is no reason why the premiums and face of a policy could not vary with the price of commodities. However, life insurance is issued for long periods, whereas most of these bonds of necessity are of short duration. A few centuries ago, this whole system of expressing value in commodities would have seemed most natural. Today, even apart from the many technical difficulties, this approach can only be a small ineffectual stop-gap measure. However, it was one

of the first major attempts to maintain the real value of the policyholder's investment.

Many schemes suggested today by European insurance people involve a heavy investment in common stock and/or indexed government bonds. Subsequent experience, usually under government supervision, would determine the amount of additional benefits to be granted.

One nonparticipating company in Israel has been declaring a bonus each year in the form of a percentage of face (the percentage being a function of policy years in force) to be paid upon death or upon maturity of the policy. In essence, this special allocation instead of being distributed on some sort of equitable basis to all policyholders is granted to the relatively few maturing policies.

There have also been experiments with insurance bought in a foreign currency. Though perhaps attractive in certain countries, such a practice is usually forbidden by law. One of the prerequisites for the satisfactory operation of the life insurance business is a sound currency which has the public's confidence. The issuance of contracts payable in gold or linked to a foreign currency can only further undermine the domestic currency; and the very circumstances which lead to pressure for the issuance of such contracts may also render it impossible for a government to honor its obligations, even in gold.

As Mr. R. M. Duncan[8] stated, "there is a growing demand to provide a more satisfactory relationship between the purchasing power of premiums and the consequent benefits under long term insurance and pension programs . . . and the higher yields available in equity investments were a contributing factor to the conclusion reached by more and more people that a combination of equities with insurance and fixed dollar obligations is one of the most hopeful methods currently available, imperfect as it may turn out to be." Indicative of this search is the attempt by some insurance sales people to include both life insurance and mutual funds in their programming.

Over the past years the suggestion has often been made that serious consideration should be given to the issuance of "equity policies," where the premiums would be invested in common stock and the benefits expressed in units of ownership thereof. Among others, Mr. D. C. Rose[9] in 1939 suggested an equity life insurance policy. Abroad, Mr. G. H. Recknell[10] made a somewhat similar suggestion. However, no practical

[8] *TSA* VI, 193.

[9] *Proceedings of the Thirty-Fourth Annual Meeting of the American Life Convention*, 1939. A paper on Equity Investments by D. C. Rose.

[10] *TFA* XIX (1949–50), 17.

implementation of this idea took place until the Teachers Insurance and Annuity Association set up an affiliated company to issue variable annuities exclusively.[11] Theoretically, there appears to be no reason why this approach cannot also be applied to "linked" bonds, such as those issued by the French and Israeli governments where both principal and interest are linked to the cost of living or to the dollar exchange rate. Although market fluctuations may be minimized, the base must be broad enough so that transactions are taking place at reasonable prices.

The great interest in the United States today in variable annuities is emphasized by the numerous requests for changes in state laws to permit further extensions of the principle to conventional life insurance companies. Exactly what the long-range consequences are, it is difficult to say. There is always here the problem of policyholder reaction if adverse experience develops. No insurance company can guarantee both the amount to be paid and its purchasing power at time of payment.

## CONCLUDING REMARKS

The monetary erosions of this century have certainly provided life insurance with a compelling incentive to find a solution; while many suggestions have been offered, the final answer has yet to come. The following ways seem to offer the greatest chance for success:

1. Expenses must be reduced to the minimum.
2. A greater share of the company's assets should be invested in equities and some of the "gains" distributed to the policyholders.
3. All efforts should be directed towards persuading the policyholder to buy low reserve plans.
4. The automatic feature in "index" policies makes these plans attractive to both company and policyholder.
5. The equity policy approach seems to hold great promise. It has added a new dimension to life insurance and developments will be followed with great interest.

[11] *TSA* IV, 317.

## DISCUSSION OF PRECEDING PAPER

MEYER MELNIKOFF:

Mr. Gold has mentioned the great interest in variable annuities in the United States. Some Society members may not be aware of the extent to which variable pension plans are already in effect. Since the College Retirement Equities Fund was established on July 1, 1952, variable pension plans, under which benefits to employees vary in accordance with investment results, have been adopted by the following: Pan-American, TWA, United, American, Delta, Panagra, Hawaiian, Western and Northwestern Airlines (for their pilots); Boeing Airplane Company, Carnegie Institution of Washington, Long Island Lighting Company, New Jersey Power & Light, Chemstrand Corporation, Kidder Peabody & Company, Smith Barney & Company, Bristol-Myers, Warner-Lambert, Vitro Corporation of America, Aircraft Marine Products. In addition, General Tire and Rubber Company has made provision for variable annuities under its profit-sharing plan. In total, it has been estimated that over 100,000 employees are now covered by such plans.

Of particular interest is the fact that a study commission appointed by the Governor of Wisconsin to consider changes in the retirement system applicable to state employees is giving a great deal of consideration to variable annuities as a means of providing pension benefits that may tend to retain their purchasing power, without departing from the basic principle of the system that unfunded liabilities should be avoided.

EDWIN B. LANCASTER:

Although this paper presents, among other things, a survey of a number of devices that have been attempted by European life insurance companies to meet the problem of inflation, this discussion will deal with those aspects of the paper which would appear to be suggested for the life insurance business in the United States and Canada. While we have experienced some decline in the purchasing power of the dollar, our inflation has not, of course, been comparable to the rampant inflation that has taken place in some European countries, especially during past wartime-connected hyperinflations.

In assessing this matter of inflation and life insurance, it seems we must consider it against a background of long-view operation of economic forces, of our United States monetary controls and the very nature of our

life insurance business. Certainly the desperation measures undertaken in certain countries in times of rampant inflation are not called for here. Indeed, during the past five years or so, there has been virtually no inflation in the United States—the cost of living has remained practically steady.

Mr. Gold indicates at the outset that it is not his purpose to discuss whether the future will witness a continuation of inflationary trends. However, some of the devices suggested in his conclusions seem to be predicated on the thesis that creeping inflation is inevitable. A consideration of this thesis seems essential to a broad-gauge review of this matter.

For this purpose it is interesting to view the long-term movements in the general price levels (as measured by the Bureau of Labor Statistics wholesale price index) in the United States. Going back for two hundred years every major war and its aftermath has driven price levels to heights much above those of the prewar years. However, the past record also shows that price levels have tended to decline, in the long run, from the peaks established during the war and immediate postwar years down to, or even below, the lows that had previously existed before the war. For example, following the peak caused by the Civil War, prices trended downward for over thirty years. And after World War I, they actually eased off, even through the economic boom of the 1920's, for a period of about fifteen years.

Our most recent experience has, of course, shown prices holding virtually steady on a relatively high plateau. Dr. Kuznets, in his presentation to the Society in the Spring of 1953, attributed this to the changed international situation, the continued war threat and our high level of spending for military and foreign aid purposes. He went on to speculate, however, that the past history of price declines would tend to repeat itself if the war threat could be kept within relatively limited scope. This long view seems to give much hope that inflation is *not* inevitable.

Even if inflation should occur in the future, I have grave doubts that we should heed Mr. Gold's injunction to persuade the policyholders to buy low reserve plans or term insurance purely because of the inflationary threat. Where can the man of limited means safely invest the difference between the premiums on a level premium plan and a term plan? I suspect that we would readily agree that some type of evidence of indebtedness is the most logical investment source for such a person. Such a source subjects his small investment to the same inflationary erosion as if he had bought a higher premium policy in the first place. Certainly we wouldn't wish to suggest that the man of limited means individually invest his excess dollars in common stocks.

The hopeful view that inflation is not inevitable, together with the

sobering thought that great public confidence in the life insurance business has been built up through the fulfillment of guaranteed benefits for fixed premiums, would seem to require us to think very carefully before launching index insurance or variable life insurance policy schemes.

ALVIN B. NELSEN:

Certainly the threat of inflation and its effects on insurance, which Mr. Gold has so well presented, is a matter that we are ever mindful of and deeply concerned about. We are very conscious of the need to control expenses as a result of the inflation that has occurred in the United States and in Canada, particularly in the last decade. However, even with mounting expenses, we have been in an era of decreasing costs for insurance, reflecting the impact of lower mortality rates and rising interest rates, and we have hopes that in the future new electronic and mechanical devices will bring about expense savings. We have seen rapidly expanding volumes of sales which I think indicates a faith in what we are selling. During the last 75 year period cited by Mr. Gold as producing mild inflation at the rate of 2% per year, I do not think anyone would question the role that insurance has played with a product that has withstood the many fluctuations of our business cycle. With all this, I wonder if there is the compelling incentive mentioned by Mr. Gold to change the type of product which we sell—that is, to depart from the "fixed dollar" concept. While I shall not attempt to outguess you as to what the future has in store for us in the way of inflation, it does not seem necessary to surrender to the concept that severe inflation is inevitable and to adopt the philosophy: "If you can't lick them, join them."

One of the solutions suggested by Mr. Gold is that "all efforts should be directed towards persuading the policyholder to buy low reserve plans." This is another way of saying that term insurance should be purchased rather than permanent insurance and that the difference in costs should be invested in stocks or real assets. If we accept the premise that we are going to have serious inflation, and that there will be no serious downward fluctuations in our economic cycle, then Mr. Gold's point might be well taken. But I do not believe that we can accept such a premise nor do I believe that we are ready to discard the many desirable features that permanent insurance has over term insurance for the average policyholder. Then, too, it should not be forgotten that there is considerable "dollar averaging" in the premiums that a policyholder pays year by year for annual premium permanent insurance.

I wonder if the author of this paper is recommending in the case of purchasers seeking modest sized permanent policies that the companies

should persuade them to buy term insurance instead and to invest the small difference in stocks. This is not to say that in no case should an insured have any of his investments in equities, but rather that he also should have some of his investments in the equivalent of high grade securities. A good way to obtain the benefit of some well diversified high grade investments is to have permanent insurance with all of its advantages. Permanent insurance provides the advantages of security of funds backed by the stability of insurance company investments and operations, provides readily obtainable guaranteed cash and loan values, and provides life income settlement options on a guaranteed net basis. The savings built up under permanent insurance as contrasted with a separate investment program enjoy the preferred position accorded insurance settlements to a beneficiary, such as freedom from claims of creditors in most states, freedom from estate costs and delays, and tax advantages. Permanent insurance combines in a neat package benefits which cannot be completely duplicated under a term insurance plus separate investment arrangement. Then, too, there is the urge to continue premium payments rather than to divert funds to current expenditures, and this encouragement to save redounds to the insured's advantage.

In so far as the impact of inflation on an insurance company with largely term insurance, with renewal and conversion privileges which enable the insured to convert in a time of easy money and high expenses, as compared with a company with predominantly permanent insurance, is concerned, there would appear to be some advantages for the latter, particularly if a small portion of the investments of permanent insurance reserves were in equities which would help to meet rising expenses.

The raising of our sights on the minimum size of policies to be issued and the introduction of pricing by size, *i.e.*, pricing more nearly in accordance with incurred expenses, with higher prices for small policies along with streamlined services for such policies, are avenues that will offer greater protection to a company against future expense increases.

GEORGE E. IMMERWAHR:

Mr. Gold has contributed a most interesting paper and one which I found particularly informative because of his description of efforts used in foreign countries to tie both bond and insurance values to the cost of living.

The paper is a disturbing one, however, in that it shows how hopelessly most nations have resigned themselves to the acceptance of continuous future decreases in the buying-power of money as a necessary fact of life.

In the United States, inflation did not become a serious threat during

this century until the close of World War II. The various inflationary measures adopted during President Franklin D. Roosevelt's first two terms were mild in their effect, and the combination of wage controls, rationing, and encouragement of personal saving during World War II made it possible to enforce price controls and prevent what might otherwise have become a runaway inflation during the war.

Immediately following the close of the war, however, the Federal government immediately dropped rationing and wage controls and publicly supported labor's demand for wage increases of 20% or more, much against the advice of most economists (including many of those in the government itself), who correctly predicted that this policy would make it both politically and economically impossible to hold the line on prices and would set off a continuing wage-price spiral. While this spiral has since 1952 been somewhat retarded by Federal "hard money" policies, its real force is still with us, and the "rat race" of inflation will still continue until a more responsible economic philosophy is adopted by all of us.

Believing as I do that inflation is second only to atomic war as a threat to the nation and the world—and actually inflation and war are closely related, as may be seen when it is realized that Hitler's ascendancy was the product of the devastation caused by the German inflation—I feel that we in the life insurance business can do more good by seeking better steps with which to combat inflation than by working out modes with which to live with it. This does not mean that we should oppose such developments as the variable annuity, but instead that nothing should take precedence over our obligation to the millions of Americans who have been our customers in their confidence that American business would assure them a stable dollar.

It seems that our methods of combat should be twofold. First, we should emphasize in our public relations that whatever causes so-called buying power to increase more rapidly than production—whether increased wages, decreased taxes, more generous government give-aways—cannot increase real wealth but can at best benefit one group at the expense of another, and more often than is generally realized the group bearing the expense is poorly equipped to do so. We should dispel the theory that an individual industry which happens to have a high increase in productivity can give proportionate wage increases without furthering inflation, pointing out instead that such wage increases will induce similar increases in other industries which do not have the same increase in productivity and where prices must therefore be increased.

Second, we should insist that industry in general initiate and pursue vigorously a program of passing on an appreciable part of its technological

gains to the public in the form of lower prices. Labor leaders, by the very fact that inflation constitutes much of their appeal in drawing and holding their membership, cannot be expected to curb or reverse inflationary trends, but some branches of industry can readily do this. The frequently heard complaint of industry that it can absorb only a minor proportion of a union's wage demand without increasing prices is at least evidence that it might have slightly reduced prices before that demand was made. Such a policy, as opposed to the more prevalent custom of raising prices to what the traffic will bear, would enhance the position of business in the public eye, whereas the present feeling on the part of most consumers is that most union demands are justified. Business widely advertises its theory that competition forces prices down and improves services to the public, but this is not readily apparent to the "man on the street," and indeed life insurance appears to be one of the few businesses where we have seen competition at work in this way.

PETER M. TOMPA:

Mr. Gold's paper reaches us at a time when arguments for and against annuities linked with equity investments are carried on within and outside of life insurance circles.

The idea of connecting the monetary transactions of life insurance contracts with the results of equity investments has for many reasons not been advanced in this country. In addition to legislative difficulties, the basic idea would provoke violent opposition from many people in the traditionally fixed-dollar minded life insurance industry.

Not so, however, in Europe where in many countries heavy devaluations of currencies took place after the first World War, wiping out the value of all life insurance in force within a short period of time. Ever since then, the lack of faith in a country's currency by the general public has compelled the fixed-currency proponents of life insurance to retreat from their position.

According to a publication received from the General Reinsurance Company, Limited, of Amsterdam, dated July 1956, a new life insurance company was formed recently in Holland whose founders

have set out to evolve a basic "unit" in which to evaluate their policy contingencies, and have now taken for this unit the value of the shares of a well-known Dutch Investment Trust. The rights and obligations arising from the Company's policies will not be expressed in terms of currency, but of the units mentioned. All Life policy transactions, such as receiving payment of premiums, settling sums assured, surrender values, annuities, etc., will similarly be expressed in the new unit. Every month the conversion value of the units into currency will be computed thus determining the basis for the actual settlements in guilders.

In the beginning, shares of the Investment Trust (similar to a Mutual Fund in this country) will be used as the investment outlet, but in later years management may make other investments that fulfill the purpose.

WALTER O. BOWERMAN:

In addition to the experience in Europe, referred to by the author, we may mention South America. To combat a severe inflation, the Sud America Life Insurance Company of Santiago, Chile, introduced a few years ago a new life insurance policy. It provides a face amount which varies each year with the economic climate, as measured by the official cost-of-living index for the city of Santiago. The premium rate *per $1,000 insured* remains constant to the end of the sixth policy year. It is then increased. It is further increased at the end of each three-year period thereafter until age 70, after which it remains constant. The face amount is adjusted yearly. Of course, when the face amount is increased or decreased the corresponding premium is also adjusted. The contract is basically a three-year renewable term policy until age 70. Thereafter it begins to resemble a permanent form of insurance as the premium rate per $1,000 remains constant. However, the face amount and the corresponding premium continue to vary with the cost-of-living index. Nonforfeiture values are not provided and there is little need for reserves until after age 70.

It may be of interest to elaborate a little the "insurance approach to the problem of coverage depreciation." If $r$ is the assumed yearly inflation allowance written into the contract, then death benefits would increase each year in the ratio $(1 + r)$. The amount payable at each point would be fixed definitely in advance and guaranteed by contract. When the assumed rate of inflation is equal to the interest rate, the formulas become very simple. At present, $2\frac{1}{2}\%$ is a close figure for each of these rates.

There are two alternatives: (1) constant premiums and (2) premiums increasing at $(1 + r)$ ratio. In the first instance, the net yearly premium is the reciprocal of the annuity for the period of premium payments. In the second case, we substitute the expectation of life in place of the annuity. Tables 1 and 2 show the formulas and the net premiums using continuous symbols.

It will be observed that the premium rates are the same for limited payment life and for endowments. When the rate of inflation equals the rate of interest, it is as though "time stands still." The one rate nullifies the other. When premiums increase each year at the same rate as does the face amount, interest does not enter into the calculations at all. The contracts may be called Purchasing Power Policies.

These are on the CSO $2\frac{1}{2}\%$ basis with inflation rate $2\frac{1}{2}\%$. It will be

observed that col. (1) equals col. (4) plus the force of interest (24.69 per 1,000).

Mr. Gold's paper was doubly interesting to me because I had one on the same subject in December 1945 ("Inflation," published in *The Spectator* for that date). This dealt with considerable territory not covered by the

TABLE 1

NET PREMIUMS

| Plan of Insurance | Constant Premiums | Premiums Increase at $(1+r)$ Ratio—Initial Premium |
|---|---|---|
| Whole Life | $1/\bar{a}_x$ | $1/\breve{e}_x$ |
| $t$-Payment Life | $1/\bar{a}_{x:\overline{t}\rceil}$ | $1/\breve{e}_{x:\overline{t}\rceil}$ |
| $n$-Year Endowment | $1/\bar{a}_{x:\overline{n}\rceil}$ | $1/\breve{e}_{x:\overline{n}\rceil}$ |
| $n$-Year Term | $1-{}_np_x/\bar{a}_{x:\overline{n}\rceil}$ | $1-{}_np_x/\breve{e}_{x:\overline{n}\rceil}$ |

TABLE 2

NET PREMIUMS PER $1,000—WHOLE LIFE
(Purchasing Power Policies)

| Age ($x$) | Constant Premiums (1) | Premiums Increase at $(1+r)$ Rate—Initial Premium (2) | Present Policies with Constant Face Amount | |
|---|---|---|---|---|
| | | | P (3) | $\pi$ (4) |
| 15 | $ 35.80 | $19.61 | $10.97 | $11.10 |
| 25 | 39.77 | 23.74 | 14.89 | 15.08 |
| 35 | 45.92 | 29.90 | 20.97 | 21.23 |
| 45 | 55.89 | 39.67 | 30.82 | 31.20 |
| 55 | 72.99 | 56.24 | 47.70 | 48.30 |
| 65 | 104.24 | 86.58 | 78.57 | 79.55 |
| Formula per Unit | $1/d_x$ | $1/\breve{e}_x$ | $(d/\delta)\pi$ | $\bar{A}_x/d_x$ |

paper now under review. At that time the U.S. government economists were persuading the administration to foster inflation. It was their belief that *deflation*, as in the 1930's, was the great curse. One can but wonder how different the last eleven years would have been if they had cherished the opinion that *inflation* was the chief evil to be avoided. That was the view set forth in my paper (copy to members on request).

SANFORD M. THOMPSON:

Mr. Gold's paper "Inflation and Life Insurance" concerns itself with one of the most serious questions of our day.

Inadvertently, I think, he has given us the wrong impression of inflation when he speaks of "the gradual deterioration in the purchasing power of money" and again when he says "U.S. and Canada have experienced a comparatively mild increase in the cost of living over the past seventy-five years averaging approximately 2% a year."

I think that the record will show that inflation is anything but a gradual process. While there may be long periods of rises (and falls) in the purchasing power of money, real inflation has occurred only twice in the last seventy-five years—once during World War I and the second time after World War II.

To illustrate this I have reproduced below a graph of the Canadian index of wholesale prices from the time of Confederation (1867) to date.

One is struck by the flatness of the graph from 1867 to 1914, one-half of which period saw sagging prices and one-half rising prices. The whole period could probably be roughly represented by an index figure of 65.

The outbreak of war in 1914 brought an almost perpendicular rise in prices from 1914 to 1919, followed by a sharp corrective from 1919 to 1922 and a new plateau of prices at the index number 125.

Like our present postwar period, this was a period of expansion, but from 1927 to 1929 speculative fervor reached such a peak that speculative excesses resulted in a market crash followed by a deep depression. (At the bottom in 1932 the index number was as low as 85.)

A slow recovery set in in 1934 and in a halting fashion carried through to 1939, the outbreak of World War II, and the index for this recovery period might be designated as approximately 100.

While the outbreak of World War II immediately reflected inflationary forces, the curve this time is initially less steep and it is not until the conclusion of the war that inflation really took hold.

In the 1914–1919 period index numbers doubled, and so also have they doubled from 1939 to 1951. In the earlier period the plateau of prices established postwar seems to have been at 125. What the new plateau this time may be is a matter of conjecture but it could be at or even substantially below the present level of prices.

As I interpret this 90-year experience, real inflation has taken place on two occasions only, both as a result of world war, and with a new and higher plateau of prices following each conflict.

Below is a graph of U.S. wholesale prices from 1790 to date—a period of 166 years or just under twice that of the Canadian experience. This

CHART I

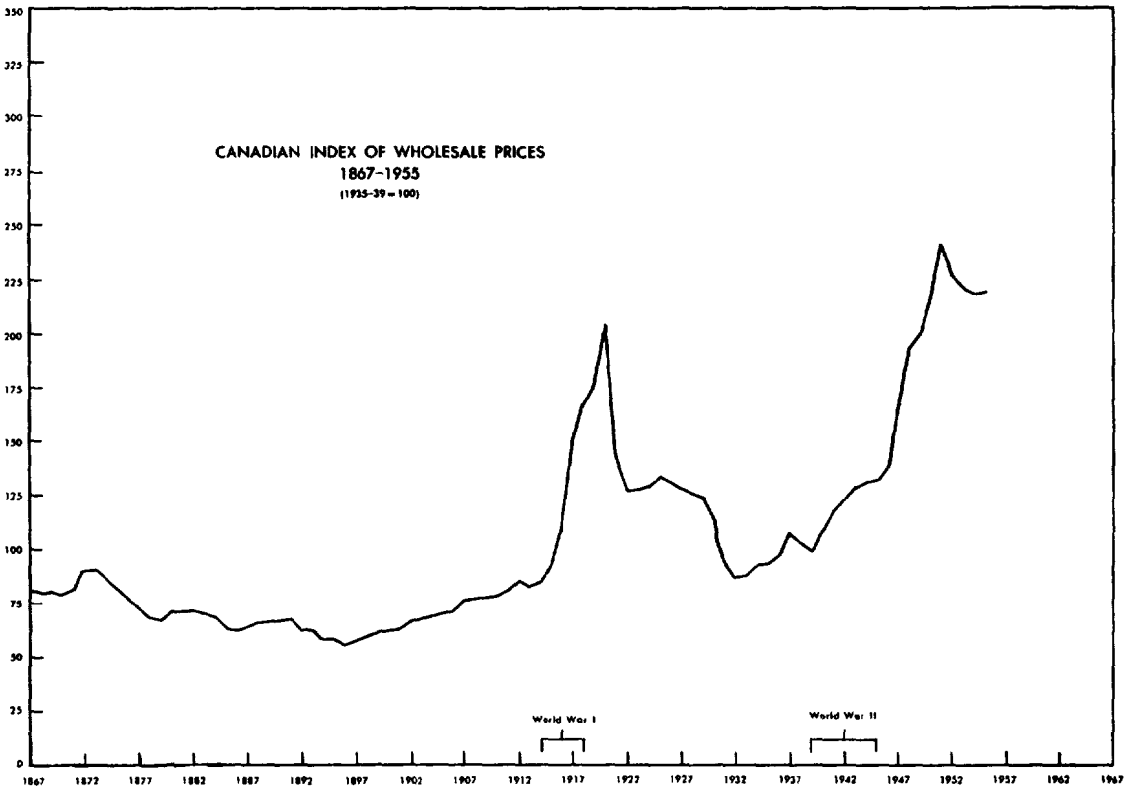
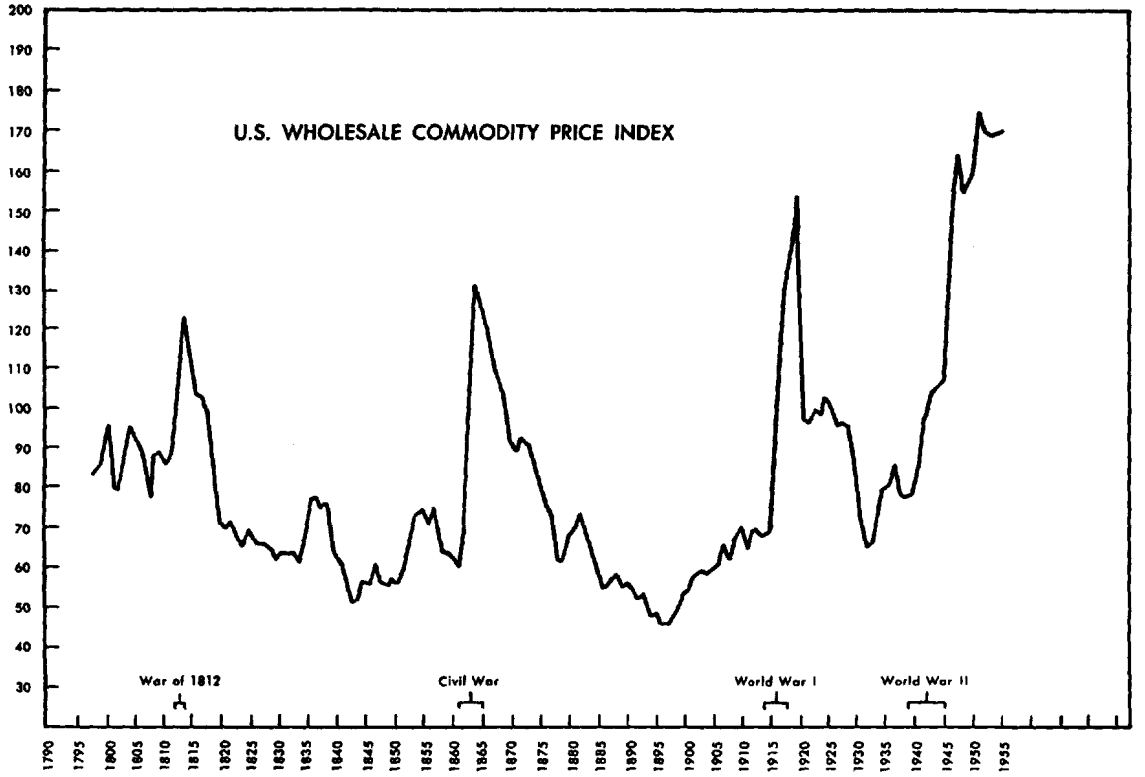

CANADIAN INDEX OF WHOLESALE PRICES
1867–1955
(1935-39 = 100)
350
325
300
275
250
225
200
175
150
125
100
75
50
25
0
World War I
World War II
1867
1872
1877
1882
1887
1892
1897
1902
1907
1912
1917
1922
1927
1932
1937
1942
1947
1952
1957
1962
1967

CHART II


U.S. WHOLESALE COMMODITY PRICE INDEX
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
War of 1812
Civil War
World War I
World War II
1790
1795
1800
1805
1810
1815
1820
1825
1830
1835
1840
1845
1850
1855
1860
1865
1870
1875
1880
1885
1890
1895
1900
1905
1910
1915
1920
1925
1930
1935
1940
1945
1950
1955

graph seems to say that over this 166-year period we have had four inflationary periods; that each was induced by war and that the rise in prices was almost perpendicular over a very short period; that subsequently we had much longer periods of lower prices.

There is no historical evidence here that inflation is gradual or creeping—certainly not for long. Much current thought, however, seems to be predicated on the prospect of creeping inflation, but my contention is that, should that opinion be shared widely, inflation would commence to gallop, because I cannot envisage people continuing to save money in the orthodox type of savings once they begin to distrust seriously their monetary unit.

If the world remains at peace, it seems to me that we can look forward to "Abundance at Low Cost," unless we mismanage our money very badly.

Certainly there have been immense advances in science and technology in the past ten years, much of which is already translated into productive apparatus, and as a result goods are being produced today at much less cost in terms of human effort—if not in terms of dollars—than they were a few years ago.

In our own business, which is a service business, we stand at the threshold of a fantastic change in our clerical and administration procedures because of the electronic computer.

But what may well prove the most dramatic of all is the "prospective" application of atomic energy. In its economic implications its importance surely outruns the discovery of steam power which ushered in the Industrial Revolution.

Surely all the foregoing suggests "Abundance at Low Cost."

Mr. Gold has given us some very interesting thoughts regarding our operations in an inflationary period and a good deal of his paper has been devoted to hedges against inflation.

In this connection I would highly recommend a paper published in the August 28, 1947 issue of the *Commercial and Financial Chronicle.* This paper is entitled "Security Prices and Inflation" by Ivan Wright and Margot Henn. The study is based on experience following World War I in France, Germany and Italy and it underlines the fact that inflation is the great destroyer under which everyone loses—some more than others, but all lose.

In the light of this experience many proposed hedges against inflation simply do not stand up. For example, according to this experience the supposed advantages of common stock investment as a hedge against inflation were nullified in many instances for a variety of reasons and many

companies were forced into bankruptcy and into the hands of their bondholders or other creditors long before revaluation.

As might have been anticipated the regulatory aspect of public utility and railroad companies meant that their owners were helpless where mounting costs far outran increases in their rate structure; heavy industry —iron, steel, shipbuilding—found that the increases in their productivity were not commensurate with the necessary increases in their capitalization, and ever-mounting interest charges on new funded debt became increasingly burdensome and impossible to carry; the same condition applied to new and promising industries such as the automobile industry in France.

On the other hand, the well-established French textile industry did surprisingly well and the special characteristics of mining companies resulted in the French coal and iron mines and the German potash mines doing very well.

The experience in the fire and casualty business was excellent, as their business seemed to keep pace with the rise in the money value of their risks; life insurance companies, on the other hand, did very badly, while banks lost their time deposits steadily, and eventually *in toto*.

FRANK H. DAVID:

Society members may be interested in a proposal concerning social old age and disability insurance now being considered by the legislature of West Germany. This proposal introduces the concept of a so-called "productivity pension." The original amount of such a pension would be a function of wage levels prevailing at retirement, and it would be subject to subsequent adjustment in accordance with changing economic conditions.

The backers of this proposal point out that, in the long run, workers benefit from improved productivity through increases in nominal wages; such increases are partly offset by inflation, but they still represent increases in real wages. Pensions fixed with reference to a person's average nominal earnings during his entire working life, therefore, are bound to be inadequate at the start, and will become increasingly so after retirement. This has been recognized, in West Germany as well as in the United States, by repeated legislation raising social insurance benefits. In West Germany there have been six such raises since 1949.

The advocates of the new plan propose to correct this situation once and for all by adopting a pension formula which would automatically reflect changed economic conditions. Specifically, the computation at time of retirement would be as follows. The first step would be to determine the

arithmetic mean, taken over the period of coverage, of the ratio for each year of the individual's earnings to average earnings of all covered workers. (Only earnings up to a stated level would be considered.) The resulting mean ratio would then be applied to the average earnings of all covered workers in the three years preceding retirement. The product would represent an updated earnings figure for the individual. The initial amount of the pension would then be $n \times 1.5\%$ of this earnings figure, where $n$ is the number of years of coverage under the system.

The proposed draft legislation does not specify how pension amounts shall be adjusted after they commence; it merely states that this shall be done by a council established for that purpose, with due regard to changes in productivity, in wage and salary levels, and in the cost of living. Backers of the proposal point out that a similar plan is already in effect for certain West German civil service employees.

Disability pensions are to be computed on the same principle. If disability occurs before age 55, the covered worker will be given credit for service to age 55 in determining the value of $n$. The proposed law also places considerable emphasis on rehabilitation of disabled workers.

Needless to say, there is much opposition to the proposal. Its cost would be high; the initial outlay on a pay-as-you-go basis, including survivor benefits, is estimated at about 20% of the income of covered workers. This would be an increase of about 60% over the cost of the pensions now payable. The cost would rise even higher in later years, as the population ages. The inflationary danger of the proposal has been pointed out; higher incomes for pensioners will drive prices of consumers' goods up unless those of working age consume less or production is increased. Productivity, the national income, wages, and the cost of living do not necessarily move together.

Those in favor of the proposal concede some of these points, though they tend to minimize them. They maintain that adequate pensions are a basic requirement of social justice and are of paramount importance. It remains to be seen whether the proposed legislation will be passed.

ROBERT J. KIRTON:

I should like to direct these remarks to the second way in which Mr. Gold feels this problem may be met. He says, "A greater share of the company's assets should be invested in equities and some of the 'gains' distributed to the policyholders."

It may be helpful if I give a few comments on what has happened in my own office in London. Some years ago we invested substantially in equities —*not from fear of inflation,* but because they themselves appeared to us to

be good securities—and in the balance sheet of my company at the moment they stand at about 25 percent of our total assets; and I can assure you that there are very substantial margins over and above that by way of reserve, and that is essential.

When the valuation came to be made at the end of last year, we felt that in fairness to our policyholders, seeing what had happened in the previous three years, we should declare a special bonus, and we did so. The result very roughly was that, over-all, the policyholders for that valuation received about double what they would normally have received.

I personally very much hope that that will not happen again. I very much hope that we shall not see continued inflation and a continued increase of equity dividends from that cause, but under the capitalist system as it is now operated in your country and mine—operated with very great pressure from trades unions for increased wages, operated with some sense in both countries of the obligations of full employment—I think we must ask ourselves whether we may not have to face a falling dollar and a falling pound.

If that is so—and I am not thinking of the German type of inflation—then I would not for one minute suggest that the solution is along the lines of the Dutch company to which reference has already been made. I would not for a moment suggest that annuities or life assurance policies be geared directly to equity prices, but I do suggest the thought that more funds should be invested in equities and that participating contracts—whether deferred annuities, during the deferred period, or life assurance—should thereby reap any benefit that the investment policy may achieve.

I know quite well here, speaking to this audience, that there is a long period of education to be gone through before substantial investments in common stock will be considered right for life companies, but I can only speak from the experience of my own country. I have instanced that of my own office, but a number of other companies have achieved the same result. You, sir, in your presidential address this morning referred to the vitally important part that life insurance plays in the economy of the country. I have a feeling that over the next decade or so we want to face this question of whether the savings of the people should not be channeled through us more into equities. If there is inflation, this should be to their benefit. It will encourage people to save and thereby, through that very encouragement, will help to ward off inflation for the good of the economy of the country.

ROBERT J. MYERS:

Mr. Gold has made a valuable contribution to actuarial literature by putting squarely before us the very important question as to the effect of

inflation on life insurance, with particular emphasis upon actions taken on this account by life insurance companies in other countries. My discussion will present certain points supplementary to those brought out by previous discussants, since I have recently had an opportunity to talk with several foreign actuaries about this subject.

First, as to Mr. David's discussion, I can report that the proposed changes in the West German social insurance plan will probably be enacted very soon. This plan really consists of two different systems, one for manual workers and one for salaried employees, which in the future (although not at present) will have the same benefit provisions although different administrative organizations. These systems now base benefits on earnings records extending back before World War I. Under the new plan, an individual's benefit would be computed on the basis of his earnings relative to those of the general covered population, with adjustments to reflect current earnings levels (but still making use of records going back many years). It should be noted that the stated current cost of about 20% of payroll for the new plan is to be met in part by Government contributions. The combined employer-employee contribution rate will be 14% for the next 10 years as compared with 12% under present law. It is anticipated that, with a constant Government subsidy, the remainder of the cost which is to be financed by employer and employee contributions will require a slowly increasing rate, to a maximum of about 16½%.

There is a very distinct trend in European countries toward introducing automatic adjustments of social security benefits—adjusting to changes either in cost of living or in wage levels. If there is continuing inflation, the only other procedure possible is to have an *ad hoc* recognition by legislative action, as has been the case in the United States. In my opinion, under the political climate and philosophy in this country, the latter method is the only feasible one. Thus, many legislators may well feel that under the method of automatic adjustment of benefits the actuaries and statisticians would receive credit for any benefit increases, whereas under the *ad hoc* method the legislators themselves would get the credit each time. Moreover, under the automatic adjustment method, there is the disadvantage that the indexes on which the increases would be based are not always too precise in their measurement and also perhaps may lose their significance with the passage of time.

In regard to the Netherlands company mentioned by Mr. Tompa, I can report that this company is now in operation and has already sold some policies, although it is as yet too early to know how successful it will be. The actuary of this company is Mr. J. N. Smit, who is well known to many of our members. The company is a stock company and is associated

with an industrial insurance company. No profits are to be earned by the company on investment aspects of the program, but only on the mortality and expense elements. In essence, the policies are in a new, artificial currency based on the value of the invested assets, all of which are to be placed with a large, well-established investment trust. In effect, the policies are based on 3% interest rate, with all interest and capital appreciation in excess of 3½% (the ½% differential representing a payment to the company for investment expenses) being utilized to increase the value of the units. The company is selling a full line of policies. It is of further interest to note that reinsurance has been obtained from a Swiss company in these same new artificial currency units. Another interesting feature is that the commissions are payable on a flat-rate basis for the life of the policy. In comparison with variable annuities, there is the important difference that the premiums as well as the benefits are variable in terms of the monetary unit of the country.

As to the Swedish policy referred to by Mr. Gold, only one company is in this field, most of the others being opposed to the concept. To date, the sales of the policy have not been very large. In essence, the policy consists of term riders providing insurance to age 55 added to an endowment at age 65 policy. As the cost-of-living index rises, additional term riders may be purchased, with the premium rate based on attained age; there are five definite steps totaling an increase of 100% over the original face amount. The policy is relatively flexible in that individuals are not required to purchase additional term riders if the cost-of-living index rises, nor, once having purchased such increases, are they compelled to drop them in case the index falls. Thus, in essence, this contract really amounts to providing additional term insurance without medical examination under certain economic conditions.

### (AUTHOR'S REVIEW OF DISCUSSION)

MELVIN L. GOLD:

I want to thank my colleagues for having spoken so ably on this subject.

Since this paper had its genesis during my stay in Europe and Israel, it was particularly gratifying to have the overseas aspect of the subject matter rounded out so well by Messrs. David, Tompa, Bowerman, Myers and Kirton. In particular I want to thank Mr. Kirton for giving us the benefit of his personal experience.

Here in America this whole question of inflation has increasingly been brought to our attention of late. Various approaches have been suggested,

one aspect of which Mr. Melnikoff enlarged upon. Some members may have found in my paper an implied acceptance of the inevitability of inflation. It was my intention not so much to embrace the concept of the inevitability of some inflation but rather, in light of the heavy pressures seeming to tend toward this eventuality, to examine critically the effects of inflation and then to review the various approaches that have been undertaken to ameliorate the situation.

Mr. Lancaster and Mr. Thompson, through a historical examination of price levels, come to the conclusion that inflation in the United States and Canada may not be inevitable. Even accepting completely the results of their cogent retrospective examination, can we be sure that the ground rules have not changed and that the future will follow the economic patterns of the past? Our thinking has changed considerably these past fifty years. The people, for better or for worse, now consider it a prime function of government to maintain full employment and in general to look after most aspects of its citizens' economic health. Both major parties now accept this premise. Dwarfing these social obligations are our huge defense expenditures. So much, it seems, of our economic decisions now take place in the political and military realm. The people may perhaps deplore inflation, but a "little bit of inflation" doesn't always seem so bad. I hope my two colleagues are right in their optimism, but it is not quite my reading of the signs of the times.

Toward the end of the paper I said that "one of the prerequisites for the satisfactory operation of the life insurance business is a sound currency which has the public's confidence." There is no question that the only true way to fight this economic disease, inflation, is to prevent it in the first place. As Mr. Immerwahr so aptly put it, ". . . life insurance can do more good by seeking better steps with which to combat inflation than by working out modes with which to live with it." His methods of combat should be taken to heart. Dealing as we do with fixed currency liabilities, our obligation to prevent inflation is just good business practice. The life insurance industry must put its not insignificant influence behind all those forces working to keep our economy on an even keel. In line with this aspect of the subject I should like to recommend a discussion on "Savings and Inflation" which appeared in *JIA* LXXVIII.

The five suggestions offered in my paper are those approaches which I feel would most effectively help mitigate certain of the disastrous aspects of inflation. These suggestions must by their very nature assume some inflation. If the cost of living is stable, the question does not arise at all. If the cost of living goes spiraling upward, nothing can really help. However, if here in the United States and Canada one feels that the pressures

toward some sort of upward drift in prices will be too strong to withstand, a critical study of the question in all its facets seems most in order.

Mr. Lancaster and Mr. Nelsen interpret my remarks to imply that here in America term insurance should be purchased rather than permanent insurance and that the difference in premiums should be invested in stocks or real assets. Actually in a stable economic climate the proverbial man of limited means would under most circumstances do best to buy a combination of permanent insurance and term riders. However, even during a period of rapidly rising cost or when such a period seems most clearly in prospect, the prudent man would probably do best not to buy both renewable term insurance and equities with his limited dollars, but rather to buy renewable term insurance to the full extent possible. Very few young fathers have enough insurance to provide for their wives until all the children have become self-supporting. This, after all, is the original *raison d'être* of life insurance. If I lived in any of a number of continental countries, other things being equal, I would buy only term insurance; here in the United States and Canada the average young breadwinner should plan a program of Whole Life insurance augmented by term riders. The extent to which term insurance is recommended is a function of the probability of inflation, present and future.

The value of the paper as a point of reference has been considerably enhanced by the participants who extended our knowledge of how insurance people the world over are attempting to handle the inflation problem. It is certainly disturbing, as Mr. Immerwahr remarked, to see "how hopelessly most nations have resigned themselves to the acceptance of continuous future decreases in the buying power of money as a necessary fact of life."